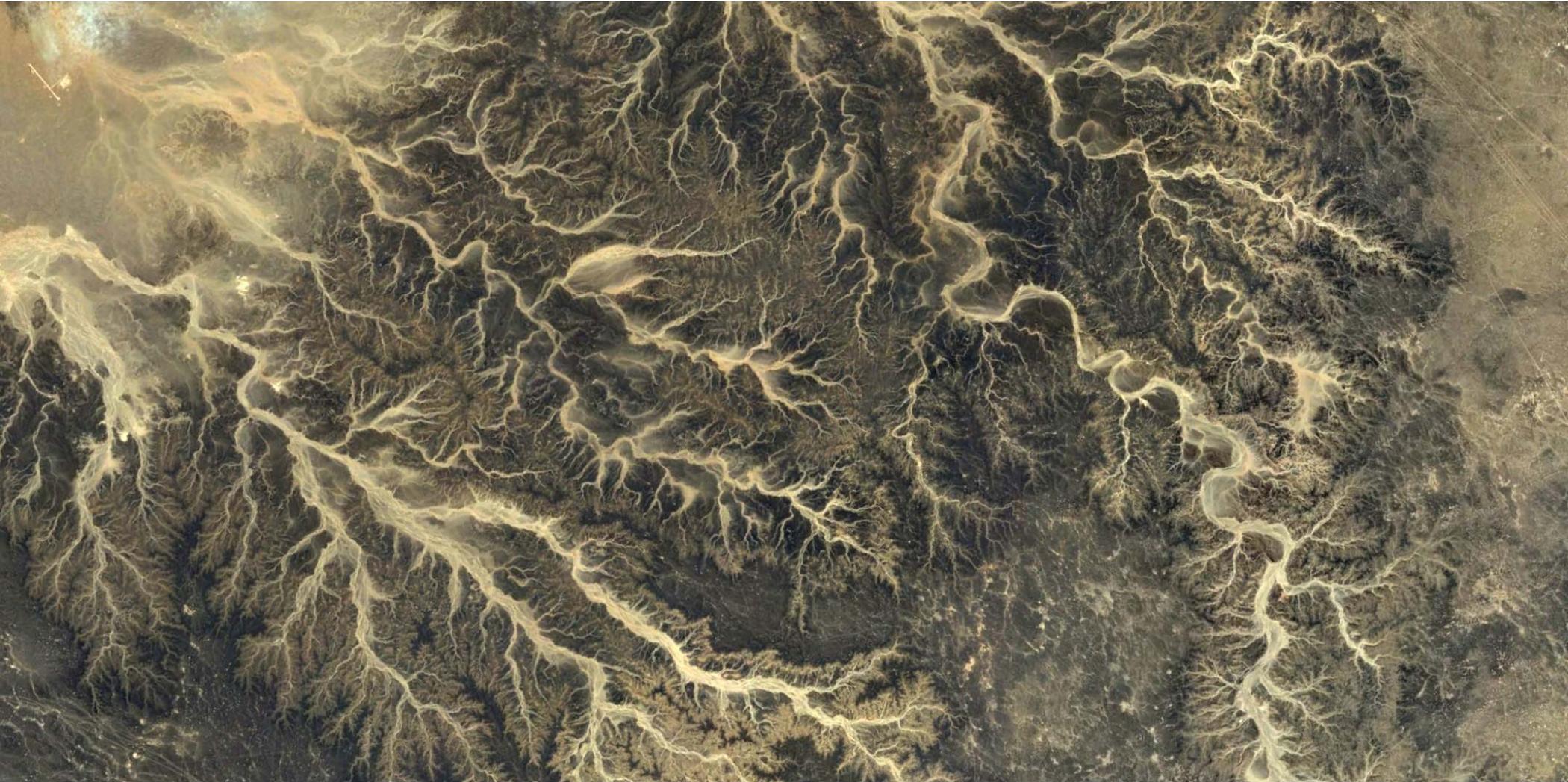




TROY
OHIO®



DAM REMOVAL FEASIBILITY STUDY



RIVERS AS SOURCE OF TERRESTRIAL LIFE

WATER IS THE REASON FOR LIFE ON EARTH. WITHOUT IT, THERE WOULD BE NO 'US'.



