

# **PECATONICA**

## **FLOODPLAIN RESTORATION**

**ROBERT D HANSIS**

**WI DEPARTMENT OF NATURAL RESOURCES**

**3911 FISH HATCHERY ROAD**

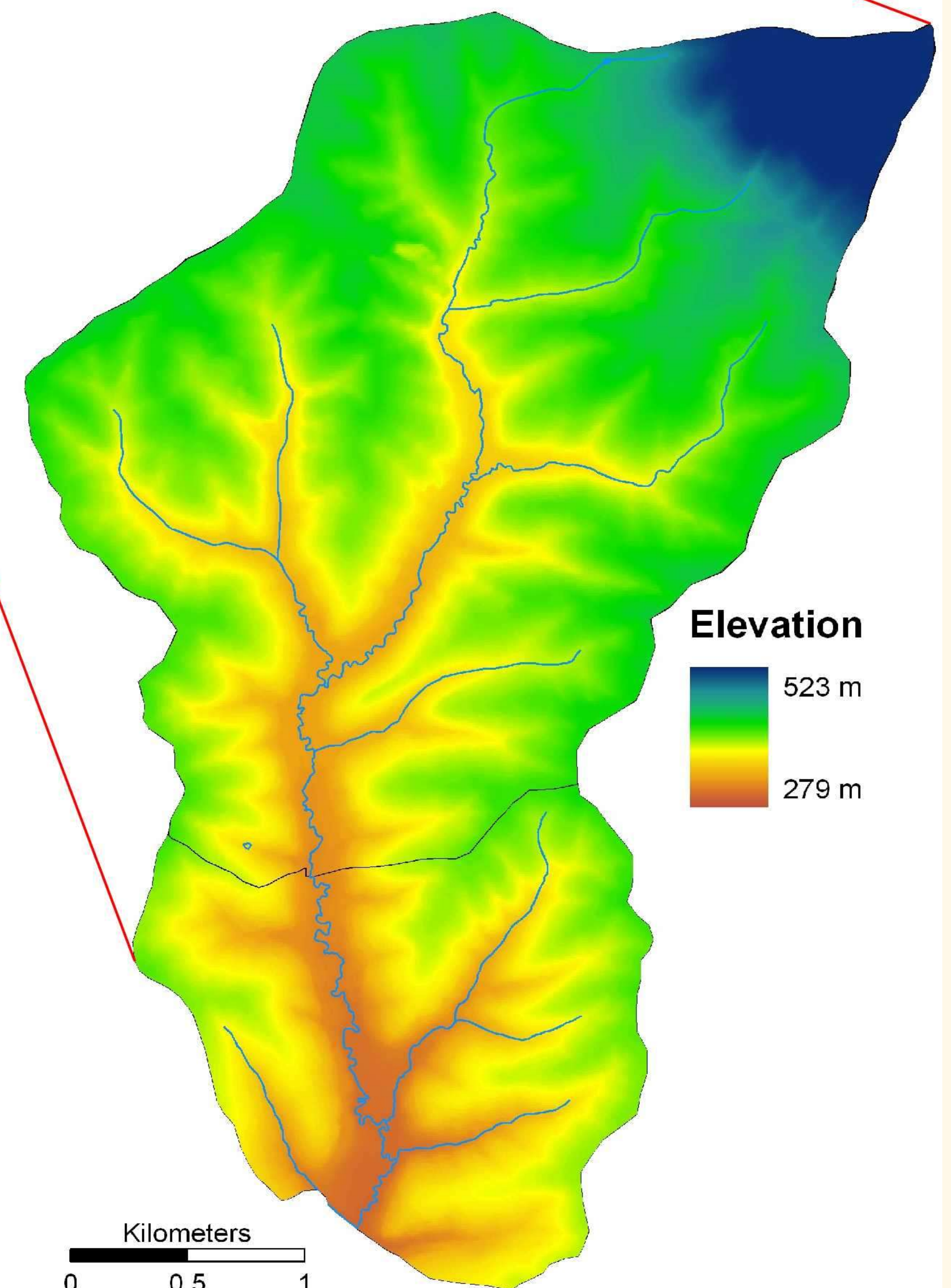
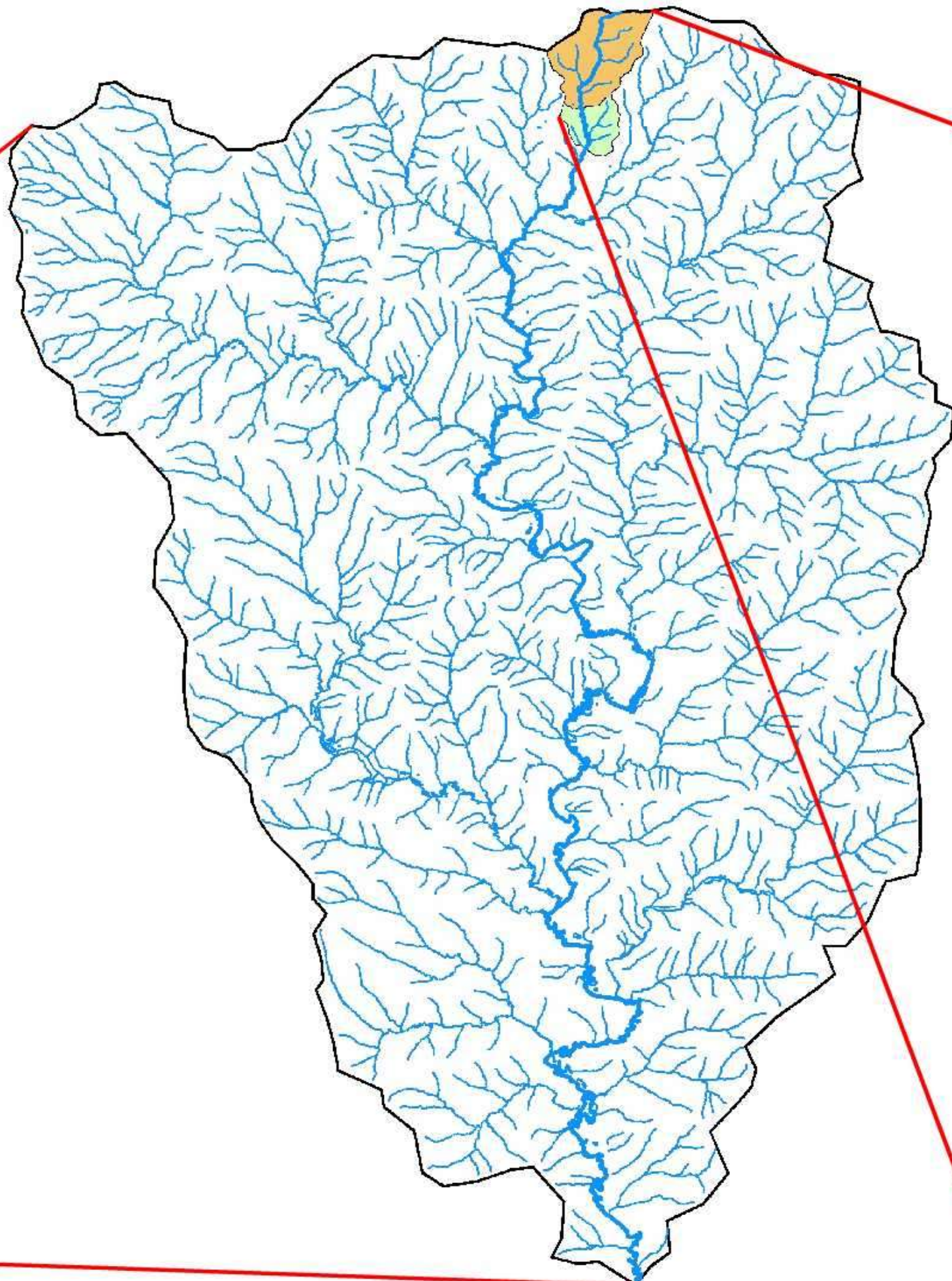
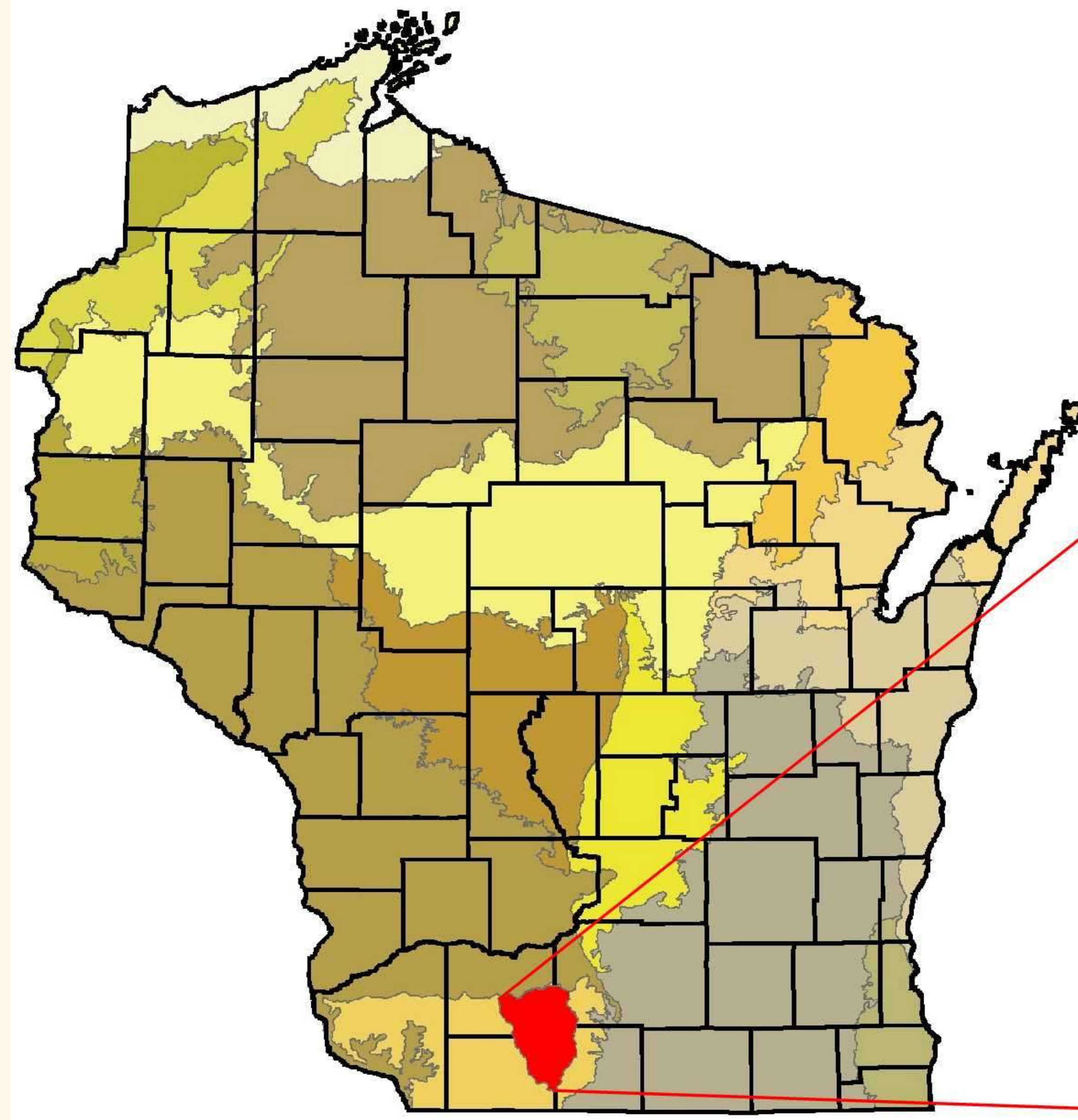
**FITCHBURG, WI 53711**

