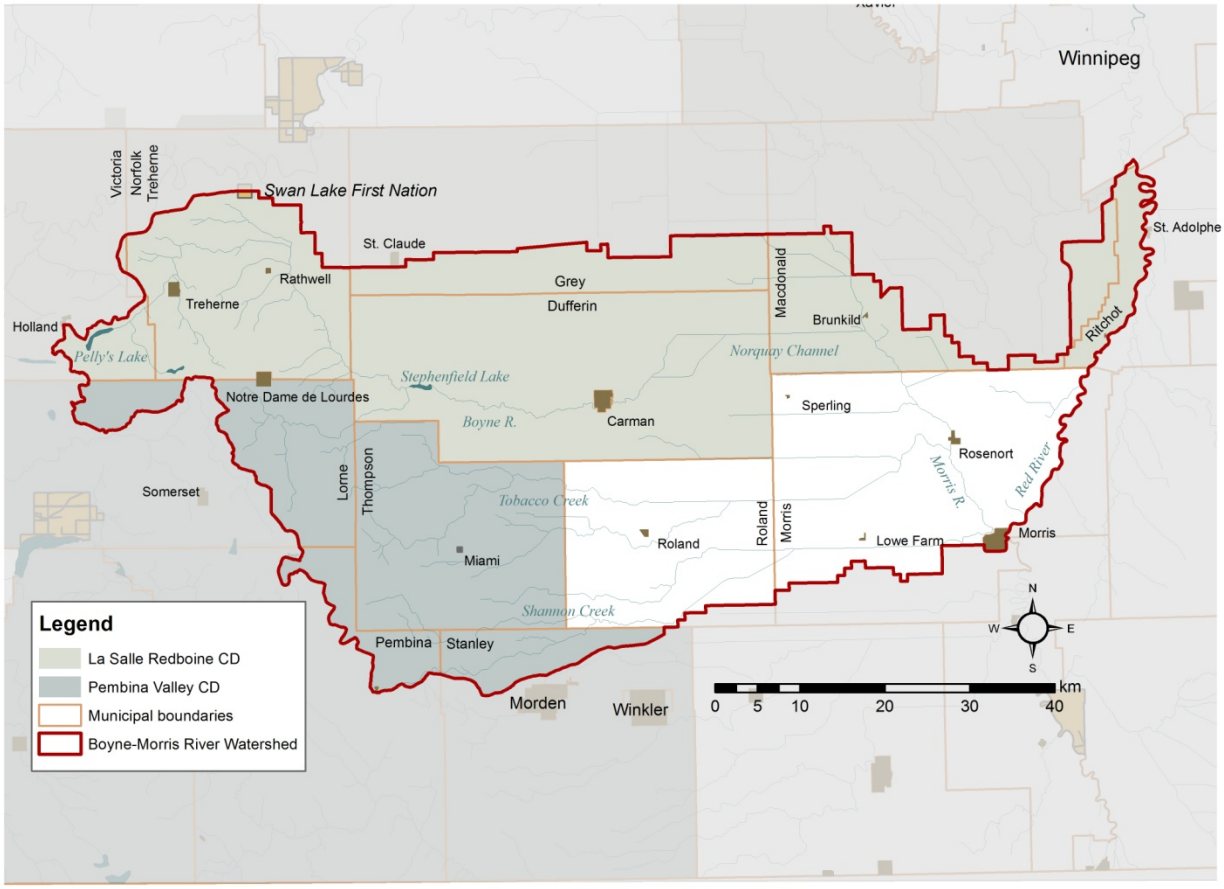
What We Heard:

Public Engagement Meetings for the Boyne – Morris Watershed Integrated Watershed Management Plan

INTRODUCTION

In March 2016, the Province of Manitoba designated La Salle Redboine and Pembina Valley Conservation Districts (LSRBCD & PVCD) as the joint Watershed Planning Authority for the Boyne – Morris Watershed. This designation granted LSRBCD and PVCD with the authority and responsibility to create an integrated watershed management plan (IWMP) for the Boyne – Morris Watershed (Figure 1).

Figure 1: Boyne – Morris Watershed



PROJECT MANAGEMENT TEAM

Early in the planning process, the Water Planning Authority designated representatives for a Project Management Team (PMT) to guide development of the Boyne – Morris IWMP.

