

Vermilion River Watershed Alliance

Vermilion River Watershed Alliance
Board Workshop
To Review the 2012 Watershed Management Plan

Report of Results

Finalized by:
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1. Introduction

The Vermilion River Watershed Alliance (VRWA) was incorporated as a non-profit society in 2015. The alliance is made up of local volunteers working side by side in the watershed. VRWA members come from local towns and counties, federal and provincial governments, conservation groups, and the public. The VRWA is also partnered with the North Saskatchewan Watershed Alliance (NSWA).

The VRWA is guided by the goals, directions, and actions of the 2012 Vermilion River Watershed Management Plan (VRWMP). This plan was designed with involvement from the public to define what the watershed means to those who live, work, and play in the Vermilion Sub-watershed of the North Saskatchewan River Basin. The VRWA members believe the watershed is the unit of management for human activities that affect the environment, including air, land, water, and wildlife. The VRWA is committed to reaching their vision of a healthy and sustainable watershed through the VRWMP and balancing the social, economic, and environmental needs of the watershed community.¹

1.1 VRWA VRWMP Goals, Directions and Implementation Priorities

2012 Vermilion River Watershed Management Plan (VRWMP) has the stated vision, mission and purpose of:

Vision - The Vermilion River Basin is a healthy and sustainable watershed.

Mission - To complete a locally developed and supported watershed plan that balances social, economic and environmental needs of the watershed community.

Plan Purpose - The Vermilion River Watershed Management Plan recommends actions that need to be taken to meet the goals of *Water for Life: Alberta's Strategy for Sustainability* (2003): safe, secure drinking water; healthy aquatic ecosystems; and reliable quality water supplies for a sustainable economy.

Achievement of the vision, mission and purpose is through the accomplishment of 5 goals:

1. Develop capacity and knowledge in the watershed
2. Improve reliability of surface water supply
3. Improve and maintain surface water quality
4. Improve and maintain water ecosystem health
5. Protect and sustain groundwater quality and supply

Nineteen (19) management directions, guided by 51 actions, support implementation of the 5 VRWMP goals for implementation. As part of 2012 VRWMP preparation, each management direction was reviewed and prioritized, based on public feedback. Table 1, below provides a summary of the priorities for the VRWMP management directions.

¹ Sourced March 13, 2017 from: <http://vrwa.ca/the-alliance/>

Table 1: Goals and Management Directions – 2012 Implementation Priorities

Goal	Direction / Priority (P)
<i>Goal 1: Develop capacity and knowledge in the Vermilion River watershed.</i>	1.1. Improve capacity for watershed management planning and implementation in communities. (P) 1.2 Improve information, knowledge and understanding of watershed function and stewardship. (P) 1.3 Improve regulatory compliance and enforcement. 1.4 Improve cooperation and communications among planning initiatives. (P)
<i>Goal 2: Improve reliability of surface water supply in the Vermilion River watershed.</i>	2.1 Improve knowledge and understanding of surface water supply, trends and variability. (P) 2.2 Assess flow requirements for the Vermilion River to inform water management directions. 2.3 Manage water quantity to support flow requirements in the Vermilion River. 2.4 Increase natural and constructed water storage capacity to mitigate damaging flooding and increase base flow.
<i>Goal 3: Maintain or improve surface water quality in the Vermilion River watershed.</i>	3.1 Improve knowledge of surface water quality in the Vermilion River watershed. (P) 3.2 Develop and adopt Water Quality Objectives for long-term monitoring sites on the Vermilion River. 3.3 Manage contaminant loads entering the Vermilion River from all point-sources to achieve Water Quality Objectives. (P) 3.4 Identify and reduce non-point source pollution by implementing beneficial management practices in the Vermilion River watershed. (P)
<i>Goal 4: Maintain or improve aquatic ecosystem health in the Vermilion River watershed.</i>	4.1 Improve knowledge of aquatic ecosystem health in the Vermilion River watershed (P) 4.2 Develop and adopt Aquatic Ecosystem Health Objectives for the Vermilion River watershed. 4.3 Integrate Aquatic Ecosystem Health Objectives into science-based planning and decision-making. 4.4 Develop and implement incentive policies and programs to support the adoption of beneficial management and other stewardship practices to improve aquatic ecosystem health. (P) 4.5 Encourage responsible tourism and recreation use emphasizing agricultural and ecological attributes.
<i>Goal 5: Protect and sustain groundwater quality and supply in the Vermilion River watershed.</i>	5.1 Improve knowledge and understanding of groundwater quality and quantity. (P) 5.2 Develop and implement management strategies and plans to protect groundwater quality and quantity. (P)

1.2 Need for Board Review of the VRWMP

Under Goal 1 of the VRWMP: *Develop capacity and knowledge in the Vermilion River watershed*, Direction 1.1 *Improve capacity for watershed management planning and implementation in communities within the Vermilion River watershed*, Action 1.1.1. indicates (in part) that there should be a “Review and update the watershed management plan on a five-year basis”.²

² Page 14. 2012 Vermilion River Watershed Management Plan.

Accordingly, the VRWA Board directed that, with the support of the North Saskatchewan Watershed Alliance (NSWA), the Extension and Stewardship Coordinator, Vermilion River Region arrange and support a Board review of the VRWMP. A workshop was planned, designed and held on March 10, 2017 in Vegreville, Alberta.

2. Participants

There were 21 workshop participants. There were 14 VRWA Board members, 6 staff and a workshop facilitator to run the process and keep a record of the comments and direction provided.

