



DUPAGECOUNTY

STORMWATER MANAGEMENT



Naperville Flood Warning Booklet

Calumet Stormwater Collaborative – December 3, 2021

Who Are We?

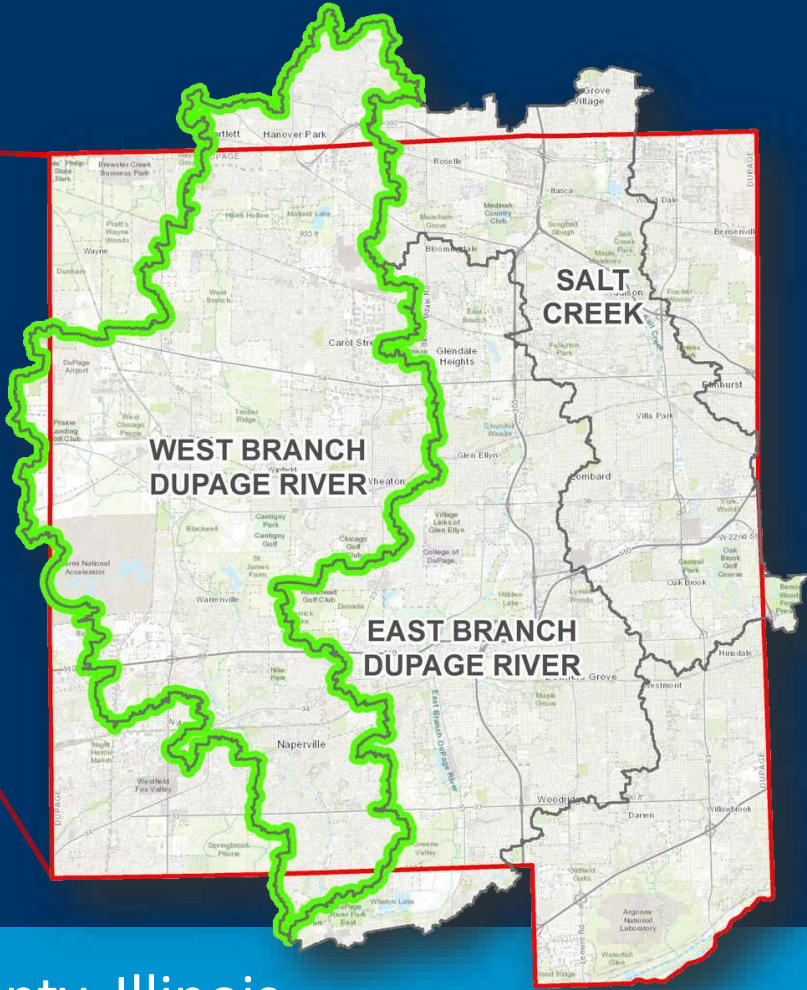


Stormwater Management in DuPage County

- Countywide program established in 1989
- Guided by the Stormwater Management Planning Committee & Plan
- Enforce the Countywide Stormwater Management & Floodplain Ordinance
- Flood Control Facilities have a floodwater capacity of nearly 6 billion gallons

Programs

- Watershed Management
- Water Quality
- Floodplain Mapping
- Regulatory Services
- Flood Control Operations & Maintenance
- Shared Services



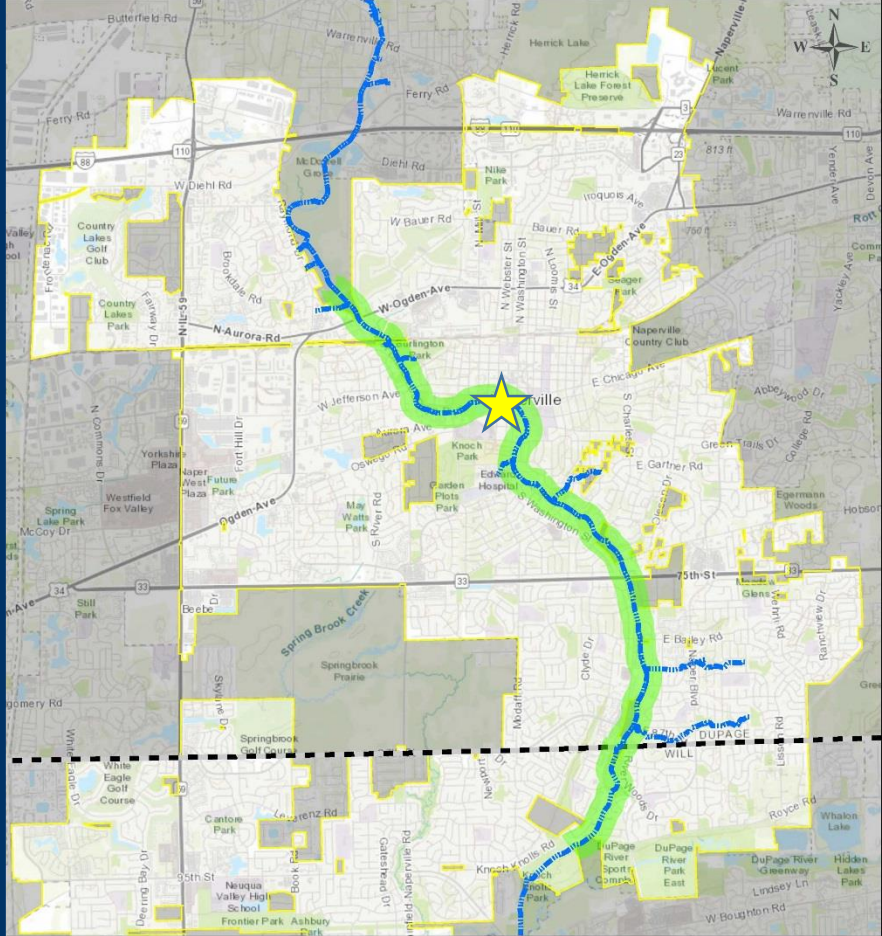
DuPage County, Illinois



www.visitnaperville.com



www.visitnaperville.com



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West Branch DuPage River, Naperville



Love Blue. Live Green.



Downtown Naperville – April 2013



Downtown Naperville – April 2013



Love Blue. Live Green.



Residential Flooding – April 2013

Flood Forecast Simulations

Using real and forecasted precipitation and stream levels, DuPage County Stormwater Management models rain totals countywide. They are simulated using provisional data, and actual watershed conditions may vary. All local agencies should use individual judgment when making operating decisions

Simulations have been run at each of the below locations. In addition, County staff provides simulation notes. Further information regarding individual sites can be accessed by visiting their respective hyperlinks.

