

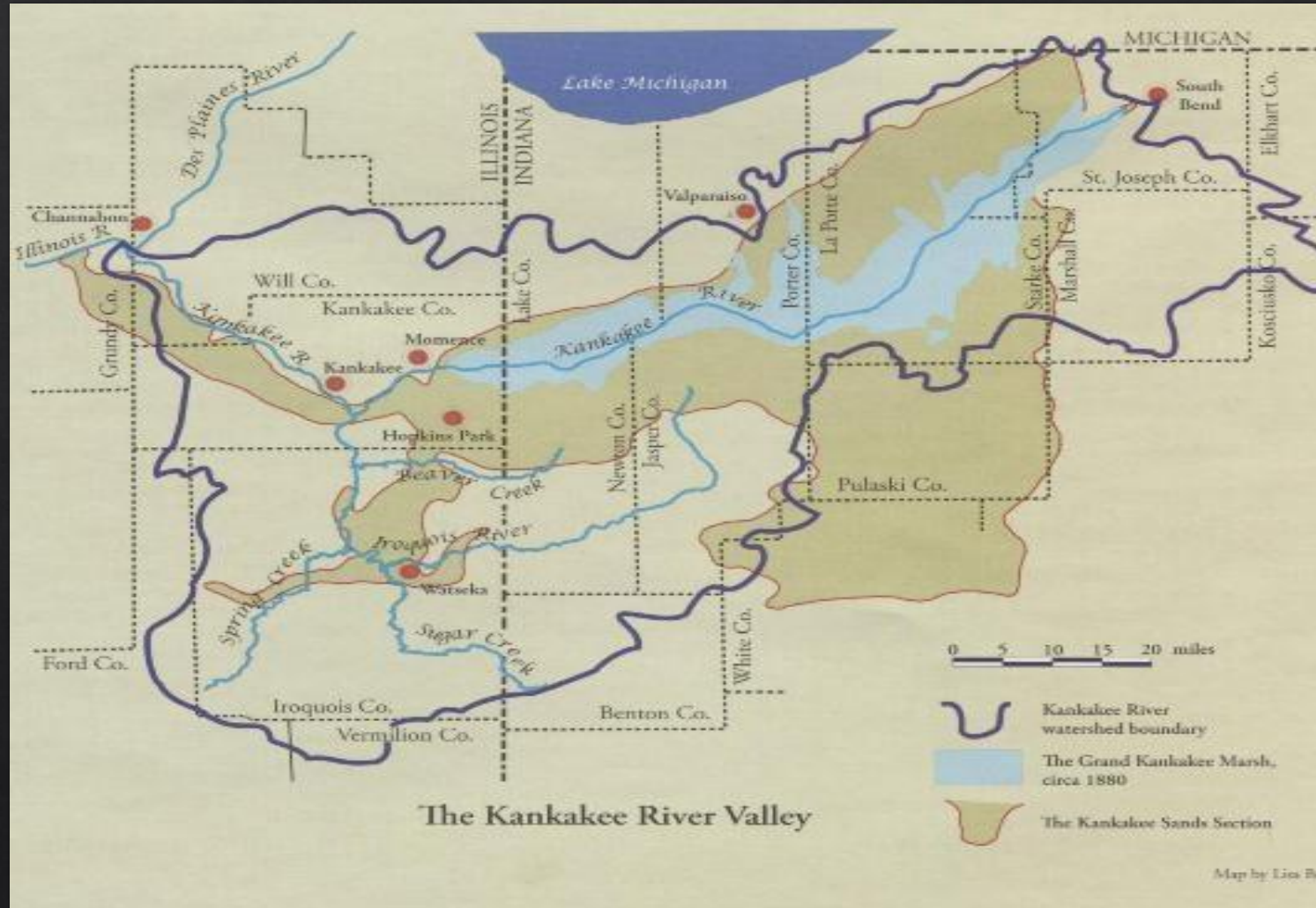
THE FUTURE OF THE KANKAKEE RIVER BASIN

Scott D. Pelath

Executive Director

Kankakee River Basin and Yellow River Basin Development Commission

KANKAKEE RIVER BASIN



KANKAKEE RIVER BASIN PROFILE

- ◆ Kankakee River extends 133 miles from St. Joseph County to Illinois River
- ◆ Yellow River originating in St. Joseph County is the major Indiana tributary
- ◆ In Indiana alone, the basin covers about 1.3 *million* acres, of which 1.1 million acres produce crops.

