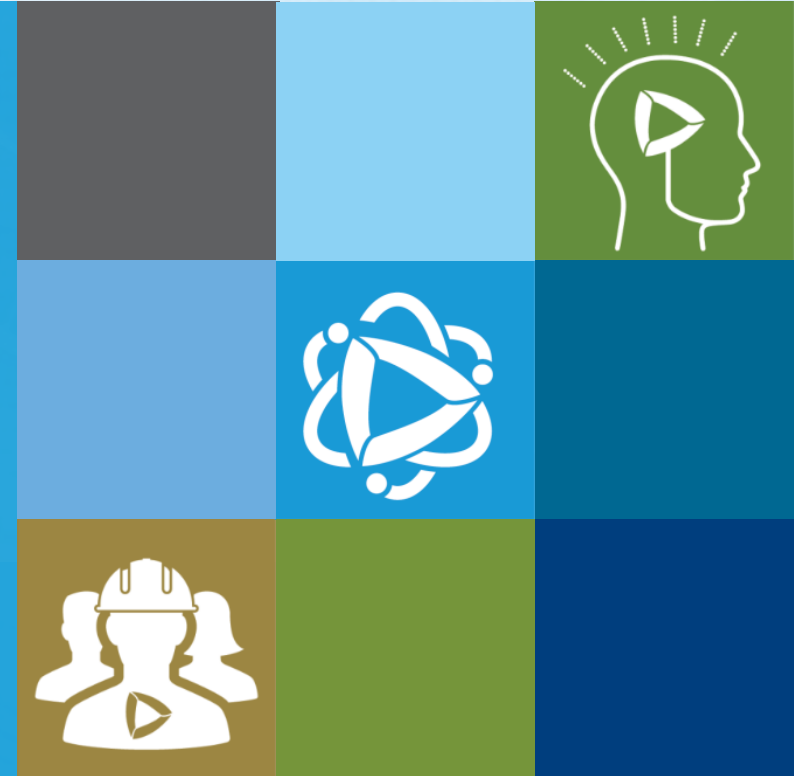




Kickoff Meeting
NARP Workplan for the Des Plaines
River Watershed
Des Plaines River Watershed Workgroup Subcommittee
February 19, 2019



Agenda

- Introductions & communication strategy
- NARP requirements & objectives
- Data request
- Scope of work & schedule review

People



Person	Company	Role
Adrienne Nemura*	Geosyntec	Project Director
Andrea Cline*	Geosyntec	Project Manager
Rishab Mahajan*	Geosyntec	Modeling Technical Lead
Rob Annear	Geosyntec	Senior Technical Lead
Nick Muenks	Geosyntec	Monitoring Technical Lead

* Present at meeting

Communication Strategy



- **Communication goals?**
 - Keep key people informed of project status
 - Provide clear insight on decisions needed
 - Provide opportunities for input (in addition to project meetings)
- **Frequency?**
- **Format?**
- **Which stakeholders?**

Related Upcoming Meetings



- **IWEA Watershed Management Committee Nutrient Assessment Reduction Plan Workshop**
 - 9 am – noon, March 6th, Village Hall Board Room, Itasca, IL
 - “The IWEA Watershed Management Committee is hosting a collaboration meeting for Illinois watershed groups focused on the development of Nutrient Assessment Reduction Plans (NARP). Attendees will join others in the state that are faced with developing a NARP in their area, to share what a NARP means to them, the approaches that are being considered, and where they are in the process. Meeting attendees will gain perspectives on NARP development and an understanding of the range of approaches being considered.”
 - “Who should attend: Technical staff and 1-2 representatives from your executive board (note: we recommend one representative from POTW and one representative from MS4/FPD/EAG facilities)”

NARP Requirements & Objectives

Nutrient Assessment Reduction Plan



- Address phosphorus causing
 - Excessive algae
 - Dissolved oxygen problems
 - pH problems
- Other contributing factors
 - Hydraulic modifications (dams, channelization)
 - Lack of riparian shading
 - Excessive streambank erosion
 - Loss of groundwater replenishment
- Target levels or endpoints
 - Nutrient Science Advisory Committee, or
 - Watershed-specific target levels
- “Justification that input reduction will have direct correlation to improve water quality and to what extent”



Lower Des Plaines River. Photo by Cynthia Skrukud.