SIMULATION NOTES IRVING PARK RD HARGER RD PRAIRIE PATH

Forecast Discussion: Saturday, June 26th 2021 9:00 am

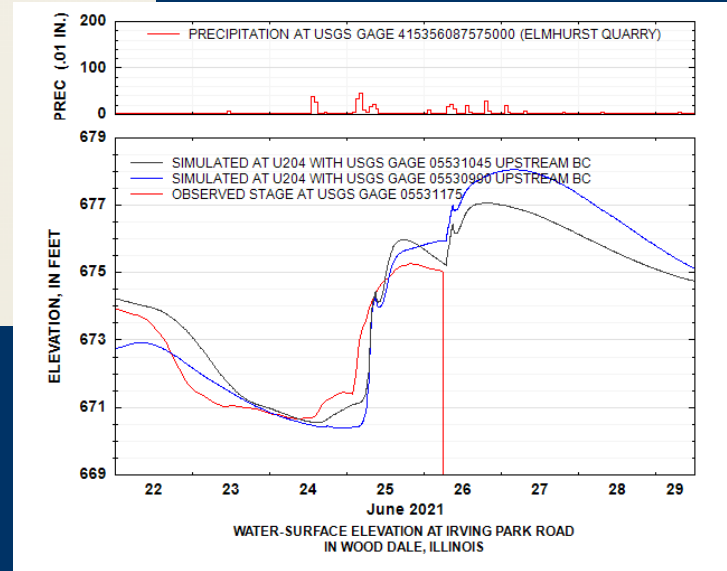
We recieved about an inch of rain overnight and are currently forecasting an additional inch of rain thouthout the day.

	6/26	6/26	6/26	6/27								
24-hour:	6a-12p	12p-6p	6p-12a	12a-6a								
	0.247	0.369	0.243	0.079								
	6/26	6/26	6/26	6/27	6/27	6/27	6/27	6/28	6/28	6/28	6/28	6/29
72-hour:	6a-12p	12p-6p	6p-12a	12a-6a	6a-12p	12p-6p	6p-12a	12a-6a	6a-12p	12p-6p	6p-12a	12a-6a
	0.247	0.369	0.243	0.079	0.007	0.055	0.007	0.049	0.000	0.007	0.005	0.028

We are forecasting operations at Wood-Dale Itasca and the Elmhurst Quarry to begin today around 11am.

IN THE EVENT OF PRECIPITATION, OVERLAND OR DEPRESSIONAL FLOODING MAY OCCUR THROUGHOUT THE WATERSHED. IF YOU ARE EXPERIENCING DEPRESSIONAL FLOODING -NOT FLOODING DIRECTLY FROM STREAMS OVERTOPPING- AND ARE IN NEED OF ASSISTANCE, PLEASE CALL YOUR LOCAL PUBLIC WORKS DEPARTMENT.

Source: DuPage County Flood Forecasting Website



Flood Forecasting System

Rain Gages

DuPage County Stormwater Management uses the United States Geological Survey (USGS) stream and rain gages, as well as a local stream near Fawell Dam (Naperville). The stream gages show real-time observations of stream height and discharge. USGS compiles these measurements hourly. The Fawell Dam stream gage reports water surface elevation (WSEL) every 20 minutes. The rain gages provide information about precipitation totals in the last week, as well as a link to the USGS station page.

Table 1. Rain Gages

Location	Inches
RG6 - DuPage County Airport	Link to USGS Site
RG33 - Wheaton Municipal Building	0.00
RG40 - Bartlett Treatment Plant	Link to USGS Site
RG44 - Carol Stream Treatment Plant	6.00

Table 2. Stream Gage

Stream Gage	Gage Height (Ft)
Fawell Dam	674.76
Naperville Pedestrian Bridge	668.38
Winfield Creek	712.35

USGS Cooperation

DuPage County works together with USGS to provide real-time data. Many of the precipitation and stream gages within DuPage County are monitored and maintained through a cooperative agreement with the USGS. The following table provides rainfall totals for the last seven days at the USGS-monitored locations within the DuPage County.

Gage Name	Gage ID	1 Hour Total (Inch)	3 Hour Total (Inch)	6 Hour Total (Inch)	12 Hour Total (Inch)	24 Hour Total (Inch)	2 Day Total (Inch)	7 Day Total (Inch)
RAIN GAGE AT WOOD DALE, IL	415017087591901	0	0	0	0	0	0	0.08
BARTLETT WWTF NEAR BARTLETT, IL	415001080095700	0	0	0	0	0	0	0.02
SPRING CREEK RESERVOIR NEAR BLOOMINGDALE, IL	415737088031100	0	0	0	0	0	0	0.29
ADDISON WWTF AT ADDISON, IL	415518087583000	0	0	0	0	0	0	0.14
DUPAGE COUNTY AIRPORT NEAR ST CHARLES, IL	415457088150600	0	0	0	0	0	0	0.06
CAROL STREAM WWTF AT CAROL STREAM, IL	415423088081500	0	0	0	0	0	0	0.23
ELMHURST QUARRY AT ELMHURST, IL	415356087575000	-11999980	-35999964	-71999928	-143999056	-287999712	-575999424	-2013997986
SALT CREEK AT ELMHURST, IL	06531300	0	0	0	0	0	0	0.36
WHEATON WATER DEPARTMENT AT WHEATON, IL	41530088054600	0	0	0	0	0	0	0
NATIONAL ACCELERATOR LAB NR WEST CHICAGO, IL	415131088143600	0	0	0	0	0	0	0.09
WHEATON SEWER DEPARTMENT AT WHEATON, IL	415125088045700	0	0	0	0	0	0	0.05

Data is provisional and may display inaccuracies because of instrument malfunctions or physical changes at the gage location.

Source: DuPage County Flood Forecasting Website

Table 3. USGS Monitored Stream Gages

Stream Gage Description	Gage ID	Gage Height (Ft)
West Branch near West Chicago	05539900	721.23
Kress Creek at West Chicago	05540060	703.68
West Branch near Warrenville	05540095	684.22
West Branch near Naperville	05540130	634.27
Spring Brook #2 at 87th Street near Naperville	05540275	-999352.26

Click on stream gage to see further information in a new browser.

DuPage County Flood Control Operations

Watersheds

Flood Control Facilities

Stream Gages

Rain Gages

Cameras

Precipitation Forecast

Snowfall Forecast

Click rain gages on the map to view information about precipitation totals in the last week, as well as a link to the USGS station page.

