

Pasquia Area Drainage and Pumping System



Review of Operating Guidelines
Public Open House
August 22, 2017

Welcome!

- Manitoba Infrastructure, the Rural Municipality (RM) and The Pas and District Farmer's Co-op Association are currently conducting a review of the operating guidelines to develop a sustainable plan for future drainage and pumping in the Pasquia Area Land Settlement. You've been invited to share your views at this open house.
- Manitoba Infrastructure operates the pumping system in consultation with the Pasquia Pumping Committee and in accordance with the Operating Guidelines for Pumping Runoff, called "Operating Guidelines".
- The Pasquia Pumping Committee includes representatives from The Pas and District Farmer's Co-op Association and the RM of Kelsey.
- Changes to the operating guidelines for provincial water control works may be approved by the minister under Section 5 of The Water Resources Administration Act.

The province would like to solicit comments regarding proposed revisions to the operating guidelines.

We value your feedback!

Ask us any questions you may have.

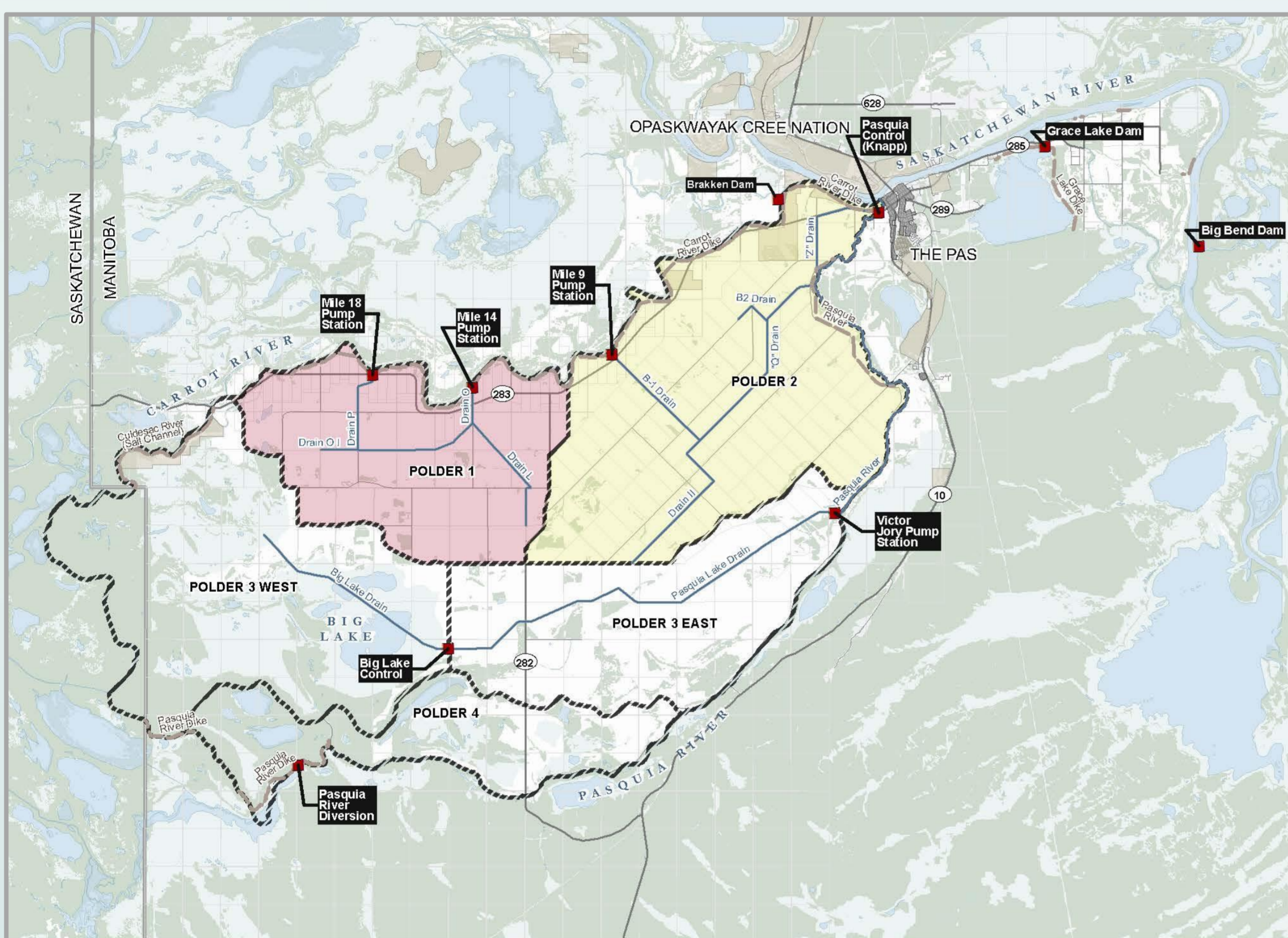
Share your thoughts on the presented information.

