25 YEARS | HEARTLANDS CONSERVANCY

Investing In The Nature Of Southwestern Illinois

Upper Silver Creek Watershed Plan & Implementation - Update

JANET BUCHANAN, HEARTLANDS CONSERVANCY

About HeartLands Conservancy

- Land Conservation, Building Greener Communities, & Engaging People with Nature

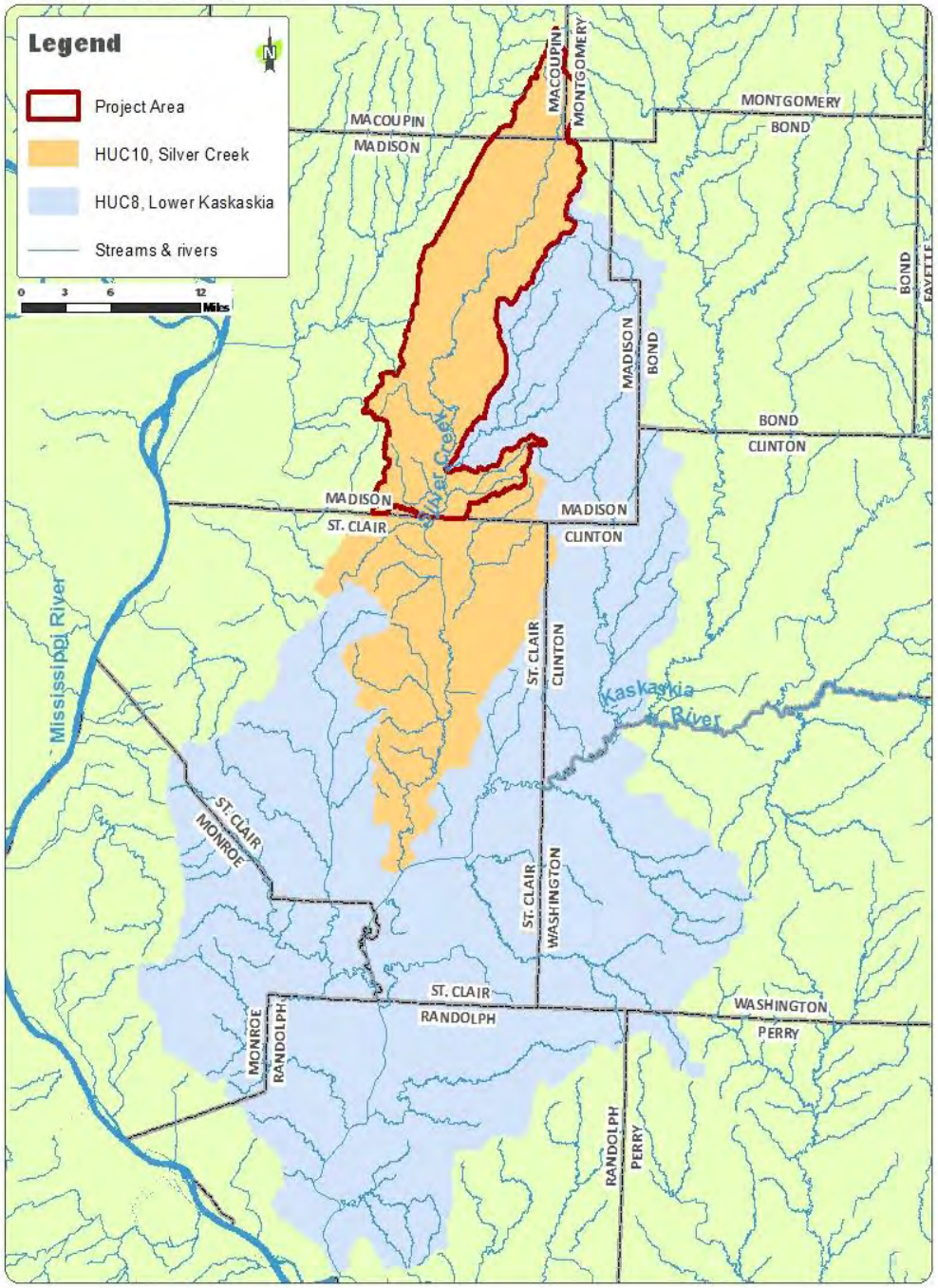
- Jingle Hike Challenge 2016

About the watershed

- Headwaters
- Largely farmland
- Water quality challenges
- Flooding events

EPA Watershed Planning grant

Watershed Boundaries



The Watershed Planning process

YEAR ONE: Watershed Resources Inventory

Identify existing conditions

Assess issues (challenges and threats)

YEAR TWO: Watershed Plan

Identify Best Management Practices (BMPs)