**ROBERT.HANSIS@WISCONSIN.GOV**

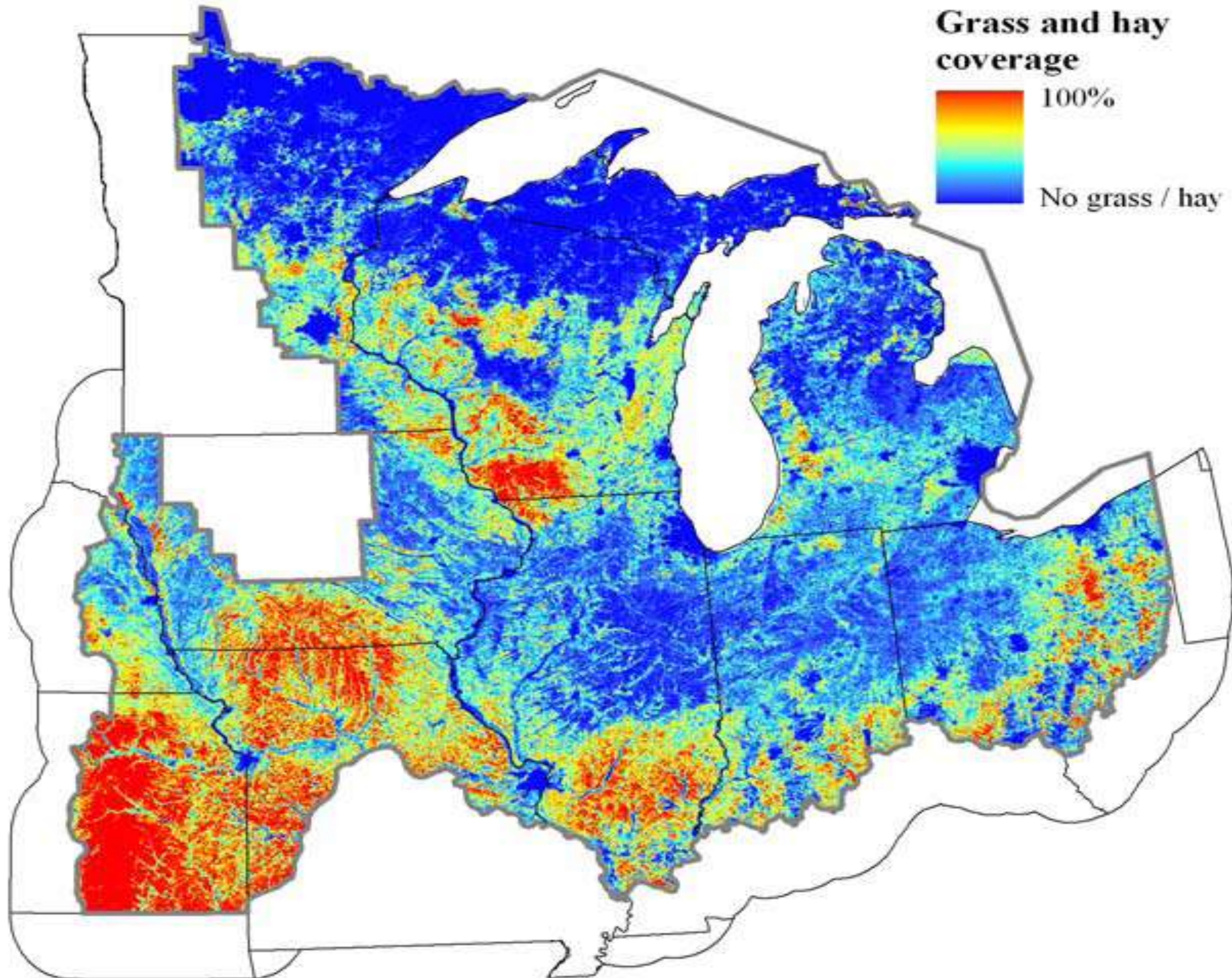
# ***Or....WHERE'S THAT DANG REFERENCE REACH***



