

Driven Into a Corner: How the Mississippi's Past Will Define Its Future

Conference on Ecological and
Ecosystem Restoration
July 31, 2014

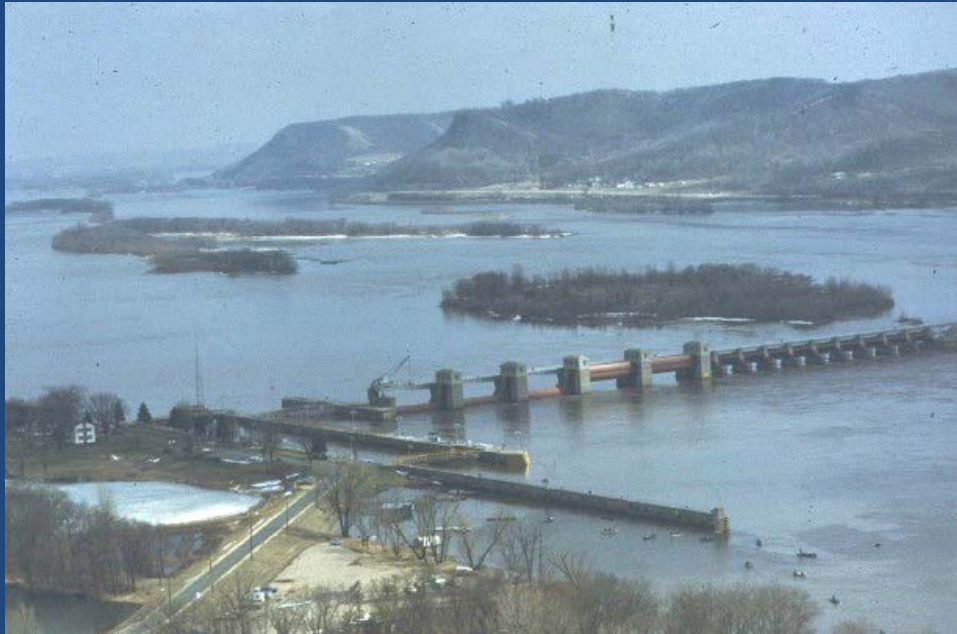


John O. Anfinson
Mississippi National River and Recreation
Area
National Park Service





WHAT
KIND
OF
RIVER?



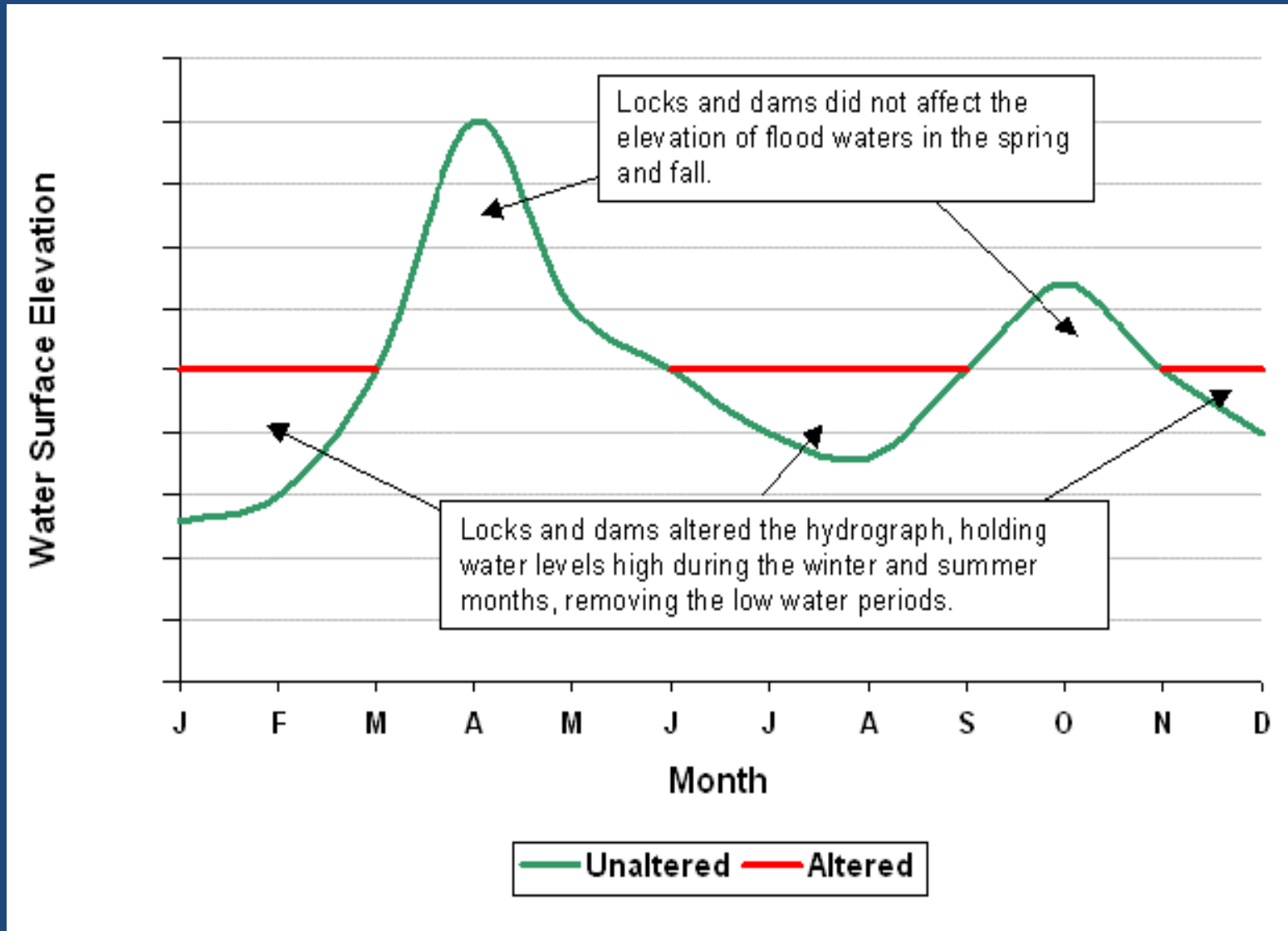
4th
River ?