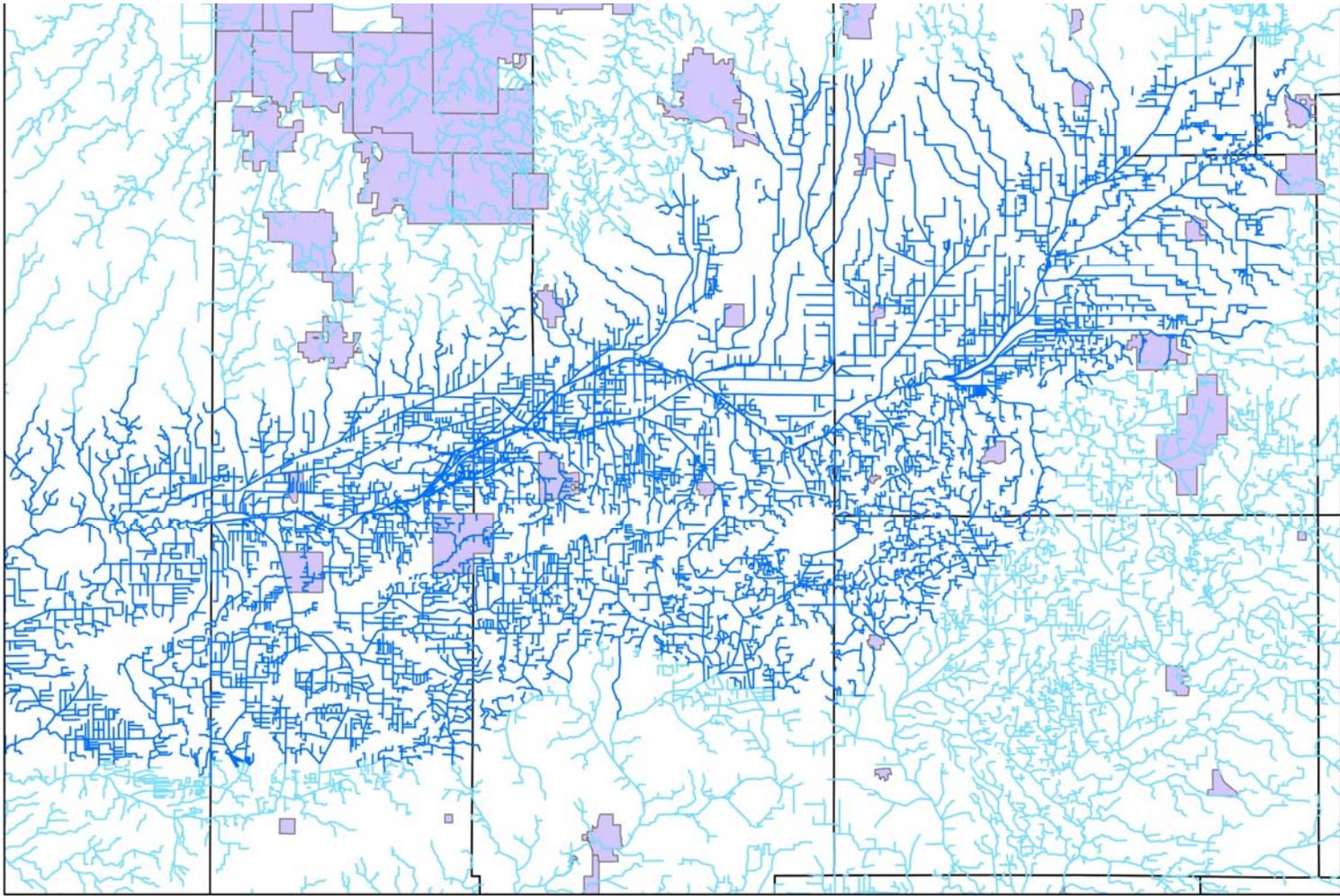
RIVERS AS MODE OF TRANSPORTATION

HUMANS HAVE UTILIZED RIVERS TO TRANSPORT GOODS



RIVERS AS MODE OF TRANSPORTATION

HUMANS HAVE MODIFIED RIVERS AND BUILT CANALS TO MOVE THESE GOODS



RIVER AS SOURCE OF FERTILITY

HUMANS HAVE MODIFIED RIVERS TO IRRIGATE OUR CROPS, PRODUCE & LIVESTOCK



RIVER AS SOURCE OF POWER

HUMANS HAVE UTILIZED RIVERS TO RUN OUR MILLS & POWER OUR CITIES



INDUSTRIAL POLLUTION

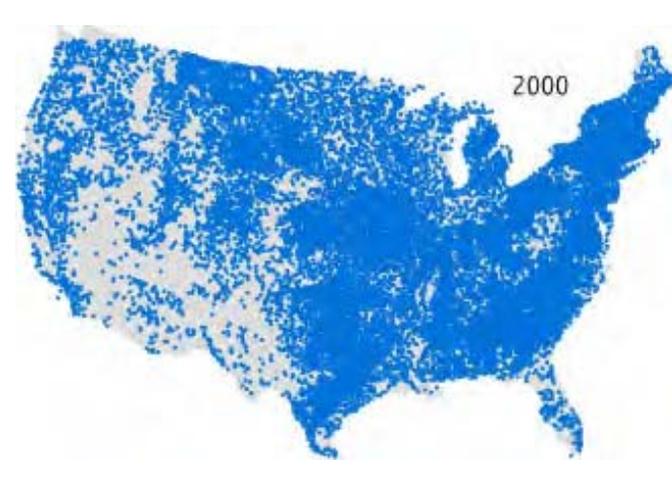
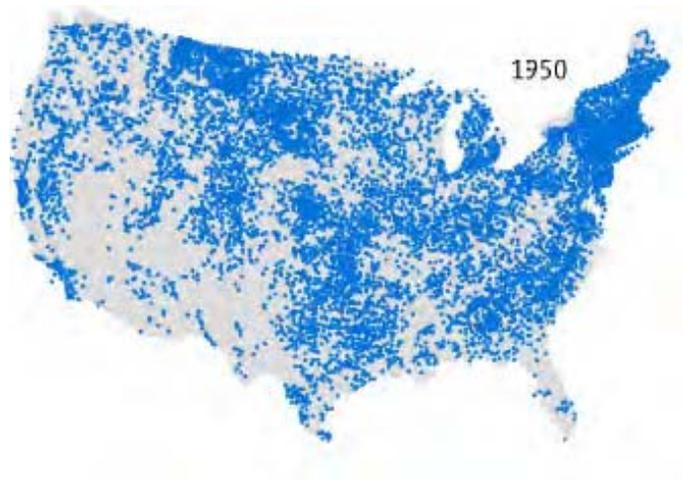
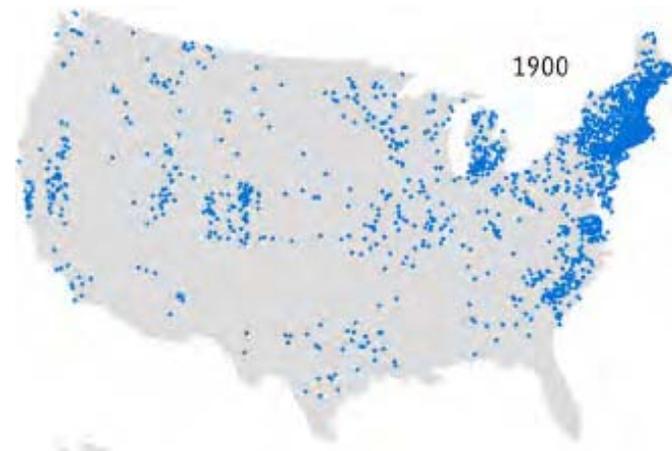
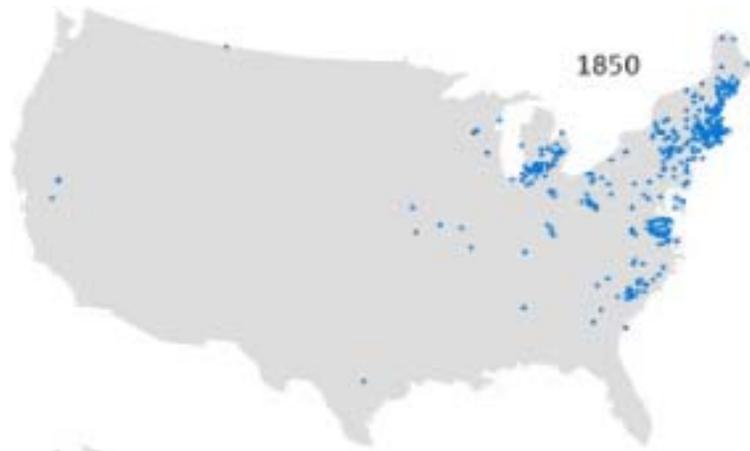


HUMANS HAVE UTILIZED RIVER TO CARRY AWAY WASTE & POLLUTION TO THE DETRIMENT OF THE ENVIRONMENT



RIVERS AS WASTE STREAM

RIVERS AS WASTE STREAMS HAVE LED TO ECOLOGICAL AND SOCIAL DISASTERS

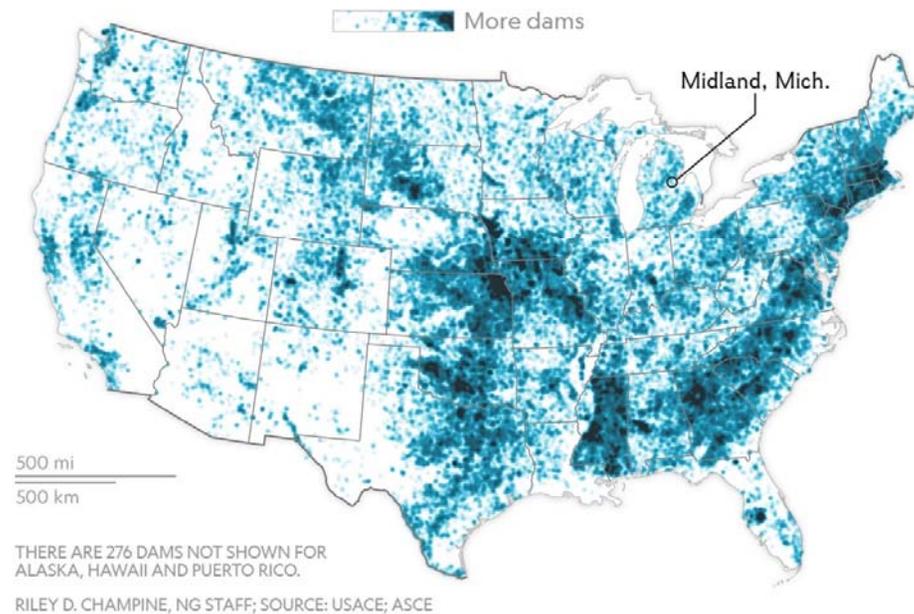


RAPID DAM CONSTRUCTION

AT THE CENTER OF THIS 'MASTERING OF THE RIVER,' LIES THE LOW HEAD DAM. DAMS HAVE MADE ALL OF THIS POSSIBLE.

There are more than 91,000 dams in the U.S.

The dams shown below are recorded in the National Inventory of Dams, which is compiled and maintained by the U.S. Army Corps of Engineers.

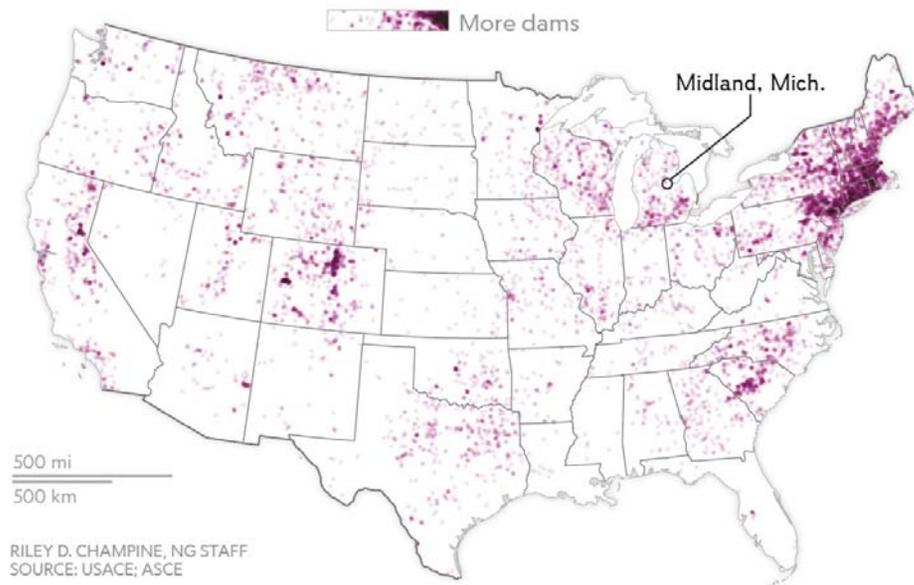


DAMS WITHIN THE CONTINENTAL UNITED STATES

THERE ARE OVER 91,000 DAMS IN THE U.S.