# East Branch Pecatonica River



# *SW Wisconsin Grasslands*







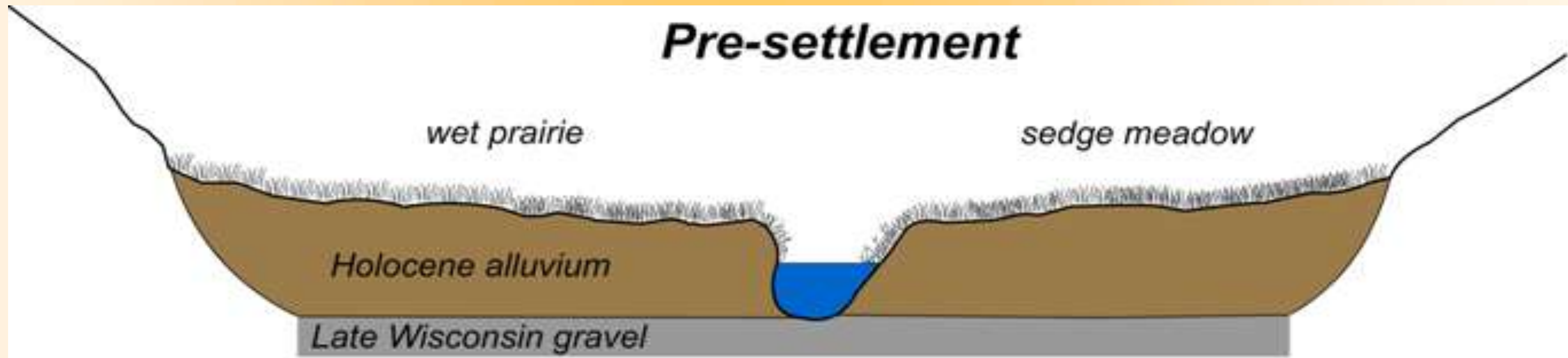




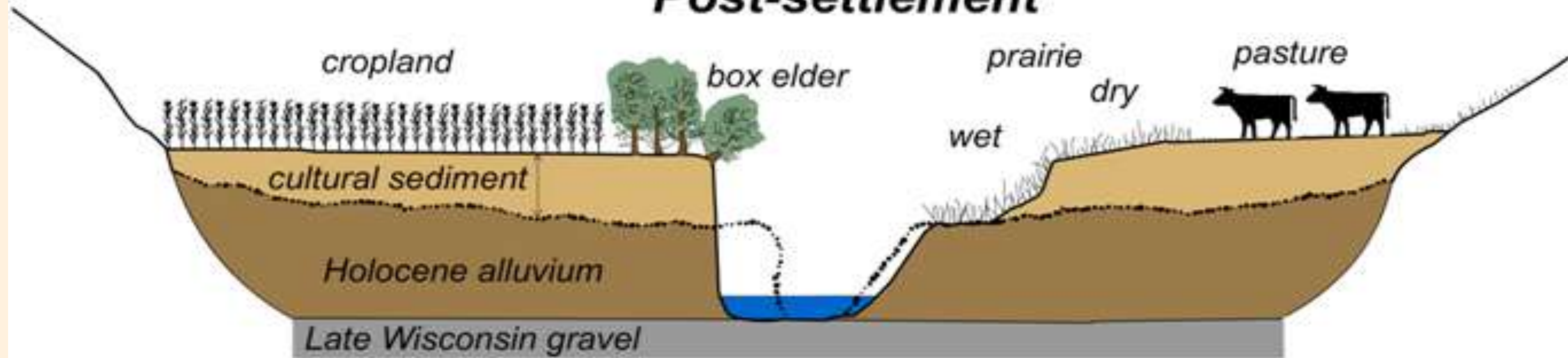