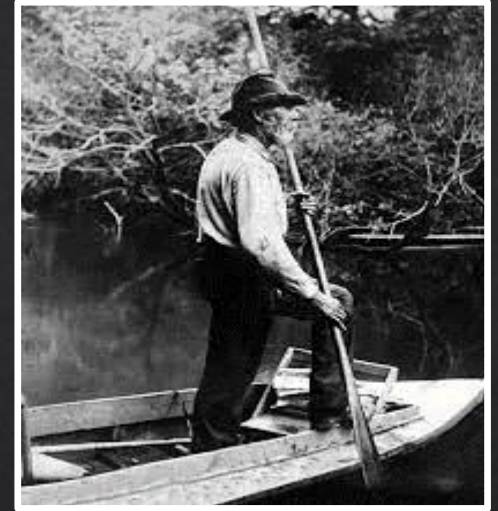
“Everglades of the North”

The Kankakee River
Basin once was home to
the second-largest
freshwater marsh in the
United States.

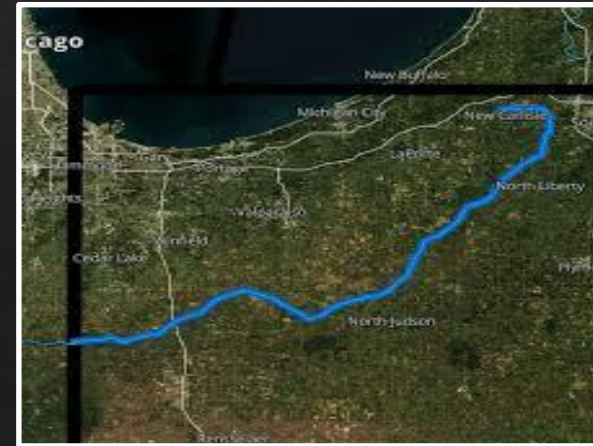
GRAND KANKAKEE MARSH



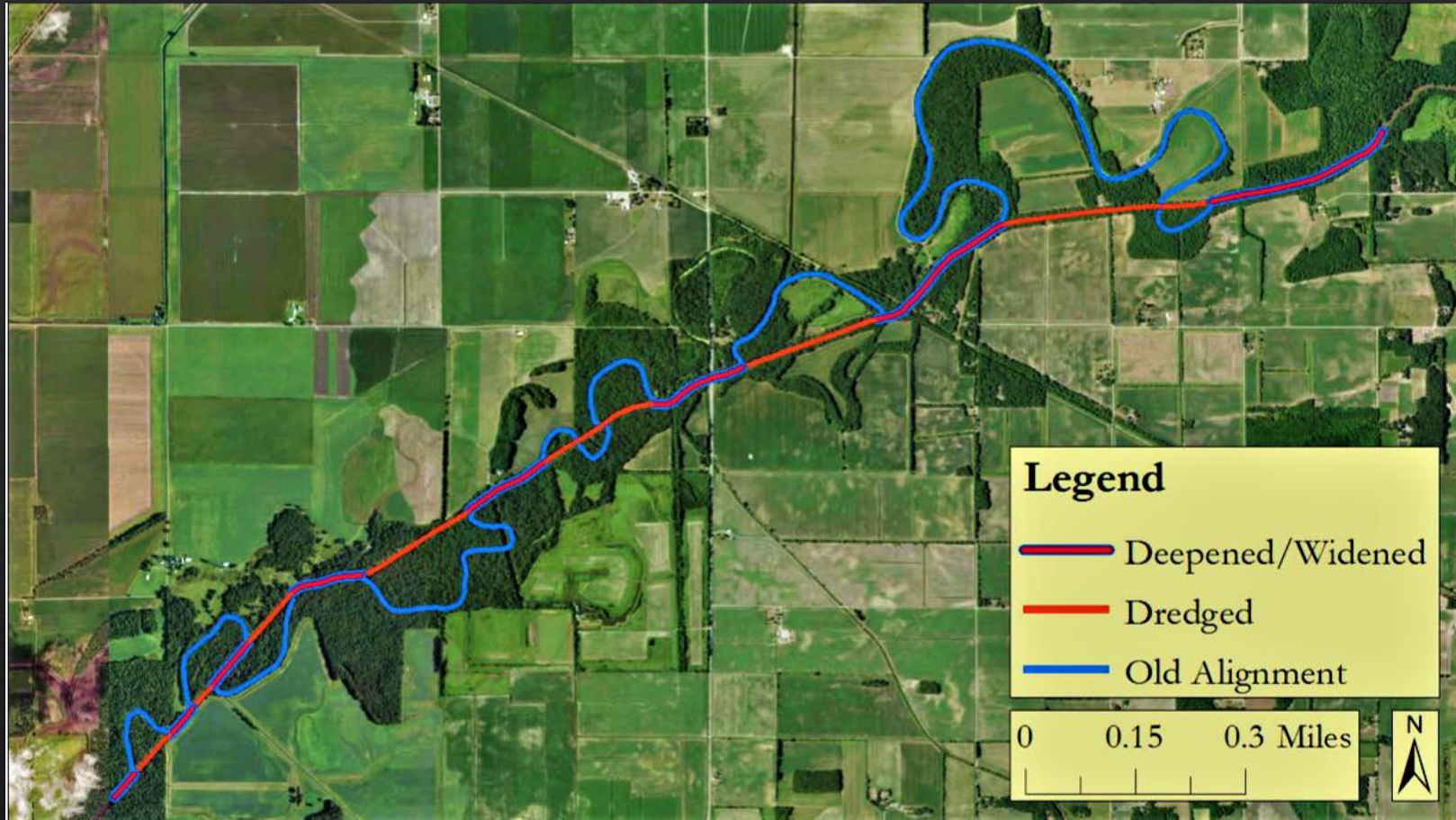
Grand Kankakee Marsh



Drainage Completed during World War I



CHANNEL DREDGED AND MEANDERS CUT



Outcomes and Consequences Remain with Us

- ◆ Some of world's most productive farmland
- ◆ Communities grew and prospered on drier land
- ◆ Land generates wealth for local, regional, and state economies
- ◆ Taxes generated support schools, roads, and public services



Outcomes and Consequences Remain with Us

- ◆ Drained areas continue to flood and hold water
- ◆ Relentless sediment and erosion clogs channels
- ◆ Basin tends to revert to original state
- ◆ Human activity coupled with increased precipitation quickly adds water to system



FLOOD OF FEBRUARY 2018

- ◆ All-time record water levels at two points along Kankakee River
- ◆ Water persisted in some areas for six weeks
- ◆ Costly damage to private property and public infrastructure
- ◆ Expensive allocations of resources for flood response and clean-up

FLOOD IMAGES (2018)



FLOOD IMAGES (2018)



