

Questions for PVWC

1. Background on Demographics

How much of the current PVWC water supply is used for:

- Human consumption/household/domestic uses
- Livestock purposes
- Industry
- Other municipal uses

2. What are the 10-20 year projections for:

- Human consumption/household/domestic uses
- Livestock purposes
- Industry
- Other municipal uses

3. As a result of the last hearing involving the PVWC in 1994, Recommendation #1 by the Commission Panel was that a water conservation plan be developed and implemented.

The plan was to be submitted to the then Department of Environment by December 1994 and placed in the Public Registry.

It is our understanding the plan was developed, not officially approved by the Department and therefore not placed in the Public Registry.

What are the main elements/actions in this plan, what has been implemented?

What has transpired in this area that affects municipal water sources since 1994?

Has this plan been updated with the growth in the region and new technological advances?

What actions have agricultural users taken or will be taking?

What actions have domestic users taken or will be taking?

What actions have municipal users taken or will be taking?

What actions have industrial users taken or will be taking?

4. In 1996 it was identified that the water withdrawal rate of the Winkler aquifer was approximately 3 times the rate of recharge. An aquifer management plan, developed through a cooperative effort between the province and local stakeholders, was put in place to try and rectify this situation to preserve the aquifer for the future.

What is the current status of the aquifer? Has it been rehabilitated? What impact did the reduction of use have on the PVWC and its water supplies? What is projected for the future?

5. The evaluation of alternate water sources referenced in the PVWC supplemental information goes back more than 20 years. None of these alternatives were specified or described other than stating taking water from the overcommitted Assiniboine and Boyne Rivers or building a dam across the Red weren't possible.

What other alternatives were explored and why were they rejected?

Other topics to be canvassed:

- Sandilands Aquifer Water Budget
- Sandilands Aquifer Recharge
- Long-term Aquifer Monitoring
- Downstream effects

Question #1 and #2:

10 – 20 year projections:

- We are projecting historic population growth patterns of 1% per year with the exception of the City of Winkler at 1 ½% per year and the R. M. of Stanley at 1 ½% per year.
- Diversification in agriculture while continuing is projected to slow down and we project growth in livestock numbers to do the same. However because not all of our rural municipalities are fully served with piped water, agricultural usage will grow in the next 10 years and then stabilize.
- Municipal use will reflect population growth and the growth in recreational activities and the demands of a maturing community.
- We project industrial usage to show a more modest growth rate of a half a per cent per year. The industries will expand but new processes/technology could cap or reduce the water demand per unit of production.
- A drought would change these projections quite quickly as local supplies, those dependent on run-off, would dry up and greater demands would be placed on the piped supply.

PVWC Water Budget

Total water distributed by PVWC in a 12 month period (2005-06)	700,470,372 gal	
Used by Industry	68,733,870 gal	10%
Used by Ag Industry	82,005,739 gal	12%
Used by Municipalities	56,037,629 gal	8%
Used for Domestic Consumption	493,693,134 gal	70%

PVWC Water Budget YEAR 2016

Total water distributed by PVWC in a 12 month period	861,000,000	
Used by Industry	81,000,000	9%
Used by Ag Industry	111,000,000	13%
Used by Municipalities	68,000,000	8%
Used for Domestic Consumption	601,000,000	70%

PVWC Water Budget YEAR 2026

Total water distributed by PVWC in a 12 month period	952,000,000	
Used by Industry	85,000,000	9%
Used by Ag Industry	122,000,000	13%
Used by Municipalities	75,000,000	8%
Used for Domestic Consumption	670,000,000	70%

Question #4 – related to the Winkler Aquifer:

The status of the Winkler aquifer is monitored by the Province and its status and level of rehabilitation will/should be addressed by them.

The Management Plan has been largely implemented. “Outside” users have withdrawn from the aquifer with most of them replacing their withdrawals from the aquifer with water supplied by the PVWC. This is the case certainly for the R. M.’s of Roland and Stanley and for the Blumengart Colony. Added to this Kroeker Farms are no longer using aquifer water for irrigation and are using spring run-off impoundments instead.

The City of Winkler is now the only licensed user on the aquifer and they use it for 60% of their supply. The remainder and their growth is provided for by PVWC.

The question of the aquifer’s future and the future withdrawals should be addressed by the Province as they license these.

Answers to your Question #5:

There were several additional alternatives explored by the Pembina Valley Water Task Force with work done by the Technical Advisory Committee

- The Pembina River was given considerable work and discussion especially as some of the members favoured this source. There were several problems with it. Because it is drought sensitive and we have to pass on an apportionment of the flow to the U.S. as established by the International Joint Commission, a large impoundment would be required to make this source sustainable. This would require a dam at Kaleida and flooding the Pembina gorge, and environmentally sensitive flora, fauna and wildlife habitat. The environmental consequences were rated as serious and could not be justified given the questionable sustainability of this supply and the cost.
- There were studies done on the Deadhorse, Thornhill and Shannon Creeks and on the upper Boyne River. In all of these cases there would have been flooding of habitat in the valleys of the water courses where dams would be constructed. Added to this was uncertainty as to the amount of runoff which could be captured especially in dry years and the effects on existing downstream users.
- Other “new” aquifers were explored such as a deep aquifer under Plum Coulee. The water proved to be very saline as is the case with wells throughout most of the region.

These were the additional alternatives that were explored during the work that was done for the Task Force. The Pembina River alternative was explored again following the 1997 flood with a view to flood damage reduction. I am not planning to discuss these alternatives within my presentation due to time constraints but will certainly be prepared to answer any questions if they arise.