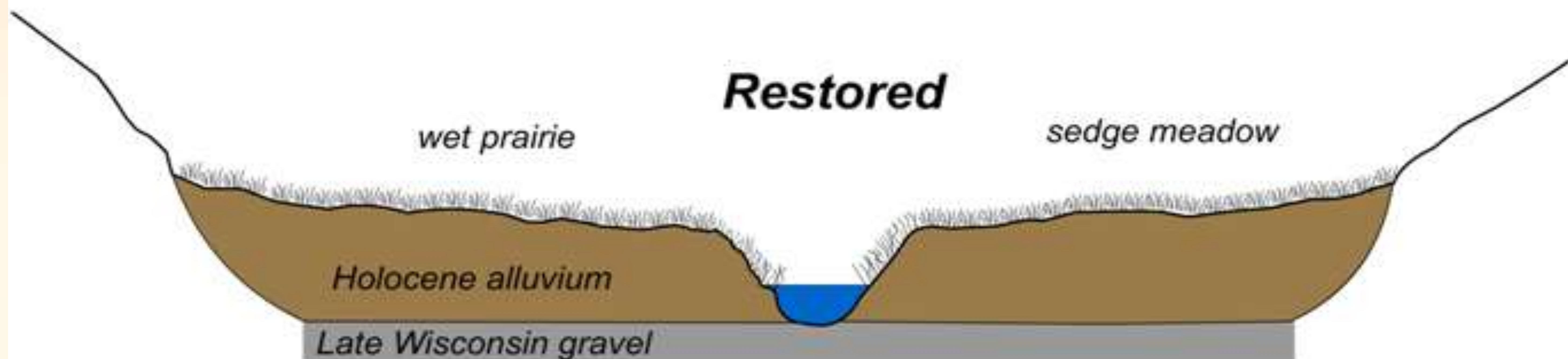
## Pre-settlement

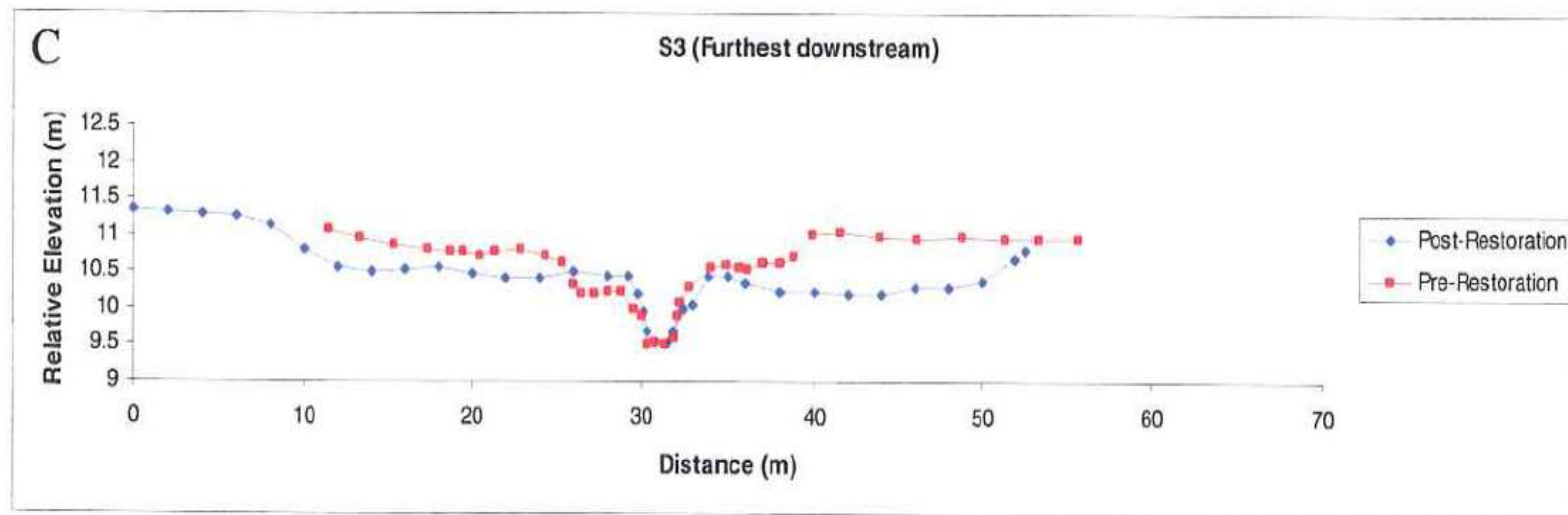
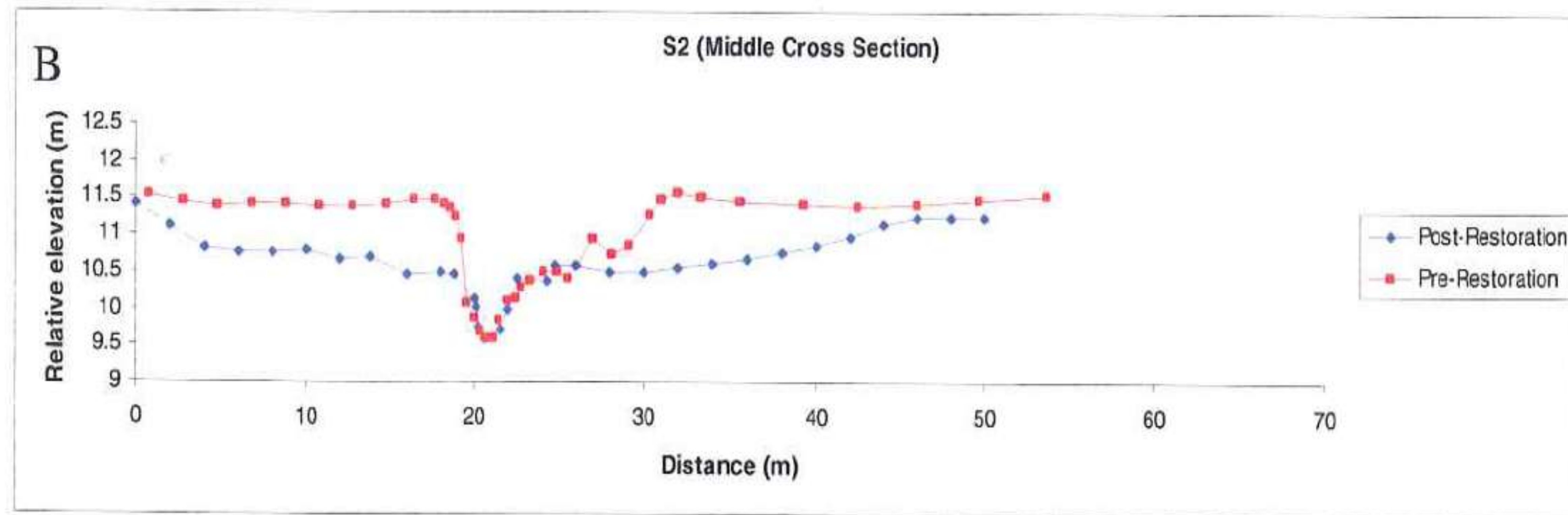
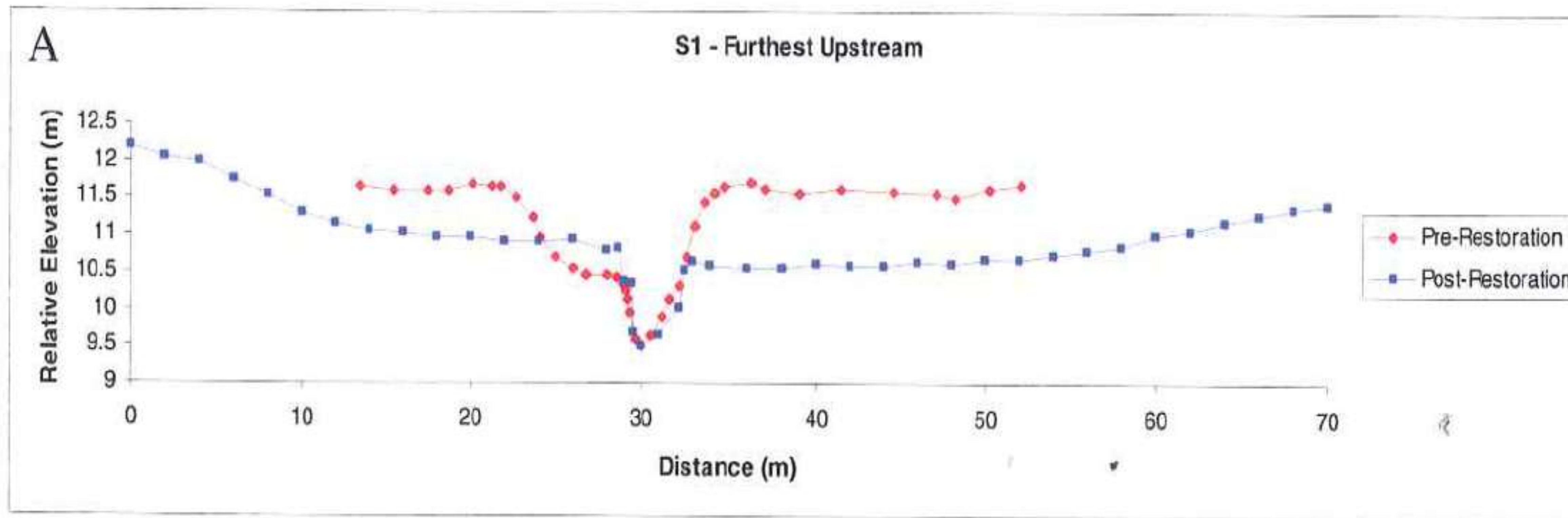


