

# Novel Floodplain Forests: Diversity and Adaptability of Riparian Cottonwoods

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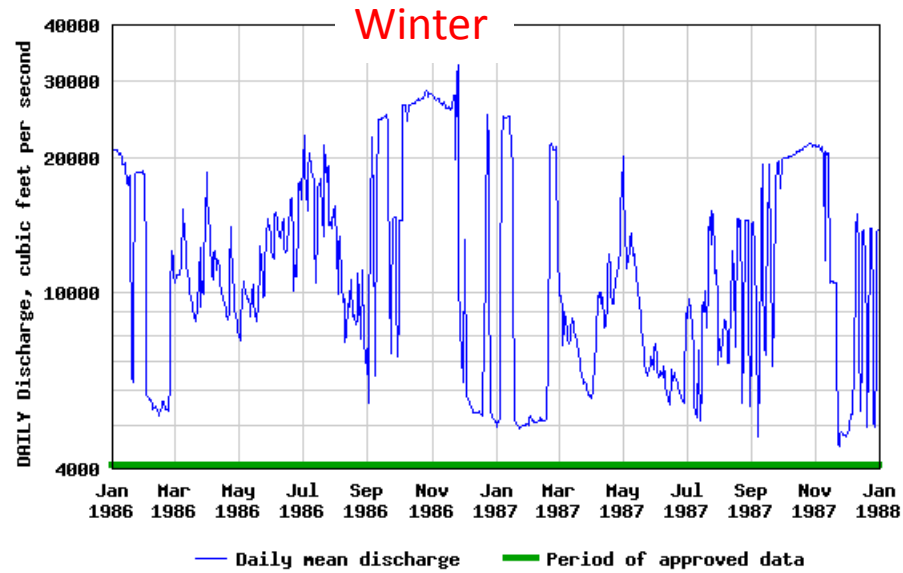
Upstream - Free flowing  
Kootenay R., BC



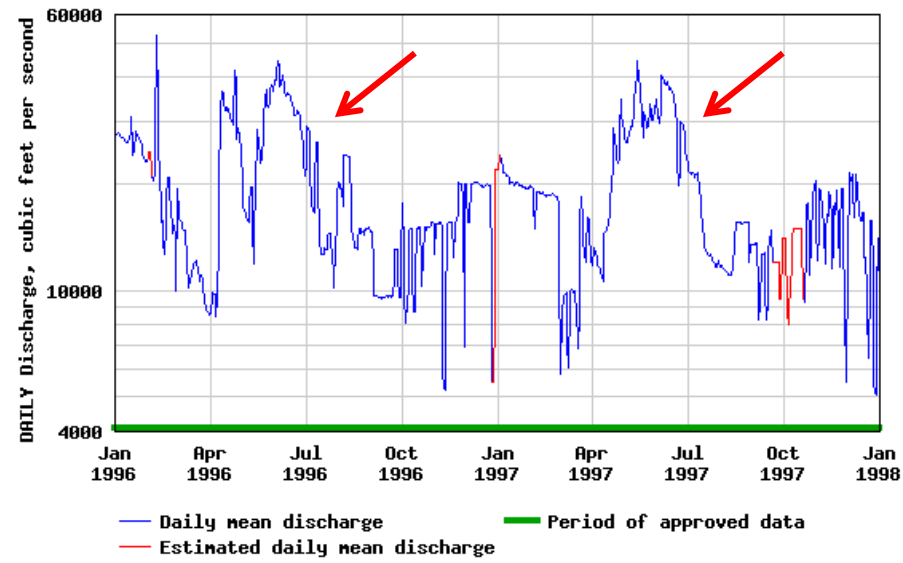
Downstream - Libby Dam & Kootenai R., MT  
(1 of 4 Columbia River Treaty dams)