Rain Gages (USGS)



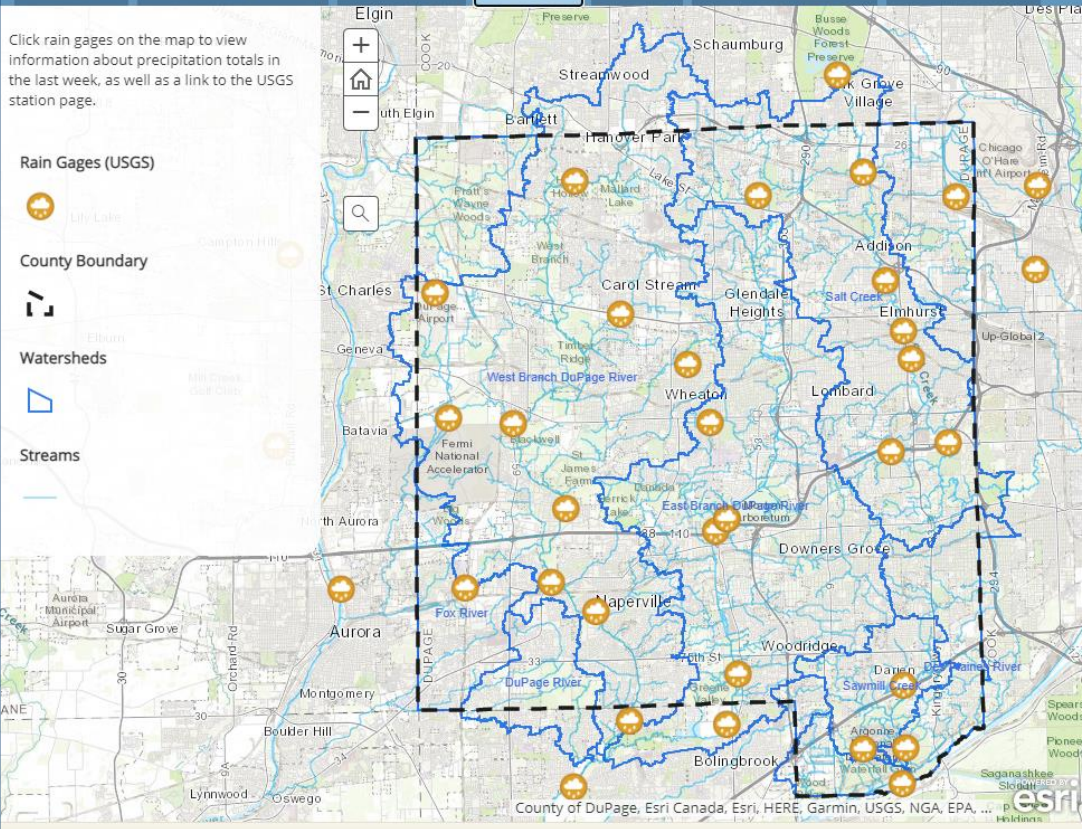
County Boundary



Watersheds



Streams



USGS Rain Gage Locations

Page Totals

DuPage County Stormwater Management uses the United States Geological Survey (USGS) stream and rain gauges, as well as a local stream gauge near Fawell Dam (Naperville). The stream gauges show real-time observations of stream height and discharge. USGS compiles these measurements hourly. The Fawell Dam stream gauge reports water surface elevation (WSEL) every 20 minutes. The rain gauges provide information about precipitation totals in the last week, as well as a link to the USGS station page.

Table 1. Rain Gauges

Location	Inches
RG6 - DuPage County Airport	Link to USGS Site
RG33 - Wheaton Municipal Building	0.00
RG40 - Bartlett Treatment Plant	Link to USGS Site
RG14 - Carol Stream Treatment Plant	6.00

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[Click on stream gage to see further information in a new browser.](#)

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NATIONAL ACCELERATOR LAB NR WEST CHICAGO, IL	415131088143600	0	0	0	0	0	0	0.09
WHEATON SEWER DEPARTMENT AT WHEATON, IL	415125088045700	0	0	0	0	0	0	0.05

Data is provisional and may display inaccuracies because of instrument malfunctions or physical changes at the gage location.

Source: DuPage County Flood Forecasting Website



DuPage County Flood Control Operations

- Watersheds
- Flood Control Facilities
- Stream Gauges**
- Rain Gauges
- Cameras
- Precipitation Forecast
- Snowfall Forecast

Click the live stream gauges on the map to view real-time observations of stream height and discharge. USGS and NOAA compile these measurements hourly.

Live Stream Gauges (USGS/NOAA)



Stream Gauges (County)