The Natural River

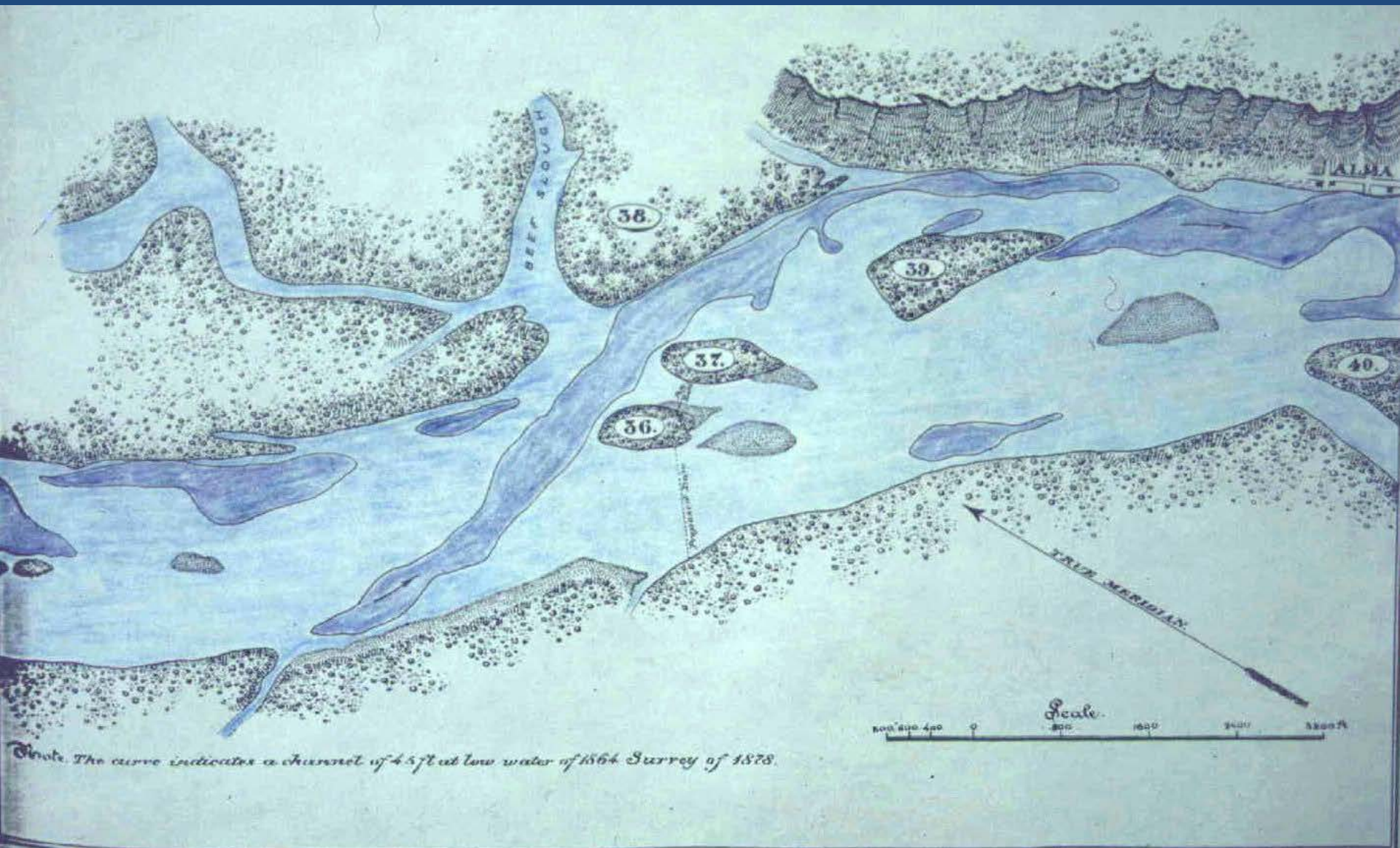


Seth Eastman – Minnesota Historical Society

Upper Mississippi River, Annual Hydrograph



Map - Natural Channels



Light Blue - Less than 3 feet at low water

Sandbar at Queens Bluff



Mississippi River floodplain at Gorham, Illinois.