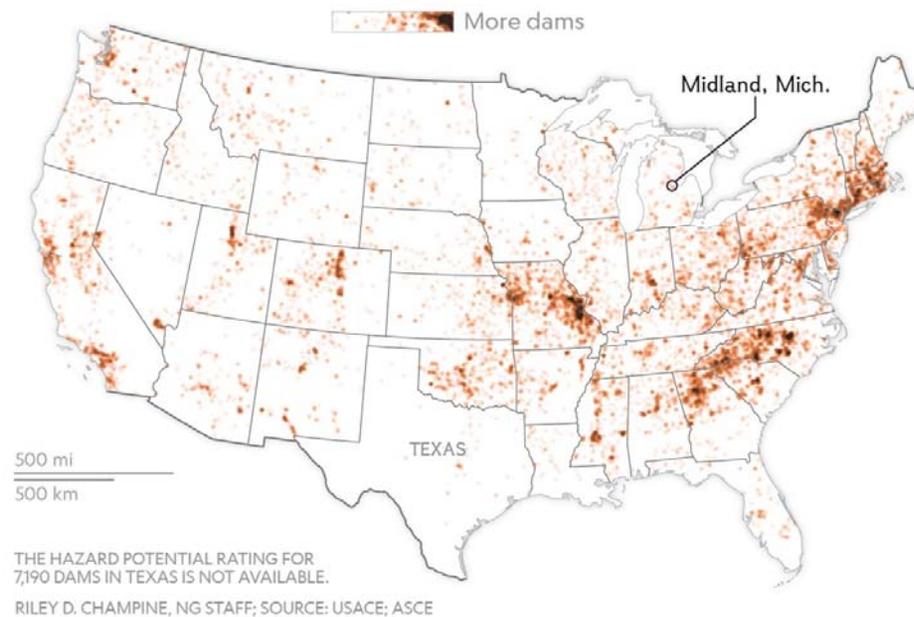
More than 8,000 dams are **over 90 years old**.

Old dams are not necessarily unsafe, but they need to be maintained for integrity. The dams near Midland were built in the 1920s and had a history of safety concerns.



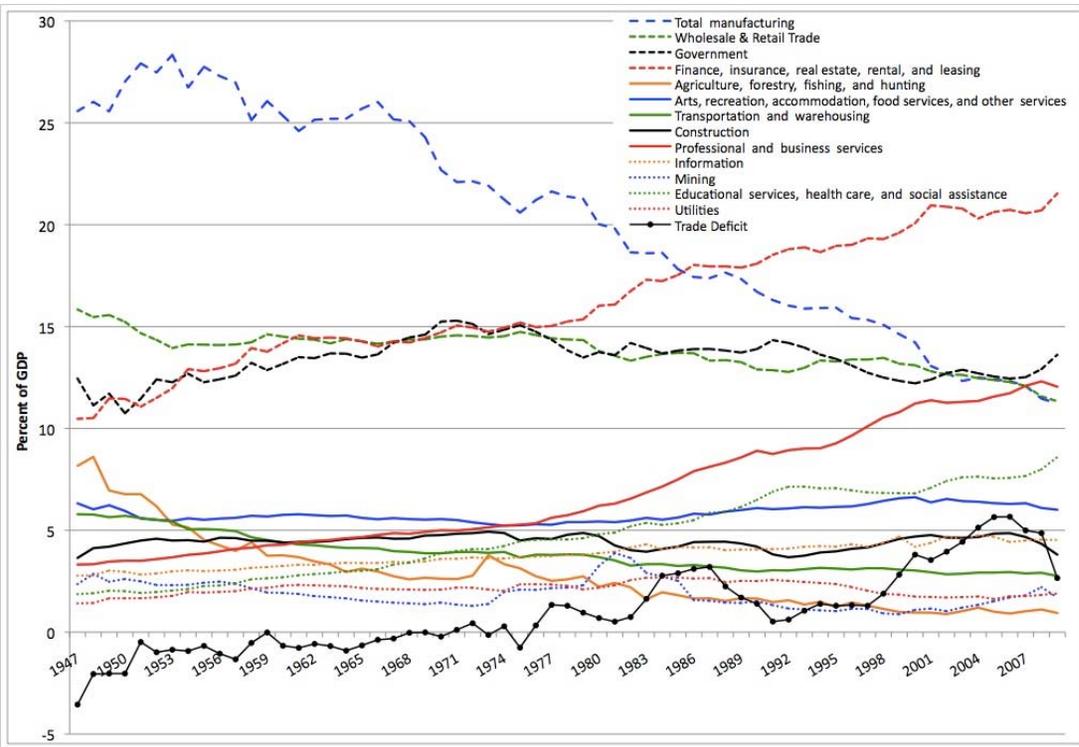
About 1 in 6 dams has a **high hazard potential**.

These 15,500 dams are deemed so crucial that if they were to fail, it would likely cause loss of life and heavy economic damage.