## Post-settlement



## Restored

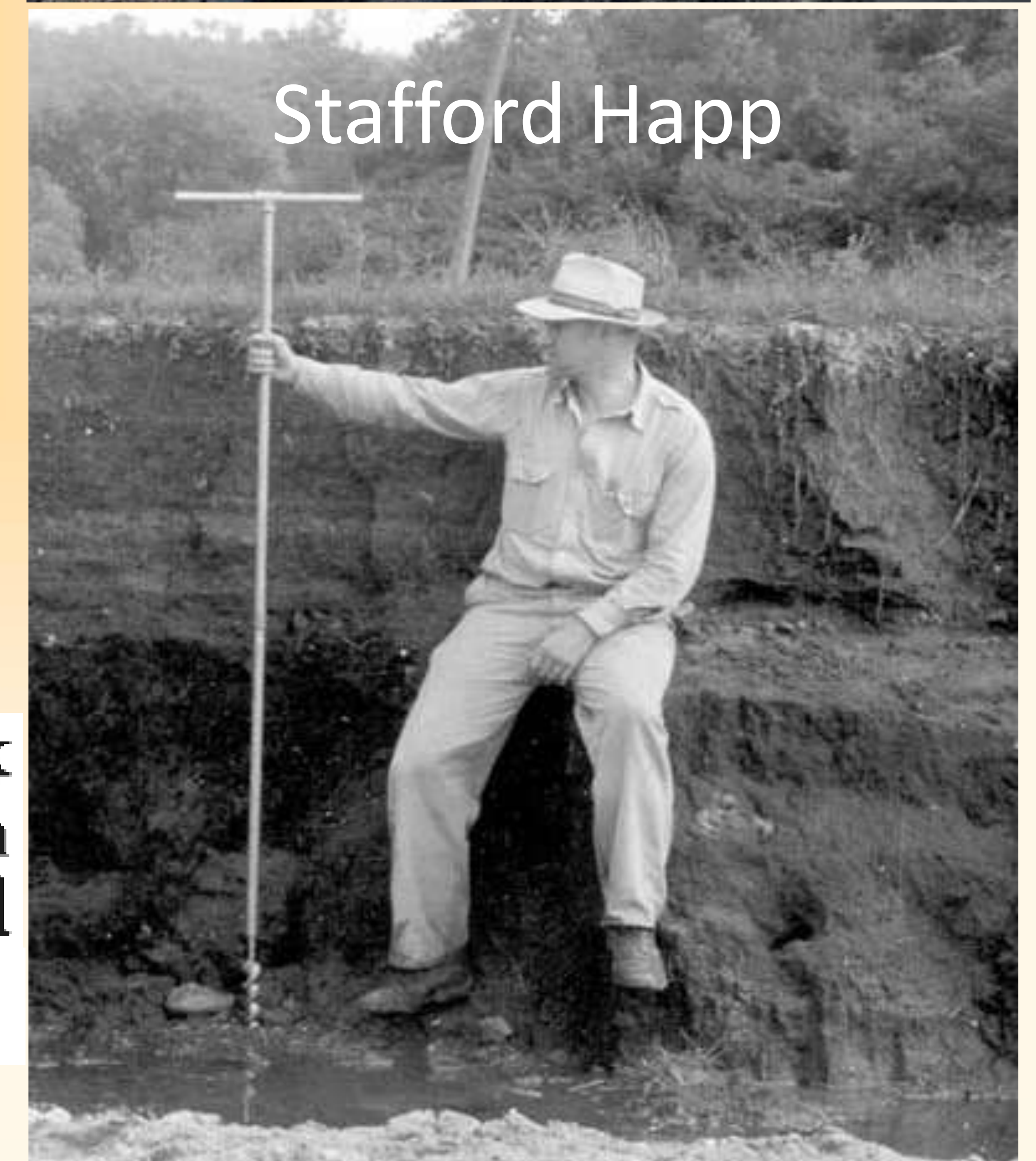




# PRE-RESTORATION



# POST-RESTORATION



Stafford Happ

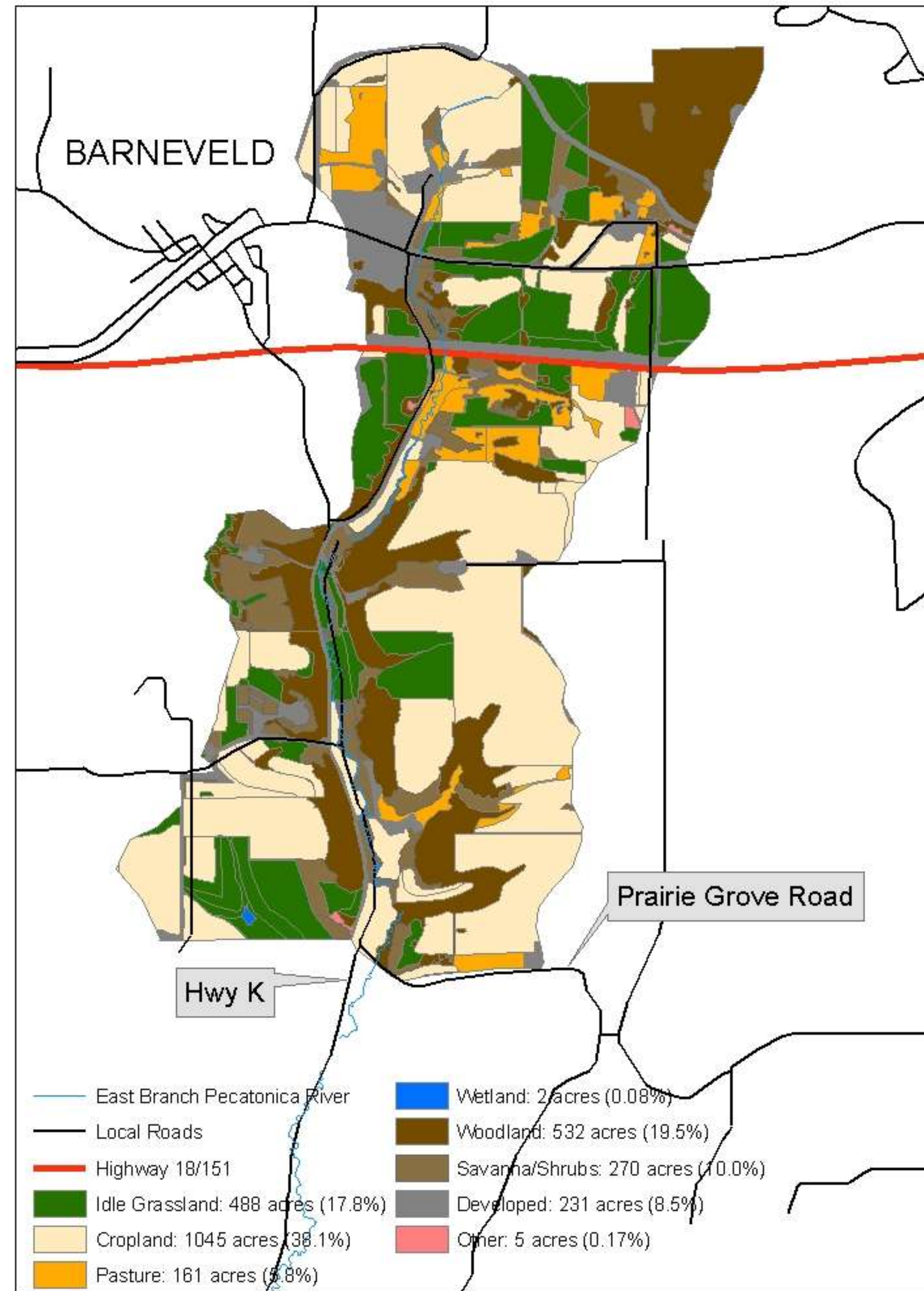
The premodern alluvial soils in Coon Creek Valley have a thick black surface horizon and consequently may be traced laterally with great detail, which permits restoration of the surface as it existed before the inception of accelerated sedimentation.