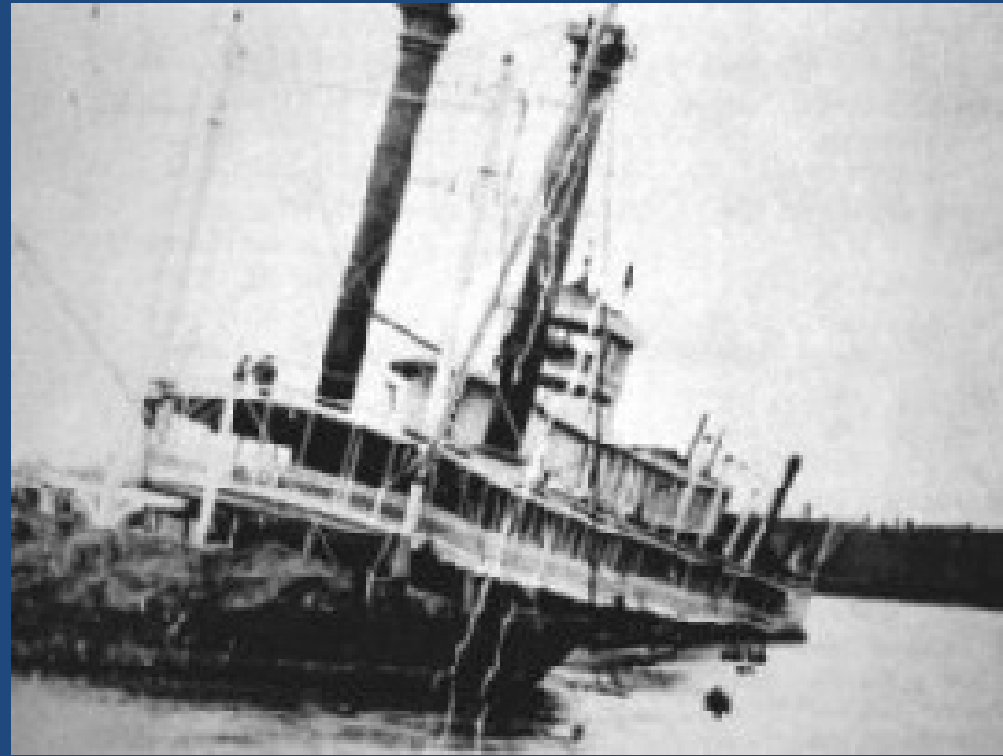
Bountiful Backwaters



Islands at Savanna, Ill.



The Need for Navigation Improvements



Snagging Scene



Snagging Scene
1885

Dredge Phoenix



M. T. Dredge Phoenix

1888

Wing dams below Nininger, 4.5-Foot Channel Project



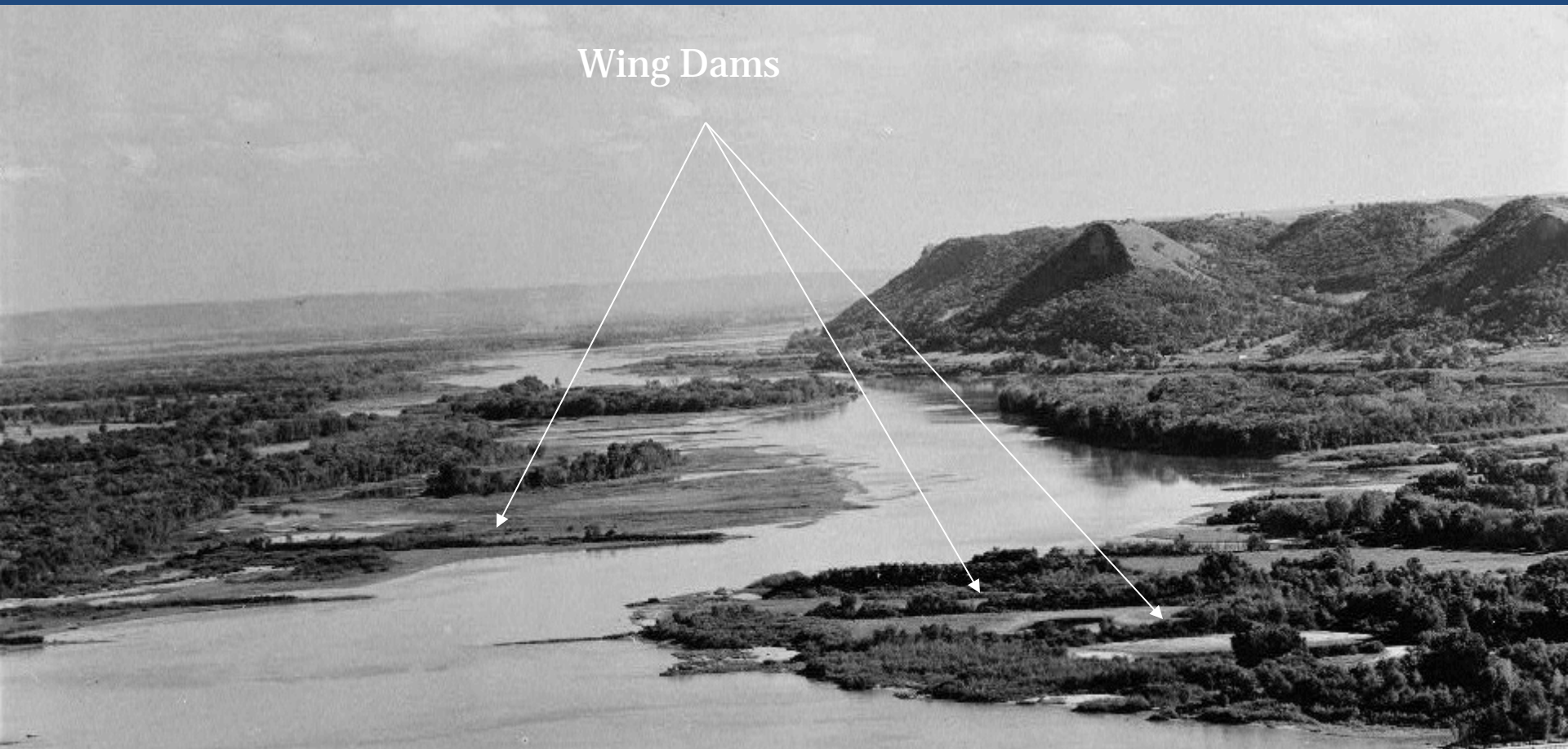
Pine Bend, MN, 1891, 4.5-Foot Channel Project