2.1. Board Members

- Ed Parke, County of Vermilion River
- Pat Gordeyko, Two Hills County
- Bill Babiuk, Town of Two Hills
- Dave Berry, Town of Vegreville
- Candace Vanin, Agriculture and Agri-Foods Canada
- Michael Barr, North American Waterfowl Management Plan
- Roger Konieczny, County of Minburn
- Stacey Hryciuk, County of Vermilion River
- Richard Yaceyko, Town of Vermilion
- Dale Collison, Beaver County
- Tim Knudson, Holden Drainage District
- Chris Elder, Alternative Land Use Services, County of Vermilion River
- Al Corbett, Alberta Drainage Council
- Carlin Soehn, Alberta Environment and Parks

2.2. Regular Members

- Jordan Smith, Sustainable Agriculture Coordinator, Counties of Minburn and Vermilion River
- Sharon Reedyk, Agriculture and Agri-Foods Canada
- Aimee Boese, Agricultural Fieldman, Beaver County
- Darwin Ullery, Director of Agriculture and Utility Services, Minburn County

2.3. Support Staff

- David Trew, Executive Director, North Saskatchewan Watershed Alliance
- Mara Erickson, Extension and Stewardship Coordinator: VRW Region, North Saskatchewan Watershed Alliance
- Workshop Facilitator: Jim Gendron, LTG Consulting

3. VRWMP Workshop Process

A workshop process was planned, designed and confirmed with the executive committee of the VRWA Board based on the following purposes: To -

- Undertake a progress review of the Watershed Management Plan (WMP) goals and directions implementation with the VRWA Board.
- Focus on the WMP goals and directions priority setting for 2017 – 2018.
- Board Direction on the preparation of a VRWA Operating Plan.
- Identify the next steps for WMP implementation.

Board member, Candace Vanin, provided a summary of the history and the context within the Vermilion River Watershed that led to the preparation of the VRWMP.

Working in small groups, Board members and selected staff reviewed the 5 VRWMP goals and 19 management directions during the workshop focusing on and responding 4 questions for each goal and related management directions:

- Is the goal and are the management directions still current?
- Are changes or additions required and if so what are they?
- Should the 2012 priorities for the management directions be changed?
- What might be potential implementation activities for high priority management directions?

3.1. VRWMP Goal Review – Workshop Discussion

The commentary for each of the goals and the directions that support each goal is summarized below. There is a summary of the highlights provided by workshop participants followed by a sample of discussion points. A full transcription of the comments from the small group discussions (collected by “discussion leaders” that were assigned to each group) and the comments collected during presentations to the plenary group at attached as appendix 1.

- **Goal 1: Develop Capacity and Knowledge**

<i>Goal 1: Develop capacity and knowledge in the Vermilion River watershed.</i>	1.1. Improve capacity for watershed management planning and implementation in communities. (P) 1.2 Improve information, knowledge and understanding of watershed function and stewardship. (P) 1.3 Improve regulatory compliance and enforcement. 1.4 Improve cooperation and communications among planning initiatives. (P)
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Discussion: Participants agreed that the goal is still relevant. There was particular interest in reinforcing Direction 1.2 to ensure that the public and stakeholders within the Vermilion River watershed were informed, knowledgeable and understand watershed function and their roles in contributing to a healthy watershed.

Some concern was expressed regarding the VRWA’s ability to address Direction 1.3 “Improve regulatory compliance and enforcement”. There was a suggestion the wording in future plans be changed to “Guide improvements to regulatory compliance and advocate for enforcement.”

Suggestions for changes/additions to Goal and associated Directions and Actions:

- Improve understanding of regulatory frameworks.
- Bring forward appreciation and importance of stakeholders’ local knowledge in decision-making.

- The role of VRWA should be determined as a) an on the ground implementation organization or b) a research, policy and advocacy organization or some combination of the two roles.
- Determine how enforcement will be addressed – maybe able to have it addressed through the provincial environmental hotline (1-800 number currently in place - Energy & Environmental Response Line - 24 Hour Hotline: 1-800-222-6514).
- Strengthen education so citizens understand the bigger picture and link that to enforcement (“why it should matter to *us* as well as just *me*”).

Changes/additions to Priority status

- Leave as-is

Potential Implementation Activities

:

- Determine if the VRWA should remain under the umbrella of the NSWA or move towards being more independent with its own long term funding and staff.
- There is a need to incorporate local knowledge in decision-making.
- Action 1.4 *Improve cooperation and communications among planning initiatives* continues to be and will likely become a higher priority.
- Let people know about the Environmental Reporting Hotline.
- All messaging is good, but there is a need to create public buy-in (i.e. “How do you convince people?”).
- Think of new ways to engage people (4-H Clubs, schools – coloring contest; newspaper articles with local producers who have participated in watershed restoration programs).
- Increase social media presence.

- **Goal 2: Improve Reliability of Surface Water Supply**

<i>Goal 2: Improve reliability of surface water supply in the Vermilion River watershed.</i>	2.1 Improve knowledge and understanding of surface water supply, trends and variability. (P) 2.2 Assess flow requirements for the Vermilion River to inform water management directions. 2.3 Manage water quantity to support flow requirements in the Vermilion River. 2.4 Increase natural and constructed water storage capacity to mitigate damaging flooding and increase base flow.
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Discussion: While the goal and directions were said to continue to be relevant, there was a limitation expressed that should be considered regarding “reliability” of surface water supply since the system is inherently unreliable and unpredictable. There was a suggestion that there may be a need to look at storage capacity off the mainstem due to unpredictability and reliability related to problems regarding elevation, timing and number of runoff events and variable precipitation.

The group indicated that Direction 2.3 *Manage water quantity to support flow requirements in the Vermilion River* – storm water management is still important particularly in the headwaters.

A comment indicated that Direction 2.4 is probably the most important now particularly for replacement of wetlands. A limitation of Direction 2.4, although it is important, may be the cost of implementation (structures) and land acquisition.

Vermilion River tributaries and inflow to the mainstem, how to maintain water in tributaries (storage capacity) may become an important consideration as an activity to support Directions 2.3 and 2.4.

Suggestions for changes/additions to Goal and associated Directions and Actions:

- Communications, information, knowledge and understanding of people living in the watershed was identified as critical to successfully implementing the WMP.
- There seems to be a pattern among the Directions related to awareness, outreach and learning, 2.1 links to 1.2 which links to 3.1, 4.1 and 5.1; there may need to be separate goal required in future plans.
- Focus on specific, measurable outcomes to address problems and create results, for example develop outcome and action statements that address flood mitigation in some areas versus drought mitigation in other locations.