- Are P-reductions needed from point sources?
- More stringent than future 0.5 mg/L limit?
- Are P-reductions not needed from point and nonpoint sources, but other measures are needed?

A NARP is not...



- **A Total Maximum Daily Load (TMDL)**
 - Does not include all the requirements established by USEPA
- **A 9-Element Watershed Implementation Plan (Clean Water Act §319) because NARP**
 - Must document how P-related impairments will be eliminated, or
 - Determine other measures needed, or
 - Show that P-related impairments cannot be eliminated

- SHALL INCLUDE AN IMPLEMENTATION SCHEDULE OF PHOSPHORUS INPUT REDUCTIONS AND OTHER MEASURES
- THE NARP MAY INCLUDE PROVISIONS FOR WATER QUALITY TRADING
- IF THE PERMITTEE DOES NOT DEVELOP OR ASSIST IN DEVELOPING THE NARP AND SUCH A NARP IS DEVELOPED, THE PERMITTEE WILL BECOME SUBJECT TO THE REDUCTIONS IDENTIFIED IN THE NARP
- IF NO NARP IS DEVELOPED, EFFLUENT LIMITS SHALL BE DETERMINED FOR THE PERMITTEE ON A CASE BY CASE BASIS TO ADDRESS THE IMPAIRMENT OR RISK OF EUTROPHICATION
- THE NARP SHALL BE IMPLEMENTED AS SOON AS POSSIBLE
- THE NARP SHALL BE SUBMITTED TO THE AGENCY BY DECEMBER 31, 2023 AND BE SUPPORTED BY DATA AND SOUND SCIENTIFIC RATIONALE.

From: Fleming, Brant. IEPA – Municipal NPDES Permit Update, Illinois Wastewater Professional Conference, Feb. 13, 2019

NARP OUTLINE/REQUIREMENTS


- WATERSHED GROUP OR PARTICIPATING MEMBERS
 - POINT SOURCE AND NON-POINT SOURCE
- IMPAIRMENT OR RISK OF EUTROPHICATION FACTORS IDENTIFIED
- POINT/NON-POINT SOURCES IDENTIFIED WITHIN THE WATERSHED OR STREAM SEGMENTS
- PHOSPHORUS INPUT SOURCES IDENTIFIED
 - MAJORS
 - MINORS
 - MS4S
 - INDUSTRIAL STORMWATER PERMITS
 - NON-POINT SOURCE
 - LAND USE AND ACRAGE
- EFFLUENT/STREAM MONITORING REQUIRED