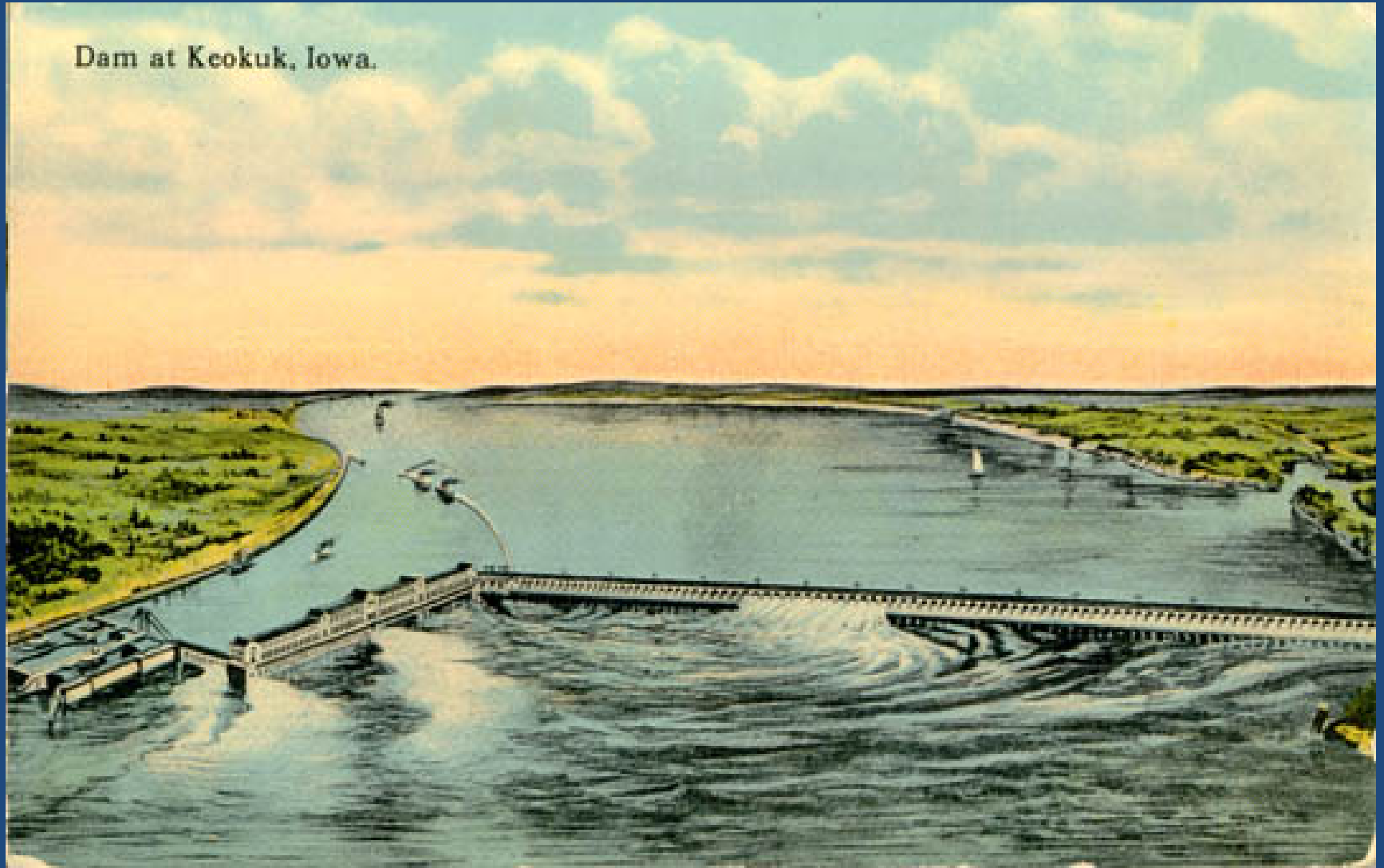
Channel Constriction, 6-Foot Channel



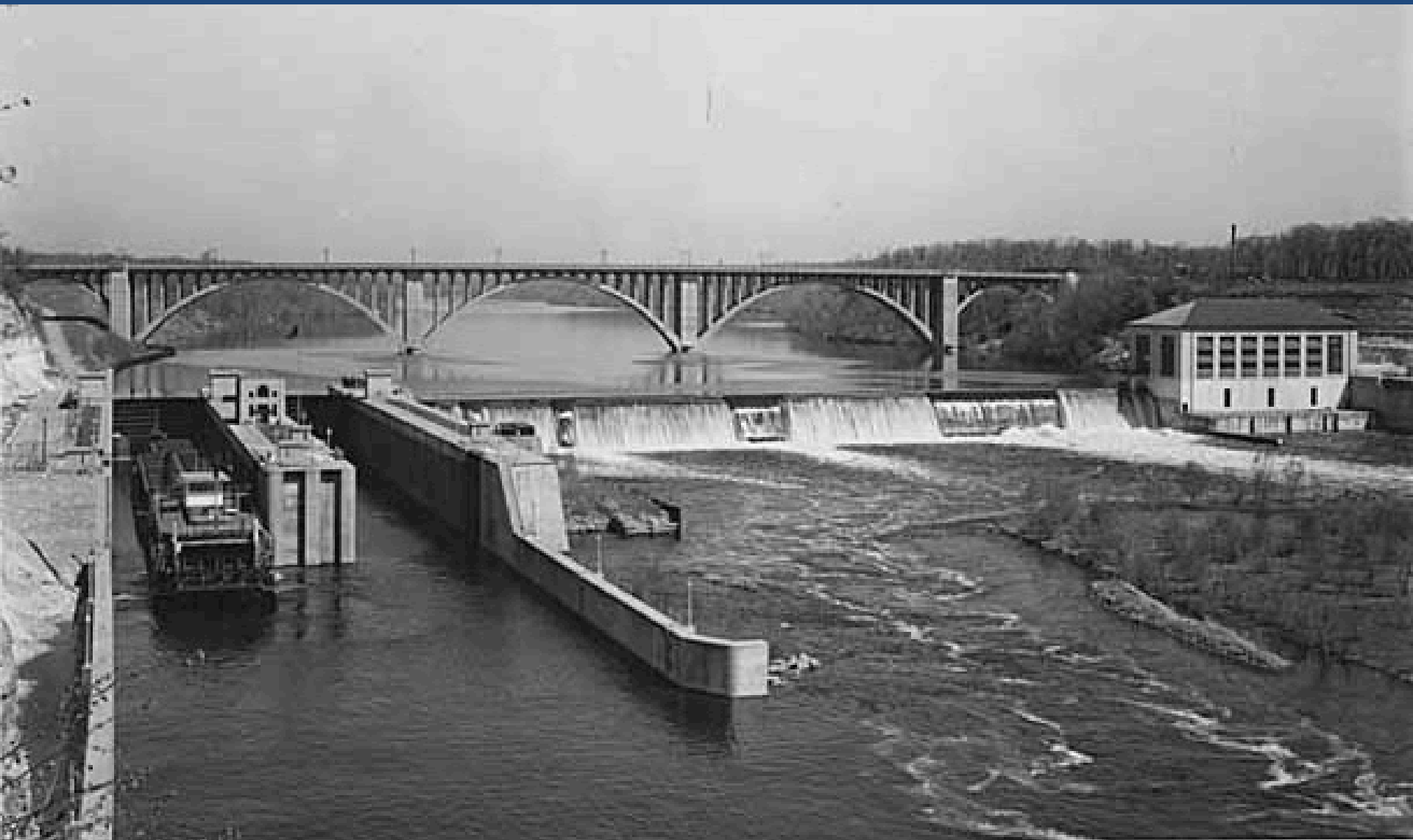
Channel Constriction, 6-Foot Channel



Keokuk and Hamilton Dam (Lock & Dam 19), 1913, Keokuk

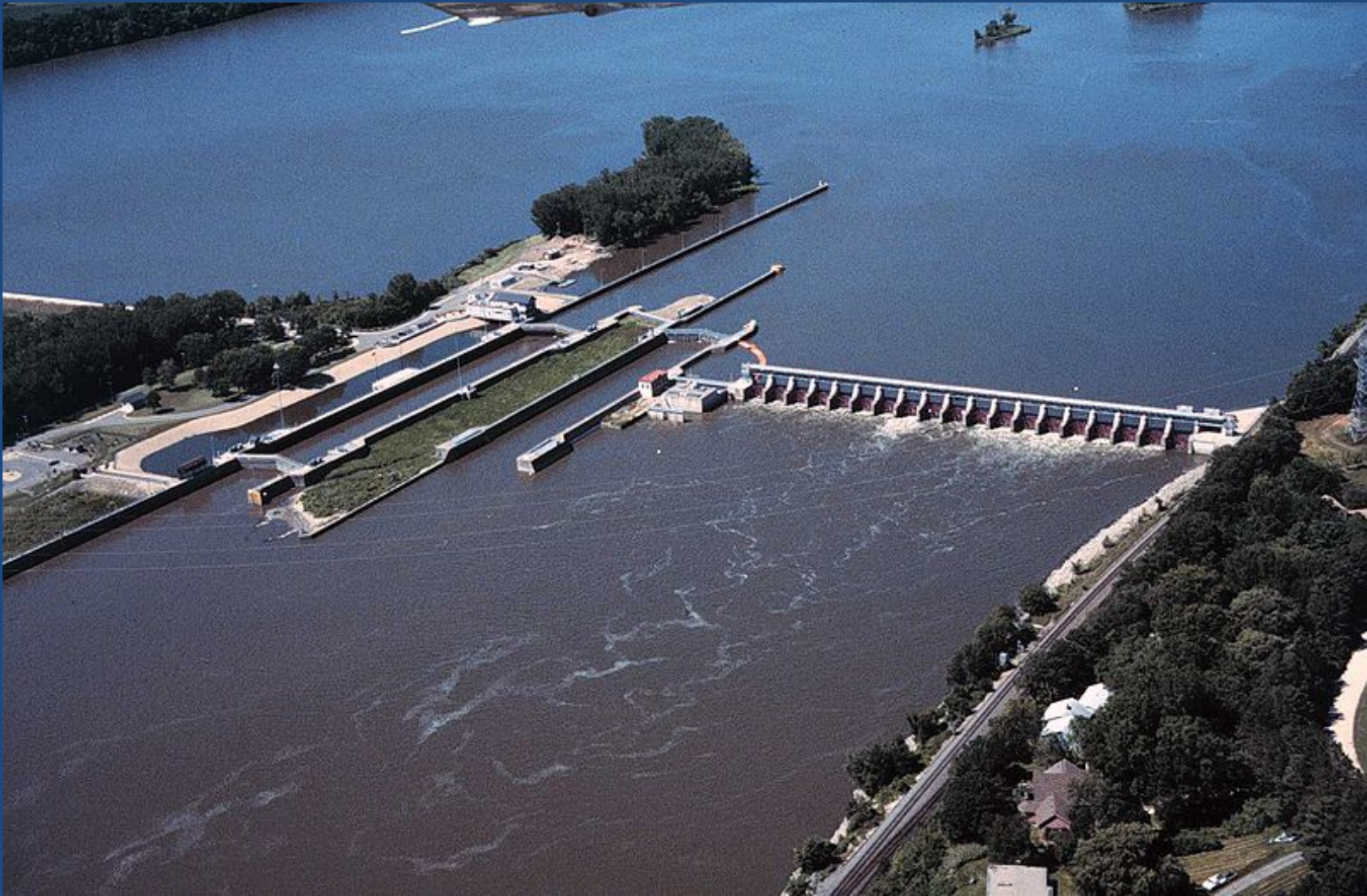


Lock & Dam No. 1, St. Paul



Completed 1917

Lock & Dam No. 2, above Hastings, Minn.





Constricted
Channel,
Mississippi
River below
St. Paul, 1927

Floodplain Agriculture



Mississippi River Floodplain near Waterloo, Illinois



Floodplain Levees, Rock Island District



Floodplain at Gorham, Illinois.



American Environmental Photographs Collection, [AEP Image Number, e.g., AEP-MIN73], Department of Special Collections, University of Chicago Library.