Project Management Team members are:

Doug Dobrowolski (Chair)	RM of Macdonald
Ray LeNeal	La Salle Redboine Conservation District
Lucien Lesage	Pembina Valley Conservation District
Les McEwan	Deerwood Soil and Water Management Association
Walter McTavish	Pembina Valley Conservation District
Ted Ross	Roseisle Creek Watershed
Craig Soldier	Swan Lake First Nation
Roy Wood	La Salle Redboine Conservation District
Gavin van der Linde	Town of Morris
Cliff Greenfield	Pembina Valley Conservation District (Manager)
Justin Reid	La Salle Redboine Conservation District (Manager)
April Kiers North	Manitoba Sustainable Development

PUBLIC MEETINGS & OPPORTUNITIES FOR INPUT

One of the first steps in the development of the Boyne – Morris IWMP was to hold public meetings to learn about residents' values and priorities within the watershed. Three public meetings were held in October, 2016: Notre Dame (17 participants); Carman (32 participants); and Morris (18 participants). These public meetings were advertised by pamphlets that included a brief worksheet for those that were unable to attend in person to be submitted by mail. In addition, each conservation district offered an online survey for the month of October for anyone else that wanted to provide further input. Eleven online surveys, five worksheets, one submission from the Roseisle Creek Watershed Association, and three anonymous submissions were received.

The discussions and feedback from the public meetings and surveys are reported in this document and will provide direction to the PMT on the scope and priorities of the integrated watershed management plan. Participants were asked to indicate on individual worksheets what they considered to be the most important issues in the Boyne – Morris Watershed, to identify assets (land- and water- based watershed features) that they value, and to provide potential solutions related to priority issues. Once participants completed individual worksheets, they were asked to discuss these issues, assets and solutions in small groups as they related to surface water management, water quality, natural areas and habitat, and groundwater. Participants were also asked to provide specific information on drought vulnerability and preparedness, as well as identify opportunities for permanent or temporary water storage.

A facilitator transcribed the group discussion points onto posters, and at the conclusion of the group exercise, each individual was asked to vote for the issues, assets and solutions that they felt were of highest priority.

SUMMARY OF RESULTS

The number of votes each *Asset*, *Issue* and *Solution* received during group exercises was recorded by resource category (Surface Water Management, Surface Water Quality, Natural Areas and Habitat, Groundwater), and then amalgamated into overall totals.

Overall Results

Overall results amalgamated from all four resource categories and all three public meetings are summarized below, and presented in Tables 1-3.

Assets that received the largest number of votes include potable water (municipal supply and individual wells), the surface water drainage network, all remaining bluffs and wetlands, Stephenfield Lake, wildlife and habitat, agricultural land, and water retention areas. Other *Assets* listed, but with fewer votes, include the Escarpment and forests, wetlands, tall grass prairie ecosystem, Boyne River, and Pelly's Lake.

Table 1. *Assets* identified during public meetings held in Notre Dame, Carman and Morris (October 2016).

Asset	Votes	Asset	Votes
Potable water	44	Water retention areas	10
Drainage network	28	Escarpment and forests	8
Bluffs and wetlands	29	Tall Grass Prairie	6
Stephenfield Lake	26	Boyne River	7
Agricultural land	14	Pelly's Lake	6
Wildlife and habitat	14		

Highest ranking *Issues* (Table 2) include lack of drain maintenance and coordination, drainage system speed (threatens water quality), chemicals in potable water (health concerns), climate change (causing extremes – floods and droughts), sustainability and protection of water supply (overuse/abuse of groundwater resources), erosion along the Boyne and Red Rivers, soil erosion, society undervalues water, forest/shelterbelt removal, tile drainage (tapping into aquifers). Other *Issues* listed, but with fewer votes, include land clearing and habitat removal in the Escarpment, wetland losses, flooding, agricultural practices, lack of buffers (between land uses and waterways).

Table 2. *Issues* identified during public meetings held in Notre Dame, Carman and Morris (October 2016).