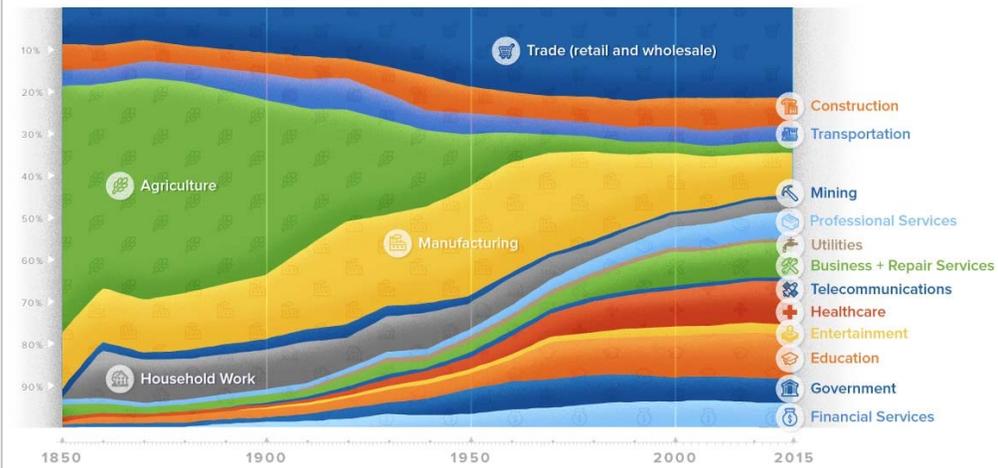
UNFUNDED LIABILITIES

MANY OF THESE DAMS POSE A SERIOUS THREAT TO MILLIONS OF AMERICAN LIVES AND LOCAL ECONOMIES SHOULD THEY FAIL



VISUALIZING 150 YEARS OF U.S. EMPLOYMENT HISTORY

How sector shares of jobs have changed over time



DECLINE IN DAM UTILIZATION

INDUSTRY AND MANUFACTURING, ONCE HEAVILY RELIANT ON DAMS FOR OPERATION, ARE BECOMING MORE & MORE OBSOLETE



WASTE TREATMENT PROGRAMS

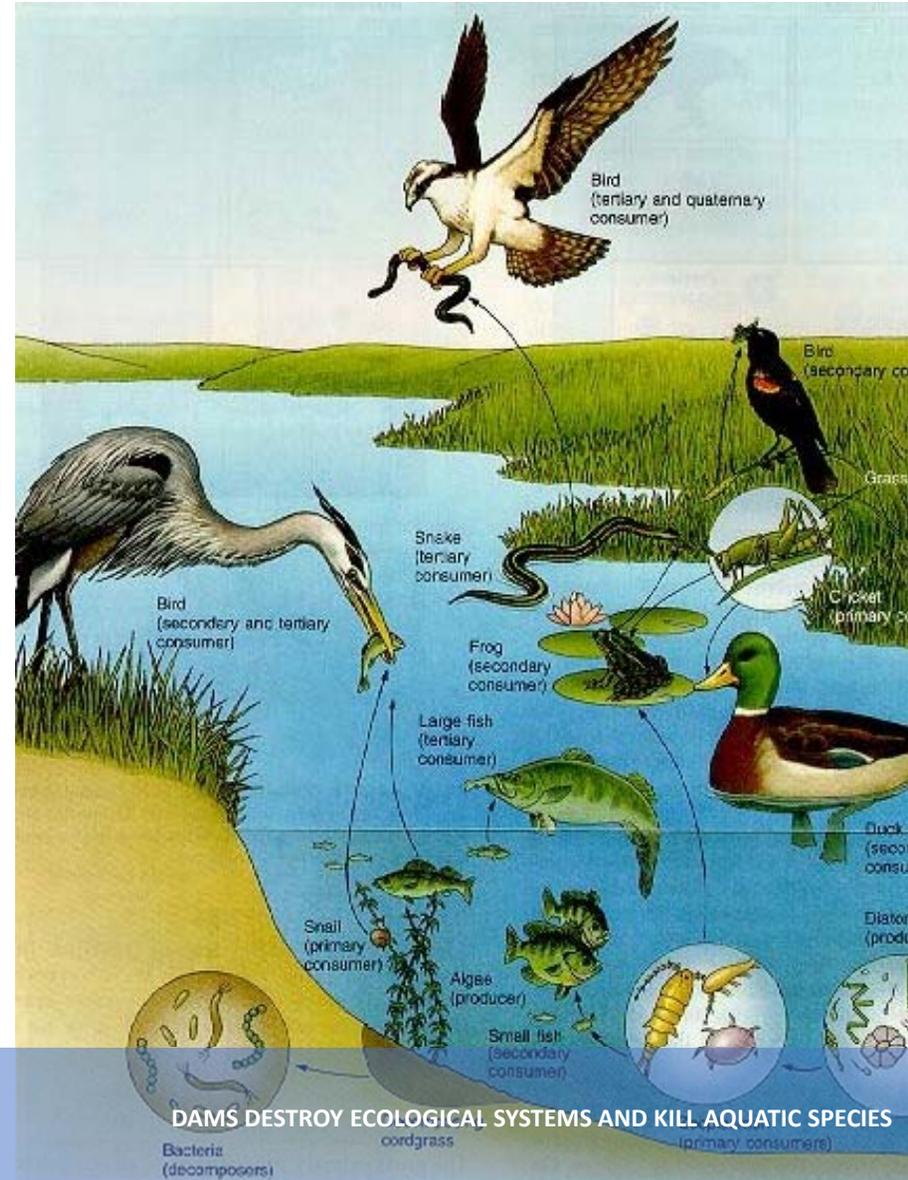
THEIR HAS BEEN A MOVEMENT ACROSS THE NATION OVER THE LAST 60 YEARS TO CLEAN UP OUR RIVERS



REASONS FOR DAM REMOVAL



ECOLOGICAL IMPACTS

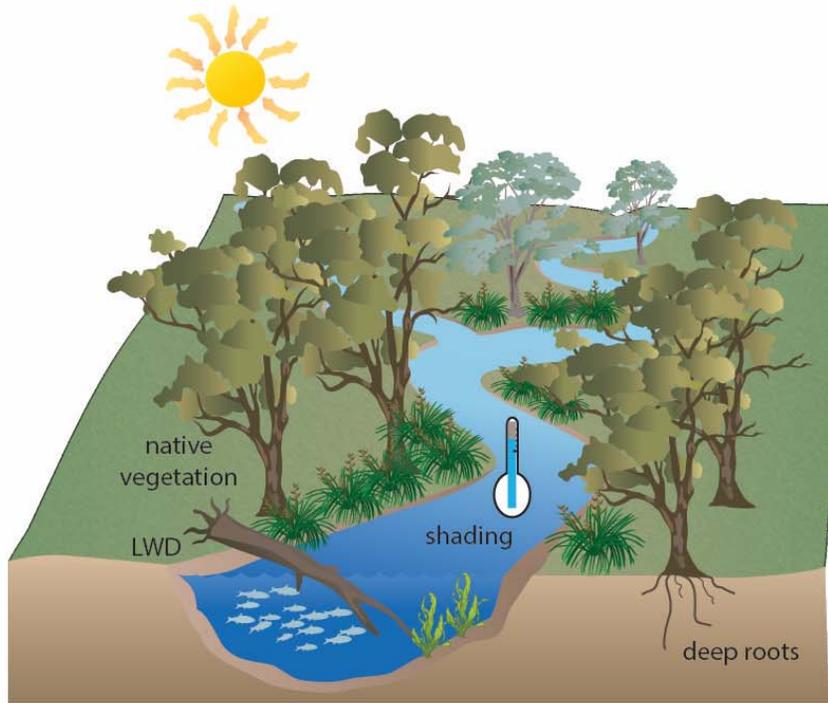


DAMS DESTROY ECOLOGICAL SYSTEMS AND KILL AQUATIC SPECIES

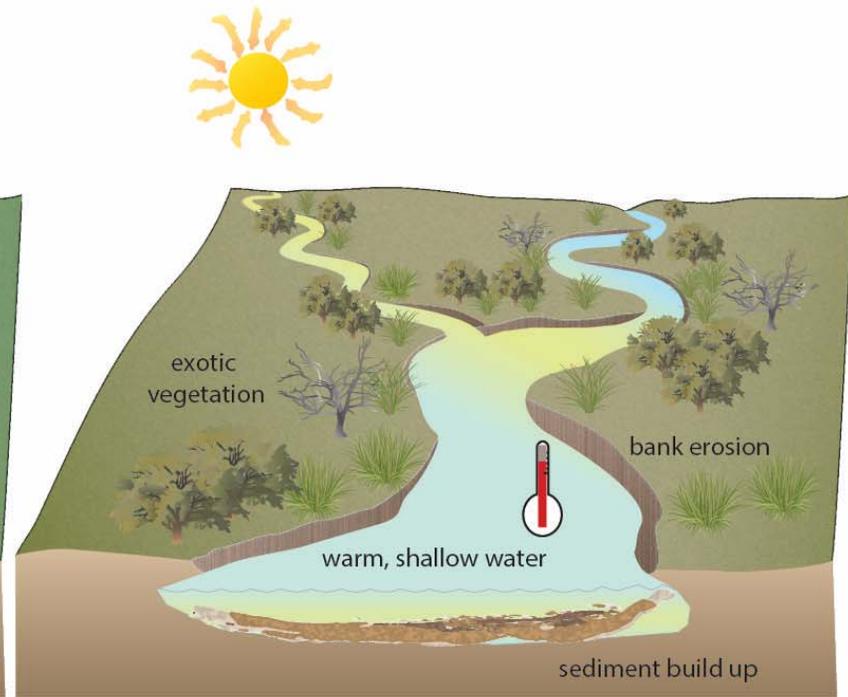
Riparian Vegetation Condition

GOOD

POOR



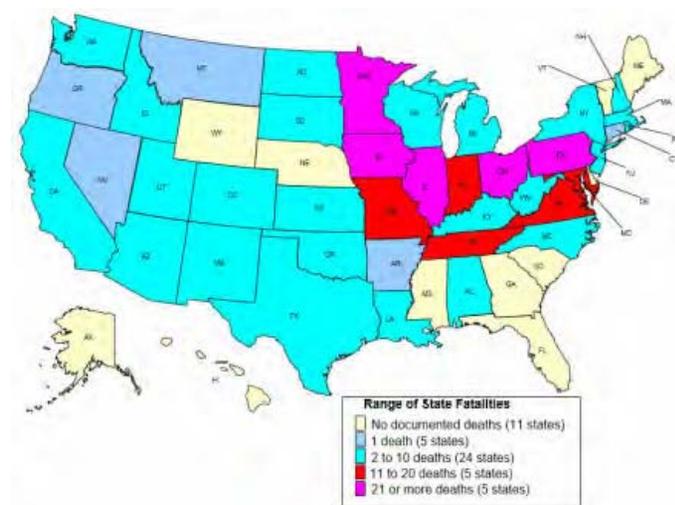
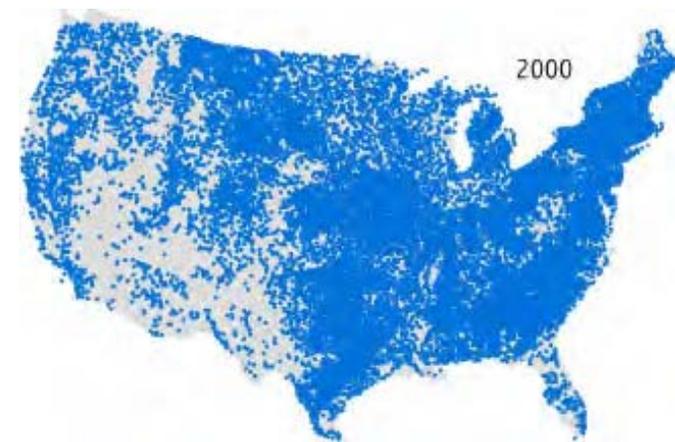
Good vegetation will contract and deepen the channel
LWD - large woody debris provides habitat
Deep roots helps maintain the bank structure and reduces erosion