Will Dilg,
Izaak Walton
League co-
founder &
refuge
champion



Mississippi River Floodplain



Floodplain

Upper Mississippi River National Wildlife and Fish Refuge



Upper Mississippi National Wildlife & Fish Refuge



2nd River – Hydraulic Framework



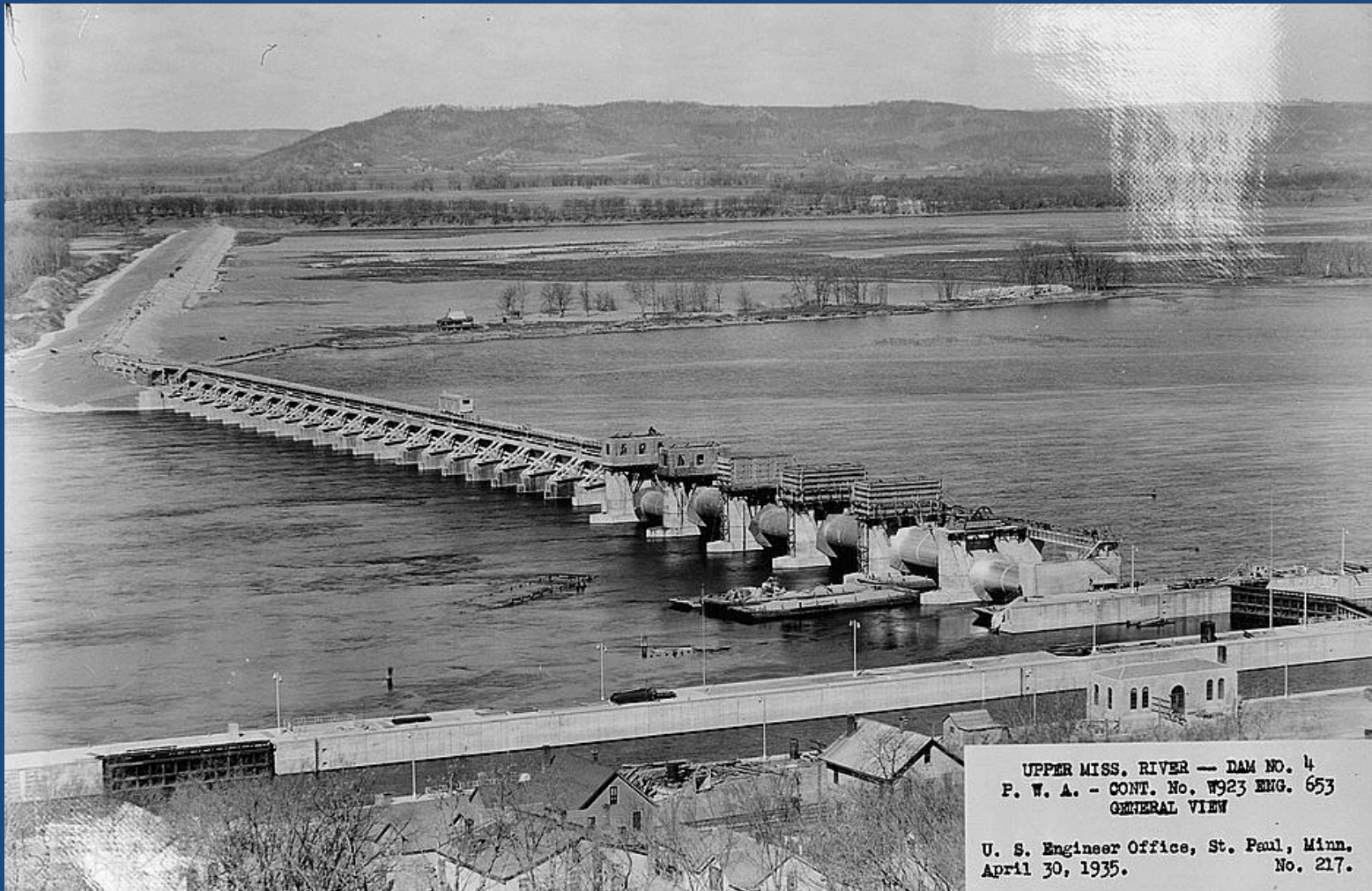
<http://www.nbcnews.com/>

Channel constriction
Agricultural levees
Upper Miss Refuge

Minneapolis-St. Louis RR



Lock & Dam 4, Alma, Wisconsin



Historic American Engineering Record

Upper Mississippi River Locks and Dams



Source: Prairie Rivers Network;
prairierivers.org



Refuge above Rock Island



Ag. Levees below Rock Island



Channel constriction, whole
Upper Mississippi River



9-Foot Channel

9-Foot Channel



Fourth River

The Water Resources Development Act (WRDA) of 1986 stated that the Mississippi River was a “nationally significant ecosystem.”



WRDA 1986 also stated that the Mississippi River was a “nationally significant commercial navigation system.”



Dividing the Pie on the Columbia River?