Fill out a comment form.



Background

- The Pas area is bordered by the Pasquia River (south) and the Carrot and Saskatchewan Rivers (north). It is very flat with an average elevation of 259 – 262 metres (m) above sea level. The need for new lands was identified by the Manitoba government and in 1914 they began to examine rehabilitation of the area. Feasibility studies began in 1921 and in 1951 the Manitoba government initiated the Pasquia Project.
- Agricultural lands are maintained through a system of dikes, drains and five pumping stations. The area contains four polders (area reclaimed and protected by dikes).

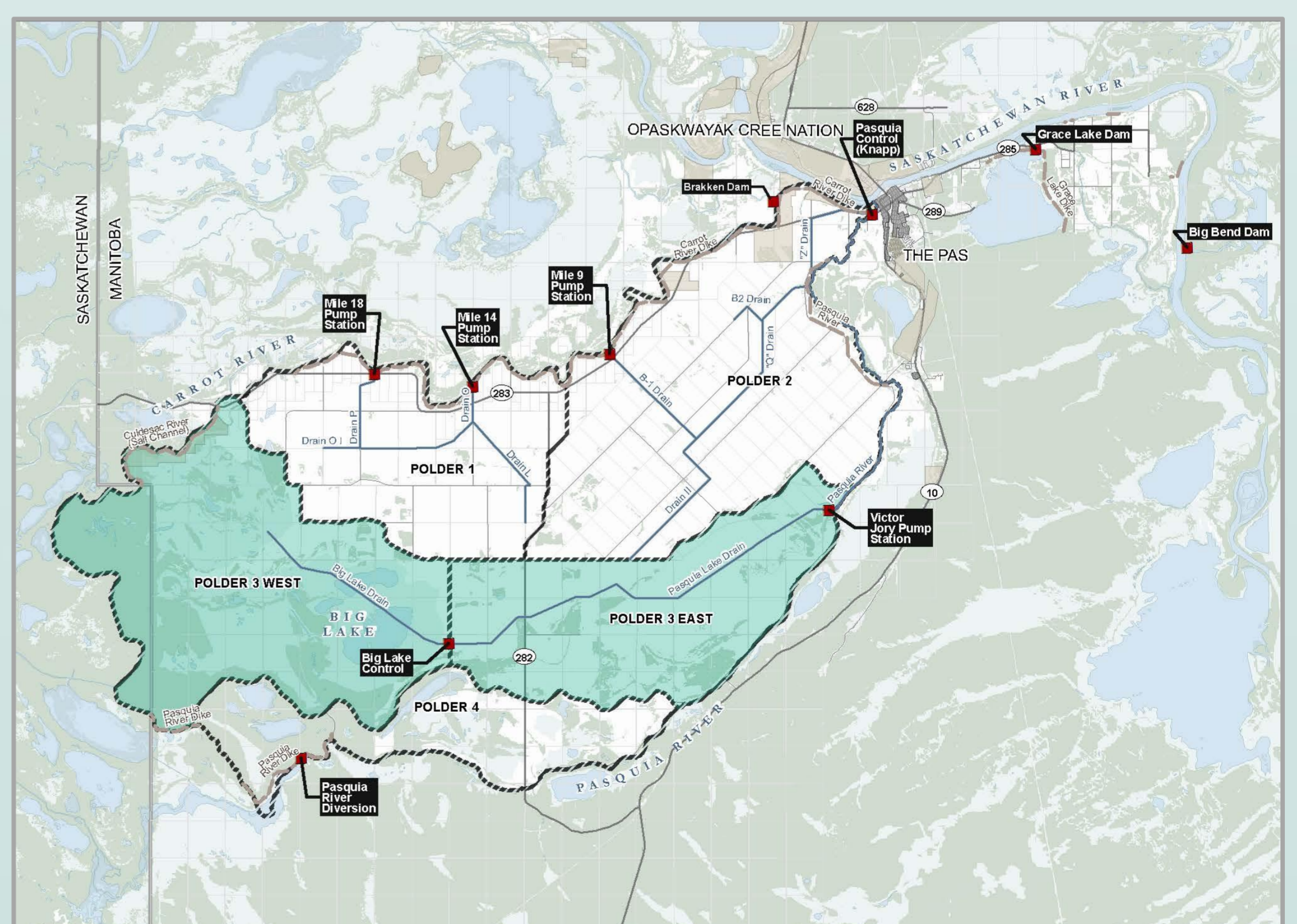


1950's to early 1980's

- Completion of Polders 1 and 2.
- Demand for additional land for agricultural use re-emerged.
- Reclamation scheme was implemented to further develop the area.
- The upper portion of the Pasquia River was blocked, and diverted to the Carrot River. By diverting the upper portion, the size of the Pasquia River catchment basin was reduced thereby reducing the amount of water naturally reaching the river.

1986 - 1991

- Conceptual plans finalized and the overall development scheme was downsized.
- Proposed the full development of Polder 3 east for agricultural use and Polder 3 west (Big Lake area) for a temporary water storage facility.
- Construction of the Pasquia Lake Drain and the Victor Jory pump-house as funds became available. Approximately 25% of the total project plan was completed during this period.