No vegetation and the channel will become wider and shallower
Absent LWD - loss of habitat
Loss of vegetation increases channel instability and erosion



ECOLOGICAL IMPACTS



SAFETY

DAMS ARE A SAFETY HAZARD, OFTEN CALLED 'DROWNING MACHINES'



SAFETY

THE RECIRCULATING CURRENT CREATED BY A LOW HEAD DAM CAN TRAP RECREATIONALISTS, CAUSING THEM TO DROWN



RECREATION / ECONOMICS

REMOVING DAMS AND RESTORING FREE FLOWING RIVERS CAN BE A BOON TO LOCAL
OUTDOOR RECREATIONAL OPPORTUNITIES & THE ECONOMY



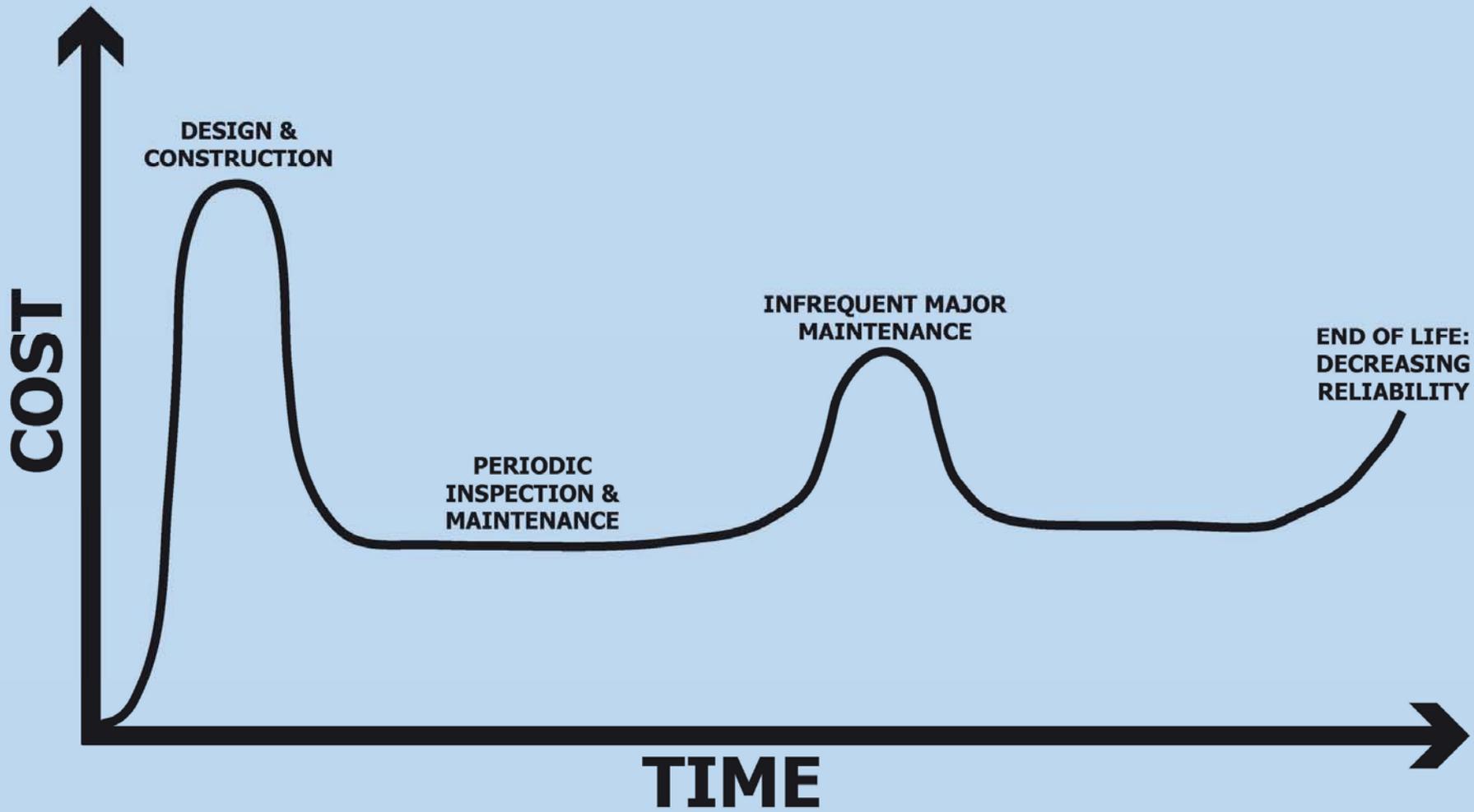
RECREATION / ECONOMICS

IN 2017, OUTDOOR RECREATION BUSINESSES CONTRIBUTED OVER \$400 BILLION TO THE NATION GDP, A 10% INCREASE FROM 2012.