NARP OUTLINE/REQUIREMENTS

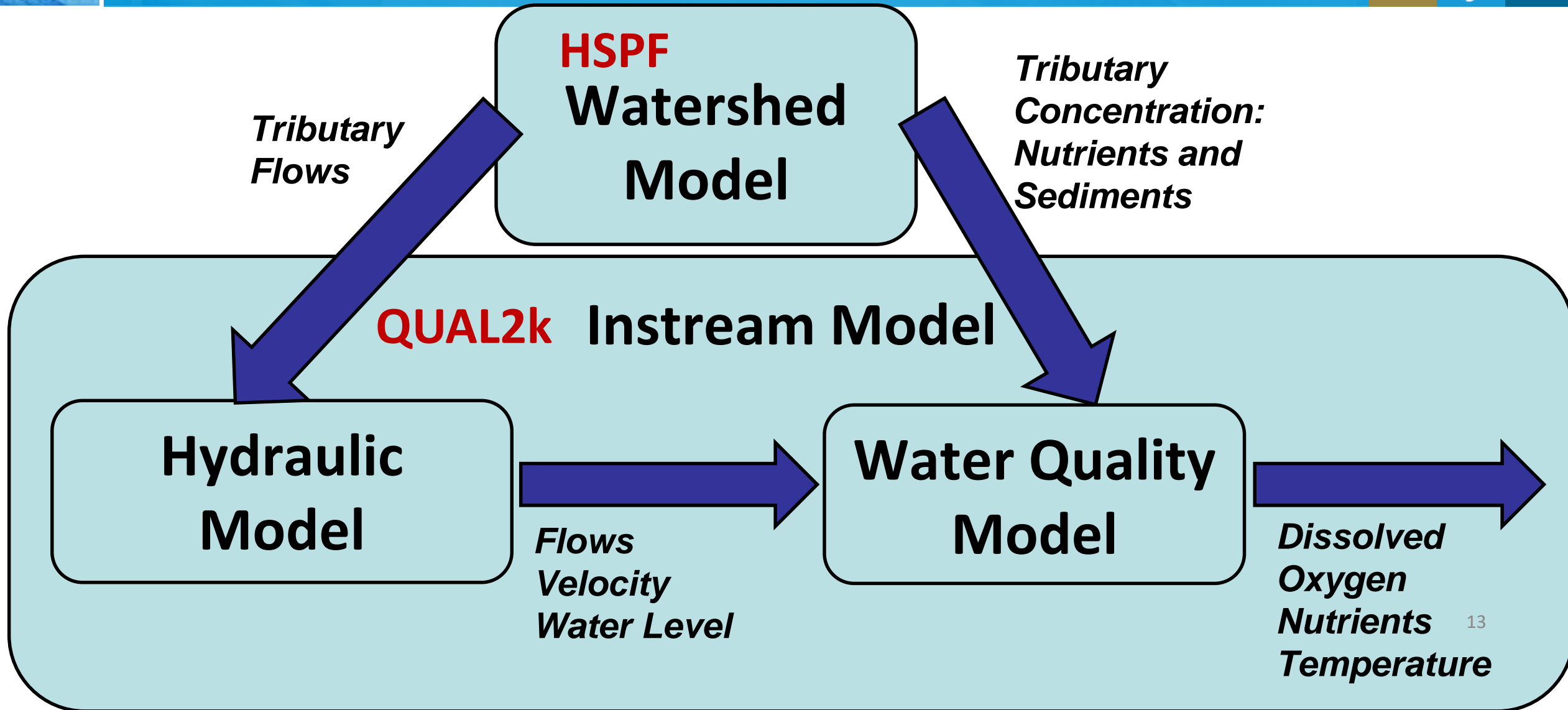
- MODELING USED AND FINDINGS
- GOALS OR TARGET OF PHOSPHORUS REDUCTIONS TO REMOVE IMPAIRMENT OR RISK OF EUTROPHICATION
- WATER QUALITY TRADING PROVISIONS
- POINT SOURCE CONTROLS
- SCHEDULE FOR PHOSPHORUS INPUT REDUCTIONS OR OTHER STREAM IMPROVEMENT MEASURES
- ADDITIONAL STREAM MONITORING IDENTIFIED
- PERMIT MODIFICATION TO INCLUDE NARP FINDINGS



NARP OUTLINE/REQUIREMENTS

- MODELING USED AND FINDINGS
 - GOALS OR TARGET OF PHOSPHORUS REDUCTIONS TO REMOVE IMPAIRMENT OR RISK OF EUTROPHICATION
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- 

Example Modeling Tools to Inform NARP



Watershed Model

Uses

- Establish baseline loads
- Evaluate potential reductions from control alternatives
- Assess effectiveness of placement of stormwater best management practices