Background

The project area is serviced by five pumping stations:

1. Town Pump Station:

- Upgraded in 2001 and located closest to the Town of The Pas.
- Four pumps each pumping 125 cubic feet/second (cu ft/second) or almost 47,000 gallons/minute.
- Includes a gravity system that can move another 300 cu ft/second of water.
- Adjacent to the Town Pump Station is the Knapp Dam which prevents Saskatchewan River waters from flowing up the Pasquia River.

2. Mile 9 Station:

- Installed in 1977, located nine miles from the Town of The Pas along Provincial Road 283. Each of these two pumps move 105 cu ft/second of water or almost 40,000 gallons/minute/pump.

3. Mile 14 Station:

- Upgraded and operational in 2016, located fourteen miles from the Town of The Pas. This pump station has the capacity of 210 cu ft/second.

4. Mile 18 Station:

- Installed in 1976, located eighteen miles from the Town of The Pas. There is one pump at this station that moves 125 cu ft/second of water.

5. Victor Jory Pump Station:

- Opened in 1989, located on the south side of the valley. This station has two pumps, each moving 105 cu ft/second.

There are 100 km of provincial drains in the Pasquia area removing water from farmland into the Carrot, Pasquia and Saskatchewan rivers.

2001 / Recent Upgrades

Two additional pumps were installed at the Town Pump Station that were dedicated to pumping the Pasquia River. Two pumps dedicated to Z Drain can be switched to the Pasquia River if they are not required on Z-Drain.