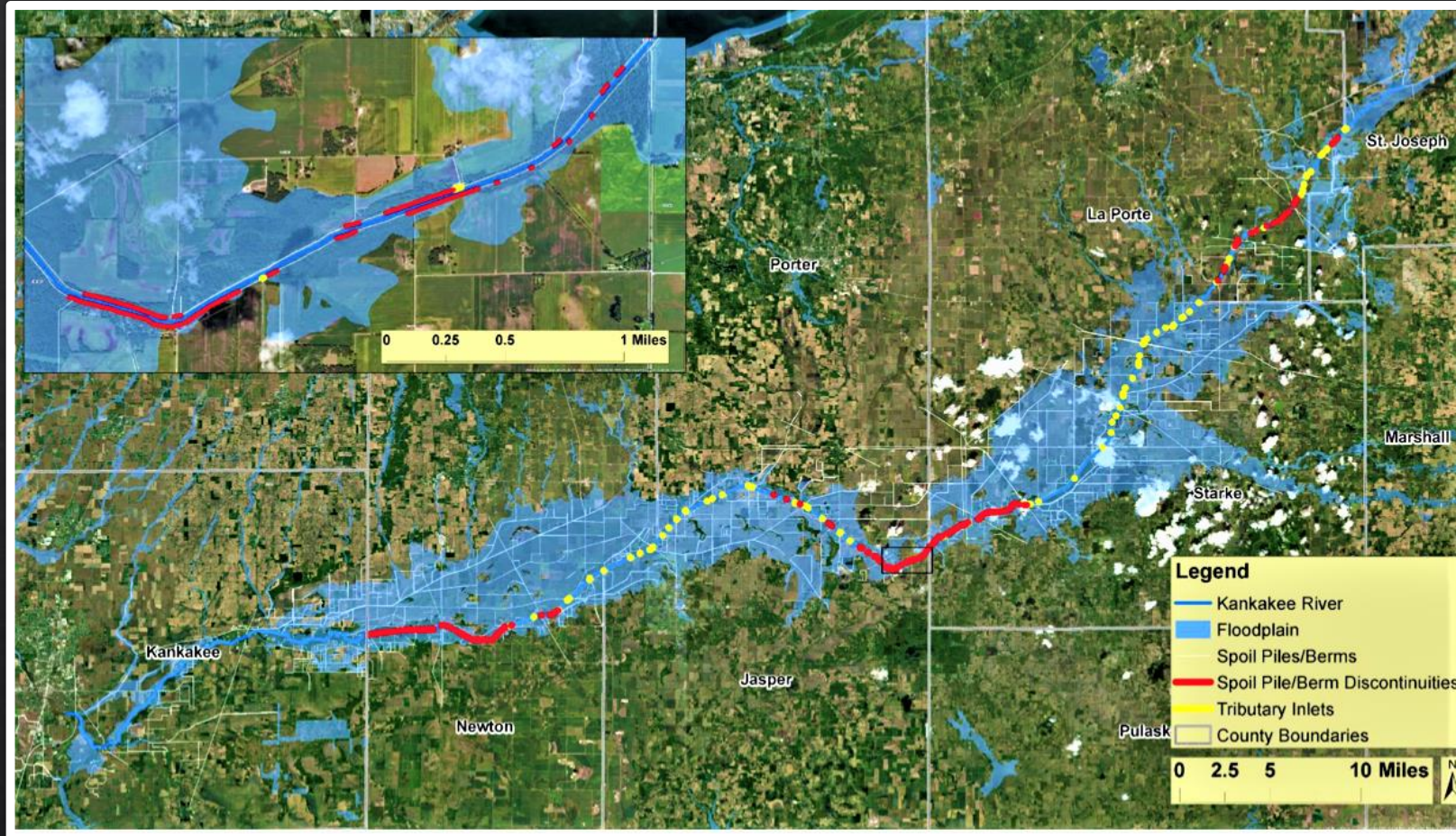
FLOOD IMAGES (2018)



FLOOD IMAGES (2018)