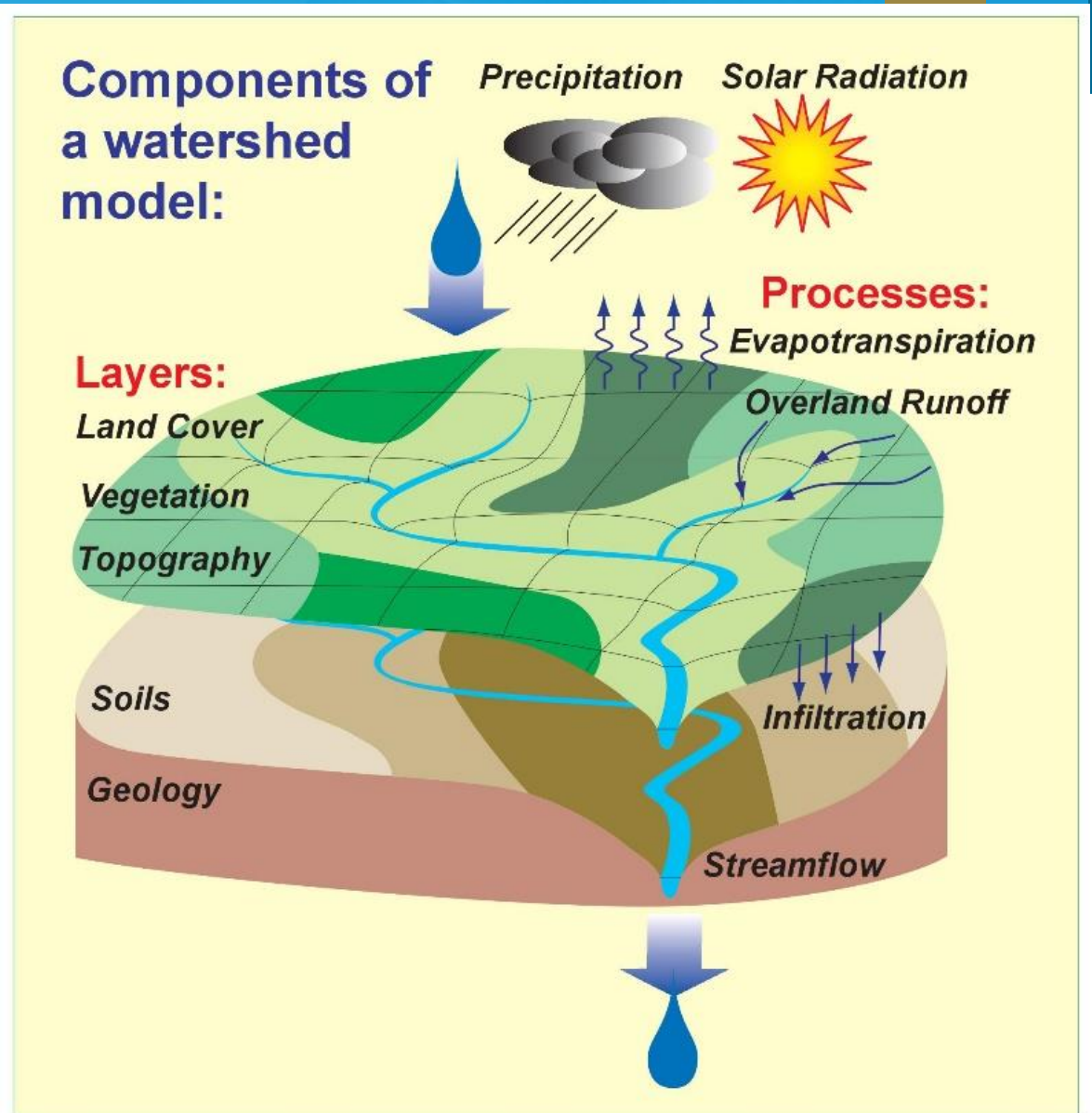


Image Courtesy of St. Croix Watershed Research Station



Hydraulic Model

- Flows
- Velocities
- Depth

Water Quality Model

- Temperature
- Dissolved oxygen
- Nutrients
- Chlorophyll-a (algae)

Uses

- Evaluate benefits of potential control alternatives
- Establish site-specific instream nutrient targets



Image Courtesy of Fox River Study Group

Requirements for Non-Participants



- If NARP exists
 - Effluent limits based on the NARP and any applicable data
- If no NARP
 - Case-by-case determination
 - Discharge cannot “cause or contribute to” violations of dissolved oxygen or narrative water quality standards



MS4 permits

- Illinois EPA encouraged all permittees (POTWs and MS4s) to participate in NARP formation
- Current MS4 NPDES permit valid through February 28, 2021
- Potential for NARP participation to be required under new MS4 NPDES permit

DRWW Specific Objectives



- Phosphorus only?
- Phosphorus & nitrogen?
 - Gulf Hypoxia
- Other impairments?
 - Dams
 - Stream erosion / sedimentation
 - Flow-related impairments
 - Agricultural impacts
- Other considerations
 - Inform updates to DPR watershed-based plan?
 - Establish site-specific criteria
 - Use attainability analysis (set attainable restoration targets & schedule)