Changes/additions to Priority status

- Leave as-is

Potential Implementation Activities:

- Direction 2.1 and the studies that result are helpful to learning and understanding. The results should be made available to landowners using plain, easy to understand language with a “how it affects me” meaningful message.
- Anticipate that the addition of the Vermilion River Operations Advisory Committee (VROAC) and the VRWA will help through more knowledge sharing.

- **Goal 3: Maintain or Improve Surface Water Quality**

<p><i>Goal 3: Maintain or improve surface water quality in the Vermilion River watershed.</i></p>	<p>3.1 Improve knowledge of surface water quality in the Vermilion River watershed. (P)</p> <p>3.2 Develop and adopt Water Quality Objectives for long-term monitoring sites on the Vermilion River.</p> <p>3.3 Manage contaminant loads entering the Vermilion River from all point-sources to achieve Water Quality Objectives. (P)</p> <p>3.4 Identify and reduce non-point source pollution by implementing beneficial management practices in the Vermilion River watershed. (P)</p>
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Discussion:

There was consistent reporting from the large group that all 4 of the Directions are priorities with Directions 3.1 and 3.2 are relevant to the VRWA and will be the most influential. Some participants commented that because of the success so far in implementing the VRWMP that there is momentum in the watershed to improve water quality.

A comment was provided from one of the small groups that noted, while important, Directions *3.3 Manage contaminant loads entering the Vermilion River from all point-sources to achieve Water Quality Objectives. (P)* and *3.4 Identify and reduce non-point source pollution by implementing beneficial management practices in the Vermilion River watershed. (P)* are “big picture” items that may be best addressed by the Provincial and Federal Governments. Municipalities may, though, be able to provide reporting on their releases to the watershed. The Goal and Directions may create a capacity issue that reinforces clear roles for the province and municipalities in ensuring the health of the watershed.

In terms of an action that might be helpful, overlay and compare information on water quality and quantity and use it to develop a “hot spot” map for remediation and restoration. It was thought that better land use practices may address and improve water quality.

Suggestions for changes/additions to Goal and associated Directions and Actions:

- Push for better reporting on point sources.
- Direction 3.3 *Manage contaminant loads entering the Vermilion River from all point-sources to achieve Water Quality Objectives.* (P) is not a “doable” action at this time – need to increase communication about importance of water quality before the action is achieved.
- Direction 3.4 *Identify and reduce non-point source pollution by implementing beneficial management practices in the Vermilion River watershed.* (P) – “identify and reduce” may be hard to achieve, hard to quantify and report on.
- Direction 3.4 may be expensive to continue to implement unless grants are available, the Direction needs to match what’s realistic ensuring that there is capacity to handle it.

Changes/additions to Priority status

- Leave as-is

Potential Implementation Activities:

- “Key producer stories” reflecting successful outcomes by those who got funding with the aim of encouraging agricultural operators to participate in watershed enhancement and remediation programs based on testimonials from their peers.
- Video is a great step in sharing what’s happening in the watershed.

- **Goal 4: Maintain or Improve Aquatic Ecosystem Health**

<p><i>Goal 4: Maintain or improve aquatic ecosystem health in the Vermilion River watershed.</i></p>	<p>4.1 Improve knowledge of aquatic ecosystem health in the Vermilion River watershed (P)</p> <p>4.2 Develop and adopt Aquatic Ecosystem Health Objectives for the Vermilion River watershed.</p> <p>4.3 Integrate Aquatic Ecosystem Health Objectives into science-based planning and decision-making.</p> <p>4.4 Develop and implement incentive policies and programs to support the adoption of beneficial management and other stewardship practices to improve aquatic ecosystem health. (P)</p> <p>4.5 Encourage responsible tourism and recreation use emphasizing agricultural and ecological attributes.</p>
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Discussion: It was noted by some of the Board members that the intent of Goal 4 was to address fish. It’s recognized that the aquatic ecosystem is more than just fish. It would be helpful, then, to define “aquatic ecosystem health” in the context of the Vermilion River and establish a benchmark or outcome (measurable) for aquatic ecosystem health. It was thought that, given the variability of the Vermilion River, maybe management to maintain or improve aquatic ecosystem health may have to be applied on a river reach specific or sub-watershed area specific basis within watershed.

An alternate view was presented that Goal 4 is an outcome that will be met if Goals 1, 2 and 3 are addressed.

Suggestions for changes/additions to Goal and associated Directions and Actions:

- Merge the following Directions under goals 2 and 3 – if you don’t have water quality and quantity then you won’t have a healthy aquatic ecosystem:
 - *4.2 Develop and adopt Aquatic Ecosystem Health Objectives for the Vermilion River watershed.*
 - *4.3 Integrate Aquatic Ecosystem Health Objectives into science-based planning and decision-making.*

- 4.4 Develop and implement incentive policies and programs to support the adoption of beneficial management and other stewardship practices to improve aquatic ecosystem health. (P)
- 4.5 Encourage responsible tourism and recreation use emphasizing agricultural and ecological attributes.

Changes/additions to Priority status:

- Direction 4.1 (Improve knowledge of aquatic ecosystem health in the Vermilion River watershed (P)) is a priority and Directions 4.2 (Develop and adopt Aquatic Ecosystem Health Objectives for the Vermilion River watershed) and 4.3 (Integrate Aquatic Ecosystem Health Objectives into science-based planning and decision-making) follow from 4.1.
- 4.5 (Encourage responsible tourism and recreation use emphasizing agricultural and ecological attributes) is an emerging priority. It presents a potential opportunity for people to engage with landowners to get the information out.