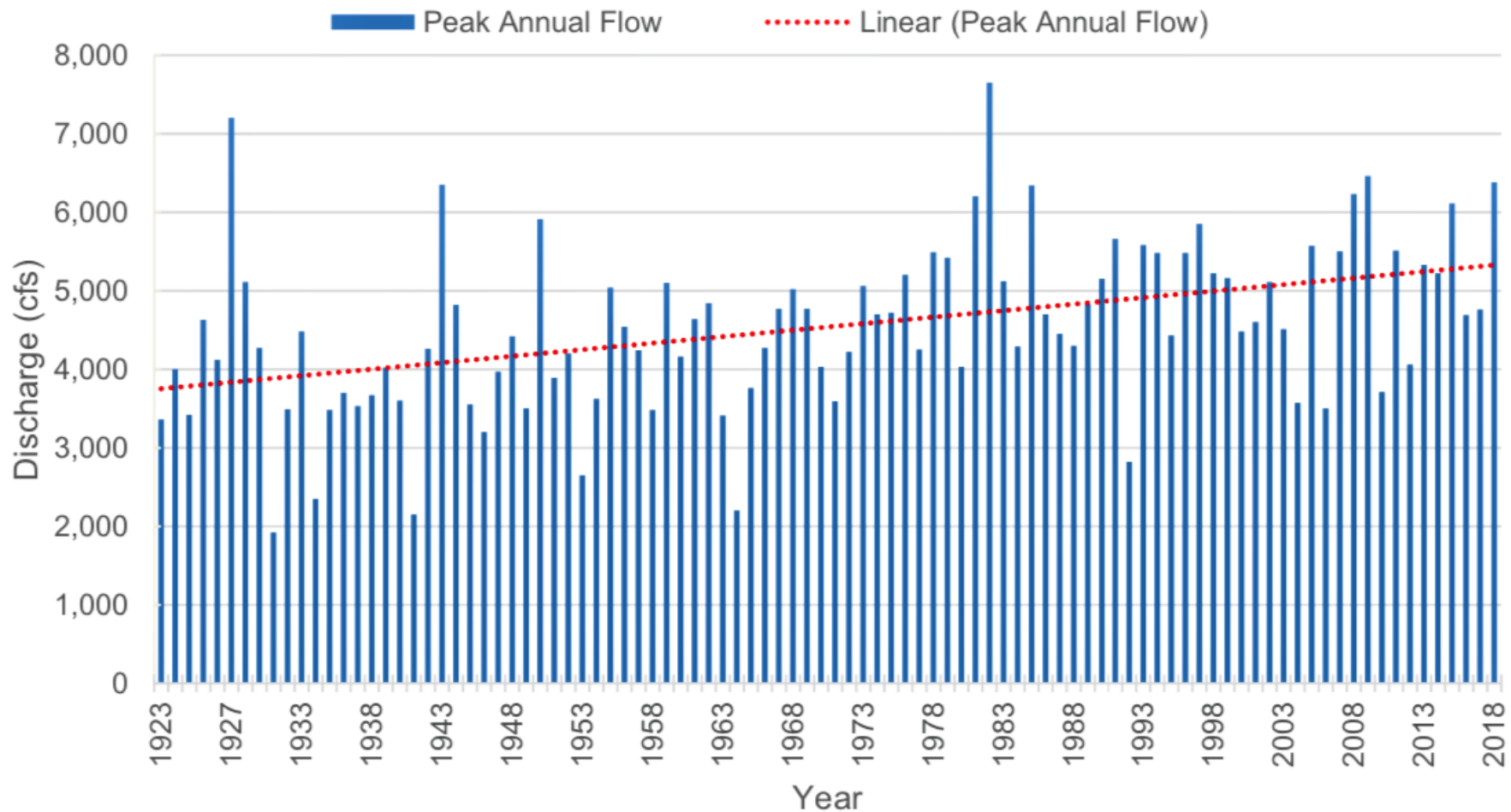


Kankakee Floodplains

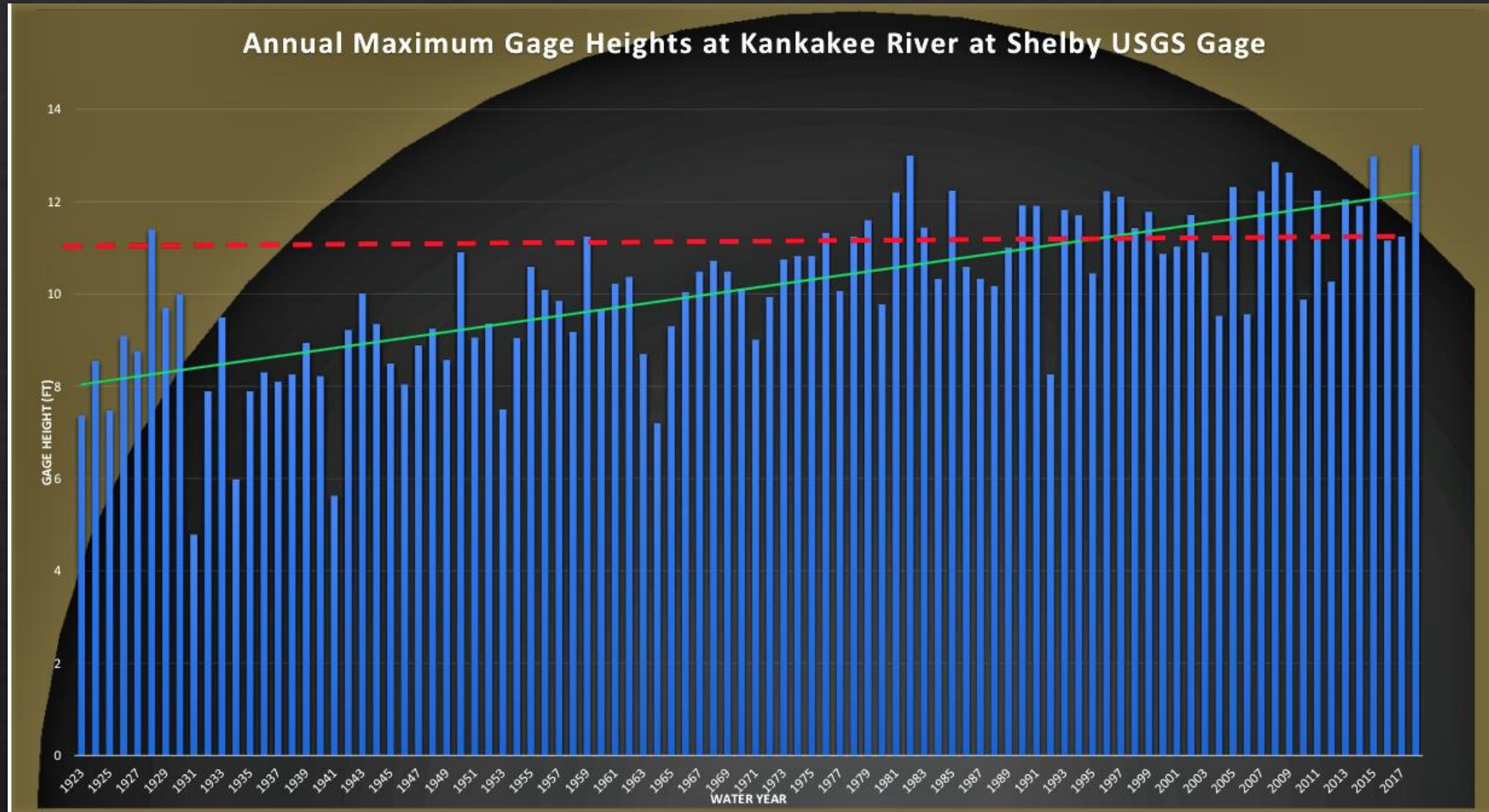


MORE WATER IN THE SYSTEM

SHELBY
GAGE



THE RIVER IS RISING



RED IS MODERATE FLOOD
STAGE