Source: TrailLink. Des Plaines River Trail. Vhines 8/7/17

Data Request

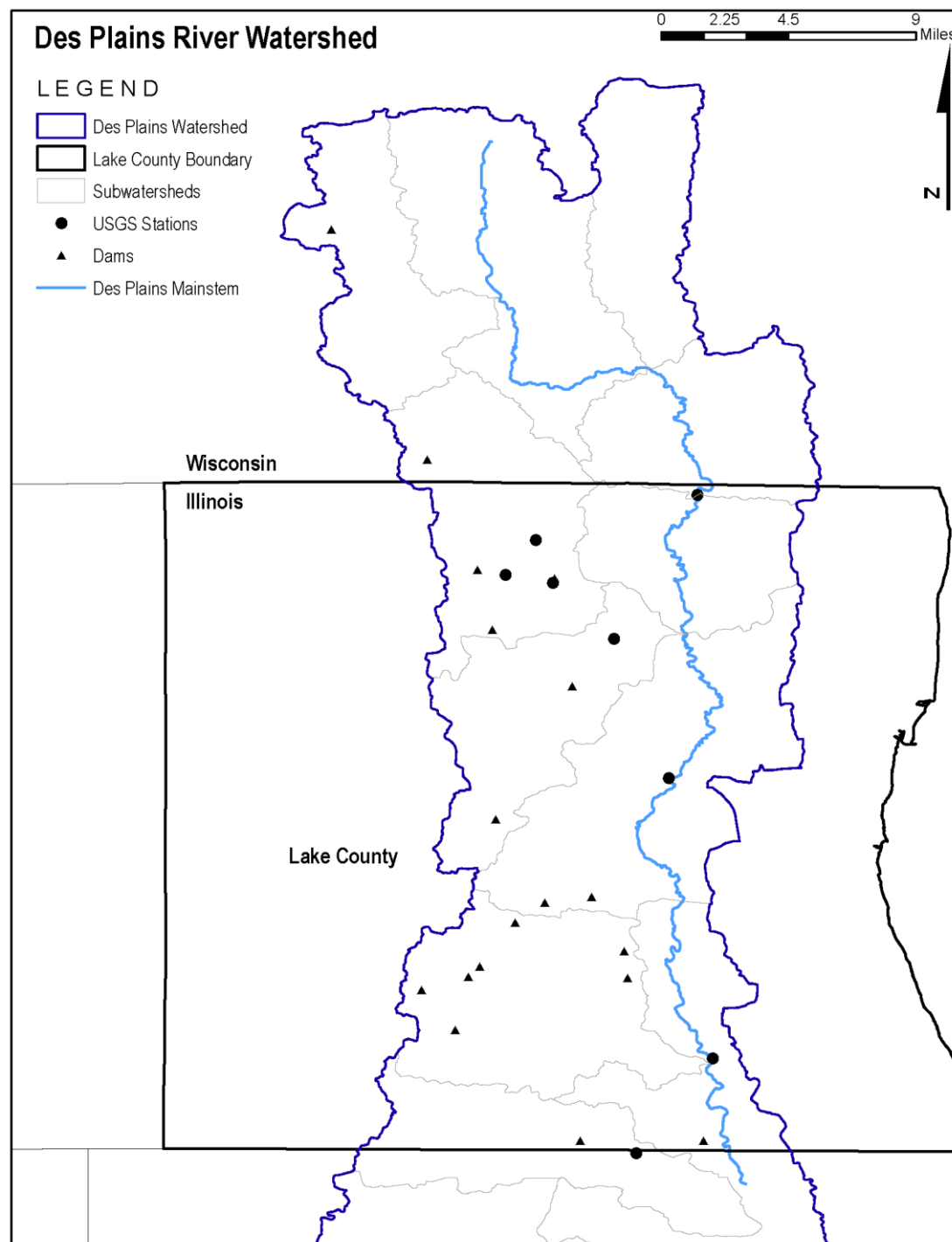
Initial Data Request



Category	Data	Comments/Issues
Des Plaines River Watershed Workgroup		
Bathymetry	Cross sections	Burns & McDonnell flow monitoring study
Instream Water quality	Station locations (all monitoring locations)	
	Stream discharge	Burns & McDonnell flow monitoring study
	Water column chemistry	
	Sediment chemistry	
	Biological and habitat	Data Collected by MBI
Point Sources	Wastewater treatment plant locations	
	Flows and concentrations	
	Permit and factsheets	
Lake County		
Meteorological	Precipitation	-
Impairment	Impaired reaches	
	Impairment causes	
Hydrology	Storm drain networks	
	Watersheds delineations	
Land use	Parcel GIS data with land use	
	Impervious cover	
	Parcel ownership (public, private)	
Model	Spatial Watershed Assessment and Management Model	Nonpoint source model developed by Lake County for WBP
BMPs	Existing inventory of Stormwater BMPs	