RECREATION / ECONOMICS

CITIES ARE SEEING AN EVER INCREASING DEMAND FOR OUTDOOR RECREATIONAL OPPORTUNITIES



UNFUNDED LIABILITIES

AS DAMS AGE, THE COST OF MAINTENANCE INCREASES



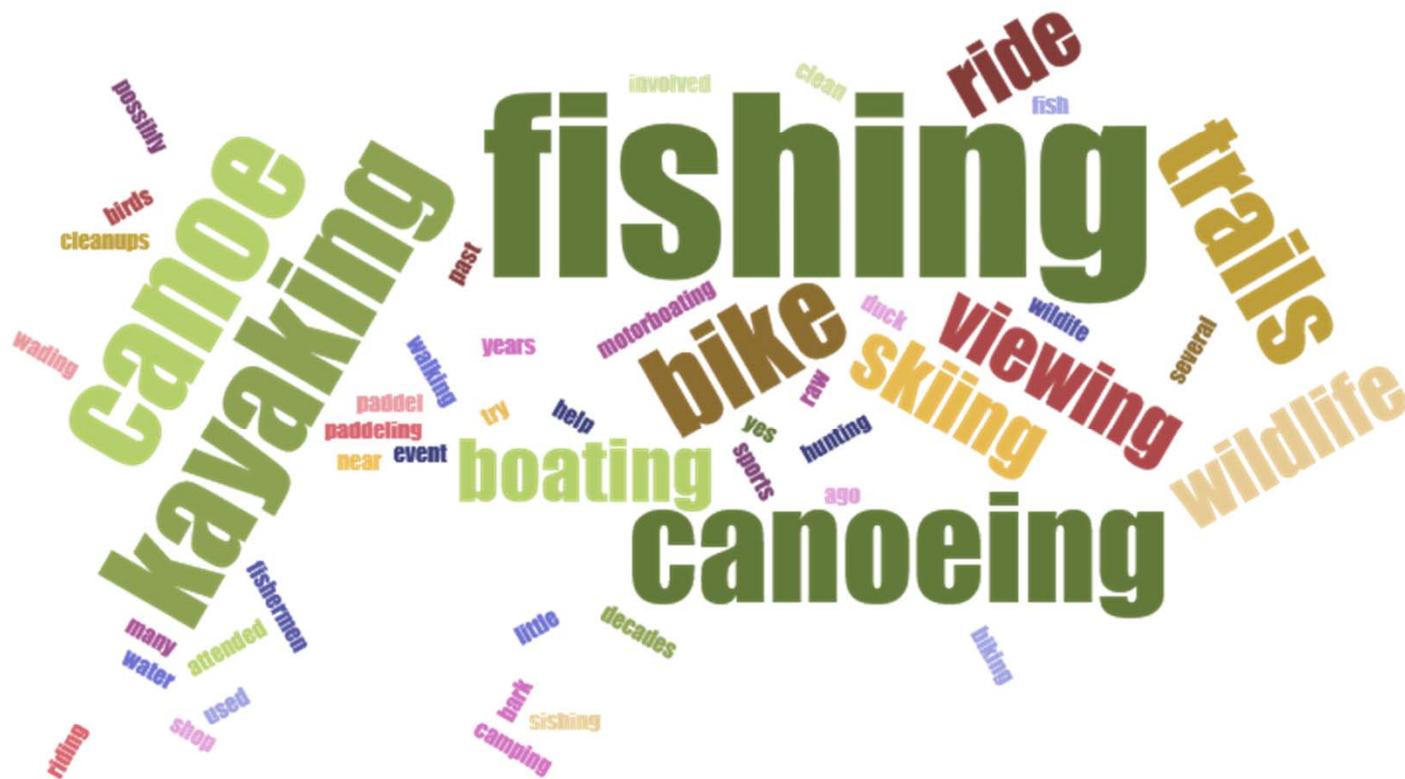
TROY, OH - LOW HEAD DAM



PUBLIC INPUT



UNDERSTANDING PUBLIC SENTIMENT ABOUT THE DAM & GREAT MIAMI RIVER WAS THE FIRST TASK OF THE FEASIBILITY STUDY



PUBLIC INPUT

FEEDBACK HEARD FROM THE PUBLIC MEETINGS REGARDING THE GREAT MIAMI RIVER AND DAM REMOVAL



PUBLIC INPUT

FEEDBACK HEARD FROM THE PUBLIC MEETINGS REGARDING THE GREAT MIAMI RIVER AND DAM REMOVAL



DAM REMOVAL – RECREATIONAL OPPORTUNITIES

DAM REMOVAL IN MUNCIE, IN THAT EXPOSED NATURAL RIVER FEATURES



DAM REMOVAL – RECREATIONAL OPPORTUNITIES

LOCATION OF DAM SHOWN AS RED LINE ON RIGHT SIDE OF SCREEN



DAM REMOVAL – PRE REMOVAL

PRE DAM REMOVAL – ANOTHER DAM ON THE WHITE RIVER IN MUNCIE, IN



DAM REMOVAL – RENDERING

CONCEPTUAL RENDERING POST DAM REMOVAL – WHITE RIVER, MUNCIE, IN



DAM REMOVAL – POST DAM REMOVAL

8 MONTHS POST DAM REMOVAL – WHITE RIVER, MUNCIE, IN



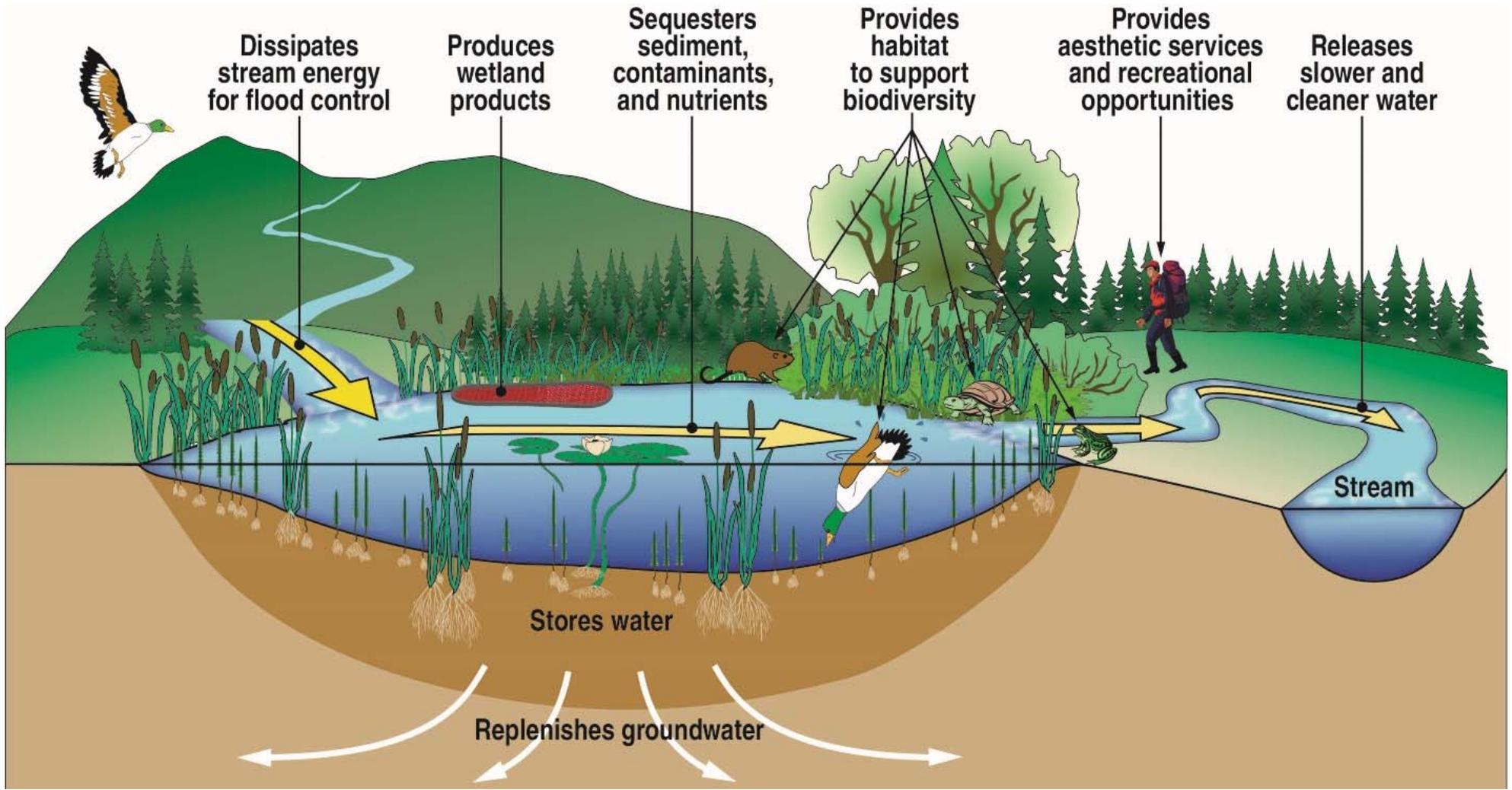
DAM REMOVAL – POST DAM REMOVAL

LOCATION OF DAM – WHITE RIVER, MUNCIE, IN



DAM REMOVAL – RESTORING ECOLOGICAL BALANCE

DAM REMOVAL CAN INCREASE FISHING OPPORTUNITES & RESTORE ECOLOGICAL AND BIOLOGICAL BALANCE TO A RIVERINE SYSTEM



FULL DAM REMOVAL

DAM REMOVAL RESTORES NATURAL SYSTEMS

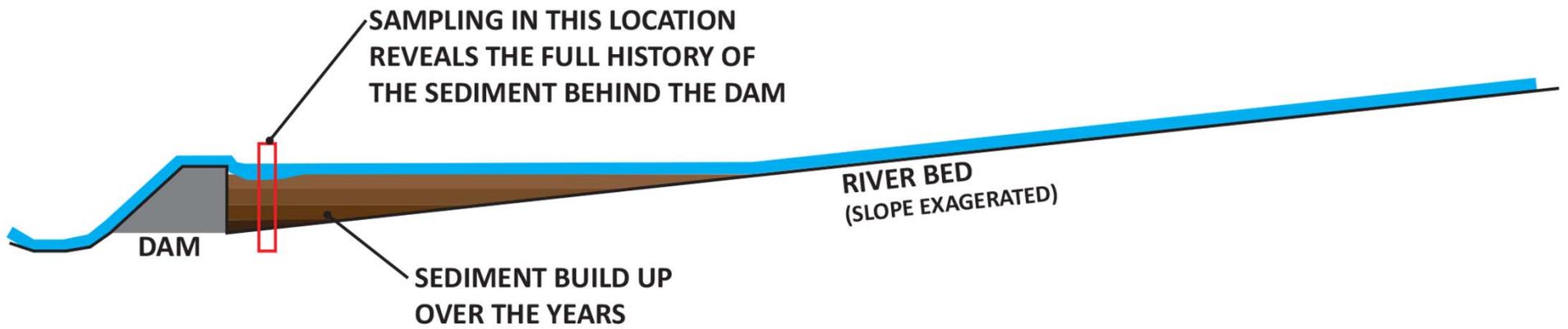


FULL DAM REMOVAL – RESTORING ECOLOGICAL BALANCE



RETURN OF BIOLOGICAL DIVERSITY AFTER DAM REMOVAL ON THE STILLWATER CREEK





Based on an analysis of the sampling results and relatively low concentrations of chemicals detected, adverse effects are not expected to occur to ecological receptors from exposure to the sediments. In addition, a conservative comparison of the sediment concentrations of chemicals detected to U.S. EPA Regional Screening Levels (RSLs) for residential soil does not indicate potential human health concerns.