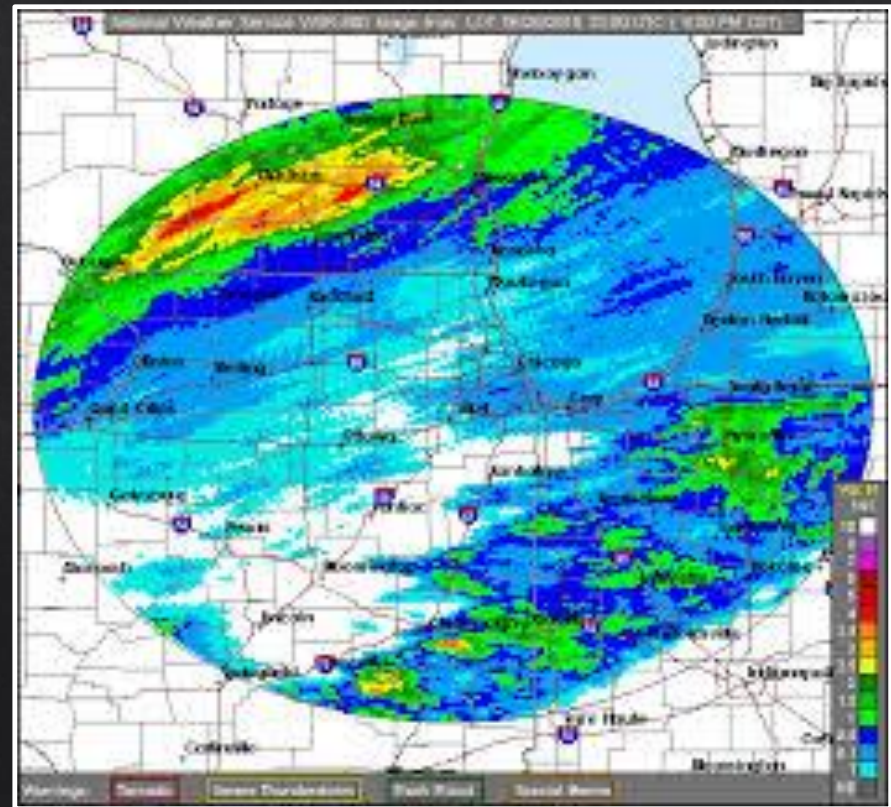
THE DILEMMAS

- ◆ More water in the system
- ◆ More water leads to more erosion
- ◆ Erosion makes it harder to contain the water

WHAT CONTRIBUTES WATER TO RIVERS?