Grand Coulee Dam



Migrating Salmon

Building

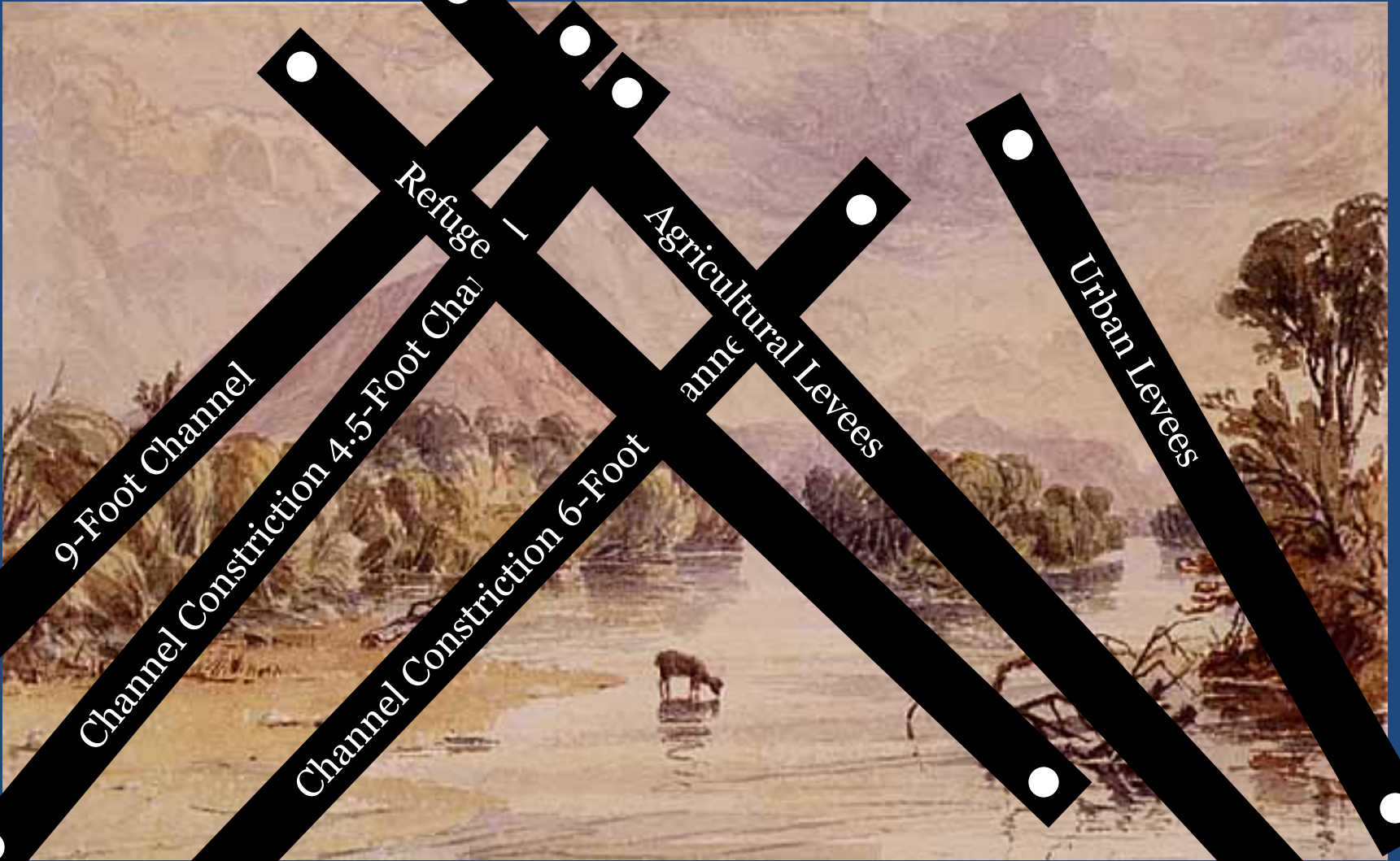


Channel Constriction 4.5-Foot Channel

Channel Constriction 6-Foot Channel

Agricultural Levees

the



9-Foot Channel

Channel Constriction 4.5-Foot Channel

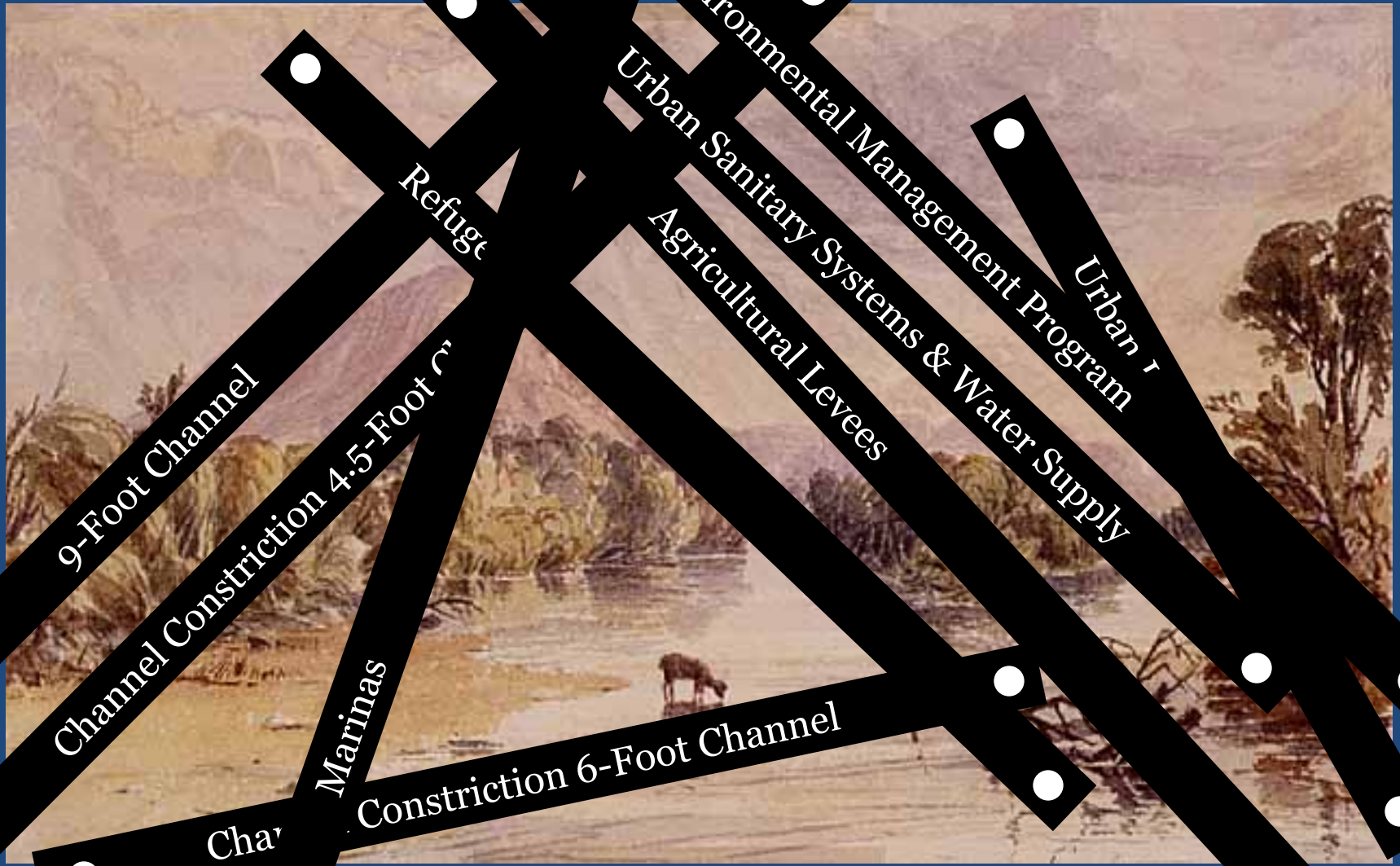
Refuge

Channel Constriction 6-Foot

Agricultural Levees

Urban Levees

Hydraulic Framework



9-Foot Channel

Channel Constriction 4.5-Foot Channel

Char... Marinas

Constriction 6-Foot Channel

Refuge

Agricultural Levees

Urban Sanitary Systems & Water Supply

Environmental Management Program

Urban r



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