













Recommended Strategies - Infrastructure 1.0

						Public Safety	Resiliency	Soil, Air, Water	Carbon
Sector	Strategy	Action	Responsible or Lead Party	Secondary Party	Notes				
Resilient Infrastructure	1. Invest in Enhanced Floodplain Risk Assessments	1.1 Review additional floodplain risk assessments to supplement FEMA maps and incorporate into future land use planning and project reviews.	Counties, Cities, and Villages		For example, First Street Foundation's Flood Factor Tool, https://firststreet.org/flood-factor/ ; WI DHS Flood Resiliency Scorecard. This data may be qualitative and may not affect insurance eligibility, but it can be valuable in identifying risk areas especially outside FEMA mapped floodplains.	+	+		
		1.2 Complete a geospatial data set for buildings > 600 sq. ft. and their associated flood risk zone(s)	Counties, Cities, and Villages		This project identified the FEMA flood hazard zones of structures larger than 600 sq. ft based on the county's building data and current FEMA maps. Add the attributes for tax parcel number, elevation, and any parcel zoning records for use by Planning and Zoning program administrators.	+	+		
		1.3 Use the improved topography developed from the County's digital elevation model (DEM) to contribute to floodplain hydraulic modeling.	WI DNR	Monroe County	WDNR's studies to update FEMA maps will improve the risk assessment of structures in flood hazard zones.	+	+		
		1.4 Review stormwater management standards across jurisdictions	Counties, Cities, and Villages	WI DNR	Ensure construction and post-construction measures go beyond minimum standards in NR-151 wherever possible, e.g. use WI Rainfall Project statistics. Encourage and remove unnecessary barriers to implementing green infrastructure, such as infiltration basins, permeable pavement, and bioswales.	+	+		
		1.5 Inspect and evaluate stream corridors in flood risk areas	Monroe County	Farmers and Forest Owners	Assess wooded corridors for deadfalls from dead and dying trees (such as ash) and other debris sources that may reduce peak flow capacity. Plan for tree debris removal in high-risk flood zones where debris loading is high.	+	+	+	
		1.6 Use rainfall runoff analyses using transposition of the August 2018 storm to explore flooding vulnerability in selected watersheds	Monroe County	Non-government Entities	This technique could be very valuable in answering the question "what if the big storm happened here" in areas of potentially high flood damage or public safety risk. Likely approach would be for a contractor or NGO working with Monroe County in collaboration with DNR.	+	+		
		1.7 Evaluate the extent of cleanup and remaining toxicity of Superfunds and Brownfields sites in or near floodplains throughout the county, especially in urban areas.	Local Units of Government	Monroe County	Contaminated sites are vulnerable to release of contaminants during flood events. Following inventory of identified sites determine whether unremediated or exposed contaminants could be discharge to surface waters via river flooding or storm water runoff. Superfund and Brownfield sites listed in WDNR's Remediation and Redevelopment database, https://dnr.wisconsin.gov/topic/Brownfields , are opportunities for clean-up and redevelopment.	+	+	+	





Recommended Strategies - Infrastructure 2.0

						Public Safety	Resiliency	Soil, Air, Water	Carbon
Sector	Strategy	Action	Responsible or Lead Party	Secondary Party	Notes				
Resilient Infrastructure	2. Improve Assessments and Reduce Risks Associated with Dams	2.1 Work with WDNR's Dam Safety program to update WDNR's dam database and make sure emergency action plans are integrated with Monroe County Emergency Management.	WI DNR	Monroe County	Keep the WDNR dam database up to date with accurate locations for dams and their attributes, including whether each dam is functioning or abandoned, and its current condition, hazard rating, size, and storage capacity. Develop a procedure to use the Sufficiency Ratings for large dams to notify dam owners and support timely dam repair or removal.	+	+		
		2.2 Encourage small dam owners to maintain and inspect dams regularly, especially after large storms.	WI DNR	Private Citizens	Small dams do not have required inspection reports, but WDNR and local governments could encourage small dam owners to inspect their dams regularly and after large storms.	+	+		
		2.3 Assess and implement recommendations of the NRCS PLAN-EIS for Coon Creek and the West Fork of the Kickapoo.	WI DNR	NRCS	Plan to decommission all PL566 structures that breached in the 2018 storm event. Operate & Maintain all remaining structures beyond their federal interest until structural and/or land use changes warrant decommissioning.	+	+		
		2.4 Use existing zoning authority to prevent new construction in a dam's hydraulic shadow.	Monroe County	Local Units of Government	Communicate these restrictions to new owners when ownership changes and work with realtors to add the presence of a hydraulic shadow to the list of required disclosures prior to ownership transfer.	+	+		
		2.5 Work with WDNR to ensure consistent assessment of dams' effects on aquatic connectivity and fish migration.	WI DNR	Monroe County	The barriers that dams pose to the migration of fish and other aquatic organisms needs assessment.	+	+	+	