- Happ et al. 1940

### WATERSHED LAND USE

**Cropland 38%**  
**Developed 8.5%**  
**Grasslands/Woods 53%**

**WATERSHED AREA:  
5 SQUARE MILES=  
13 SQ KILOMETERS**



**PROJECT SITE FROM WEST BLUFF**





Sec 22 T. 6 N. - R. 5 E.

















09.20.2006 09:19









# ECOSYSTEM SERVICES

- Water quality improvement
- Nutrient cycling
  - P and sediment source removal
  - N processing during flooding

# ECOSYSTEM SERVICES

- Flood peak attenuation

Modeled 50 cm drop in flows up to  $Q_{25}$   
(Ferguson, 2009)

System wide approach?

(Woltemade, 1994)

# **ECOSYSTEM SERVICES**

- Biodiversity
- **>50 NATIVE PLANTS SPECIES IN YR 1**
- **FROGS AND TOADS**

# ECOSYSTEM SERVICES

- Carbon sequestration

Increased biomass underground?

# ECOSYSTEM SERVICES

- Recreation

Easier fishing

Bird watching –grassland birds

# ECOSYSTEM SERVICES

- Aesthetic  
Grass or trees?

# ECOSYSTEM SERVICES

- Soil resource

Is it worthwhile to put soil back where it came from?



# FOSTERING NEIGHBORHOOD RELATIONS



# ECOSYSTEM SERVICES

- Education
- E Br Peconic Hydroecology Observatory
- Three MS
- One PhD
- River Crossing School
- Tourist attraction

# THINGS WE WOULD HAVE LIKED TO STUDY BUT COULDN'T

- Plant response
- Inundation analysis
- Water quality—Nutrient measurements
- Birds
- Geomorph
- Control reach