Potential Implementation Activities:

- VRWA could network with “farm days” groups and feed into that process by tagging into those types of events, along with workshops and tours, more.
- The information should be river reach specific “what’s in my own back yard”; define what aquatic health looks like in each reach of the river.
- Maybe place VRWA project signs to bring attention to successful restoration activities

- **Goal 5: Protect and Sustain Groundwater Quality and Supply**

<i>Goal 5: Protect and sustain groundwater quality and supply in the Vermilion River watershed.</i>	5.1 Improve knowledge and understanding of groundwater quality and quantity. (P) 5.2 Develop and implement management strategies and plans to protect groundwater quality and quantity. (P)
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Discussion: The Goal was said to be relevant with the need to improve knowledge and understanding of groundwater quality and quantity being a key Direction. There is likely a need for information on recharge rates and areas within the watershed although data availability may be a challenge. Again, the idea was to look at target “problem areas” through a “hot spot” map for restoration and application of beneficial land management practices. One of the participants who knows said that regional groundwater reports are available but somewhat dated (i.e. 2006). It was also noted that there may be capacity limitations for municipalities to interpret and use groundwater data.

There may be complacency among some people living in the watershed since there is regional water supply provided by EPCOR. Knowledge and understanding needs to be supported since there is value in ensuring that people understand the importance groundwater quality and supply and how both can be affected by human activity in the landscape. It was also noted that not everyone in the watershed is served by the regional water supply system.

Suggestions for changes/additions to Goal and associated Directions and Actions:

- Abandoned well data and conditions might be considered and possibly identified as an Action priority.
- Keep directions that promote education, awareness and learning regarding the importance of groundwater importance and quality and leave the monitoring and assessment to the appropriate Government agencies.

Changes/additions to Priority status:

- *Direction 5.1 Improve knowledge and understanding of groundwater quality and quantity. (P)* is still important. (Note: Stated by 2 groups).
- There may be a requirement to determine the balance between support for public learning and projects versus technical knowledge and research.
- Consider removing bullets 1 to 3 in *Action 5.1.2 Develop a monitoring system to compile and share well-testing data from private, municipal, and industrial sources and report changes in supply and quality to all stakeholders:*
 - Maintain and/or establish long-term observation wells for key aquifers in the Vermilion River watershed.
 - Encourage voluntary monitoring and reporting of groundwater levels and use.
 - Evaluate and follow through on groundwater monitoring recommendations made in Regional Groundwater Assessments (Hydrogeological Consultants Ltd., 1999-2001).
 - Develop better understanding of groundwater/surface water interactions.
- Action 5.1.2 doesn't seem to be realistic or cost effective; there may be a way to get these data from other sources, perhaps by more engagement with the appropriate Provincial Government departments.

Potential Implementation Activities:

- Ground water is "out of sight and out of mind" so information showing groundwater reservoirs may be helpful.
- Regional water supply may have changed priorities regarding groundwater for some people living in the watershed since the water supply pipeline has changed reliance on groundwater for domestic use.
- Groundwater interpretation and how to understand it from a "lay person's" perspective could be helpful in increasing awareness, understanding and knowledge (e.g. add a "Groundwater Interactions 101" to the VRWA website).

- **Consideration of an Additional or Revised Goal**

There was discussion among Board members of a revised or additional Goal focusing on awareness, outreach and learning, to be included as part of a revised plan. The Goal would be structured to reflect the significance of "Information, Education, Knowledge Exchange" that incorporates priority Directions that are currently articulated in the 2012 VRWMP:

- 1.2 Improve information, knowledge and understanding of watershed function and stewardship. (P)
- 2.1 Improve knowledge and understanding of surface water supply, trends and variability. (P)
- 3.1 Improve knowledge of surface water quality in the Vermilion River watershed. (P)
- 4.1 Improve knowledge of aquatic ecosystem health in the Vermilion River watershed (P). and
- 5.1 Improve knowledge and understanding of groundwater quality and quantity. (P)

4. 2017 – 2018 VRWA Operating Plan Preparation

Mara Erickson, Extension and Stewardship Coordinator, Vermilion River Region, provided an overview of a format and content proposal for preparation of a *2017 – 2018 Vermilion River Watershed Alliance Operating Plan*. The plan would be designed similarly to the North Saskatchewan Watershed Alliance operating plan and would incorporate the VRWMP Goals, Directions and Actions, updated based on the results of this

VRWA Board workshop. Once approved, the plan would be reviewed annually and amended as required to ensure its currency.

The operating plan will be drafted for review and approval by the VRWA Board. Assistance in its preparation as a draft document will be sought from three or four Board members acting as an Operating Plan Preparation Committee.

Board members agreed that the drafting of the 2017 – 2018 VRWA Operating Plan proceed based on the information provided and the process proposed for preparation, review and approval by the Board.

5. Workshop Evaluation – Participants’ Comments

Board members and staff support people were asked to provide their comments on what they believed was “good” about the workshop and what could “improve” for any future, similar workshops. The following highlights of the responses are provided:

- Good:
 - Participants’ contributions reflected long-term experience and perspectives.
 - Small group discussion and opportunity to meet and learn from each other.
 - The opportunity to review the VRWMP history, goals and progress since 2012 and consider improvements and future direction.
 - Fun today – opportunity to check back and review as well as consider implementation to date of the WMP.
 - Wide range of goals – we were able to talk about narrowing the focus aimed at action.
 - Positive vibe and support for the WMP.
 - Focused efforts of the watershed alliance.
 - Smooth, good sharing of information.
 - Valuable to revisit initial goals.
 - Good to note accomplishments to date – showed success.
 - Small group discussion.
 - Opportunity to look at concepts and do a “reality check”.
 - Provided clarity on goals and direction.
 - Reviewed WMP – it’s a living document with new interests identified.

- Improve:
 - Small discussion groups – tighten up; change group membership for each discussion.
 - More time.
 - Maybe get public involvement on any revisions that are made; discuss accomplishments to date and share valuable stories.
 - Improve and clarify goals and directions in an operating plan (versus another WMP) and review it annually.
 - Mix the groups as we go through the goals to share perspectives.
 - More time for large group “cross examination” of ideas.

