

Table 39. Implementation Tasks and Actions

Objectives	Tasks	Priority (L,M,H)	Milestone	Notes	Potential Partners	Estimate Total Cost	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
GOAL 1 - Public Health: Ensure that participants in water-based recreation are not exposed to pathogens or toxic chemicals, and are not consuming water, wild fish or wildlife with contaminants in excess of advisories.																	
1.A. Monitor Portage Lake and Lake Michigan to determine that state water quality standards for total and partial body contact recreation are being met.	1.A.1. Annual monitoring at the Village Beach, Langland Park, and additional sites within the Watershed according to the EGLE's most recent protocols and requirements for total body contact recreation.	H	Monitor annually; Post results immediately in effective areas.	Refer to Monitoring Plan	PLWF, Onekama Twp., Village, Health Dept., EGLE	\$52,500	Monitor	Monitor	Monitor	Monitor							
	1.A.2. Evaluate results and sampling plan to determine if more frequent sampling or additional actions, if any, are needed if sample results exceed state standards.	H	Evaluate as needed, but at least once every three years.		PLWF, Onekama Twp., Village, Health Dept., EGLE	\$25,000			Evaluate			Evaluate			Evaluate		
	1.A.3. Annual monitoring at the Village Beach, Langland Park, and additional sites within the Watershed according to the EGLE's most recent protocols and requirements for partial body contact recreation.	H	Monitor annually; Post results immediately in effective areas.	Refer to Monitoring Plan	PLWF, Onekama Twp., Village, Health Dept., EGLE	\$12,500	Monitor	Monitor	Monitor	Monitor	Monitor						
	1.A.4. Monitor new and or additional areas based on current monitoring results.	H	Review results every five years.	Refer to Monitoring Plan	PLWF, Onekama Twp., Village, Health Dept., EGLE	\$25,000	Review						Review				
1.B. Prevent releases of hazardous substances that pose a risk to human health.	1.B.1. Advocate for mercury emission reductions as part of regional Great Lakes effort to reduce levels.	L	Annually encourage other partners.		PLWF, encourage other partners	\$20,000	Advocate	Advocate	Advocate	Advocate							
	1.B.2. Establish a plan to reduce exposure of emerging contaminants (i.e. PFAs or PFOs) that are found to be at adverse levels to human health.	L	Plan established by year six; Update every three years.		PLWF	\$3,750							Established			Update	
1.C. Monitor swimmer's itch reports and collect information to better reduce exposure.	1.C.1. Document any activities that encourage congregations or increased abundance of suspected host waterfowl and propose appropriate actions.	L	Document annually.		PLWF, Onekama Twp., Village, EGLE, MNDR, LRBOI, MISIP	\$10,000	Document	Document	Document	Document							
	1.C.2. Establish a mechanism for reporting and tracking incidences of swimmer's itch in Portage Lake to gather ongoing data of incidences.	H	Establish reporting mechanism by year two; Review every three years.	Reporting system, phone system, etc.	PLWF	\$1,500		Establish			Review			Review			
	1.C.3. Monitor for cercarial dermatitis (swimmer's itch) at selected site on Portage Lake.	M	Monitor reported problem sites (if any) during July.	Refer to Monitoring Plan	PLWF, EGLE, MSIP, Onekama Twp., Village, Universities	\$3,000	As Needed	As Needed	As Needed	As Needed	As Needed						