Select BMPs and locations

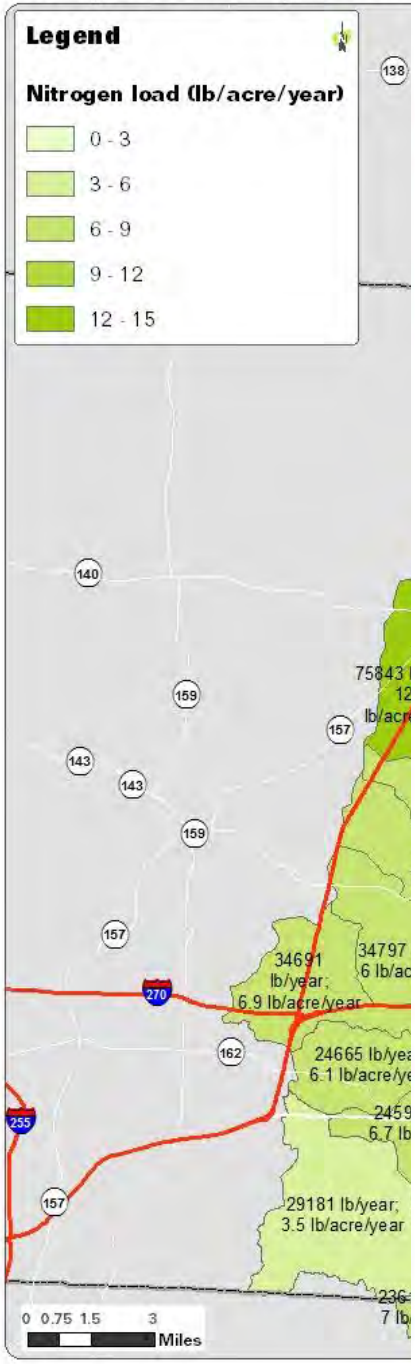
THROUGHOUT

Stakeholder engagement & technical support

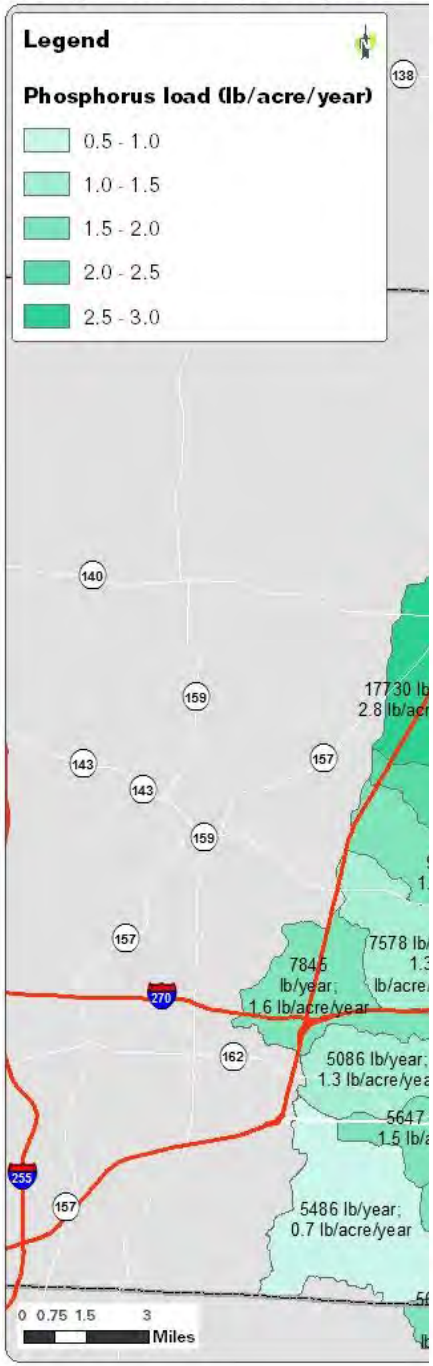
Existing Conditions Assessment

- Conditions assessed:
  - Land use
  - Topography
  - Pollution – measurements and estimates
  - Flood prevalence, frequency, & impacts
- Methods:
  - On-the-ground assessment
  - Modeling & mapping

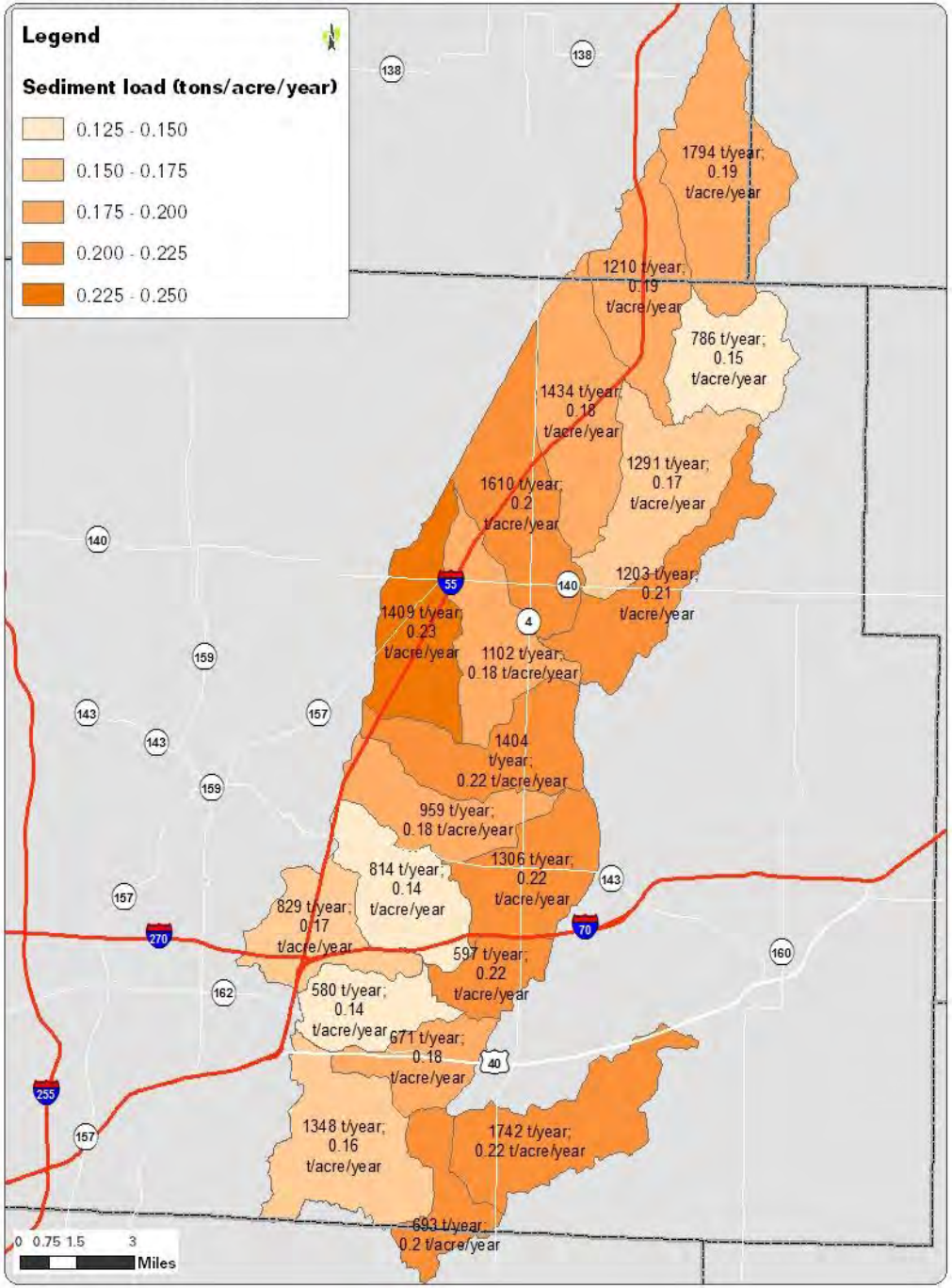
Nitrogen loads (by HUC1

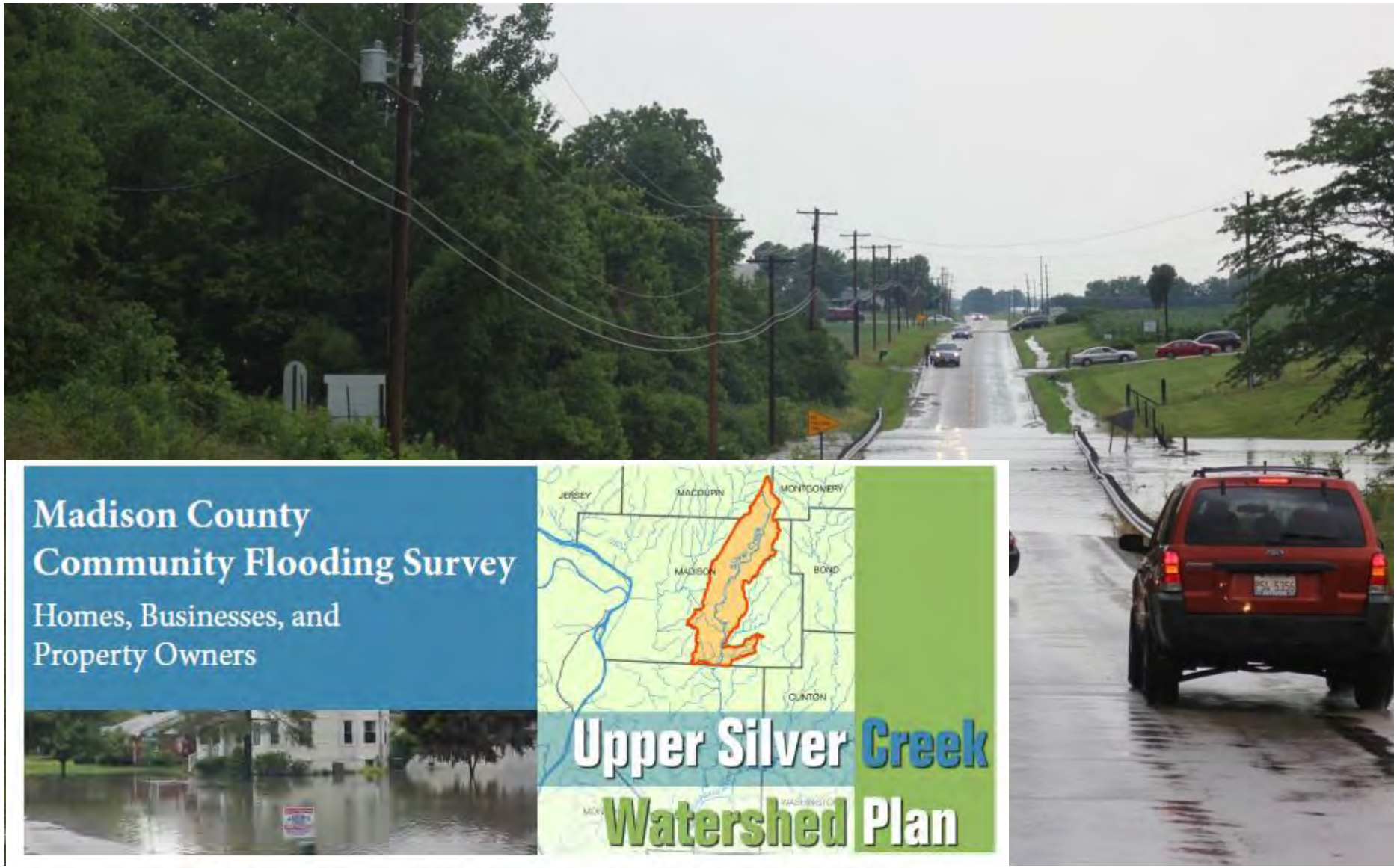


Phosphorus loads (by HUC



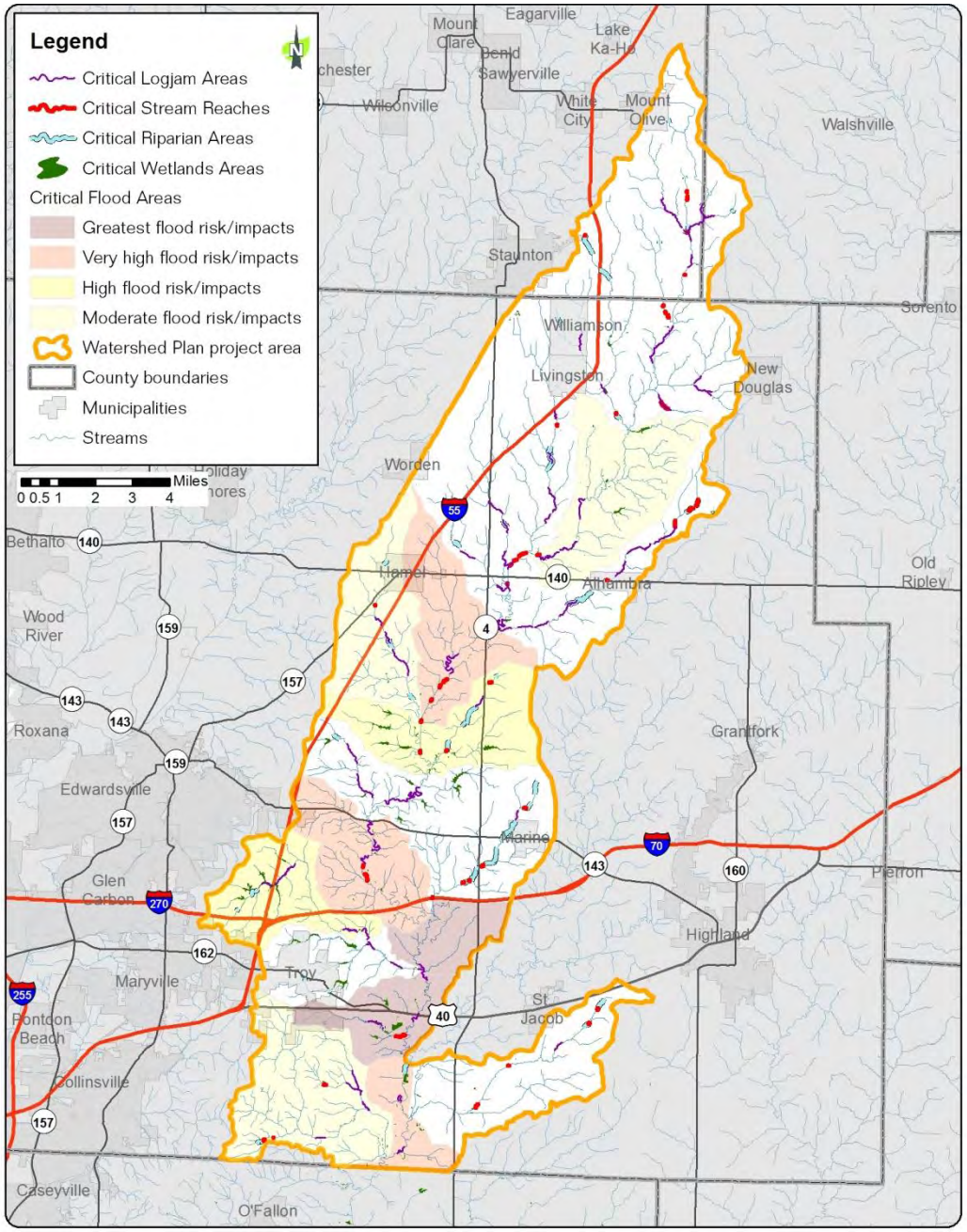
Sediment loads (by HUC14)





Thank you in advance for taking the time to fill out this survey regarding the impact of floods on homes, businesses, and property in Madison County. This voluntary survey is an important part of the Upper Silver Creek Watershed Plan. Your response is greatly appreciated and will help in determining strategies and recommendations for addressing flooding problems in the Silver Creek Watershed. Flooding has tremendous costs including damage to homes, businesses, and infrastructure.

Critical Areas



- Locations in the watershed where:
  - existing or potential future causes and sources of pollutants or existing functions are significantly worse than other areas of the watershed, OR
  - there is significant potential for the area to make a difference in making improvements towards one or more of the plan's goals.

Identifying BMPs

- BMPs for urban land
  - Green infrastructure for infiltration
  - Detention/retention basin maintenance

Rain garden. Photo: USEPA.

Detention basin maintenance. Photo: Urban Drainage and Flood Control District, Denver, CO.