- ◆ Rain
- ◆ Snowmelt
- ◆ Drainage ditches
- ◆ Field runoff
- ◆ Runoff from paved roads, parking lots, and driveways
- ◆ Wastewater from homes and businesses

RAIN



SNOWMELT



DRAINAGE DITCHES



FIELD RUNOFF



ASPHALT RUNOFF



WASTEWATER



MORE WATER AND MORE SAND LEAD TO:

- ◆ More frequent flood emergencies
- ◆ Heightened threats to residential properties
- ◆ Disruption of agricultural economy
- ◆ Costly emergency responses and degraded tax bases
- ◆ Degraded water quality and human environment

A TRIP DOWN THE
KANKAKEE AND YELLOW
RIVERS

Kankakee Headwaters



Modest Beginnings



Pokagon Band Property



Marsh Remnants



Returning Marsh Behaviors



Original Meanders Visible



Heavier Sediment in Main Channel



WATER STORAGE NOT PLANNED



BANK PROBLEMS ARISE



Yellow River



Severe Yellow River Erosion



Sand Dunes Form Yellow River Banks



Yellow River Current Along Banks



Drainage Adds Sediment



Heavy Sediment Loads



Problem Trees Inaccessible



Sediment from Yellow Enters Kankakee



Human Barriers



Sediment and Bank Failures Worsen



Sediment Continues to Enter Downstream



Bank Failures Continue



High Bank Grades Contribute to Erosion



WATER BREAKS THROUGH BANKS



Rip-rap plugs
major bank
breach in
Jasper County

TOUGH MEANS TO REINFORCE BANKS



CONTINUING BANK FAILURES



Kankakee River, Jasper County, Indiana

Lake and Newton Counties



More Human Barriers



Ice Impacts



Downstream



LaSalle Fish and Wildlife Area



“The Indiana Trash Collector”



LIVING IN THE SOLUTION

Public Law 282 (2019)

- ◆ Creates 9-member Kankakee River Basin and Yellow River Basin Development Commission
- ◆ Dedicates resources to long-term and root-cause solutions to problems along the Kankakee and Yellow Rivers
- ◆ Indiana Department of Natural Resources (DNR) and Jasper, Lake, LaPorte, Marshal, Newton, Porter, Starke, and St. Joseph Counties represented

Public Law 282 (cont.)

- ◆ Commission's powers include:
 - ◆ Bank stabilization
 - ◆ Channel reconstruction
 - ◆ Acquisition of land for flood storage
 - ◆ Construction of levies
 - ◆ Sediment removal and sand traps
 - ◆ Tree removal and construction of access roads

Public Law 282 (cont.)

- ◇ Approximately \$3 million per year is derived from annual assessments on parcels within the basin:
 - ◇ \$1 per farm acre
 - ◇ \$7 per residential parcel
 - ◇ \$50 per commercial parcel
 - ◇ \$360 per utility or industrial parcel

Counties may supplant or offset the assessments with other funds.

Public Law 282 (cont.)

- ◆ Regulating agencies (DNR, IDEM) are directed to coordinate and streamline permitting
- ◆ Preferences for Indiana workers and contractors on Commission projects
- ◆ Commission maintains the 75-foot easement on the Kankakee and Yellow River channels only; counties retain full rights for emergencies
- ◆ NO eminent domain powers

QUALIFICATIONS OF MEMBERS

- ◆ Commission members are required to be experienced in one of the following:
 - ◆ Construction
 - ◆ Project management
 - ◆ Flood control
 - ◆ Drainage
 - ◆ Another similar professional background

The meanings of these terms are undefined in the statute.

OPTIONS FOR COUNTIES

OPTION #1: DO NOTHING

- ◆ Assessments go in place by operation of law on May 2021 bills
- ◆ A county simply collects and remits funds through regular procedures
- ◆ Likely course of several counties

OPTION #2: PAY WITH OTHER FUNDS

- ◆ County council can appropriate amounts equal to 90% of what the assessments would have raised
- ◆ At least one county considering this option
- ◆ Assessments would not take effect

OPTION #3: MIXED FUNDING

- ◆ County councils can appropriate some of their own money and adopt a reduced fee schedule
- ◆ Requires a vote
- ◆ After 2023, counties choosing this option can retain 10% of the fee revenue to use away from the channel
- ◆ Counties have the remainder of 2019 and all of 2020 to consider this option

OPTION #4: ADOPT HIGHER FEES

- ◆ A county council can adopt a fee schedule that is higher than the state fee schedule
- ◆ The county retains the difference between the two schedules
- ◆ The county retains an additional 10% beyond the difference

MISSION

The Kankakee River Basin and Yellow River Basin Development Commission advances Northwest Indiana's safety, economic prosperity, and quality of its natural resources.