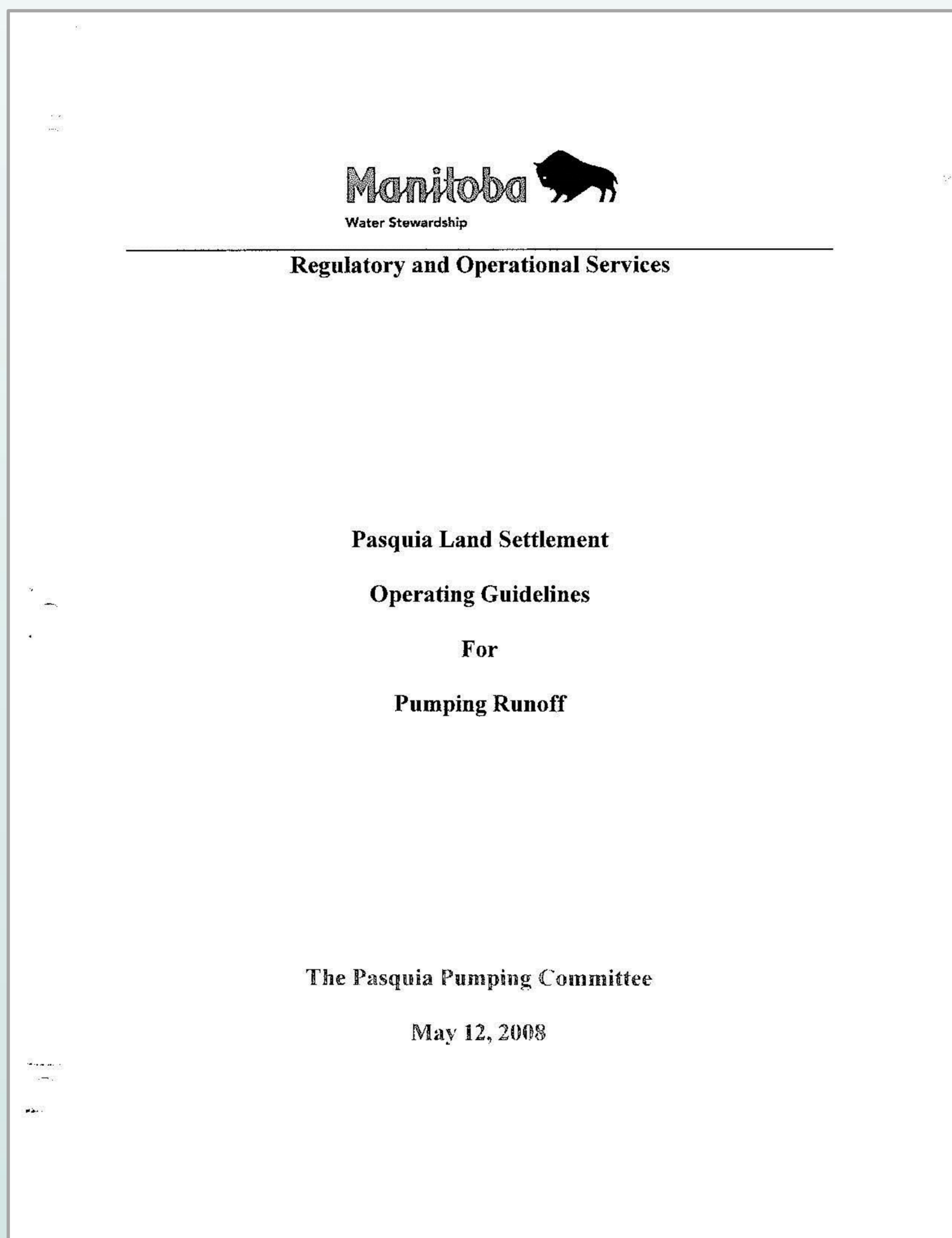
Additional pumping capacity on the Pasquia River was to compensate for the inflows added to the river from the Victor Jory Pump Station.

The two pumps provided the ability to lower the level of the river below the natural condition as water originating from outside the project area could also be removed during periods when gravity flow at Knapp Dam is precluded.



Existing Operating Guidelines

- The current operating guidelines were approved in 2008.
- Operating guidelines are intended to balance interests of agricultural producers.