Issue	Votes	Issue	Votes
Lack of drain maintenance and coordination	32	Water is undervalued by society	13
Chemicals in potable water	23	Tile drainage – tapping into aquifers, impact on water quality	13
Sustainability of supply	21	Land clearing	6
Forest and shelterbelt removal	20	Wetland losses	6
Climate change – floods and droughts	16	Flooding	5
Riverbank erosion – Boyne R., Red R.	17	Agricultural practices	3
Drainage system speed	15	Lack of buffers	4
Soil Erosion	14		

Solutions that received the largest number of votes (Table 3) include incentives for landowners (tax credits, payments for ecosystem services, large- and small-scale water retention, education, cattail biomass harvesting for flow and nutrient reduction benefits. Other *Solutions* listed, but with fewer votes, include Conservation District programming (integrated approach), investing in routine drain maintenance, enforcing illegal drainage, proper groundwater allocation and management, placing an economic value on water through the water use licensing process, capturing tile drain outflows, buffer zones, and tree planting (shelterbelt replacement).

Table 3. Solutions identified during public meetings held in Notre Dame, Carman and Morris (October 2016).

Solution	Votes	Solution	Votes
Incentives (tax credits, payments for ecosystem services)	62	Proper groundwater allocation and management	10
Small-scale water retention	52	Place an economic value on water	5
Biomass harvesting	25	Tile drain outflows – capture	4
Education	22	Buffer Zones	6
Drain maintenance	16	Tree planting (shelterbelt replacement)	5
Large-scale water retention	14	Enforcement of illegal drainage	5
Conservation District programming	13		

Results by Location

Results of the group exercise in Notre Dame are as follows:

- *Assets* that received the largest number of votes (shown in parentheses behind each statement) include water retention areas (10), Pelly's Lake (6), potable water and sustainable supply - e.g., Stephenfield Lake (15).
- Other *Assets* mentioned include the Escarpment, forested valleys and ravines, wetlands, Roseisle Creek, Boyne River, aquifers, clean water, communities.
- *Issues* that received the largest number of votes include drain tile tapping into aquifers (9), land clearing – in particular escarpment slopes and forested areas (21), wetland loss (6), aquifers threatened by development and overuse (10), uncoordinated drainage (5), water is undervalued (4).
- Other *Issues* mentioned include soil erosion, siltation of waterways, agricultural practices, illegal drainage, disappearance of natural waterways.
- *Solutions* that received the largest number of votes include incentives (29), the Boyne Valley Water Initiative (14), water retention (15).
- Other *Solutions* mentioned include water quality testing and education, managing tile and surface drainage outlets, enforcement of illegal drainage, wilderness corridors.

Results of the group exercise in Carman are as follows:

- *Assets* that received the largest number of votes include water supply -municipal and industrial uses, including Stephenfield Lake (71), all remaining small bluffs, wetlands, ravines (15), fish and wildlife (10), drainage network (8).
- Other *Assets* mentioned include the Boyne River, the Escarpment, wildlife habitat, agricultural lands.
- *Issues* that received the largest number of votes include extremes such as floods and droughts – climate change (27), chemicals in potable water (23), drainage system – speed of runoff and impacts to water quality (15)
- Other *Issues* mentioned include habitat removal from the Escarpment, erosion on the Boyne River, water is undervalued, urban-rural divide, Carman lagoon discharge – impacts on water quality, tile drainage outlets – impact to water quality, proper groundwater management.
- *Solutions* that received the largest number of votes include water retention (48), education (30), incentives (13).
- Other *Solutions* mentioned include ditch maintenance, tertiary treatment (nutrient reduction) for lagoons, tile drain outlet discharge – recycle/capture, maintain buffer zones and riparian areas.

Results of the group exercise in Morris are as follows:

- *Assets* that received the largest number of votes include the drainage network (20), riparian bluffs (11), potable water supply (11), agricultural productivity (10).

- Other *Assets* mentioned include tall grass prairie ecosystem, Lake Winnipeg water quality, Red River water quality, recreational use – Morris River, 4N drain.
- *Issues* that received the largest number of votes include lack of drain maintenance (27), riverbank erosion (9).
- Other *issues* mentioned include lack of buffers between land use and waterways, overabundance of deer, flood protection infrastructure – lack of understanding, weedy and invasive species – threaten native grasses.
- *Solutions* that received the largest number of votes include incentives (21), drain maintenance (16), biomass harvesting for flow and nutrient benefits (17), integrated approach – CD program, big picture view (13).
- *Other Solutions* mentioned include changes to MASC – crop insurance, buffer zones to provide habitat and stabilize riverbanks, delayed mowing of ditches to promote native grasses, nutrient management on farm – 4R program.