Recommended Strategies - Infrastructure 3.0

						Public Safety	Resiliency	Soil, Air, Water	Carbon
Sector	Strategy	Action	Responsible or Lead Party	Secondary Party	Notes				
Resilient Infrastructure	3. Improve Assessments and Reduce Risks Associated with Roads / Stream Crossings	3.1 Continue and complete the County's 2021 stream crossing survey	Monroe County	Local Units of Government	Continue the stream crossing inventory to identify culverts and bridges in need of repair for structural integrity, hydraulic capacity, and aquatic connectivity. Compare the 2021 survey results (and its continuation) with the county's assessment standards and prioritize structures in need of repair based on consistent metrics.	+	+	+	
		3.2 Continue to expand installation of stream monitoring gauges in at-risk watersheds.	Monroe County	Non-government Entities	Monroe County has displayed exceptional leadership on this issue and support is needed to continue to work. Priority locations for additional stream monitoring could be identified in the watershed vulnerability modeling proposed in recommendation action 1.7.	+	+		
		3.3 Inform new infrastructure project design, such as road-stream crossings or stormwater conveyance, with rainfall statistics from the Wisconsin Rainfall Project	Monroe County	WI DOT	Base new designs in Wisconsin Rainfall Project statistics, or at least consider a design upgrade where Wisconsin Rainfall Project statistics indicate it may be warranted compared to design based on Atlas 14.	+	+		
		3.4 Request WDNR increase its technical assistance for improved aquatic connectivity.	WI DNR	Local Units of Government	With the recent amendment to the WisDOT-WDNR Cooperative Agreement on aquatic connectivity WDNR can increase its technical assistance for major projects. Encourage similar coordination to provide WDNR technical assistance for aquatic connectivity on Local Road Improvement Projects.	+	+	+	
		3.5 Coordinate road repair needs across all jurisdictions.	Monroe County	WI DOT	Coordinating road repair needs among local units of government in Monroe County will help communities be better positioned to take advantage of WisDOT's Local Road Improvement Program in the next funding cycle in 2023, and new revenue available in Wisconsin through the Federal 2021 Infrastructure Investment and Jobs Act.	+	+	+	
		3.6 Target and advocate for increased funding for road / stream crossing infrastructure needs.	Monroe County	Local Units of Government	New funding through the Federal 2021 Infrastructure Investment and Jobs Act is likely to increase the WisDOT General Transportation Aids and Local Road Improvement programs. Request support from WisDOT Southwest Region for climate resilience & aquatic connectivity in project design; increase awareness for this among the 16 Counties in WisDOT's SW Region.	+	+		

Recommended Strategies - Infrastructure 4.0

					Public Safety	Resiliency	Soil, Air, Water	Carbon	
Sector	Strategy	Action	Responsible or Lead Party	Secondary Party	Notes				
Resilient Infrastructure	4. Increase Capacity for Stormwater Storage to Reduce Flood Risks	4.1 Increase the extent and the width of permanent vegetative cover along streams	Monroe County	Farmers and Forest Owners	Vegetative cover along watercourses of all sizes reduces runoff, reduces sedimentation, and increases infiltration. A wide range of land uses are possible, including perennial pasture or silvi-pasture, nut crops, grass based crops, perennial grasses/forbes through the Conservation Reserve Enhancement Program (CREP), or implementing the 35' buffer requirement within the shoreland zoning code. Wetland restoration is also possible.		+	+	+
		4.2 Maintain and/or restore wetlands and other natural land cover along streams	Monroe County	Farmers and Forest Owners	Restoring wetlands or other natural land cover will have highest net benefit on marginally productive land and in watersheds with high restoration potential.	+	+	+	+
		4.3 Reconnect surface waters to their floodplains	Monroe County	Farmers and Forest Owners	Look for restoration opportunities that reconnect streams to their floodplains, restore ditches to natural channels, and manage surface water runoff to reduce flood peak flow.		+	+	
		4.4 County coordination with municipalities in stormwater management across boundaries, and more robust project design for facilities, and enhancing greenspaces.	Monroe County	Local Units of Government	Inform project design for restorations and engineered stormwater facilities with rainfall statistics from the Wisconsin Rainfall Project, and beyond minimum NR 151 state stormwater management standards.	+	+		
		4.5 Utilize the HUC 12 watershed assessments from this assessment in project planning	Monroe County	Farmers and Forest Owners	The detailed HUC 12 watershed assessments created through this project, together with local assessments, will aid in planning and prioritizing restoration and stormwater abatement improvements.	+	+	+	