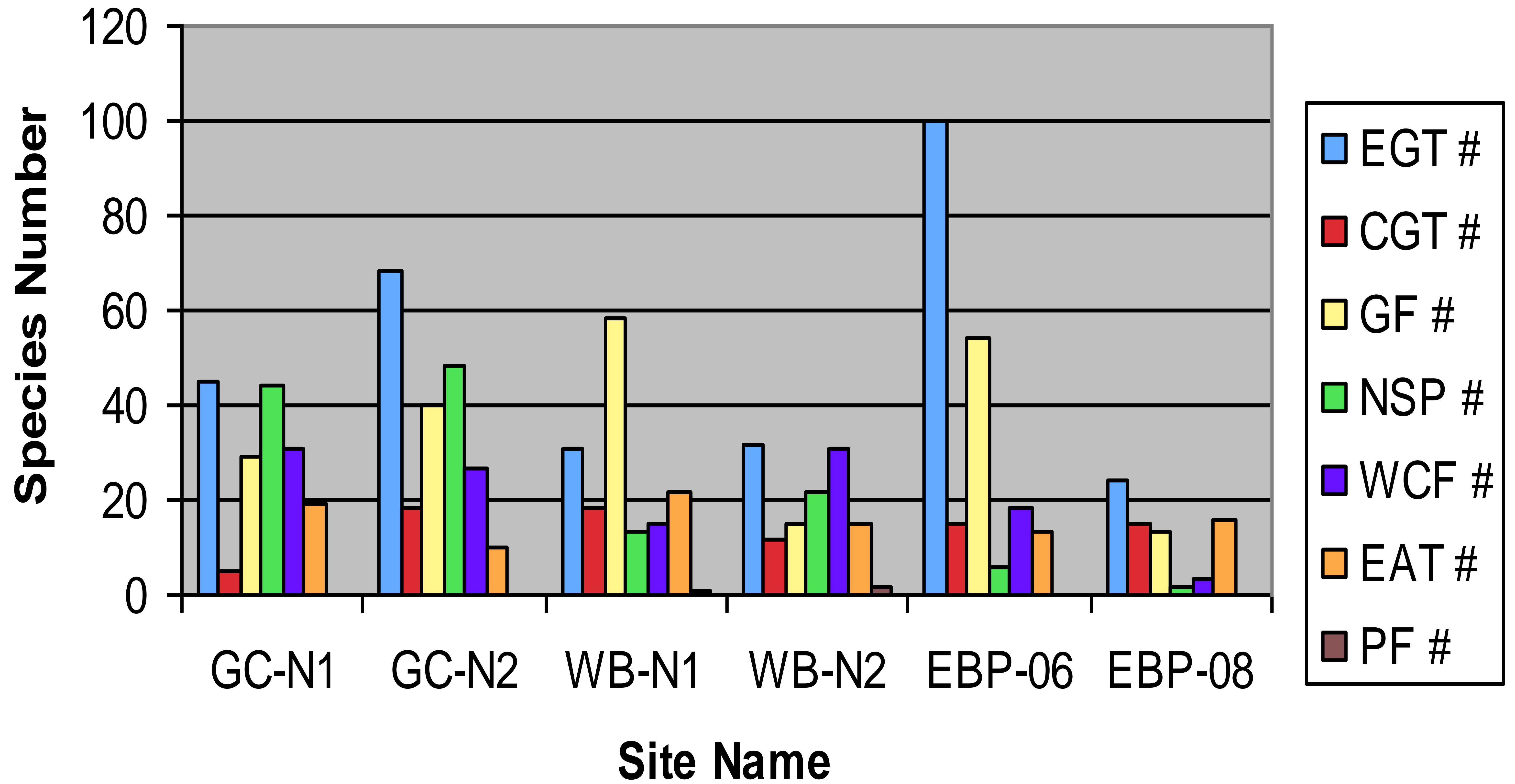




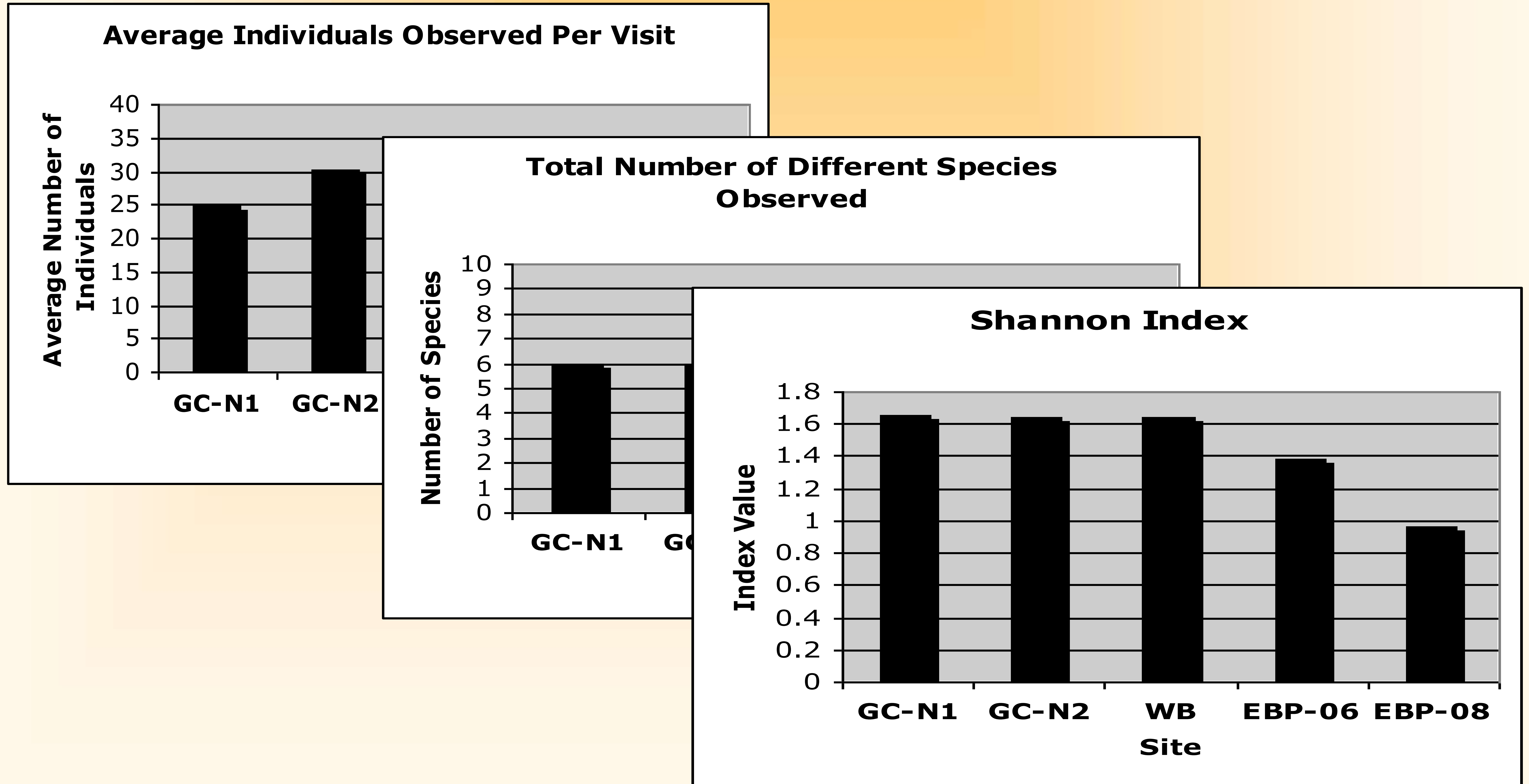
# HERP RESPONSE



# Number of each species per site



# Night Survey Data Results '08



\*Not corrected for Area



# **PARTNERS**

**The Nature Conservancy**

**Wisconsin Waterfowl Association**

**Department of Natural Resources**

**US Fish and Wildlife Service**

**LMS Construction**

**UW Madison**

**Iowa County Highway Department**

**Town of Brigham**

**River Crossing Charter School**

**Mt Horeb High School Ecology Club**

**Alliant Energy**

**B & C Excavating—Barneveld**

**The Prairie Enthusiasts**