Data Downloaded

Category	Data	Sources
Hydrology	Catchments/Watershed, River and Streams	National Hydrographic Dataset
	Discharge	USGS
Metrological	Precipitation	NOAA Stations
Soils	Soil Maps	United States Department of Agriculture

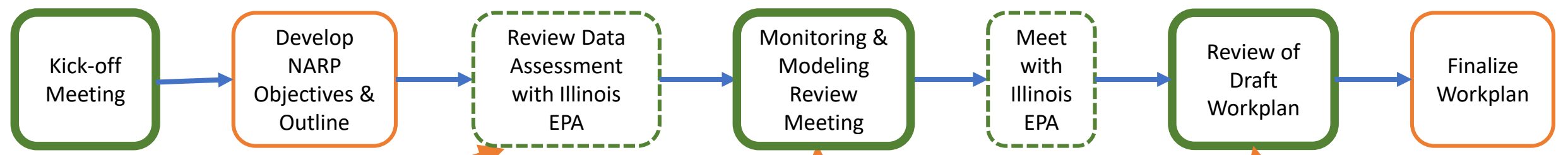


Scope of Work & Schedule Review

Figure 1. DRWW Preliminary NARP Workplan

Task 1: Project Management and Preliminary NARP Objectives

Project Management: monthly progress reports, interim progress calls



Task 2: Review Background Information

Data assessment:

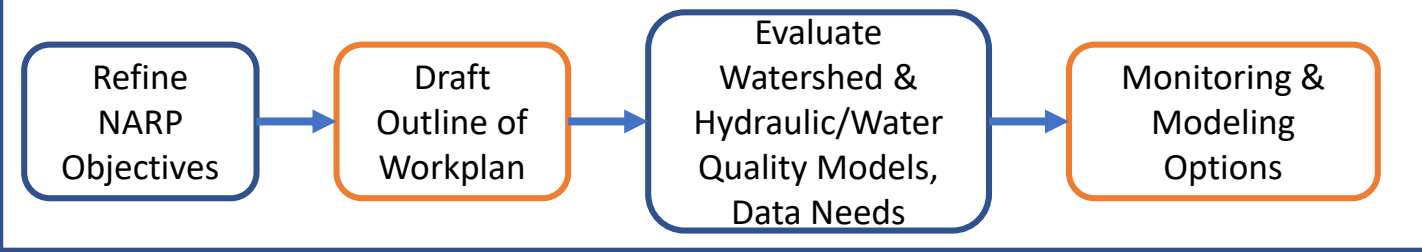
- Monitoring including nutrient and DO fluxes
- Previous modeling
- Watershed Based Plan: pollutant sources, modeling, and projects
- IPS Tool

Complete needs assessment for DPR tributary flow and pollutant loadings to mainstem

Data Assessment Table/Maps

Complete needs assessment for hydraulic and water quality model of DPR and tributaries

Task 3: Identify Missing Components and Refine Objectives



Task 4: Develop Preliminary Workplan



Scope of Work & Proposed Meetings



	Week starting																						
	1/28	2/4	2/11	2/18	2/25	3/4	3/11	3/18	3/25	4/1	4/8	4/15	4/22	4/29	5/6	5/13	5/20	5/27	6/3	6/10	6/17	6/24	
(1) Project Management & Preliminary NARP Objectives	●			●				○				●				○						●	
(2) Review Background Information																							
(3) Identify Missing Components & Refine Objectives																							
(4) Develop Preliminary Workplan																							
● DRWW NARP Workgroup Meeting																							
○ Meeting with Illinois EPA																							

Meeting	Date
Kick-off meeting	Feb. 19, 2019
Data assessment review with Illinois EPA (Task 2 results)	
Review of missing NARP components (Task 3 results)	
Proposed monitoring and modeling review with Illinois EPA	
Review draft workplan (Task 4 results)	