Individual Results

Responses provided in individual worksheets are summarized in Tables 4 & 5. Individual responses were compiled into tables and can be found online at www.pvcd.ca and www.lasalleredboine.com.

Table 4. Priority issues, ranked in order of number of times mentioned in individual worksheets.

Surface Water Management
• Integrated approach to drainage • Drainage to protect agricultural economy • Flood reduction – through upstream retention • Erosion – soils • Erosion – riverbanks • Tile drainage – better understanding needed
Water Supply
• Sustainable supply • Drought preparedness • Protect human health • Protect quality of supply
Water Quality
• More stringent protection needed – especially due to industrial agriculture • Nutrient management • Maintain natural areas
Natural Areas and Habitat
• Wildlife habitat • Preservation of natural areas (escarpment forests, wetlands, grasslands) • Recreation

Table 5. Priority solutions, ranked in order of number of times mentioned in individual worksheets.

Surface Water Management
• Water retention – slow flows • Water retention – water supply • Integrated approach to drainage • Drain maintenance
Land Management
• Protect water quality, wetlands, natural areas, groundwater recharge • Payments for ecosystem services • Riparian buffers • Nutrient retention & management • Limit development in flood prone areas • Preserve natural habitat, riparian areas, wetlands • Reduce destructive land management practices

Drought Vulnerability & Preparedness Results

Participants were asked to provide information about past droughts and impacts. Drought years were identified as 1961, 1980/1981, 1988/1989, and 2011/2012 (to a smaller degree than other drought years). Some of the impacts listed by participants included poor crop yields, hay shortages for livestock, loss of producer income, producers sold livestock and/or land to mitigate loss of income, wind erosion of soils, stunted tree growth, wetlands and dugouts dried out, water shortages for those with shallow wells, lack of snow cover.

Participants identified the current vulnerabilities to drought in the Boyne – Morris Watershed as:

1. Sustainable drinking/domestic water supply, including:
    - Population growth stresses on water supply
    - Pembina Valley Water Co-operative's lack of backup source if Boyne or Red Rivers run dry
2. Risks associated with full allocation of system, including:
    - Too many agricultural withdrawals
    - Precedence of water use licenses
3. Poor crop yield and loss of income for producers
4. Lack of retention/water storage in basin
    - Continued draining of wetlands
    - Lack of surface water to recharge groundwater system

Mitigation measures suggested by participants included:

- Conserve water at home by: (1) reducing overall water usage; and, (2) using rain barrels, low flow toilets, and other water efficient appliances
- Crop insurance – modifications to current policies and procedures
- Reduced tillage practices
- Deepen existing shallow wells/drill new, deeper wells
- Hook up to public water system, such as Pembina Valley Water Co-operative
- Maintain existing wetlands and build small dams to retain water
- Install irrigation systems
- Treherne Dam – Boyne Valley Water Initiative

Summary & Next Steps

The top-ranking *Assets, Issues* and *Solutions* were determined by participant voting after group discussions held at each of the three public meetings in October, 2016. *Assets* most valued by participants (ranked by number of votes received) were: potable water and maintaining a sustainable supply; bluffs, wetlands and other natural areas; surface water management (in particular, the surface water drainage network); Stephenfield Lake. *Issues* identified as the highest priority by participants included: lack of drain maintenance and coordination; drainage system speed; chemicals in potable water; riverbank erosion, extreme events – floods and droughts. *Solutions* that received the greatest number of votes were: incentives for landowners; large- and small-scale water retention; education; cattail biomass harvesting for flow and nutrient reduction benefits.

The project management team (PMT) for the Boyne – Morris Watershed will use the information reported here to develop goals, objectives, and actions for the watershed. In addition, the PMT will continue to gather information about the watershed from stakeholders (including students, municipalities, non-government organizations, provincial and federal government departments.) It is anticipated that information gathering will be completed in 2017, and the integrated watershed management plan will be completed in 2018.