Appendix 1: VRWA Board and Staff Workshop Transcribed Comments

VRWA Board Workshop – Review of the VRWMP
March 10, 2017

Transcribed Comments

<i>Goal 1: Develop capacity and knowledge in the Vermillion River watershed.</i>	1.1. Improve capacity for watershed management planning and implementation in communities. (P) 1.2 Improve information, knowledge and understanding of watershed function and stewardship. (P) 1.3 Improve regulatory compliance and enforcement. 1.4 Improve cooperation and communications among planning initiatives. (P)
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Notes from Discussion Leaders:

Is the goal and are the management directions still current?

- The goal continues to be relevant
- Communication needs to be more widely relayed; not just among agricultural groups
- Goal still current and relevant.
- Education is always important.
- Some actions have been completed and should be reviewed to determine if they should continue or be replaced by new actions.
- Goal is still current; lots more people are knowledgeable about the river.
- Educational component is key; need to disseminate to the communities involved.
- The idea should be development of public knowledge rather than keeping among Board or various committee members – Does the public know what’s going on with projects (some wider reporting and update method); Need to help people learn about watershed planning and its principles rather just on the Vermillion River itself.

Should the 2012 priorities for the management directions be changed?

- Regulatory compliance / enforcement maybe doesn't belong.
- Priority is more on information, cooperation, communication among groups
- The merger with the Vermillion River Operations Advisory Committee (VROAC) may address the communication interest.
- Directions still relevant.
- Direction 1.3 *Improve regulatory compliance and enforcement* might not be a VRWA role; maybe reword the direction to read "Guide improvements to regulatory compliance and advocate for enforcement."

Are changes or additions required and if so what are they?

- Improve understanding of regulatory frameworks.
- Bring forward appreciation and importance of stakeholders' local knowledge to provide ideas on where there should be provincial and municipal focus.
- Much has been done on Direction 1.1. and the role of VRWA should be determined as a) an on the ground implementation organization or b) a research, policy and advocacy organization or some combination of the two roles.

- Determine how enforcement will be addressed – maybe able to have it addressed through the provincial environmental hotline (1-800 number currently in place - Energy & Environmental Response Line - 24 Hour Hotline: 1-800-222-6514).
- Strengthen education so citizens understand the bigger picture and link that to enforcement (“why it should matter to *us* as well as just *me*”).

What might be potential implementation activities for high priority management directions?

- Determine if the VRWA should remain under the umbrella of the NSWA or move towards being more independent with its own long-term funding and staff.
- There is a need to incorporate local knowledge in decision-making.
- Action 1.4 *Improve cooperation and communications among planning initiatives* continues to be and becomes a higher priority.
- Let people know about the Environmental Reporting Hotline.
- All messaging is good, but there is a need to create public buy-in (i.e. “How do you convince people?”).
- Think of new ways to engage people (4-H Clubs, schools – coloring contest; newspaper articles with local producers who have participated in watershed restoration programs).
- Increase social media presence.

Notes from Flip Chart Sheets – Plenary Presentation Highlights of Small Group Discussion:

- Goal is relevant and ongoing.
- Public knowledge versus committee knowledge.
- Direction 1.3 wording “Guiding regulatory compliance” rather than “Improve...”.
- Getting buy-in needs focus; messages are good.
- Communication and coordination among municipalities and planning organizations.
- Incorporating local knowledge.
- VRWA – where should it go 1) linked to NSWA or 2) More independent.
- Regulatory role is low.
- Goal still relevant with “education” as key.
- Challenge of how to address enforcement related to wetlands.
- “Education” as a societal focus related to “encouragement” rather than enforcement.
- Maybe use the Provincial Environmental Hotline regarding wetland disturbance; respectful and achieves wetland goals.

<p><i>Goal 2: Improve reliability of surface water supply in the Vermilion River watershed.</i></p>	<p>2.1 Improve knowledge and understanding of surface water supply, trends and variability. (P)</p> <p>2.2 Assess flow requirements for the Vermilion River to inform water management directions.</p> <p>2.3 Manage water quantity to support flow requirements in the Vermilion River.</p> <p>2.4 Increase natural and constructed water storage capacity to mitigate damaging flooding and increase base flow.</p>
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Notes from Discussion Leaders:

Is the goal and are the management directions still current?

- “Improve reliability” is difficult to measure since there are so many variables in the system.
- Important from a watershed health perspective.
- Need to look at storage capacity off the mainstem; problems regarding elevation; timing; number of runoff events; precipitation.

- Hard to understand the hydrology of the system (variability) which means it's hard to determine reliability.
- Goal is and directions are still valid.
- Depends on where you are and what you use the water for – grain farmers versus cattle ranchers.
- Main thing is to keep some flow in the river all summer long.
- Goal is still current; the directions are still relevant.

Should the 2012 priorities for the management directions be changed?

- Direction 2.3 *Manage water quantity to support flow requirements in the Vermilion River* – storm water management is still important particularly in the headwaters where bulges address 2.3.
- Direction 2.4 *Increase natural and constructed water storage capacity to mitigate damaging flooding and increase base flow* is important to do but costly to implement (structures); land acquisition is “tricky”.
- Direction 2.4 is probably the most important now – replacement of wetlands.
- Need to look at tributaries and inflow to the mainstem and how to maintain water in tributaries (storage capacity).
- Most communities serviced by EPCOR which may affect how people view water supply needs.

Are changes or additions required and if so what are they?

- Need to address operations within the system versus stewardship (work together but have different opportunities).
- Need to change communication messaging.
- There seems to be a pattern among the Directions related to awareness, outreach and learning 2.1 links to 1.2 which links to 3.1, 4.1 and 5.1 – maybe a separate goal is required since this will be fundamental to achieving any of the other goals.
- Disseminating information to the public – supply / trends / variability.
- Managing expectations of the public.
- Providing opportunities to do projects.
- Focus on outcomes – address and create results don't just state goals; for example, develop outcome (action) statements that addresses are specific problems like flood mitigation in some areas versus drought mitigation – outcomes that are specific and measurable.