The existing operating guidelines are available online at:

<http://www.gov.mb.ca/mit/wms/wm/pasquiareview.html>

OR

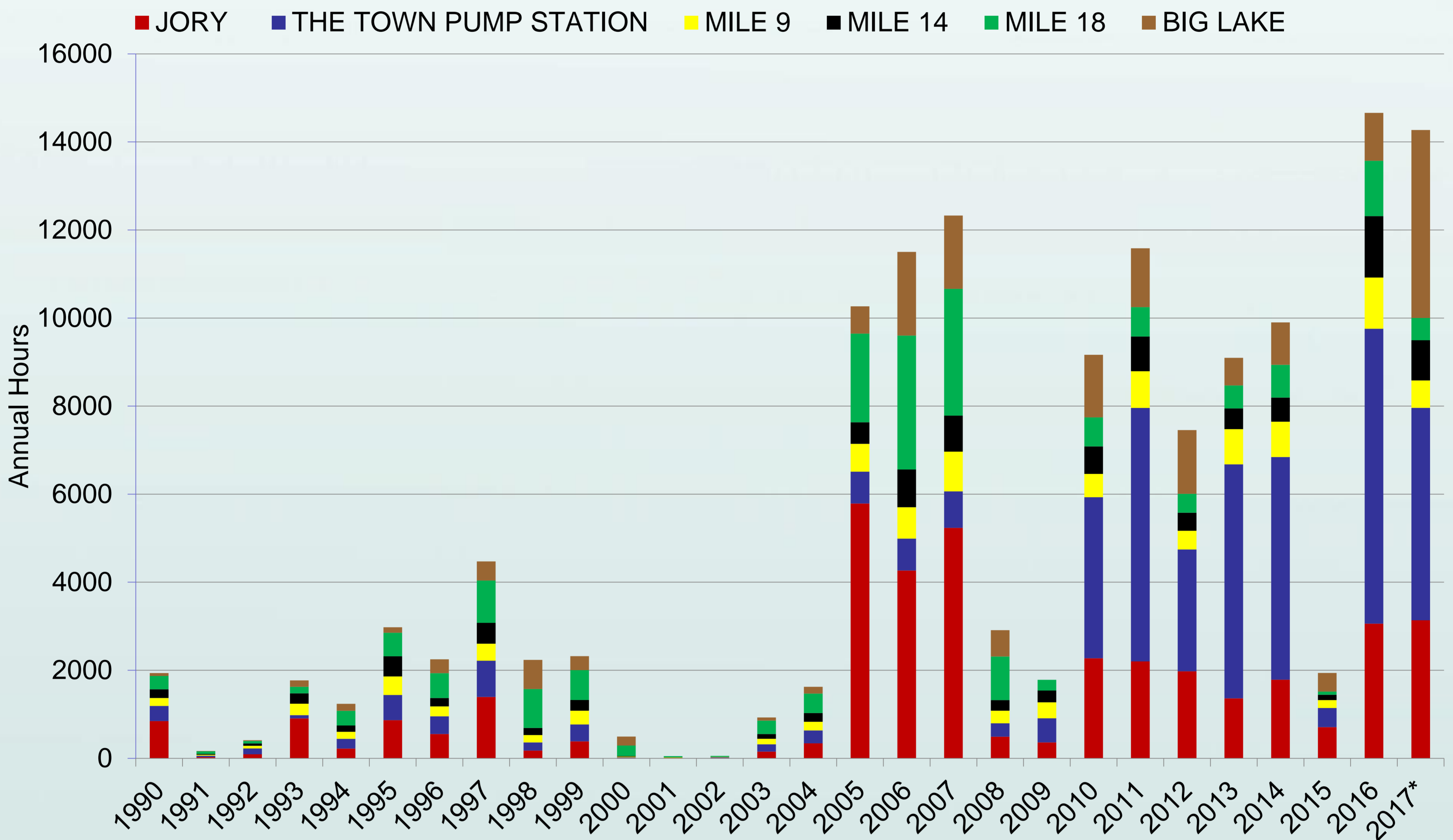
Copies are available today as a handout.



Issues with the Existing Operating Guidelines

- Current guidelines are driving operations to be financially unsustainable.