VISION

The Kankakee River Basin and Yellow River Basin Development Commission is building a region where its residents, farms, and communities prosper in concert with one of the nation's most unique natural environments.

ENGINEERING PLAN RECOMMENDATIONS

[illegible]

COMPLETED YELLOW RIVER PILOT PROJECT

Paths forward...

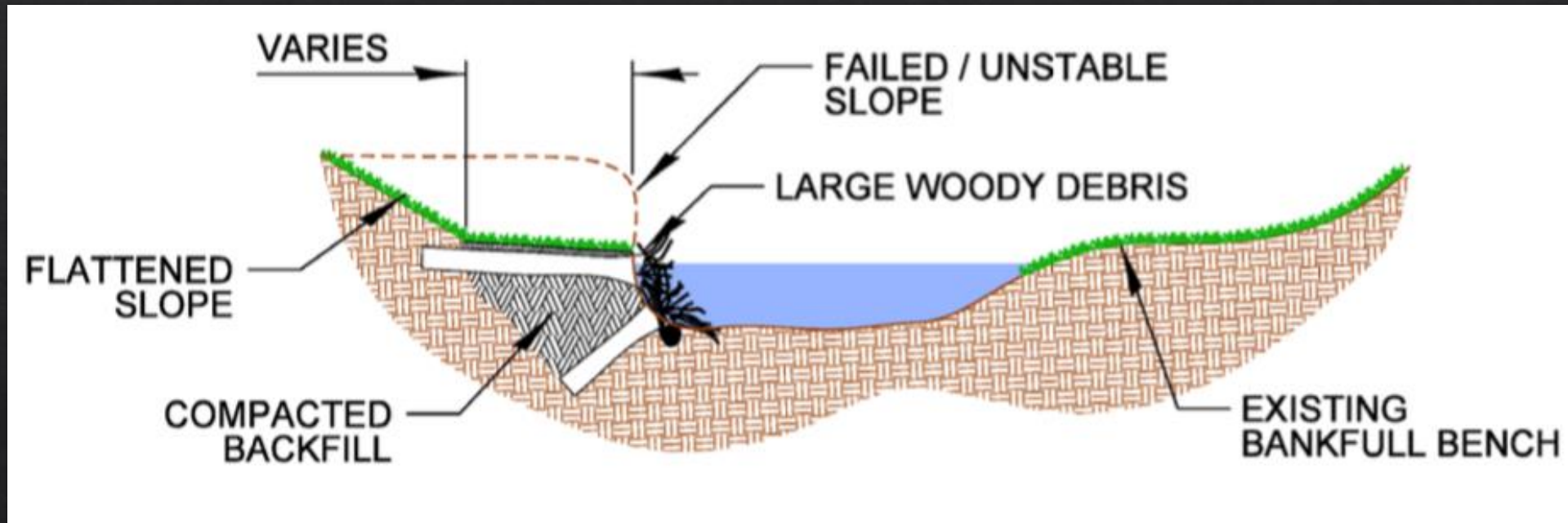
BANK STABILIZATION AND EROSION CONTROL



YELLOW RIVER IN STARKE COUNTY SELECTED



TECHNIQUES DEMONSTRATED



SECTION OF YELLOW RIVER “BEFORE”



CONSTRUCTION



Yellow River near Knox, Starke County, Indiana (Pilot Project Site – During)

11.02.2017

CONSTRUCTION COMPLETED



PILOT PROJECT DURING 2018 FLOOD



PILOT PROJECT, SUMMER 2018



PILOT PROJECT, WINTER 2019



RESULTS

- ◇ Current located in center of channel
- ◇ Current moved away from banks
- ◇ Banks highly stabilized with native flora
- ◇ Widened volume capacity

ADJACENT LAND COMPARISONS



LONG-TERM GOALS

- ◇ Reduce sediment entering the river system
- ◇ Stabilize banks
- ◇ Create more storage for greater volumes of water
- ◇ Protect vital economic assets
- ◇ Reduce human-made barriers

PURSUED OUTCOMES

- ◆ Safety and predictability for the region's residents and businesses
- ◆ Successful agricultural sector
- ◆ Improved water quality
- ◆ Development of both economic and natural resources

QUESTIONS?

Scott D. Pelath

(219) 861-7999

sdpelath@gmail.com