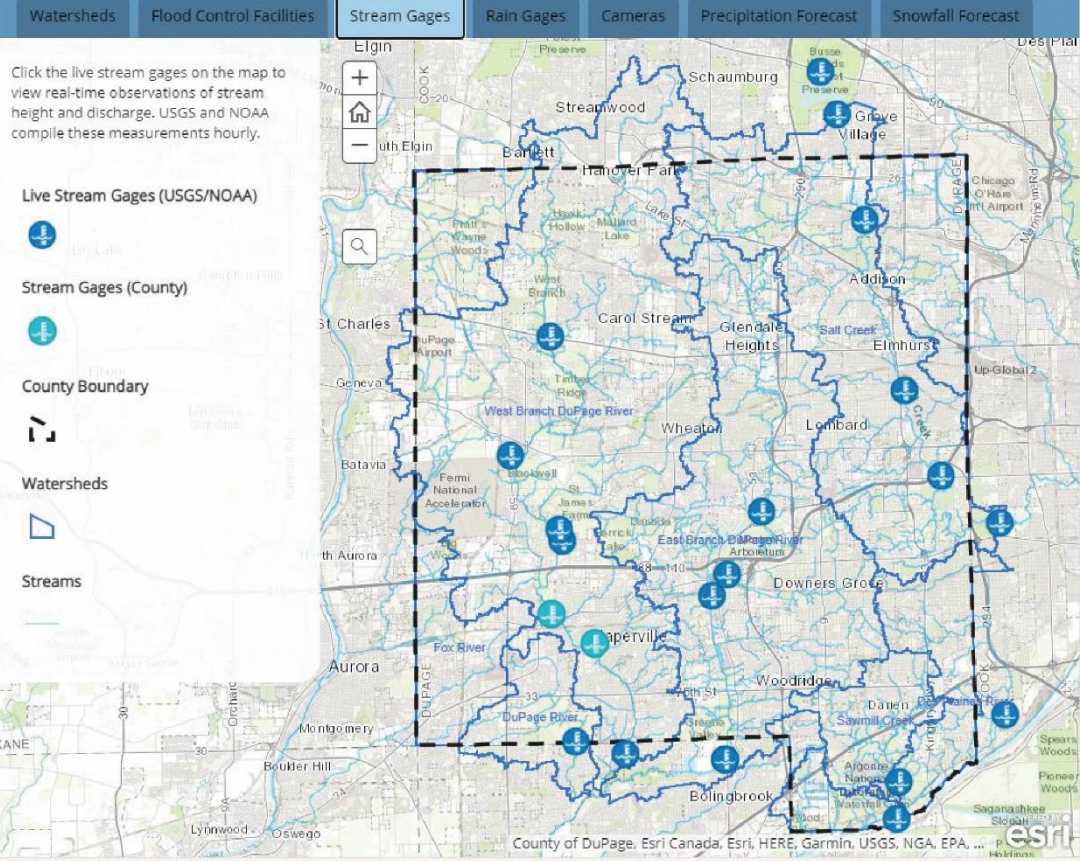
County Boundary



Watersheds



Streams



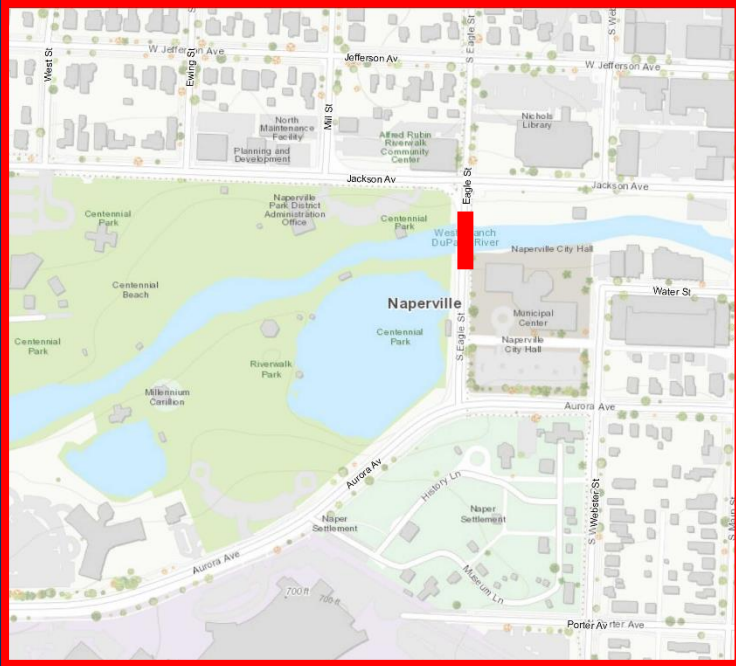
Stream Gauge Locations



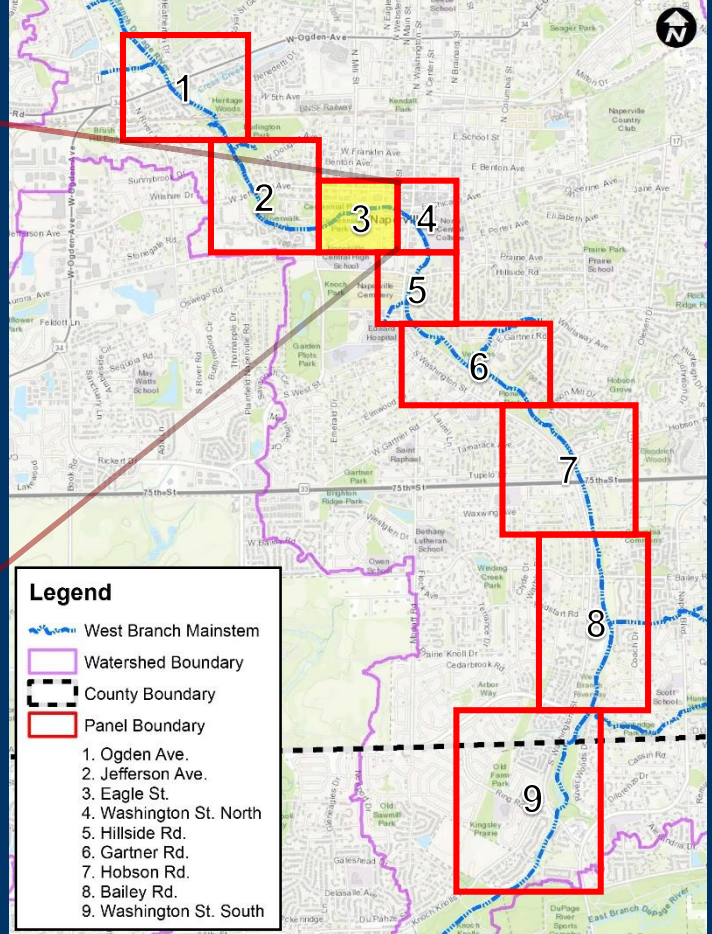
Love Blue. Live Green.



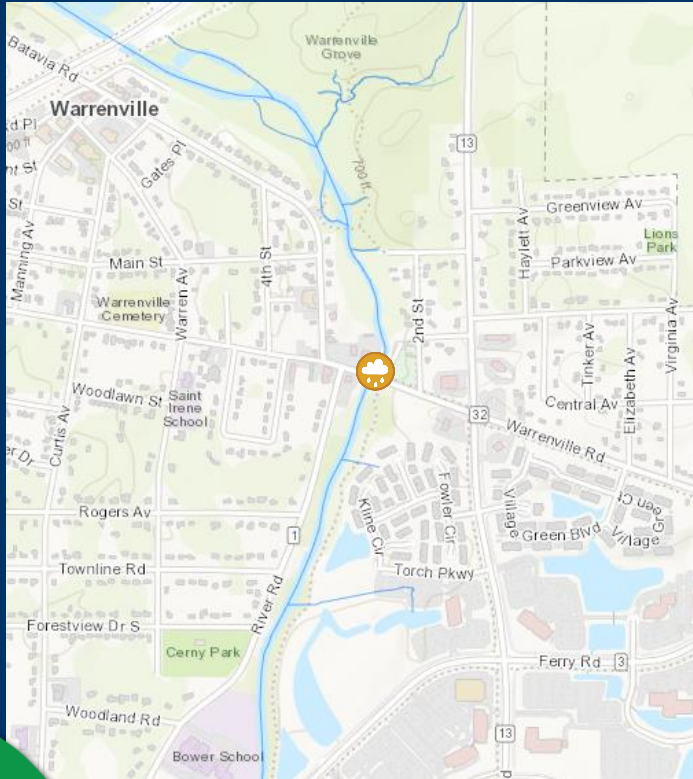
Flood Preparation



PANEL 3



Map Panels



TABLE# = 333
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 YEAR MN DY HOUR FLOW