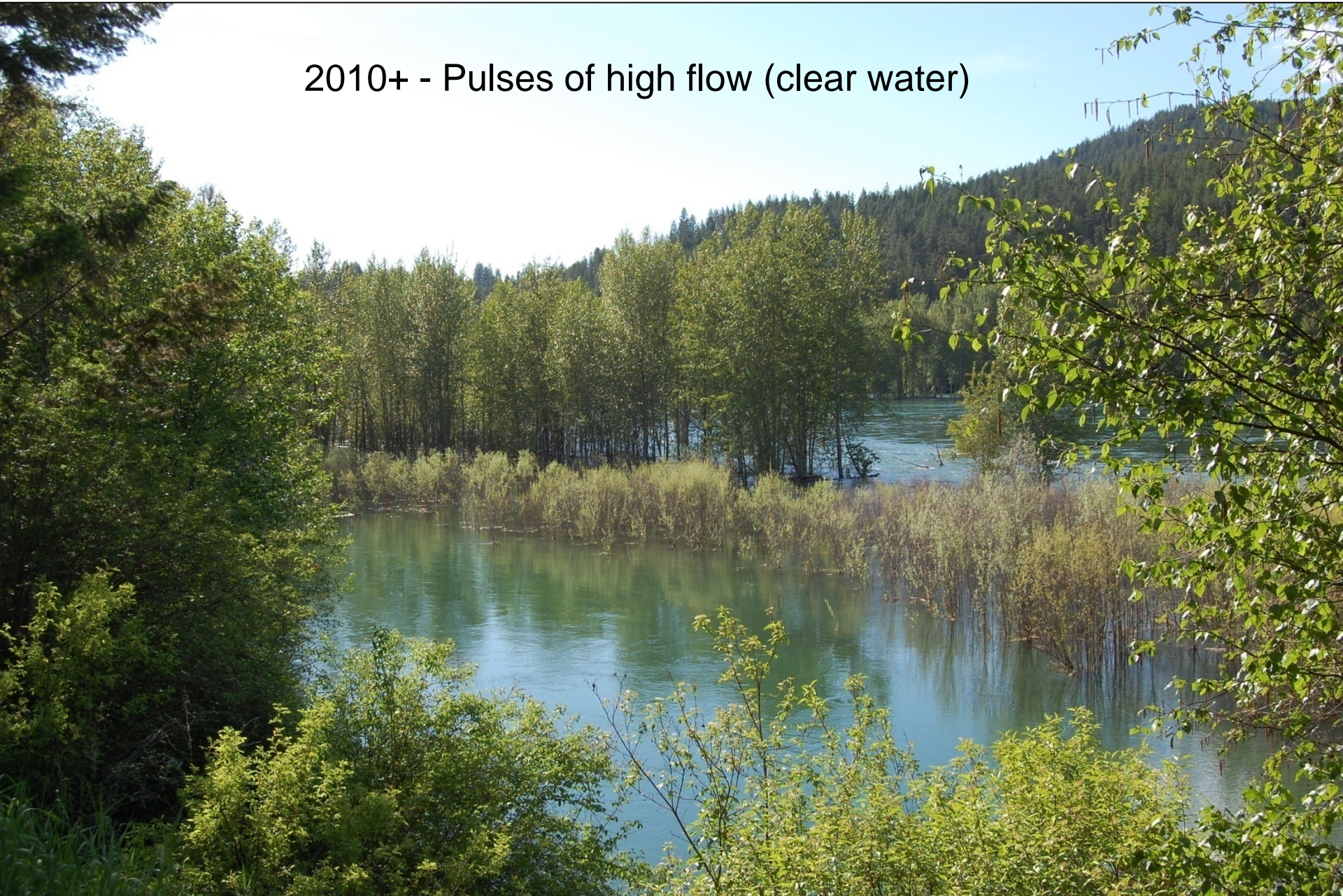
1980s  
hydropower



1990s  
sturgeon flows  
naturalized



2010+ - Pulses of high flow (clear water)