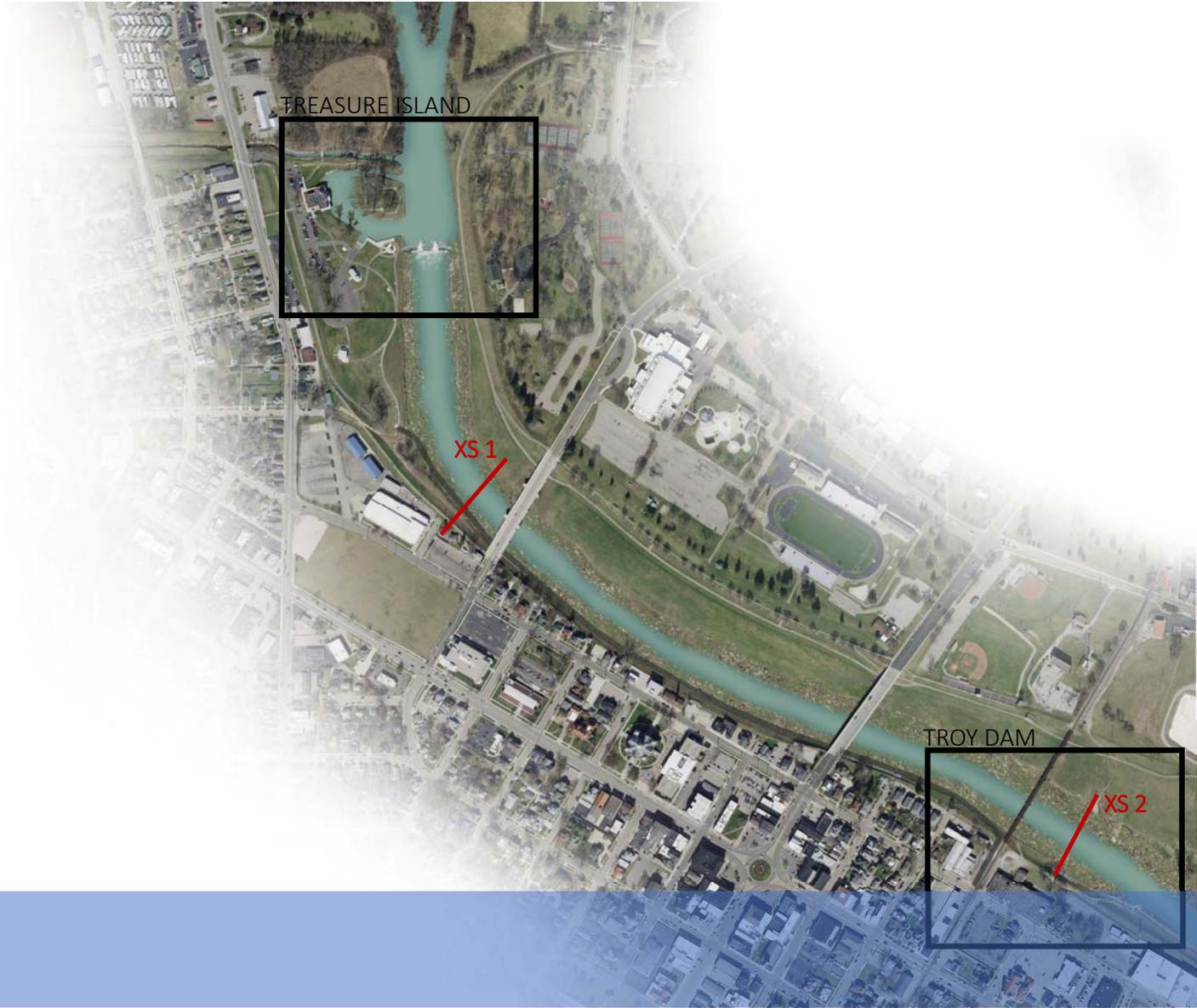
**--Vanessa Steigerwald Dick, Ph.D.
Environmental Scientist**

Through the multiple layers of data collected for this study including public input and after consulting with USFWS, City of Troy, and MCD officials,
it is our recommendation that the low head dam be removed.