2019	2	28	23.000000	157.00
2019	3	1	0.000000	154.00
2019	3	2	0.000000	400.00
2019	3	3	0.000000	600.00
2019	3	4	0.000000	800.00
2019	3	5	0.000000	1000.00
2019	3	6	0.000000	1200.00
2019	3	7	0.000000	1400.00
2019	3	8	0.000000	1600.00
2019	3	9	0.000000	1800.00
; FLOW for elevation 670.258 at Node 2105				
2019	3	10	0.000000	2620.00
; FLOW for elevation 672.258 at Node 2105				
2019	3	10	0.000000	3794.00
; FLOW for elevation 674.258 at Node 2105				
2019	3	10	0.000000	6640.00
2019	3	10	0.000000	2620.00
2019	12	31	0.000000	2620.00
2020	12	31	0.000000	2620.00
2018	12	31	0.000000	2620.00

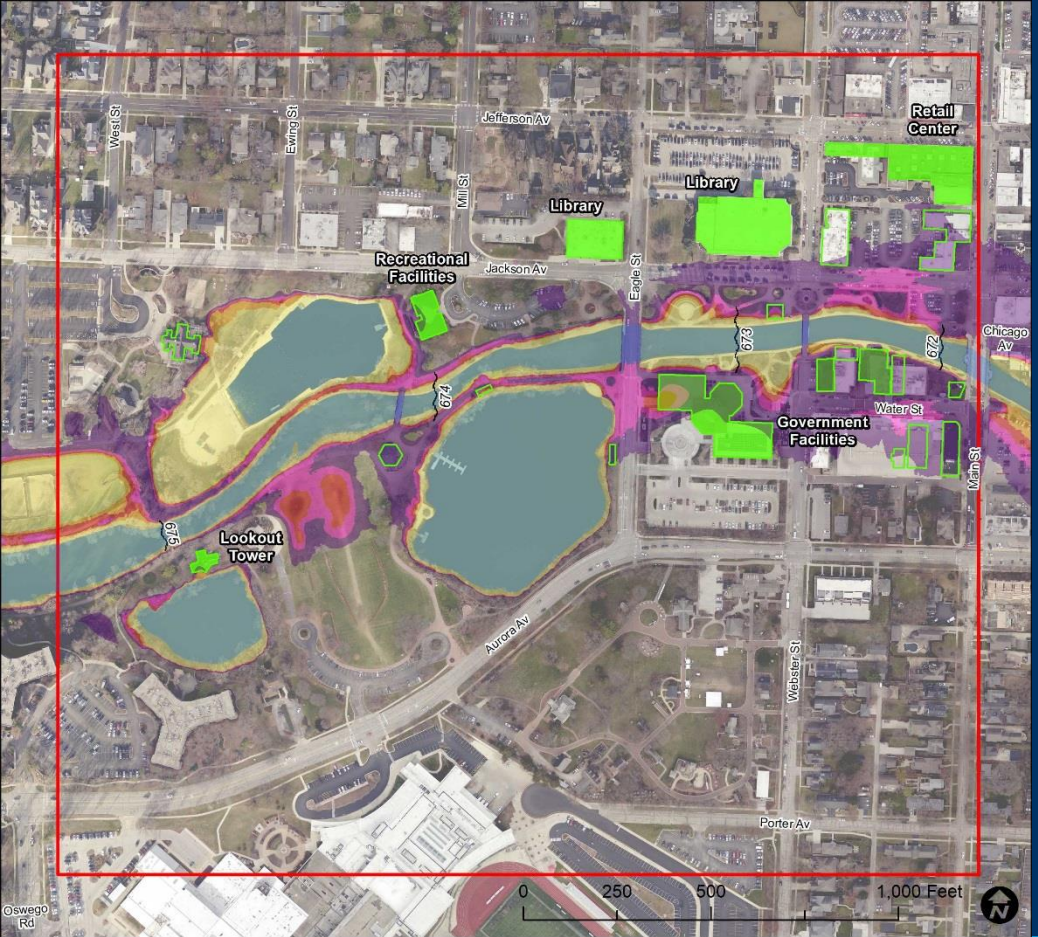
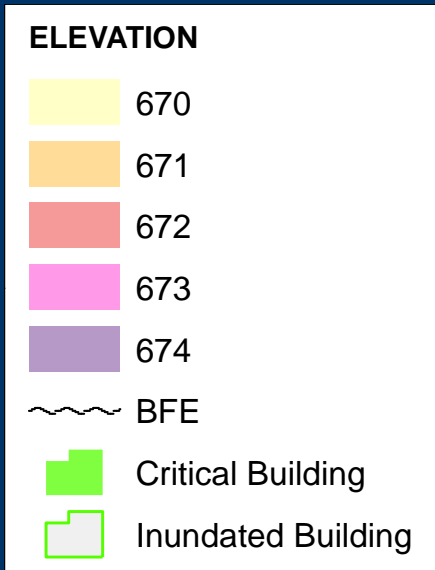
Love Blue. Live Green.



Warrenville Road



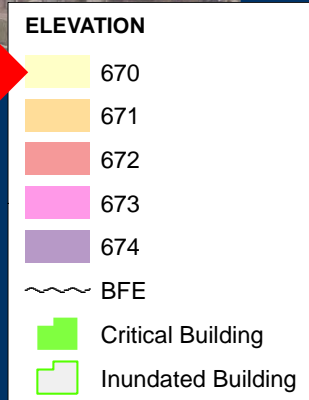
Technical Approach



Final Inundation Map (Eagle Street)

EAGLE ST- PANEL 3

Stage	Staff Assignment	Required Action
670	Minor Flood Stage	
670	City of Naperville	At 670' significant overbanking is occurring at the lower level of the Riverwalk between Eagle St. and Main St. Depths on the south bank near the Naperville Municipal Building > 2'.
671	City of Naperville	Elevations rising to rear patios at the Naperville Township Assessors office and neighboring retail center.
671	Public Works	Overbanking in Centennial Park nearing the Centennial Beach office building.
672	Moderate Flood Stage	
672	Public Works	Storm sewer potentially surcharging at the lower service garage entrance at the southwest corner of the Naperville Municipal Building off Eagle St.
673	Major Flood Stage	100 Yr. Base Flood Elevation @ Jefferson Ave.
673	Public Works	Eagle St. now likely being overtopped 300' south of Jackson Ave. At a depth of approximately 0.6' 'Road Closed' barricades should be in place.
673	Public Works	Jackson Ave. inundated with flood water between Webster St. & Main St. at depths that may require a road closure. Barricades should be in place.
673	Public Works	Storm sewer potentially surcharging between Webster St. & Main St. Inspect and close road if necessary.
674	Emergency Management	Main St. overtopping North and South of the bridge at West Branch. Chicago Ave. now inundated. Barricade/close roads accordingly.