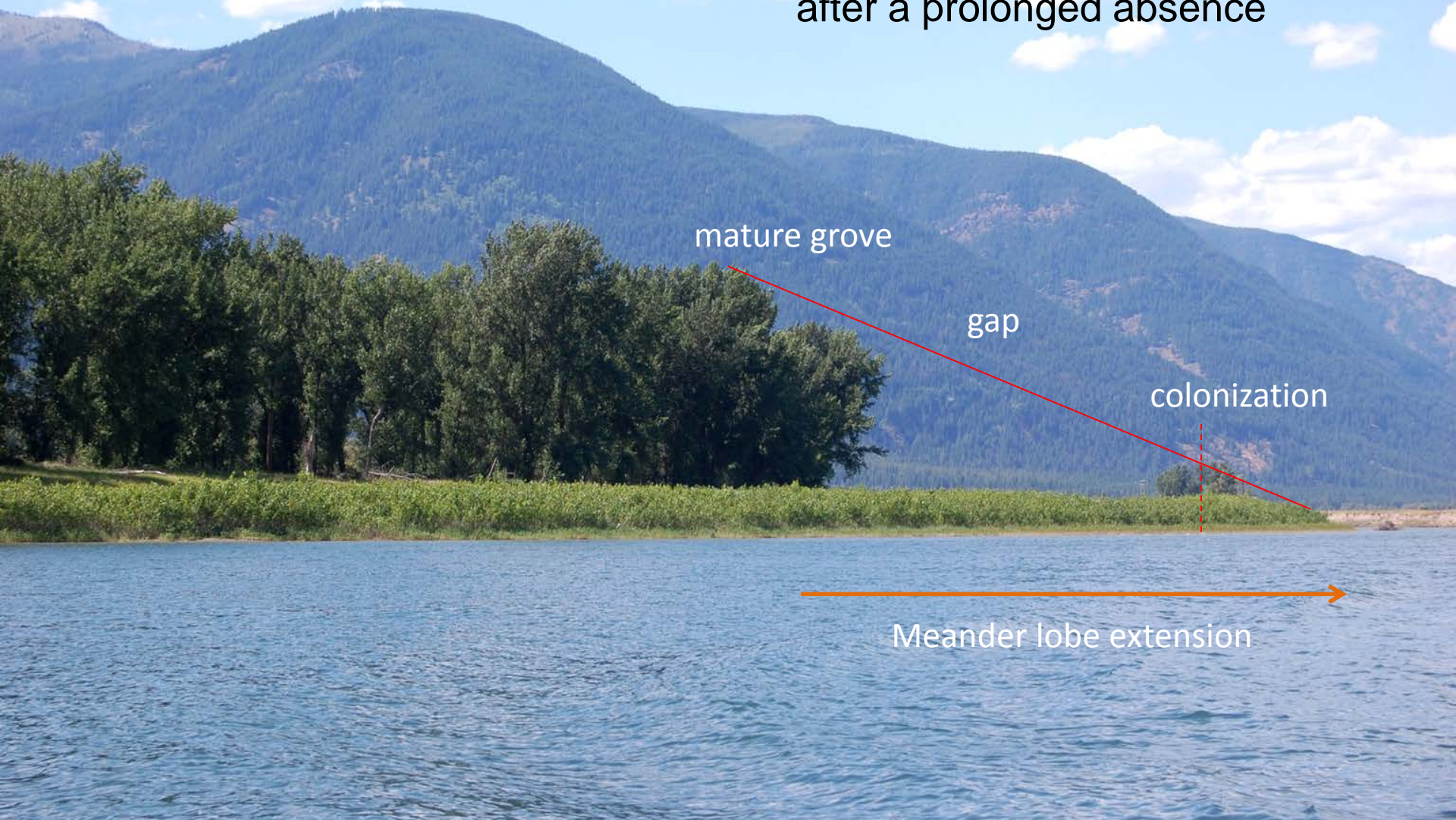


## Kootenai River Meandering Reach

Collateral benefit  
from fish flows

Cottonwood recruitment

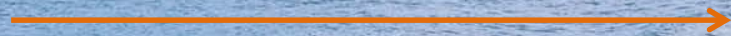
# Recovery of cottonwood colonization after a prolonged absence



mature grove

gap

colonization



Meander lobe extension

A species transition:  
*Populus trichocarpa* (black cottonwood)  
to *P. deltoides* (prairie cottonwood)  
(& *P. x jackii*)



Kootenai – Meander reach  
Ball Ck. – TNC property

*A novel or hybrid  
floodplain forest ecosystem  
(Hobbs and others)*

Pristine vs. productive  
Native vs. ecosystem services

The Anthropocene