What might be potential implementation activities for high priority management directions?

- 2.1 *Improve knowledge and understanding of surface water supply, trends and variability* – studies are great but need to be communicated to landowners; use plain, easy to understand language with a “how it affects me” meaningful message.
- Anticipate that the addition of the Vermilion River Operations Advisory Committee (VROAC) and the VRWA will help address these issues through more knowledge sharing.

Notes from Flip Chart Sheets – Plenary Presentation Highlights of Small Group Discussion:

- Help the public understand the natural variability in water conditions.
- Increasing water storage capacity is important.
- Main thing is to keep flows in the river all summer long.
- Funding for “natural” controls.
- Goal is relevant.
- Look at goals from another perspective by stating outcomes that are more specific and more measurable.
- Depends on your location in the watershed and what you use the water for (cattle versus crops).
- Directions 2.1 and 2.4 are priorities with 2.4 added as a priority.
- Emphasis on disseminating information to the public.
- Goal states “reliability” when the system is naturally unreliable.

- Means different things depending on location within the watershed.
- Put together a "Readers Digest" of studies for public understanding.
- Goal 1, Direction 2 (Improve information, knowledge and understanding of watershed function and stewardship) and Goal 2, Direction 1 (Improve knowledge and understanding of surface water supply, trends and variability) overlap; possibly combine under one of the goals and emphasize importance of information, knowledge and watershed function.
- There may need to be a separate goal for information, outreach, extension, knowledge and watershed function.

<p><i>Goal 3: Maintain or improve surface water quality in the Vermilion River watershed.</i></p>	<p>3.1 Improve knowledge of surface water quality in the Vermilion River watershed. (P)</p> <p>3.2 Develop and adopt Water Quality Objectives for long-term monitoring sites on the Vermilion River.</p> <p>3.3 Manage contaminant loads entering the Vermilion River from all point-sources to achieve Water Quality Objectives. (P)</p> <p>3.4 Identify and reduce non-point source pollution by implementing beneficial management practices in the Vermilion River watershed. (P)</p>
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Notes from Discussion Leaders:

Is the goal and are the management directions still current?

- Yes, water quality is always essential.
- Still valid.
- There is momentum.
- Information needs to get out at what drives improvement in water quality.
- Still current but could be adjusted to be more realistic – the cost is prohibitive to all these actions.
- Improvements to discharge systems are very costly; are partners aware of the need for water quality (legislated versus desire to be stewards).
- Targeted funding can be beneficial for this goal and directions (e.g. for fencing and other local improvements) and needs more communication.
- Success can be achieved through small steps (Beneficial Management Practices).

Should the 2012 priorities for the management directions be changed?

- Continuing monitoring is important.
- Direction 3.1 *Improve knowledge of surface water quality in the Vermilion River watershed* (P) and 3.2 *Develop and adopt Water Quality Objectives for long-term monitoring sites on the Vermilion River* are probably most relevant to the VRWA.
- 3.1 is more important (it was a priority in 2012) because that Direction leads to develop water quality objectives.
- Write in BMPs / Farm Plans as actions to achieve the management directions (small steps) – "small steps may lead to a big picture" (and be cheaper).
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Are changes or additions required and if so what are they?

- Possibly overlay water quality information with water quantity information to guide and create a hotspot map for implementing riparian remediation.
- A hotspot map is a tool for creating an outcome; outcome = target problem areas for water quality.
- Push for better reporting on point sources.
- Direction 3.3 *Manage contaminant loads entering the Vermilion River from all point-sources to achieve Water Quality Objectives*. (P) is not a "doable" action at this time – need to increase communication about importance of water quality before the action is achieved.

- Direction 3.4 *Identify and reduce non-point source pollution by implementing beneficial management practices in the Vermilion River watershed. (P)* – “identify and reduce” may be hard to achieve / hard to quantify and report on it.
- 3.4 is expensive to keep going unless grants are available; needs to match what’s realistic ensuring that there is capacity to handle it.

What might be potential implementation activities for high priority management directions?

- “Key producer stories” – who got funding for what; the aim is to encourage producers to participate versus “lead” them to participate.
- Video is a great step in sharing what’s happening in the watershed.

Notes from Flip Chart Sheets – Plenary Presentation Highlights of Small Group Discussion:

- All 4 of the Directions are priorities – 4.1 and 4.2 are relevant to the VRWA and will be the most influential.
- Emphasize 3.1 (Improve knowledge of surface water quality in the Vermilion River watershed) before taking on 3.2 (Develop and adopt Water Quality Objectives for long-term monitoring sites on the Vermilion River); monitoring should come first.
- There is momentum in the watershed to improve water quality.
- Information out – highlight activities that have taken place in the watershed.
- Point source reporting – better reporting is required for releases from municipal sources.
- All 4 Directions are a priority – water quality is always relevant.
- Overlay information on water quality and quantity to develop a “hot spot” map for remediation and restoration; create and meet outcome statements for target “problem areas”.
- The Goal and Directions may reflect a capacity issue – there should be clear roles for the province and municipalities; maybe consider project based delivery by municipalities.
- Some of the actions may be cost prohibitive e.g. water quality studies.
- Invest in Beneficial Management Practices (BMP).
- While important, Directions 3.3 *Manage contaminant loads entering the Vermilion River from all point-sources to achieve Water Quality Objectives. (P)* and 3.4 *Identify and reduce non-point source pollution by implementing beneficial management practices in the Vermilion River watershed. (P)* are “big picture” items that may be best addressed by the Provincial and Federal Governments; difficult for municipalities to address.
- Communication need for water quality; see Direction 1.2 *Improve information, knowledge and understanding of watershed function and stewardship*; applies to Goal 3 as well.
- If better land use practices are encouraged then we can address and improve water quality; do projects that we know will be beneficial.