COMPLIMENT TO OTHER PROJECTS

DAM REMOVAL & ASSOCIATED IMPROVEMENTS SHOULD COMPLIMENT OTHER RIVERFRONT DEVELOPMENT EFFORTS



POST DAM REMOVAL



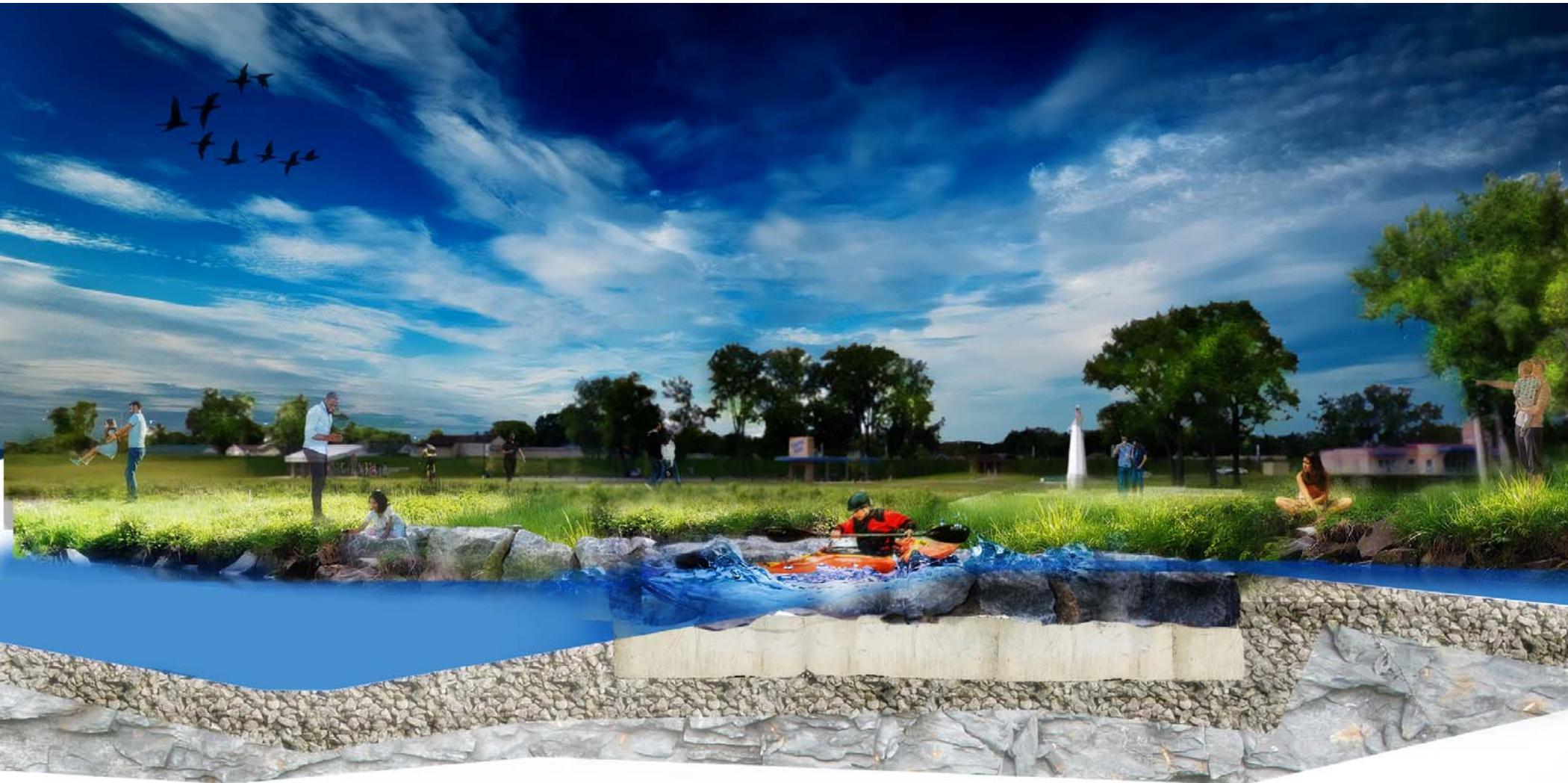


TREASURE ISLAND



TREASURE ISLAND

W-WEIR STRUCTURE USED TO MAINTAIN CURRENT WATER LEVEL ELEVATION AND FUNCTION OF TREASURE ISLAND



W-WEIR

CROSS SECTION OF W-WEIR. STRUCTURE IS SAFE FOR KAYAKERS AND CANOERS TO NAVIGATE THROUGH



TREASURE ISLAND

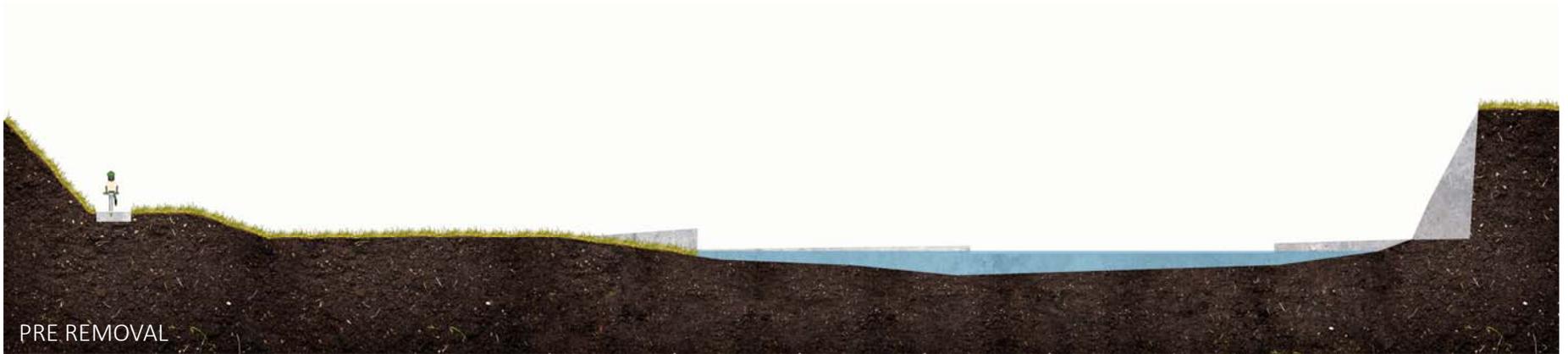


EXTENDED TRAIL ALONG RIVER

DAM REMOVAL WOULD ALLOW FOR A TRAIL TO BE BUILT ALONG THE SOUTH WEST BANK OF THE RIVER. CROSS SECTION IS LOOKING NORTH FROM NEAR ADAMS ST BRIDGE



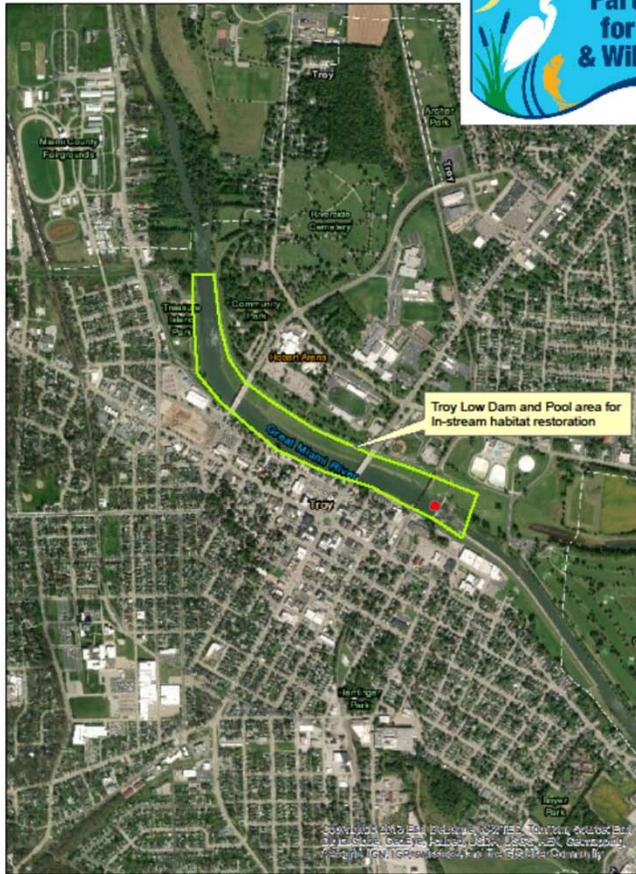
TROY DAM



DAM LOCATION

DAM REMOVAL WOULD ALLOW FOR A TRAIL TO BE BUILT ALONG THE SOUTH WEST BANK OF THE RIVER. CROSS SECTION IS LOOKING SOUTH FROM NEAR RR BRIDGE

**Troy low dam and pool area
for in-stream habitat restoration**



**Troy Oxbow Reconnection
and Outlet Project**



NEXT STEPS

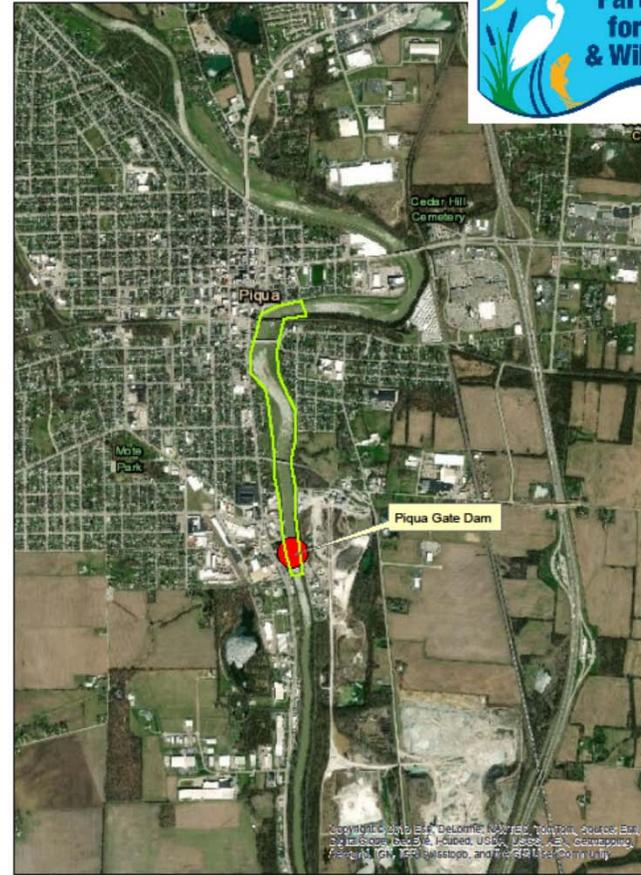
FUNDING FOR DAM REMOVAL & RIVER RESTORATION WILL COME FROM AN OEPA GRANT THROUGH THE WRRSP PROGRAM. OTHER PROJECT LOCATIONS PART OF THE FUNDING ARE SHOWN AS WELL

Piqua Sheet Piling Dam



0 0.0375 0.075 0.15 0.225 0.3 Miles

Piqua Gate Dam and Pool area for in-stream habitat restoration



0 0.15 0.3 0.6 0.9 1.2 Miles

NEXT STEPS

FUNDING FOR DAM REMOVAL & RIVER RESTORATION WILL COME FROM AN OEPA GRANT THROUGH THE WRRSP PROGRAM. OTHER PROJECT LOCATIONS PART OF THE FUNDING ARE SHOWN AS WELL

**Miami County Park District
Oxbow Restoration Project
Duke Expansion Property**



0 0.05 0.1 0.2 0.3 0.4
Miles

Tipp City Oxbow Restoration



0 0.05 0.1 0.2 0.3 0.4
Miles

NEXT STEPS

FUNDING FOR DAM REMOVAL & RIVER RESTORATION WILL COME FROM AN OEPA GRANT THROUGH THE WRRSP PROGRAM. OTHER PROJECT LOCATIONS PART OF THE FUNDING ARE SHOWN AS WELL

An aerial rendering of a park at sunset. A river flows through the center, with a small waterfall and people kayaking. Trails wind through the park, with people walking and jogging. The sky is filled with soft, golden light and wispy clouds. A flock of birds is visible in the upper right. The word "QUESTIONS?" is overlaid in the center.

QUESTIONS?