Pumping Operations Historical Trend – Annual Hours



Year	Budget	Actuals
2009/10	\$170,000	\$121,500
2010/11	\$125,000	\$183,500
2011/12	\$150,000	\$672,500
2012/13	\$350,000	\$395,000
2013/14	\$400,000	\$506,500
2014/15	\$450,000	\$657,200
2015/16	\$450,000	\$186,500
2016/17	\$450,000	\$766,500
2017/18	\$450,000	\$511,600

Proposed Changes to the Operating Guidelines

1. Increasing the threshold water level for pumping the Pasquia River.

Current guidelines specify that dedicated pumping of the Pasquia River at the Town Pump Station will commence when the level at Young's Point exceeds 259.0 m. The proposed revision would increase the threshold level for pumping to 260.35 m. In order for Victor Jory to maintain a similar level of service a consequential amendment is required:

- Current guidelines allow for pumping at the Victor Jory Pump Station when levels of the Pasquia River at Young's Point are below 259.3 m. The proposed revision would allow pumping whenever the Young's Point level is below 260.35 m.
- **Note: the maximum level of the Pasquia River at Young's Point in 2017 was 260.44 m on July 10th.**

2. Changes to the regulation of Big Lake.

The existing guidelines state that the operating range of Big Lake is 259.50 m to 260.15 m. The existing guidelines allow water release from Big Lake when the water level at Young's Point is below 259.3 m during post spring runoff.

The proposed revisions include:

- Eliminating the operating range. Water may be released from Big Lake when the level exceeds 259.50 m.
- Release of water from Big Lake would be allowed subject to guidelines governing operation of the Victor Jory Pump Station.
- Outflows from Big Lake must be regulated to maintain a level below 258.55 m downstream of the Donfield crossing during the growing season.
- The Big Lake Control Structure shall be operated at the discretion of the province in consultation with the Pumping Committee.

3. Changes in water levels on Z Drain

A change is proposed regarding the level at which Z Drain is to be maintained. Formerly, the water level at the junction of Q Drain and Z Drain was to be maintained below 258.5 m. The proposed revision would lower the target level to 258.1 m.

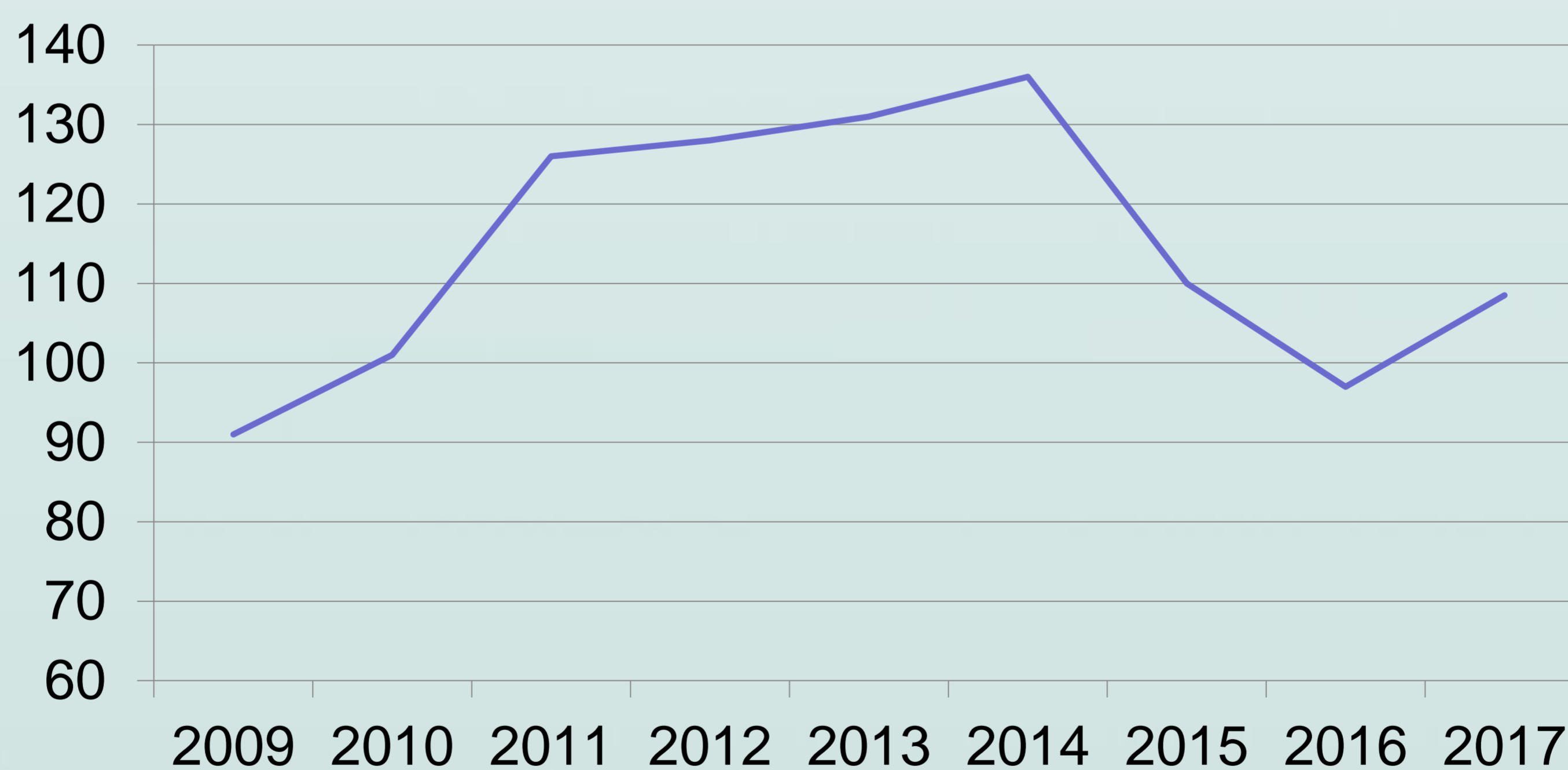
Note: No changes to the operating guidelines are proposed relating to the operation of Mile 9, Mile 14, or Mile 18 Pumping Stations