<p><i>Goal 4: Maintain or improve aquatic ecosystem health in the Vermilion River watershed.</i></p>	<p>4.1 Improve knowledge of aquatic ecosystem health in the Vermilion River watershed (P)</p> <p>4.2 Develop and adopt Aquatic Ecosystem Health Objectives for the Vermilion River watershed.</p> <p>4.3 Integrate Aquatic Ecosystem Health Objectives into science-based planning and decision-making.</p> <p>4.4 Develop and implement incentive policies and programs to support the adoption of beneficial management and other stewardship practices to improve aquatic ecosystem health. (P)</p> <p>4.5 Encourage responsible tourism and recreation use emphasizing agricultural and ecological attributes.</p>
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Notes from Discussion Leaders:

Is the goal and are the management directions still current?

- This goal is an outcome of all the other VRWMP goals.
- Need to move beyond the notion of “fish” being representative of a “healthy aquatic ecosystem”.
- If we emphasize the stability of the watershed this will happen.
- If we are conscious of water quality and supply the directions will “flow” (ha, ha) out of it.
- Still relevant.

Should the 2012 priorities for the management directions be changed?

- Assessment and monitoring might not be as important but rather project implementation to show a healthy watershed.
- Communication of “realistic” information to landowners.
- Directions 4.2 and 4.3 follow accomplishment of 4.1:
 - *4.1 Improve knowledge of aquatic ecosystem health in the Vermilion River watershed (P)*
 - *4.2 Develop and adopt Aquatic Ecosystem Health Objectives for the Vermilion River watershed.*
 - *4.3 Integrate Aquatic Ecosystem Health Objectives into science-based planning and decision-making.*
- Direction 4.5 *Encourage responsible tourism and recreation use emphasizing agricultural and ecological attributes* is an emerging priority.

Are changes or additions required and if so what are they?

- Define a “healthy aquatic ecosystem” in the context of the Vermilion River; can a benchmark for an outcome be established.
- What benchmark was established for a “healthy aquatic ecosystem” in previous studies – it should be stated and used as a reference.
- It’s possible that a measure of aquatic ecosystem health is a better measure of water quality and quantity.
- Merge the following Directions under goals 2 and 3 – if you don’t have water quality and quantity then you won’t have a healthy aquatic ecosystem:
 - *4.2 Develop and adopt Aquatic Ecosystem Health Objectives for the Vermilion River watershed.*
 - *4.3 Integrate Aquatic Ecosystem Health Objectives into science-based planning and decision-making.*
 - *4.4 Develop and implement incentive policies and programs to support the adoption of beneficial management and other stewardship practices to improve aquatic ecosystem health. (P)*
 - *4.5 Encourage responsible tourism and recreation use emphasizing agricultural and ecological attributes.*
- VRWA could network with “farm days” groups and feed into that process; tag into those types of events along with workshops and tours.

What might be potential implementation activities for high priority management directions?

- Happens naturally through support for learning among stakeholders and the public through communication.
- The information should be river reach specific “what’s in my own back yard”; define what aquatic health looks like in each reach of the river.
- Maybe place VRWA project signs to bring attention to successful restoration activities.

Notes from Flip Chart Sheets – Plenary Presentation Highlights of Small Group Discussion:

- The goal intent was to address fish; the aquatic ecosystem is more than just fish.

- This goal is more of an outcome – if Goals 1, 2 and 3 are addressed then Goal 4 will be accomplished.
- Possibly move the Directions for Goal 4 to the other 3 goals since Goal 4 is an outcome of the other 3 goals.
- Define “aquatic ecosystem health” in the context of the Vermilion River and establish a benchmark or outcome (measurable); the benchmark may have been identified in past watershed studies.
- Ecosystem health may need to be applied on a river reach specific or sub-watershed area specific basis within the Vermilion River Watershed.
- Direction 4.1 (Improve knowledge of aquatic ecosystem health in the Vermilion River watershed (P)) is a priority and Directions 4.2 (Develop and adopt Aquatic Ecosystem Health Objectives for the Vermilion River watershed) and 4.3 (Integrate Aquatic Ecosystem Health Objectives into science-based planning and decision-making) follow from 4.1.
- 4.5 (Encourage responsible tourism and recreation use emphasizing agricultural and ecological attributes) is an emerging priority by presenting an opportunity for people to engage with landowners to get the information out.
- Awareness through site specific information – signs identifying site specific projects to increase awareness.

<p><i>Goal 5: Protect and sustain groundwater quality and supply in the Vermilion River watershed.</i></p>	<p>5.1 Improve knowledge and understanding of groundwater quality and quantity. (P)</p> <p>5.2 Develop and implement management strategies and plans to protect groundwater quality and quantity. (P)</p>
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Notes from Discussion Leaders:

Is the goal and are the management directions still current?

- Still a priority (but difficult to generate interest when you’re in a wet cycle).
- This goal is an outcome of *Goal 2: Improve reliability of surface water supply in the Vermilion River watershed*; holding water on the landscape.
- Important because we need these Directions to support rural Alberta because it may be too costly and not feasible to have everyone on the regional (EPCOR) water system.
- Understanding and information that reinforces “in order to improve what you have you need to know what you have”.

Should the 2012 priorities for the management directions be changed?

- *Direction 5.1 Improve knowledge and understanding of groundwater quality and quantity. (P)* is still important. (Note: Stated by 2 groups).
- Determine the balance between support for public learning and projects versus technical knowledge and research.
- Consider removing bullets 1 to 3 in *Action 5.1.2 Develop a monitoring system to compile and share well-testing data from private, municipal, and industrial sources and report changes in supply and quality to all stakeholders*:
 - Maintain and/or establish long-term observation wells for key aquifers in the Vermilion River watershed.
 - Encourage voluntary monitoring and reporting of groundwater levels and use.
 - Evaluate and follow through on groundwater monitoring recommendations made in Regional Groundwater Assessments (Hydrogeological Consultants Ltd., 1999-2001).
 - Develop better understanding of groundwater/surface water interactions.