Identifying BMPs

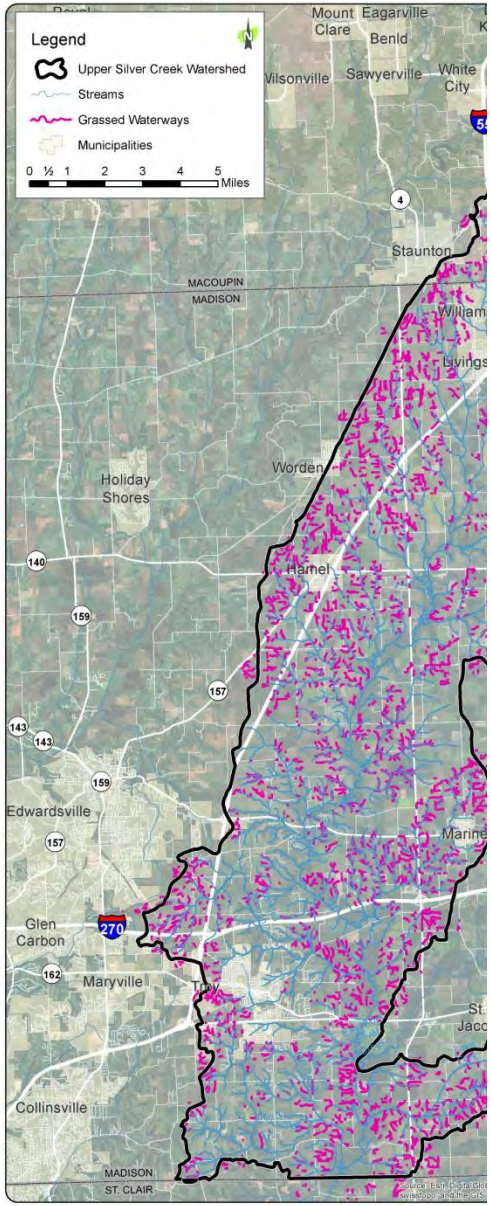
- BMPs for urban land
  - Green infrastructure for infiltration
  - Detention/retention basin maintenance

- BMPs for streams
  - Bank stabilization
  - Grade control
  - Logjam removal

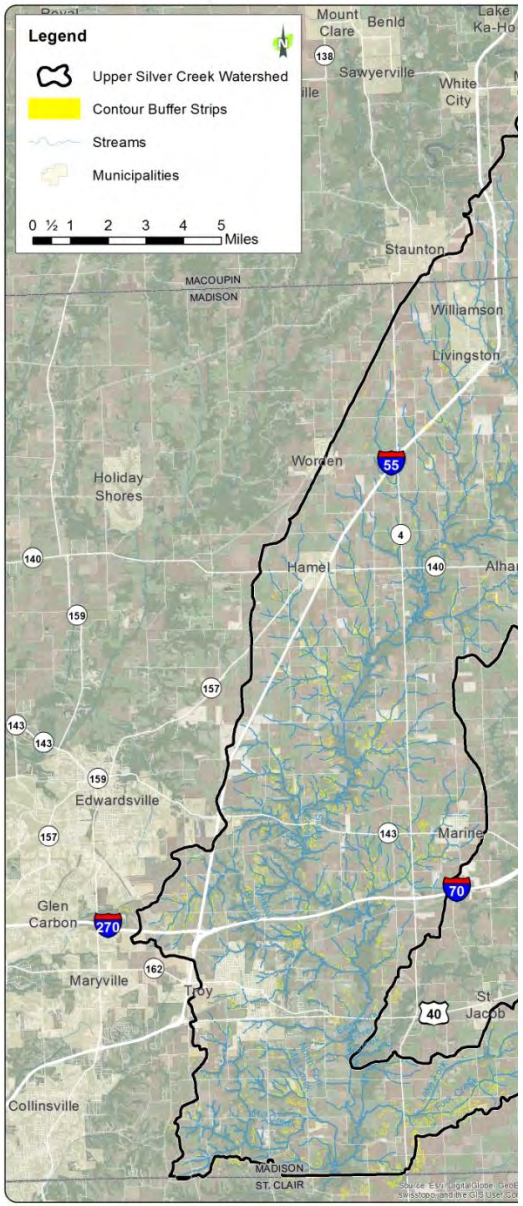
Stone toe protection. Photo: Montgomery County, MD.

BMPs for agricultural land: The ACPF

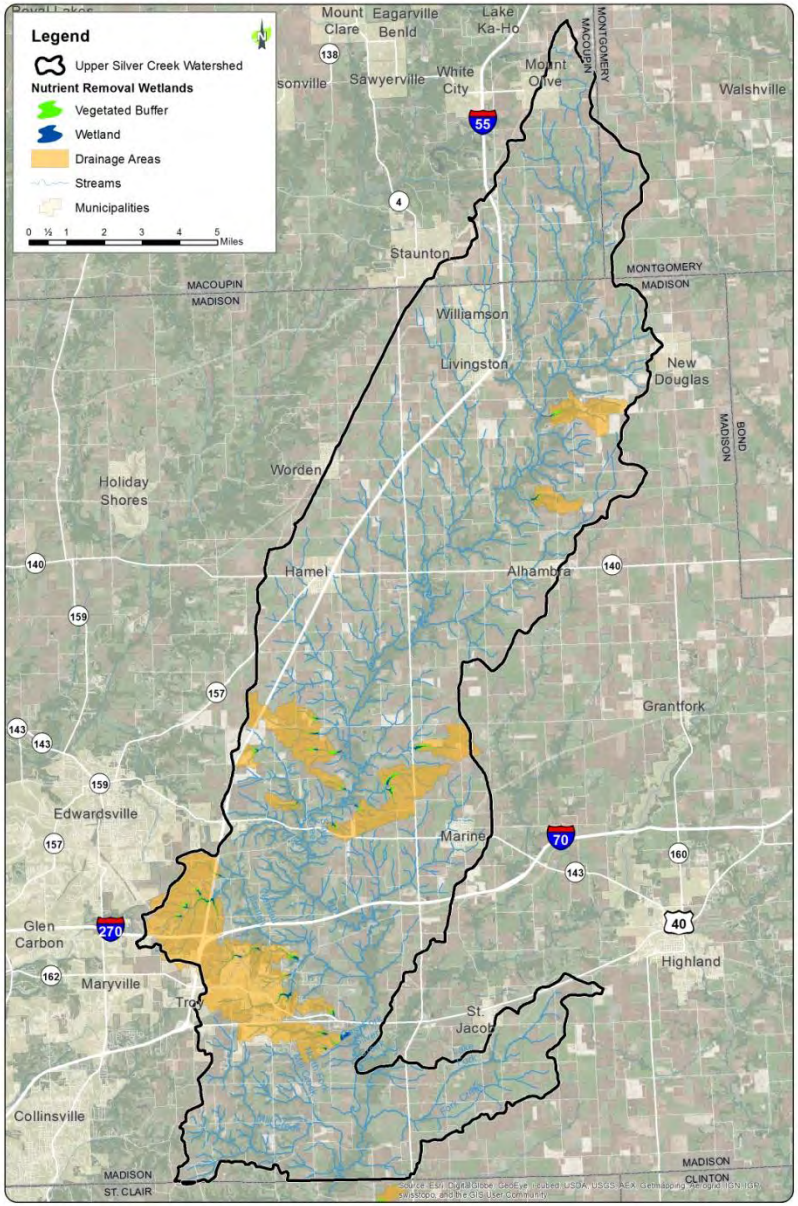
Grassed Waterways



Contour Buffer Strips



Nutrient Removal Wetlands

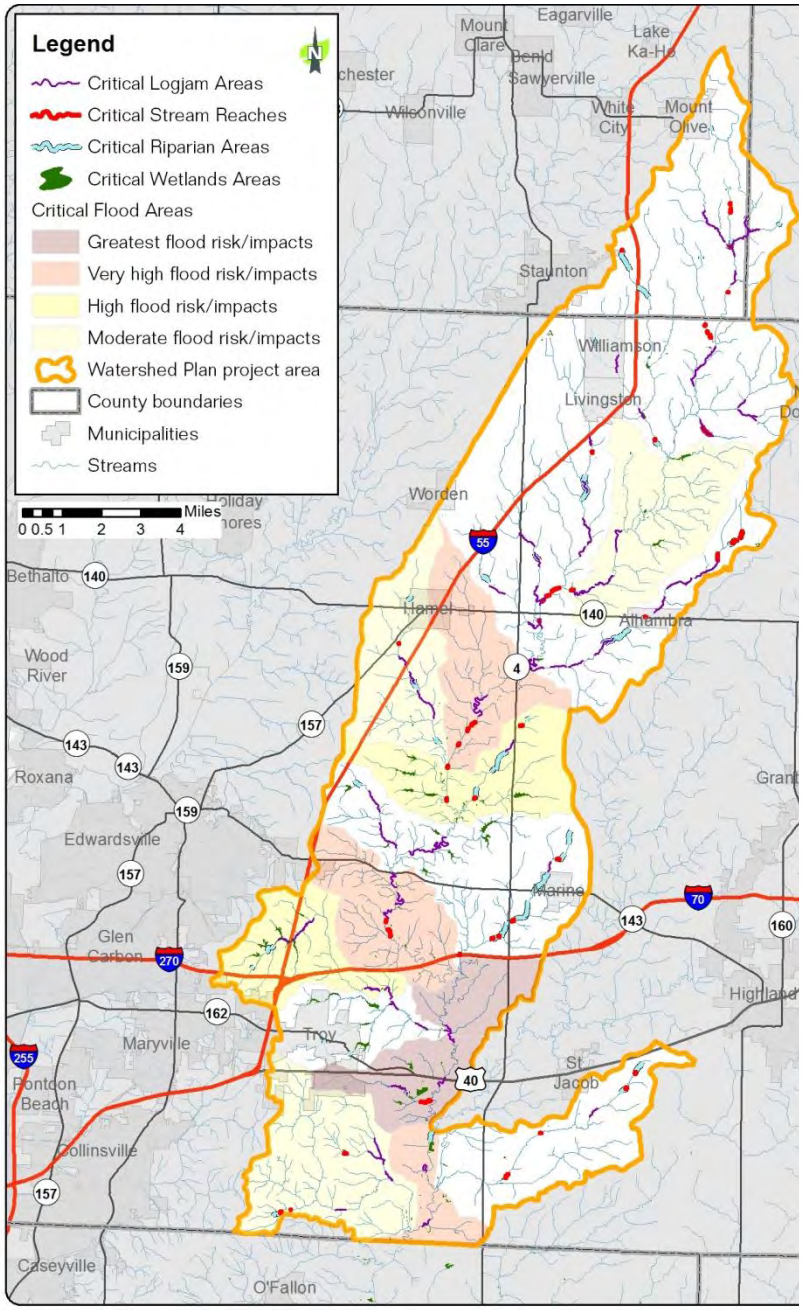


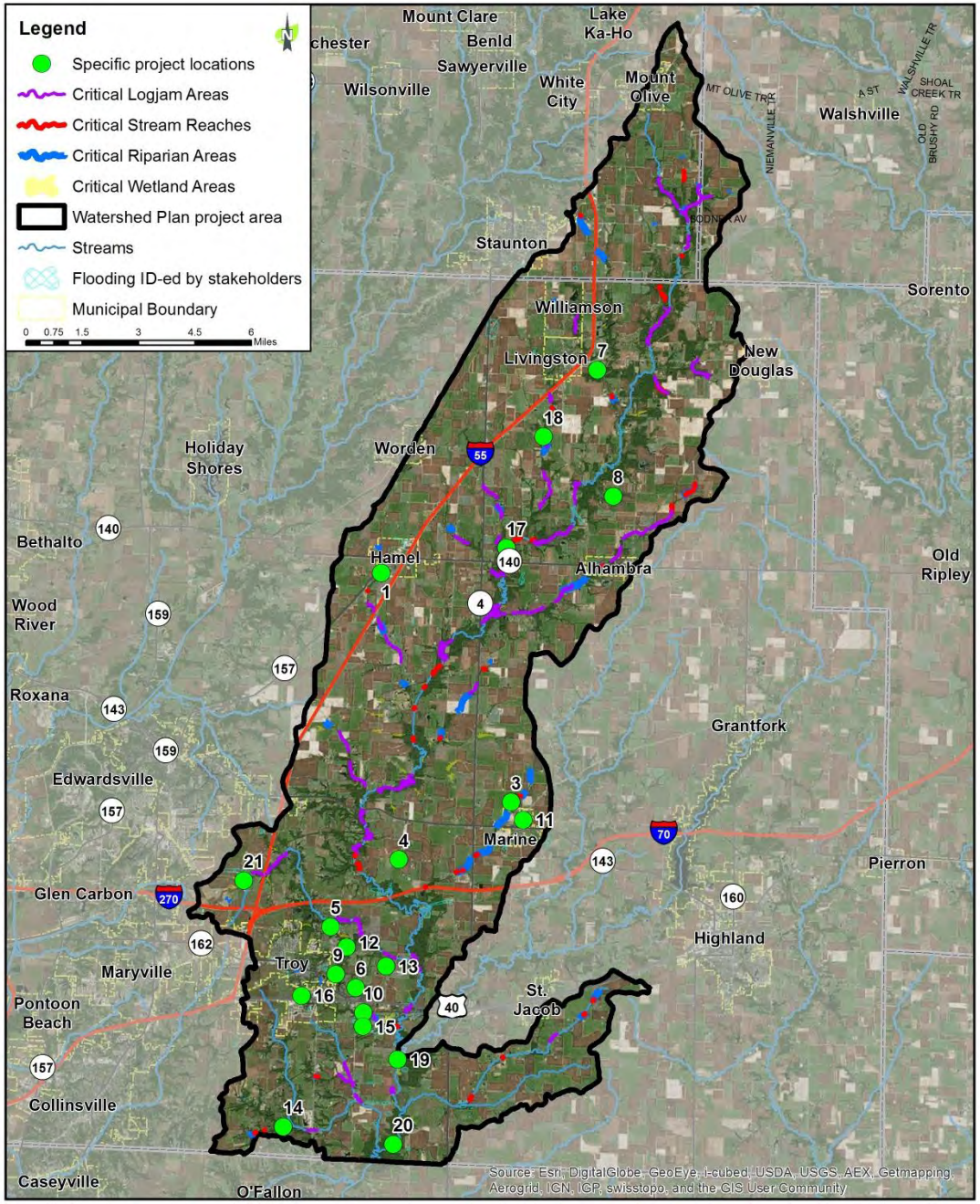
Selecting recommendations

- Meeting goals & targets
- Specific recommendations
- General recommendations
- Review by Technical Committee

Impairment: Cause of Impairment	Basis for Impairment	Reduction Target
Water Quality/Aquatic Life: Phosphorus	264,952 lbs/year of phosphorus loading, based on STEPL model	**25%** or 66,238 lbs/year reduction in phosphorus loading by 2025, based on the Illinois Nutrient Loss Reduction Strategy
Water Quality/Aquatic Life: Sediment	60,230 tons/year of sediment loading, based on STEPL model	**20%** or 12,046 tons/year reduction in sediment loading by 2045 (the long-term watershed planning horizon), based on estimated impacts of proposed BMPs.
Water Quality/Aquatic Life: Nitrogen	1,178,496 lbs/year of nitrogen loading, based on STEPL model	**15%** or 176,774 lbs/year reduction in nitrogen loading by 2025, based on the Illinois Nutrient Loss Reduction Strategy

Critical Areas & Specific Project Locations





Finding funding

- Grant applications: 319 (IEPA)
- NRCS programs: CRP, CREP, EQIP, NWQI, etc.
- Landowner/Farmer Survey identified needs & provided education/outreach

Upper Silver Creek Watershed Plan

MADISON COUNTY PLANNING & DEVELOPMENT PLAN | GROW | SUSTAIN

MADISON COUNTY ILLINOIS

HEARTLANDS CONSERVANCY

Landowner/Farmer Survey: Land Management Practices and Funding

Dear Landowner/Farmer,
As an owner and steward of some of southwestern Illinois' finest land, you already know the importance of clean water and a thriving agricultural economy to our region. You're probably also aware of issues with flooding, poor water quality, topsoil loss, and streambank erosion. Fortunately, there are efforts underway to address these issues in a thorough, effective manner – a Watershed Plan. And we'd love you to be a part of it.

Please take this opportunity to read about the Upper Silver Creek Watershed Plan underway in this area, funding sources for implementing Best Management Practices, and the types of practices eligible. Then take our quick survey to let us know what your issues are and what you would like to do!

Please return the survey by July 10th.

Other Plan elements: Monitoring Plan

- To measure success:
  - Monitoring at Troy USGS gauge
  - Portable gauge
  - Illinois RiverWatch

ILLINOIS RIVER WATCH NETWORK
NATIONAL GREAT RIVERS RESEARCH AND EDUCATION CENTER

Other Plan elements: Information and Education Plan

- General watershed education
- Student and citizen monitoring
- Volunteer opportunities

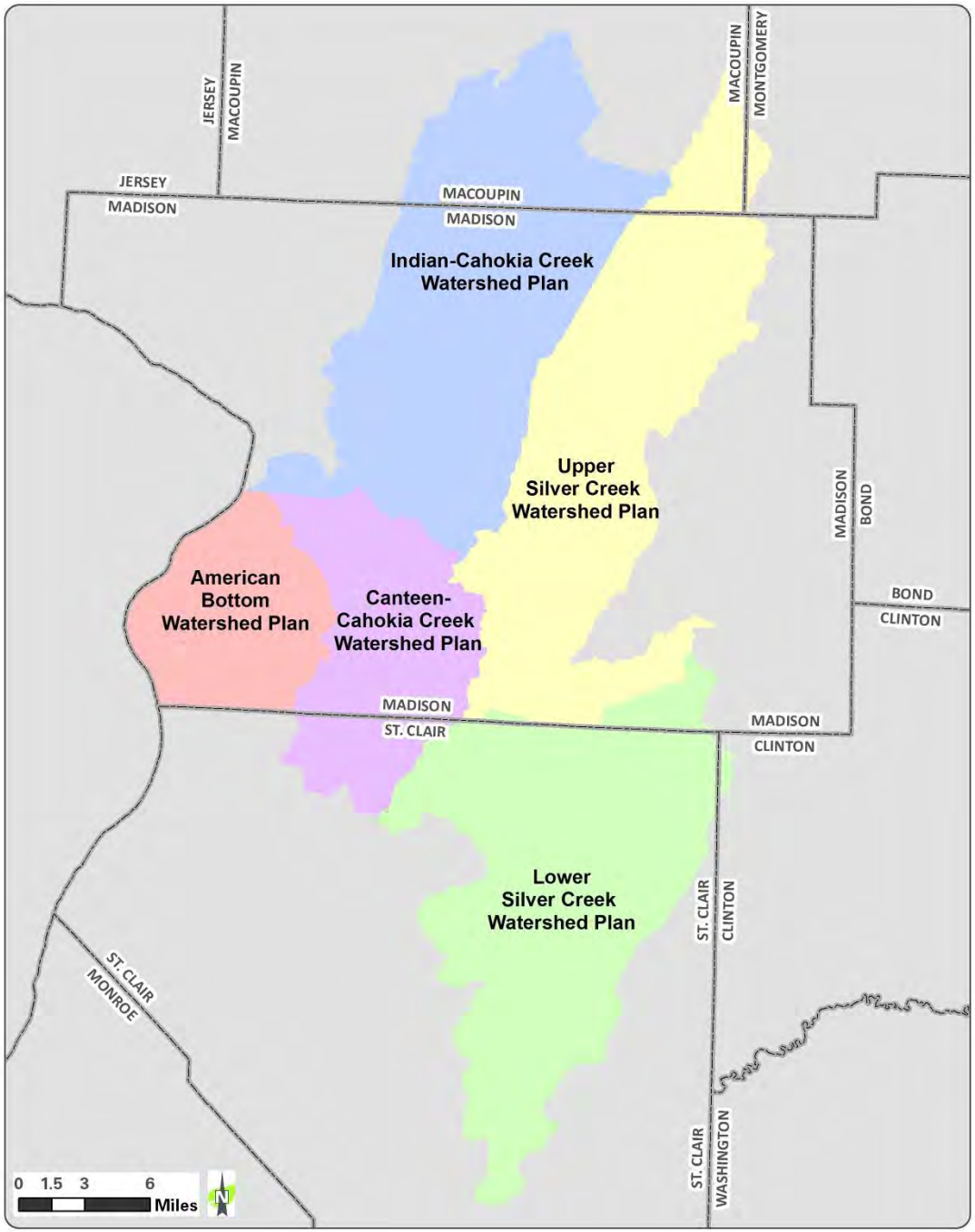
Implementation Begins

- Plan approved by IEPA, Nov 2015; county adoption
- Implementation thru 319 grant – signup period Oct 2016, field work now, education activities 2017
- Continued outreach to stakeholders

Other Plans underway

- Completed:
  - Upper Silver Creek
- In progress:
  - Lower Silver Creek
  - Indian-Cahokia Creek
  - Canteen-Cahokia Creek
- Outreach begun:
  - American Bottom

- **Madison County Stormwater Management Plan** – "umbrella" plan



Thank You!

Questions?

Contact:

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