

## 8 MILESTONES AND MONITORING

The interim measurable milestones and monitoring metrics are summarized in **Table 34** and **Table 35**. As noted, the water quality monitoring relies on existing water quality monitoring programs that the MDEQ and Monroe County Health Department already have in place. The MDEQ performs a five year cycle of watershed water quality monitoring throughout the state. Each watershed is monitored once every five years. With the exception of other ad hoc monitoring efforts that will be undertaken, for instance the additional ECS investigation and work at the Venice Canals, the MDEQ five year water quality assessment will be used to evaluate TMDL progress at the mouth of the S.S. Lapointe Drain. The MCHD monitors Luna Pier Beach every week, once a week for the entire swimming season. Historical data is available at: <http://www.deq.state.mi.us/beach/BeachDetail.aspx?BeachID=363>.

Progress on achieving the water quality goals at Luna Pier Beach will be evaluated annually using MCHD's monitoring data.

**Table 34 Interim Measurable Milestones**

Activity	Description	Goal	Location	Timeframe
1. Achieve P TMDL & Reduce Total P Loads  2. Reduce Sedimentation & Hydrologic Variability  3. Achieve DO TMDL	Marina & canal WQ survey	Undertake WQ survey for P sources	Marina & Venice Canals	1-2 years
	Undertake survey rec's	Reduce P source by >50%	Marina & Venice Canals	W/in 5-years
	Increase participation in NRCS/County Ag programs	Increase # of fields by 50%	Primary: S.S. Lapointe Drain Watershed; Secondary: Muddy & Sulphur Creeks	W/in 5-years
	Increase buffer use/size	Double # fields using buffers	Primary: S.S. Lapointe Drain Watershed; Secondary: Muddy & Sulphur Creeks	W/in 5-years
	Increase cover cropping	Triple # fields using cover crops	Primary: S.S. Lapointe Drain Watershed; Secondary: Muddy & Sulphur Creeks	W/in 5-years
	Increase conservation tillage	Double # fields using conservation tillage	Primary: S.S. Lapointe Drain Watershed; Secondary: Muddy & Sulphur Creeks	W/in 5-years
	Drain tile management	Test possible usage in up to 10 fields / implement in up to 5 fields	Primary: S.S. Lapointe Drain Watershed; Secondary: Muddy & Sulphur Creeks	W/in 5-years
	Two-stage Ditch	Implement >2,000-ft	Primary: S.S. Lapointe Drain Watershed; Secondary: Muddy & Sulphur Creeks	W/in 5-years
	Plant trees in TMDL reach	50% tree cover along banks		W/in 10-years
4. Achieve Luna Pier Pathogen TMDL	Undertake additional ECS Survey	Develop source specificity	S.S. Lapointe Drain, Sulphur and Muddy Creeks	1-2 years
	Address identified sources	At least 50% of sources addressed		W/in 5-years
	Develop/implement wildlife exclusion plan	Implement plan	Luna Pier Beach	W/in 5-years
	POS Ordinance	Pass POS ordinance	Monroe County	W/in 5-years
5. Build RRI Capacity	Add Staff	Turn 1 PT to FT	S.S. Lapointe Drain Watershed	W/in 2-years
		Add another PT	S.S. Lapointe Drain Watershed	W/in 5-years

Activity	Description	Goal	Location	Timeframe
6. Increase Public Awareness & Involvement	Administer awareness survey	50% increase in environmental awareness and watershed issues	S.S. Lapointe Drain Watershed	W/in 5-years
7. Improve Recreation	New park	1 project initiated	S.S. Lapointe Drain Watershed	W/in 5-years
	Increase slip rentals	Add 25% above 2016 numbers	Luna Pier Marina	W/in 5-years

**Table 35 Monitoring Metrics**

Goal	Target	Metric Measurement Process	Location	Frequency
Achieve P TMDL & Reduce Total P Loads	0.1 mg/L TP, instantaneous max.	Interim Watershed-wide WQ assessment (DEQ)	S.S. Lapointe Drain, Muddy and Sulphur Creeks mouths	1x every 5 years
	TP Load Reduction of 57%	Interim Watershed-wide WQ assessment (DEQ)	S.S. Lapointe Drain, Muddy and Sulphur Creeks mouths	1x every 5 years
Achieve DO TMDL	4 mg/L instantaneous min.	Interim Watershed-wide WQ assessment (DEQ)	S.S. Lapointe Drain mouth	1x every 5years
	5 mg/L daily average	Interim Watershed-wide WQ assessment (DEQ)	S.S. Lapointe Drain mouth	1x every 5years
Achieve Luna Pier pathogen TMDL	130 EC/100 ml 30-d GM	Monroe County Health Dept summer beach sampling	Luna Pier Beach	Weekly samples annually during swimming season
	300 EC/100 ml Max	Monroe County Health Dept summer beach sampling	Luna Pier Beach	Weekly samples annually during swimming season
	Zero beach closures	Monroe County Health Dept summer beach sampling	Luna Pier Beach	Weekly samples annually during swimming season
Reduce sedimentation & Hydrologic Variability	Reduce TSS loads by 63%	Interim Watershed-wide WQ assessment (DEQ)	S.S. Lapointe Drain mouth	1x every 5years
	Reduce hydrologic variability	NRCS/Monroe County Drainage projects	S.S Lapointe Drain, Muddy and Sulphur Creek watersheds	1x every 5years
Build RRI Capacity	Staff: 2 FT, 1 PT	Staff count	River Raisin Institute, Monroe	Evaluate annually
	Double budget	Annual budget	River Raisin Institute, Monroe	Evaluate annually
Increase Public Awareness & Involvement	50% increase in favorable environmental awareness scores for survey	Administer Public Survey	Watershed-wide	Administer survey every 5 years
Improve Recreation	Increase slip rentals at marina	Marina slip rentals	Marina	Annually
	Create 1 new park	State/County/City Park Surveys	S.S. Lapointe Drain Watershed	W/in 5-years