Action Plan (Eagle Street)

Action Plan – Washington St. (North)

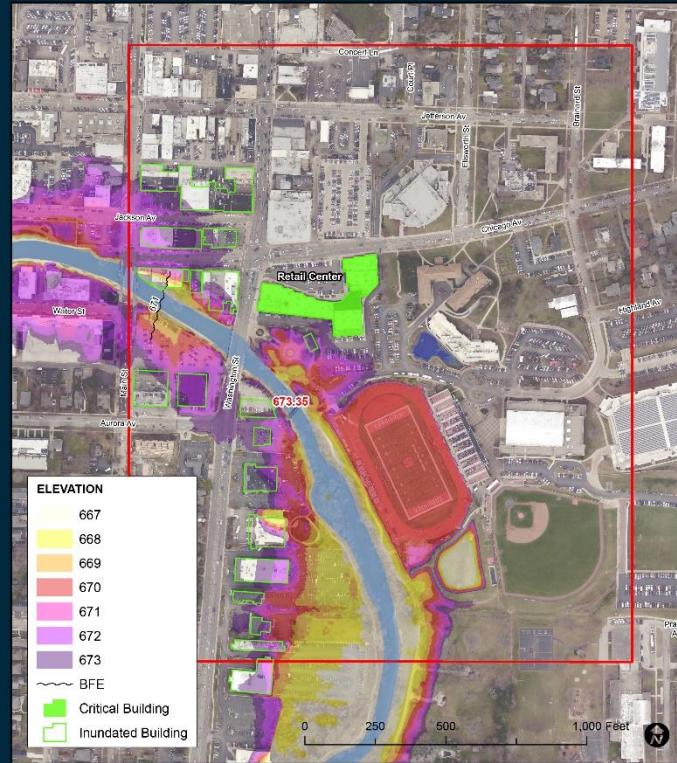
Refer to the "Staff Assignment" and "Required Action" when the river elevation at the Washington St. (North) bridge at the West Branch of the DuPage River Mainstem reaches the stage shown below.

Use the space provided to make relevant notes. Information that confirms or conflicts with this document and/or the mapping results will help refine this resource and should be submitted for review/implementation.

WASHINGTON ST (NORTH) - PANEL 4		
Stage	Staff Assignment	Required Action
667	Minor Flood Stage	
667	Public Works	River overtops north bank @ the southeast corner of Main St. & Chicago Ave. Rear patios/alleys inundated.
667	Public Works	Riverwalk showing inundation behind 552 & 564 S. Washington St. Place barricades to close path in & around this location.
668	Moderate Flood Stage	
668	Naperville Park District	North bank overtopping into Fredenhagen Park. Confirm the accuracy of the modeling and provide closures as necessary.
668	Public Works	Underground parking structure at 520 S. Washington may be surcharging @ storm drain. Inspect garage entry at north side of structure.
669	Public Works	Several properties along the 500 block of South Washington St. near Porter Ave. experiencing significant flooding in the back of the properties. Investigate potential need for assistance.
670	North Central College	NCC Football field taking significant amount of floodwater at this elevation.
671	Major Flood Stage	100 Yr. Base Flood Elevation @ Washington St. North
671	Public Works	Overbank flooding @ the intersection of Main St. & Chicago Ave.
671	Naperville Park District/Public Works	Major flooding into Fredenhagen Park and into the rear parking lot of the River Square Shopping Mall.
672	Public Works	Main St. is overtopping just south of the bridge crossing at West Branch. Deploy road closure signs.
672	Public Works	Significant flooding at commercial property at the Northwest corner of Washington St. & Aurora Ave.
673	Public Works	Intersection of Washington St. & Aurora Ave. inundated at depths of approximately 0.5'. Road closures should be established in all directions at this intersection.

Notes:

Observations Made By: _____ Date: _____



Action Plan – Hillside Rd.

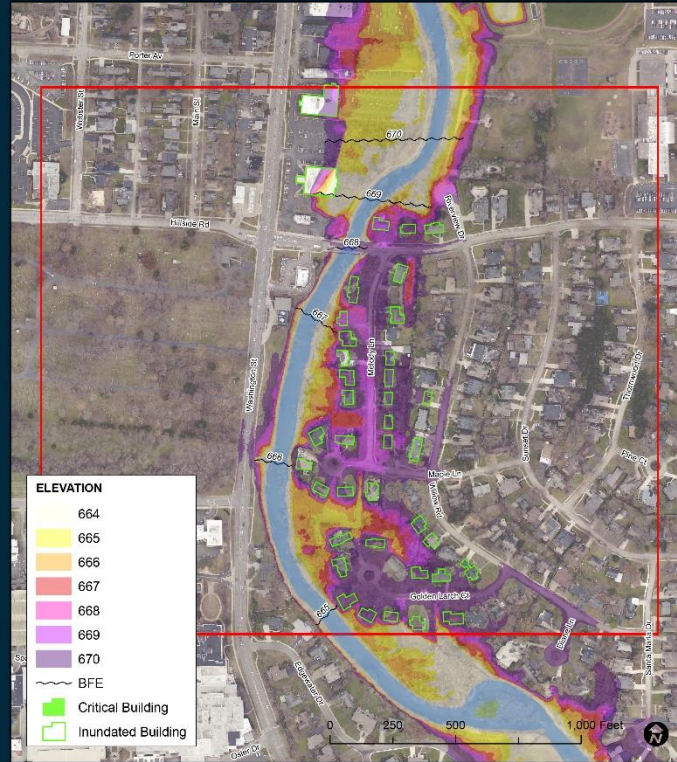
Refer to the “Staff Assignment” and “Required Action” when the river elevation at the Hillside Rd. bridge at the West Branch of the DuPage River Mainstem reaches the stage shown below.

Use the space provided to make relevant notes. Information that confirms or conflicts with this document and/or the mapping results will help refine this resource and should be submitted for review/implementation.

HILLSIDE RD - PANEL 5		
Stage	Staff Assignment	Required Action
664	Moderate Flood Stage	
664	Public Works	Significant overbanking occurring on the west bank of the West Branch DuPage River north of Hillside Ave. and Washington St. The Riverwalk should be closed at appropriate locations.
664	City of Naperville	Naperville Medical at 640 S. Washington experiencing significant flooding in rear lot with potential impact to structure. Investigate limits of flooding and provide assistance as needed.
665	Public Works	Overbank starts to occur behind residential properties along Melody Ln. (most significantly behind 649 Melody Ln.) Investigate the extent of flooding.
666	Public Works	Properties along Melody Ln. continue to be threatened by overbank flooding; 639, 649, & 655 most significantly. Additionally, flooding at Maple Ln. Cul De Sac threatening structures. Investigate and provide assistance.
667	Public Works	Properties at the Golden Larch Ct. Cul de Sac seeing flood footprint encroaching and threatening structures. Investigate accuracy of projected flooding impact.
668	Major Flood Stage	100 Yr. Base Flood Elevation @ Hillside Rd.
668	Public Works	Continued overbank flooding affecting more residential structures along Melody Ln, Maple Ln, & Golden Larch Ct. Additionally, the rear lots on the west side of the 700 block of Willow Rd. starting to realize a flood threat.
669	Public Works	Flooding now in the road at Melody Ln. & Maple Ln. at a depth of approximately 0.4'. Road closures and assistance to residents may be necessary.
670	Naperville Emergency Management Agency (NEMA)	Large scale flooding impacting over twenty structures at Melody Ln. and Golden Larch Ct. Evacuation assistance may be necessary.

Notes:

Observations Made By: _____ Date: _____



Action Plan – Eagle St.

Refer to the "Staff Assignment" and "Required Action" when the river elevation at the Eagle St. bridge at the West Branch of the DuPage River Mainstem reaches the stage shown below.

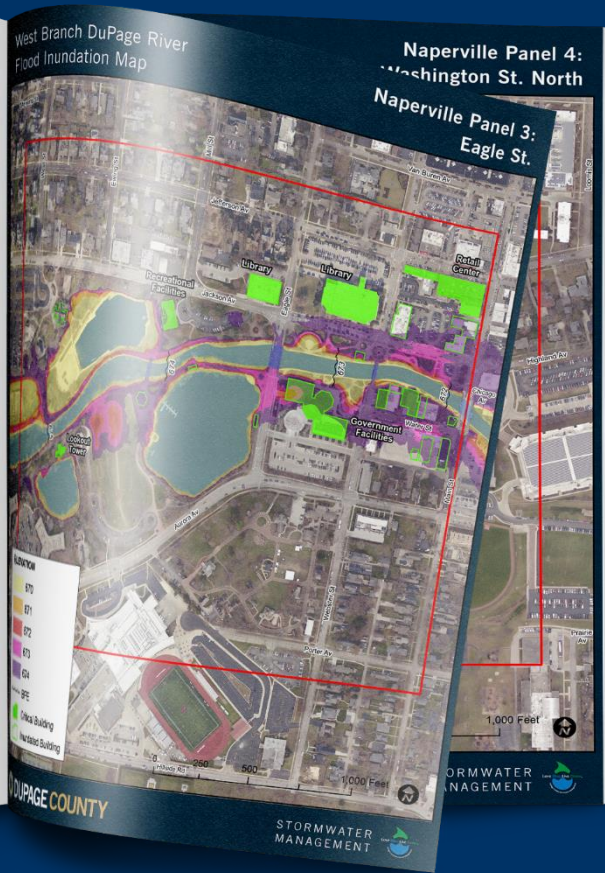
Use the space provided to make relevant notes. Information that confirms or conflicts with this document and/or the mapping results will help refine this resource and should be submitted for review/implementation.

EAGLE ST. - PANEL 3

Stage	Staff Assignment	Required Action
Minor Flood Stage		
670	City of Naperville	At 670' significant overbanking is occurring at the lower level of the Riverwalk between Eagle St. and Main St. Depths on the south bank near the Naperville Municipal Building > 2'.
670	City of Naperville	Elevations rising to rear patios at the Naperville Township Assessors office and neighboring retail center.
671	City of Naperville	Elevations rising to rear patios at the Naperville Township Assessors office and neighboring retail center.
671	Public Works	Overbanking in Centennial Park nearing the Centennial Beach office building.
Moderate Flood Stage		
672	Public Works	Storm sewer potentially surcharging at the lower service garage entrance at the southwest corner of the Naperville Municipal Building off Eagle St.
673	Public Works	Storm sewer potentially surcharging at the lower service garage entrance at the southwest corner of the Naperville Municipal Building off Eagle St.
Major Flood Stage		
673	Public Works	100 Yr. Base Flood Elevation @ Jefferson Ave. Eagle St. now likely being overtopped 300' south of Jackson Ave. At a depth of approximately 0.6' "Road Closed" barricades should be in place.
673	Public Works	Jackson Ave. inundated with flood water between Webster St. & Main St. at depths that may require a road closure. Barricades should be in place.
673	Public Works	Storm sewer potentially surcharging between Webster St. & Main St. Inspect and close road if necessary.
674	Emergency Management	Main St. overtopping North and South of the bridge at West Branch, Chicago Ave. now inundated. Barricade/close roads accordingly.

Notes:

Observations Made By: _____ Date: _____

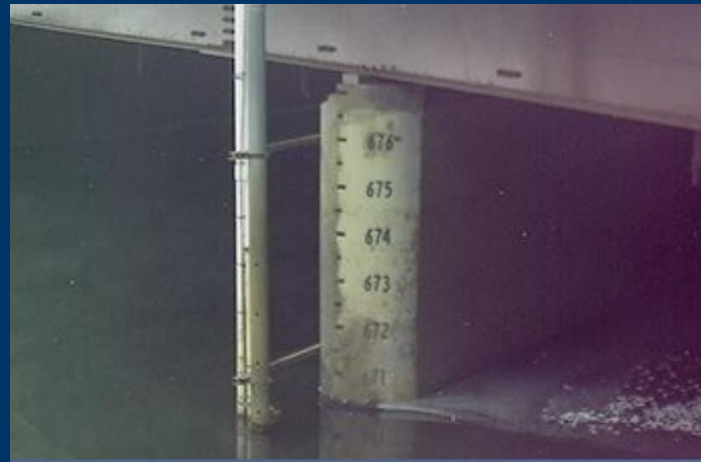


Final Product - Flood Booklet

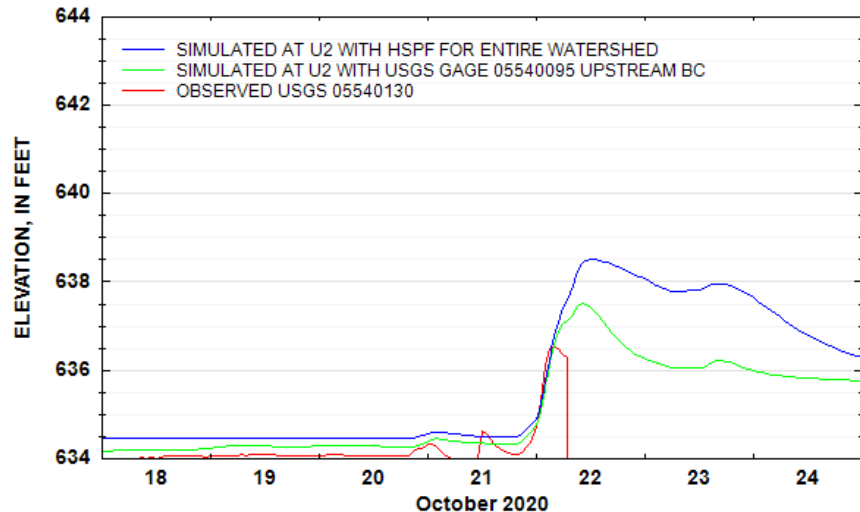
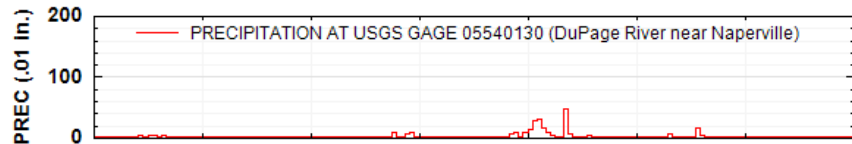
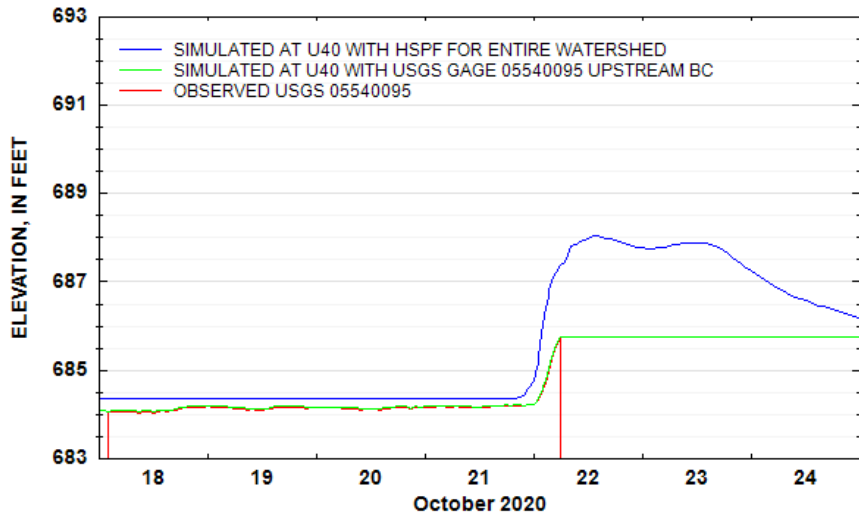
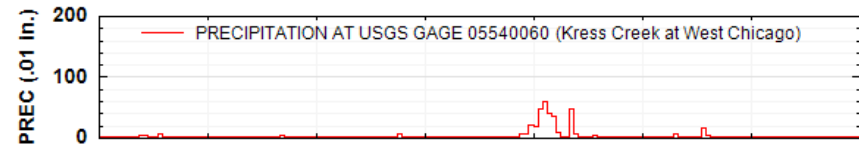
Warrenville Bridge 2021-02-08 11:30:19



Fawell #1 02/08/2021 11:32:02 AM



DuPage County Staff Gages



Flood Forecasting Hydrographs

National Flood Insurance Program Community Rating System (CRS)



**Series
600**

Flood Preparedness

This series credits flood warning, levee safety, and dam safety projects.

610 Flood Warning and Response

- Provide early flood warnings to the public, and have a detailed flood response plan keyed to flood crest predictions.

**Series
300**

Public Information

This series credits programs that advise people about the flood hazard, flood insurance, and ways to reduce flood damage. The activities also provide data insurance agents need for accurate flood insurance rating.

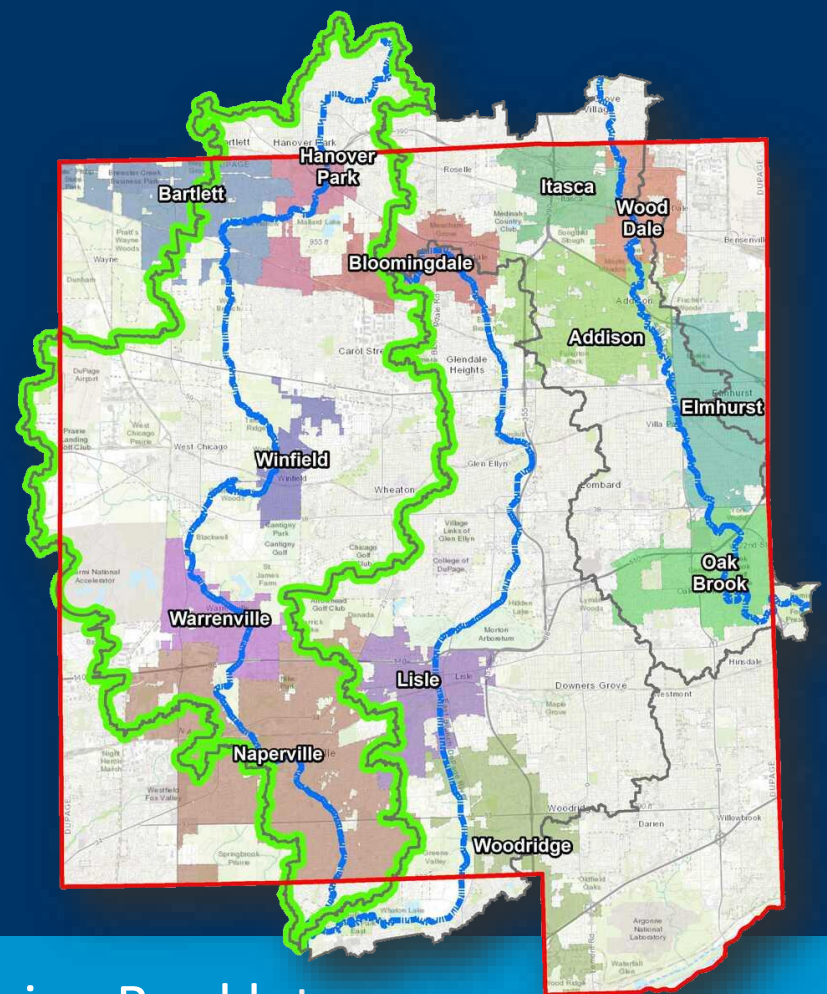
More information at: www.crsresources.org



CRS Benefits

Potential West Branch Communities:

- Warrenville
- Winfield
- Bartlett
- Hanover Park



Future Flood Warning Booklets

Acknowledgements