- Action 5.1.2 doesn't seem to be realistic or cost effective; there may be a way to get these data from other sources; perhaps Provincial Government departments need to be engaged more.

Are changes or additions required and if so what are they?

- Identify recharge rates on land within the watershed and create a hotspot map of where the highest recharge rates are and how we can direct support for learning and awareness of riparian restoration.
- Request government data on recharge rates and zones.
- Abandoned well data and conditions might be considered and possibly identified as an Action priority.
- When the drought period returns people in the watershed need to be prepared.
- The Working Well Program addresses some of the important aspects of public knowledge transfer.
- Keep directions that promote education, awareness and learning regarding the importance of groundwater importance and quality and leave the monitoring and assessment to the appropriate Government agencies.

What might be potential implementation activities for high priority management directions?

- Ground water is "out of sight and out of mind" so information showing groundwater reservoirs may be helpful.
- Regional water supply may have changed our priorities regarding groundwater.
- The EPCOR regional water supply pipeline has changed a lot in terms of reliance on groundwater for domestic use.
- Groundwater interpretation and how to understand it from a "lay person's" perspective; maybe add a "Groundwater Interactions 101" to the VRWA website.

Notes from Flip Chart Sheets – Plenary Presentation Highlights of Small Group Discussion:

- Goal is relevant.
- Education and learning component is key.
- Need information on recharge rates and areas within the watershed – data availability may be a challenge; look at target "problem areas" through a "hot spot" map for restoration and application of beneficial land management practices.
- Since we are served by a regional water supply by EPCOR, there may be less concern about groundwater quality; there is a need to emphasize the importance of groundwater quantity and quality.
- Regional groundwater reports are available but somewhat dated (i.e. 2006).
- There may be capacity limitations for municipalities to interpret and use groundwater data.
- If any of the Directions (in any Goal) assign responsibility out of the VRWA and those directly affected by the outcomes, it's unlikely that they will happen.
- All goals and directions, even though there are agency partners, will be limited by those partners' priorities.
- There needs to be focus for the VRWA going forward – is the organization a public engagement and program delivery organization or a research and technical organization or some combination of the two.
- It's difficult to generate interest in groundwater during a wet year.
- Abandoned groundwater wells and the potential for them to be a source of contamination may be an area of focus in the future.
- The Working Well program may cover Directions 5.1 (Improve knowledge and understanding of groundwater quality and quantity. (P)) and 5.2 (Develop and implement management strategies and plans to

- protect groundwater quality and quantity. (P)) in improving knowledge and understanding for the management of groundwater.
- Still is important to discuss even though there is a regional water supply system; not everyone in the watershed is served by the regional supply system.
 - Communicate groundwater and surface water interaction to the public.
 - Remove the first 3 bullets from since they are not direct responsibilities of the VRWA: *Action 5.1.2 Develop a monitoring system to compile and share well-testing data from private, municipal, and industrial sources and report changes in supply and quality to all stakeholders:*
 - *Maintain and/or establish long-term observation wells for key aquifers in the Vermilion River watershed.*
 - *Encourage voluntary monitoring and reporting of groundwater levels and use.*
 - *Evaluate and follow through on groundwater monitoring recommendations made in Regional Groundwater Assessments (Hydrogeological Consultants Ltd., 1999-2001).*
 - *Develop better understanding of groundwater/surface water interactions.*
 - *Possibly Establish a New Goal:* To reflect the significance of establish a separate Goal of "Information, Education, Knowledge Exchange" that incorporates Directions -
 - 1.2 Improve information, knowledge and understanding of watershed function and stewardship. (P)
 - 2.1 Improve knowledge and understanding of surface water supply, trends and variability. (P)
 - 3.1 Improve knowledge of surface water quality in the Vermilion River watershed. (P)
 - 4.1 Improve knowledge of aquatic ecosystem health in the Vermilion River watershed (P). and
 - 5.1 Improve knowledge and understanding of groundwater quality and quantity. (P)

Board and Staff Members' Comments - A round table review of the day by all Board Members

Participants were asked what they thought was "good" about the workshop and what could "improve" for future similar events:

<i>Good</i>	<i>Improve</i>
<ul style="list-style-type: none"> ▪ Made sure that we were on target. ▪ Participants' contributions reflecting long term experience and perspectives. ▪ Small group discussion and opportunity to meet and learn from each other. ▪ Lots discussed – anticipate urban interests will have lots to say in future. ▪ The opportunity to review the VRWMP history, goals and progress since 2012. ▪ Opportunity to review the plan, consider improvements and future direction. ▪ Good review – able to consider my perspectives with others from within the Watershed. ▪ Fun today – opportunity to check back and review as well as consider implementation to date of the WMP. ▪ Wide range of goals – we were able to talk about narrowing the focus aimed at action. ▪ Positive vibe and support for the WMP. ▪ Focus efforts of the watershed alliance. ▪ Smooth, good sharing of information. ▪ Liked small discussion groups. ▪ Valuable to revisit initial goals. ▪ Good to note accomplishments to date – showed success. ▪ Small group discussion. ▪ Opportunity to look at concepts and do a "reality check". ▪ Provided clarity on goals and direction. ▪ Reviewed WMP – it's a living document with new interests identified. ▪ Review was good. 	<ul style="list-style-type: none"> ▪ Funding controls directions – find some funding for more activities. ▪ Need for sub-committees of the Board to focus on local areas. ▪ Small discussion groups – tighten up; change group membership for each discussion. ▪ More time. ▪ Develop a Readers' Digest of watershed studies and reports in plain language for people in the watershed. ▪ Maybe get public involvement on any revisions that are made; discuss accomplishments to date and share valuable stories. ▪ Improve and clarify goals and directions in an operating plan (versus another WMP) and review it annually. ▪ Mix the groups as we go through the goals to share perspectives. ▪ More time for large group "cross examination" of ideas.