Rationale for Proposed Changes to the Operating Guidelines:

- The existing operating guidelines were developed and adopted during a drier period in the hydrologic cycle. There have been increasing demands on the drainage and pumping system from persistent wet conditions and extreme weather events such as the unprecedented rainfall that occurred in October and November 2016.
 - Need to develop sustainable guidelines
 - Current guidelines may not be affordable
- The Provincial budget for pumping runoff has been exceeded 4 out of the last 5 years. Expenditure trends are not sustainable.
- By raising the threshold level for pumping on the Pasquia River the proposed changes will allow gravity flow to occur at Knapp Dam more frequently. This will reduce pumping costs in average precipitation years and will significantly reduce costs in wet years. Pumping the Pasquia River presently accounts for about 25% of the total pumping budget in The Pas.
- Rising fuel prices could significantly increase future pumping expenditures.

Diesel Fuel Price Trend



Annual Average Diesel Price (Ontario) –
Canadian Dollars per Litre

Source: Ontario Ministry of Energy

- The Manitoba government is in discussions to cost share pumping costs with the stakeholders. In 2016 local stakeholders contributed in excess of \$100,000 towards pump operation costs. For the current and future years, the Manitoba government will be requiring local cost sharing of operating costs.



Advantages and Disadvantages:

Advantages

- Reduced pumping costs would contribute to a more sustainable operation.
- More flexibility to move water out of Polder 3 and Big Lake.

Disadvantages

- Agricultural leases along the Pasquia River total approximately 5,000 acres. During wet years or during periods when gravity flow at Knapp dam is precluded, portions of these lands will be flooded. This situation will cause hardship to producers who rely on those leases for pasture and forage.
- Several parcels of privately owned land will be affected during high water periods. Loss of use during wet periods may financially impact the property owners.

Questions and Comments

Comment forms are available here today or please feel free to share your feedback using the following link:

<https://manitobasurveys.gov.mb.ca/checkbox/PasquiaAreaDrainage.aspx>

Reach out to one of the Manitoba Infrastructure, RM of Kelsey or Pasquia Pumping Committee representatives here today! They would be happy to answer any questions or discuss the proposed operating guidelines with you!

OR

Contact:

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