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GOAL 1 - Public Health: Ensure that participants in water-based recreation are not exposed to pathogens or toxic chemicals, and are not consuming water, wild fish or wildlife with contaminants in excess of advisories.																
1.C. Monitor swimmer's itch reports and collect information to better reduce exposure.	1.C.4. Review results from neighboring MSIP lakes to determine if additional sampling/ monitoring is needed.	L	Review results during years that sampling is done.		PLWF, EGLE, MSIP	\$3,000	As Needed									
1.D. Protect groundwater from contamination sources to protect public drinking water supplies.	1.D.1. Advocate for the implementation of the sanitary sewer system around Portage Lake.	H	Approval of project within five years.		PLWF, Municipalities within the Watershed	\$10,000	Advocate	Advocate	Advocate	Advocate	Advocate					
	1.D.2. Assist with the MCD's annual collection of hazardous waste.	L	Assist annually at event.		PLWF, MCD	\$2,000	Volunteer									
	1.D.3. Determine impacts of known environmental contamination sites on groundwater and advocate for rapid response and appropriate testing by the EGLE and other public agencies.	H	As needed.		PLWF, EGLE, Health Dept.	\$7,500	As Needed									
	1.D.4. Assure proper safeguards are in place to prevent spills from refueling of boats, cars, and mechanical devices around the lake.	H	Safeguards in place by year two; Monitor annually.		PLWF	\$5,000		In-place	Monitor							
	1.D.5. Promote zoning to assure that areas that are close to the lake are protected.	H	Discuss with local zoning commissions every five years.		PLWF, Townships	\$1,250	Discuss						Discuss			
	1.D.6. Work with the EGLE and other public agencies to determine potential sites of environmental contamination.	M	Begin identification of sites by year two; Complete by year ten.		PLWF, EGLE, other public agencies	\$6,250		Identify								
	1.D.7. Keep information current on oil and gas wells that are not currently active but have not been officially abandoned.	M	Complete a full review by year three; Update every three years.		PLWF, EGLE, Health Dept., County	\$3,750			Review				Update			Update
	1.D.8. Continue support of the requirement of point of sale septic inspections.	H	Meet and review applicability every two years.		PLWF, Village, Onekama Twp., Planning Commissions, Health Dept.	\$10,000		Review		Review			Review		Review	

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GOAL 1 - Public Health: Ensure that participants in water-based recreation are not exposed to pathogens or toxic chemicals, and are not consuming water, wild fish or wildlife with contaminants in excess of advisories.																	
1.D. Protect groundwater from contamination sources to protect public drinking water supplies.	1.D.9. Work with the Planning Commission to develop a septic system ordinance requiring routine inspection and pumping.	H	Develop draft ordinance by year ten.		PLWF, Village, Onekama Twp., Planning Commissions, Health Dept.	\$10,000										Draft complete	
	1.D.10. Advocate for and implement groundwater pollution prevention best management practices in the Watershed.	H	Develop list of suggested BMPs by year five; Begin implementation by year ten.		PLWF, Health Dept., MCD, MSU Ext., LRBOI	\$23,250					List Developed					Implementation	
GOAL 2 - Aquatic Ecosystem: Protect the quality of water resources in the Portage Lake Watershed, as well as other essential habitats, to maintain the integrity and functions of the aquatic ecosystem.																	
2.A. Monitor Portage Lake to assure that future loadings of nutrients, specifically phosphorus, do not exceed levels that would change the current mesotrophic status of Portage Lake.	2.A.1. Monitor total phosphorus, transparency, and chlorophyll <i>a</i> .	H	Monitor sites annually.	Refer to Monitoring Plan	PLWF, Onekama Twp., Village, EGLE, MDNR, LRBOI, Health Dept.	\$38,500	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	
	2.A.2. Determine what additional actions, if any, are needed to control phosphorus loading based on inspections, surveys, and monitoring.	H	Review results every two years beginning in year two.		PLWF, EGLE, MDNR, MCD, MSU Ext., USDA-NRCS, Health Dept.	\$7,500		Review		Review		Review		Review		Review	
	2.A.3. Inventory existing stormwater point-source discharges from the Village of Onekama and other areas with direct discharges to Portage Lake and tributary streams.	H	Inventory completed by 2020. Update every ten years.	Refer to Monitoring Plan	PLWF, Village, Onekama Twp., EGLE, Health Dept., MSU Ext.	\$10,000	Complete										
	2.A.4. Inventory existing significant nonpoint sources of stormwater that discharge to discharges to Portage Lake and tributary streams.	H	Inventory completed by year five.		PLWF	\$2,500					Complete						
	2.A.5. Perform wet weather sampling of stormwater for phosphorus and other water quality parameters.	H	Sample annually.	Refer to Monitoring Plan	PLWF	\$10,000	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
	2.A.6. Monitor streams and storm drains annually and document accordingly.	H	Monitor annually.	Refer to Monitoring Plan	PLWF	\$39,000	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor