

APPENDIX B INPUT RECEIVED DURING PUBLIC CONSULTATIONS 2004 & 2005

The objective of the public consultation process is to create and maintain a constructive dialogue with watershed stakeholders to ensure the long-term viability of the plan.

Objectives include:

- To allow stakeholders to influence the direction of the water management planning process,
- To promote public understanding of the hydrological processes in the watershed, the importance of riparian areas and the aquatic system,
- To educate the stakeholders about how various activities impact watershed health and what alternatives and Best Practices can be considered, and
- To promote effective communication between regulatory agencies and stakeholders.

Recognizing that all surface water in the watershed is linked, do you agree that actions such as development setbacks, stream buffers, etc., will improve and protect the health of riparian areas? Which other actions would you recommend for the stewardship of riparian and wetland health?

Regulatory Stakeholders

- Typically what I have observed is that narrow setbacks from the bank of Nose Creek, and increasing through buffers, are critical. The riparian area is the support system for the stream itself.
- Within the set back there is always some negotiation with developers. What are the activities that can be allowed within the setback? What needs to happen is restricting types of use. What is the priority? Is it to conserve, protect, and limit activities? Some of the activities appropriate – storm water management facility – converting acolyte habitat – is that an appropriate way to use these buffers and set backs? What is currently in existence and the type and quality of habitat?
- My experience with environment is more on the approval side. We need to have strong scientific data, very well documented reasons why the development can't go ahead. Developments are approved years before we receive application – they could infringe on water areas – then go for approval to Alberta Environment.
- If you are dealing with a large area of land – to plan comprehensively to understand the whole development. If it is piecemeal, development (several applications) the damage / impact to a riparian area may already be done.
- So many different applications coming through Airdrie. Where Environment should or do get involved, I am not exactly sure. We are different than Rocky View as we have area structure plans in place before development is approved. However, our ASP is not necessarily detailed enough.
- Develop a vision for the river and then break it into regions.
- Define functionality goals for an urban environment. What are we trying to protect and what can we protect realistically?
- Regulations – conflicting priorities and regulations.
- Segment your problems in bits you can deal with – river segmentation, urban areas. How does land use affect the river and how can we tie in this plan to land use activities?
- Protection/Enhancement. Long range planning (ASP or Higher).

Environmental Groups

- Establishment of setbacks and buffers. Vision for the creek, segment it, who does it reach?
- Absolutely, improve & protect. Stewardship – the current Municipal Government Act provides minimum setbacks and buffers – we only have a minimum of 6 meter setback and it isn't to protect it, it is to prevent pollution and provide access. Often not wide enough to protect, and is often used as a pathway system. We recommend that we advise Provincial Government legislation to allow municipalities larger setbacks and allow for protection of the riparian habitat and water body itself. We don't have that protection right now.
- A cultural issue – 6 meters acts as a maximum, not a minimum. Associate functional upland – very important part of any water body. I believe we should approach province and ask them to improve the law and expand it to recognize riparian and upland.
- We want a functional situation and I agree we need to have this law changed. This law should apply to all water systems.
- We certainly need to include the uplands – science base is an important word. If you can begin at the planning stage – it is way easier to set up the buffer zone and that is where the science-based comes from.
- Legislation – there is a sub-committee of municipal affairs – restructuring the *Municipal Government Act* – significant segments – buffers, setbacks etc., is in that regulation – being proposed. If it goes to regulation – it can be opposed. I have been told they are going to take it out of develop stage and preserve it.
- First job is to determine functionality and what it is you are trying to protect in order to secure adequate space for animals and other elements you're trying to protect.
- Important that upland and riparian areas function together. That we are not just talking about individual systems but they work together to provide us with a better quality of water and habitat.
- The municipal governments involved in the plan have to all be speaking from the same page. Continuity between the governments – each one is dealing with different regulations in their own planning. It needs to be consistent.
- Science may not give you the concrete answers you are looking for.
- Coming at it from an inexperienced background, it is important we get the word out and educate people. If people/public had an understanding, they may demand from developers to make changes. Education is key to making the developers and government understand. Get the people on side and they will put pressure on developers and government.
- Protecting with easement – does not protect at all. Science component agreed on, but we have to get Councils to where the science community is and then take it forward to our legislation. We have to define what is developable land. It is all about money and profit for the developer.
- Education is a huge issue.
- Until Calgary started Wetland information sharing, wetlands in small urban centers have been regularly filled in to become developable lands etc. It is going to take quite a bit of education to convince developers that they shouldn't do that. I am not

against education, but I do not want us to step away from strong legislation – this is very important.

- Ducks Unlimited is trying to administer a small land owner environmental awareness program. City centers and municipalities can partner on this to create more awareness. We need to go one step more – we need to have workshops, be in schools, we need to be in the communities.
- Great opportunity for municipalities to come together as a combined force and really drive the point home. Up to municipalities to get message across that we need to save our waters. Hope representatives at this table will stand behind their municipalities and champion this cause.
- Upland is not just grasslands – it is much more. We have to look in a very systematic approach – what will it take to maintain a balanced eco system.
- Stewardship, cumulative impacts of everyday actions, incremental aspects are far more important. City of Calgary wastewater and drainage department is working on this now.
- Yes, *Municipal Government Act* that governs our ability to determine setbacks enabling for 6 meter buffers, does not protect.
- Buffers need to be science-based.
- Active project in *Municipal Government Act* – allow larger setbacks: prevent access, protect riparian and functional uplands, determine functionality and define it. Define wildlife in the area.
- Yes, define developable land into dollars. Need to change the mind-set of developers regarding 6 meter buffer.
- Education of the public is key.
- *Municipal Government Act* needs to be speaking from the same page as the Water Management Plan.
- Define “developable”.
- Yes. Control storm water outfalls, larger setbacks. Build on the functionality – upland, riparian, wetlands.
- Continuity needed between Municipal Governments.
- Stewardship and everyday actions need to be broader, storm sewers, incremental aspects, how to make urban living less harmful to water system.
- Municipal Government Act is lacking. Advise Provincial Governments to deal with cumulative impacts.
- No development of natural wetlands.
- Small landowners holding stewardship program would be useful.
- Implement Mitigation process.
- Barrier Approach: 1. Uplands, 2. Riparian, 3. Wetland, equals ecological goods and services.
- Requested clarification on setbacks and buffers.
- Could set up offsite water troughs rather than using the creek.
- Dramatic difference where livestock graze. For example, where cattle don’t graze, there are more trees. I do not support setbacks and buffers.
- It all depends on livestock management – if you do calving where there are trees, there won’t be trees because this kills the trees.
- There isn’t just one answer. I can see the advantage of having buffers and off-site watering systems, but has to be identified on individual locations.
- Seeing a lot more of deer and moose and they will get through

Agricultural Producers

General Public

- fencing. Not practical or necessarily needed if managed properly.
- Beaver management would be extensive with fencing.
- A lot of farmers that graze cattle along the creek are not here. Unless people are prepared to change their management, the only solution would be fencing.
- Cattle will drink if clean and not muddy, will easily drink from a trough.
- A lot of physical barriers to try and fence. i.e., flooding, beavers
- Stream buffers would be useful, but is it practical or economical. Do not think they should be mandatory in reference to Ag producers.
- Voluntary is the best way to do it. It would be hard to look at a riparian area that is green and lush (fenced) and your land is affected by drought, not to have your cattle feed and drink off of it.
- Mitigation, compensatory work, no net loss on habitat is now required from Alberta Environment.
- Airdrie, past Balzac, serious problem from storm water flows. Why does Airdrie not require buffers and setbacks? New development is now required to put in storm ponds, old development was not required.
- If we are going to go to a 30 m setback, how do we control the vegetation? There has to be some management of that vegetation. You can't just make it a park and walk away from it, it needs to be managed – generally this is taken care of by nature. Not all need a lot of management to be useful and effective riparian areas. If it is disturbed, then you get into a maintenance area.
- I do not agree, I think vegetation is going to become serious problem, and we are going to be out there fighting fires or something.
- If you want to keep a creek alive, it has to flow all the time. You need the trees, shrubs and vegetations. If you want to keep the animals there you have to have water flowing. We can't just build a creek, it will never work.
- The water quality, are you still monitoring that? Yes, the water is still being monitored. Found lots of phosphorus north of Airdrie, ACC found four different fish species in Nose Creek. However, some areas have poor water quality, and over a three year period, we did not see any improvement.
- Recommendation: why can't we go to quiet areas or marshes in that creek? It is not characteristics, but why can't we create them to improve water quality. Not recommending man made marshes, but are recommending maintaining wetlands.
- Determined that the way to go is to retain the water, then let it into the creek, not have man made marshes.
- If you want to clean up the water in the creek, why not filter it through marshes.
- Feel we have to clean the creek up first, before we try and use a filtering system like marshes.
- I have a legal permit to dam a portion of Nose Creek and my spring runoff is full of fecal matter. There are good examples out there where this can be managed.
- Are you saying that nothing is to be gained by putting in man made marshes? Nothing has been determined or decided as yet.
- A fair amount of flow that comes out of Airdrie in the summer

(south end) must be coming from Airdrie basements, because north is dry. So it begs to question, if they are finding phosphorus in water, what are they growing in those basements? There are some phosphorus in some springs in that area and yes there are water pumps in basements in Airdrie, but they are monitored. When they do discharge water, it is supposed to go to storm water but can be assured that is what happens.

- In Airdrie we have put a circulation system because the water gets so stagnant.

1a) As you see development occurring – should we be looking at more stringent controls in relation to setbacks and buffers?

Agricultural Producers

- Proper installation of culverts etc. is really important. They shouldn't impede the movement of its natural or previous state.
- Airdrie has been lax in streamline protection. The soil is disturbed right down to the waterline. They are also building within 50 feet within the waterline.
- In defense, if Airdrie hadn't made some changes, Airdrie would be ½ under water.
- Because of the higher concentration of people, roads, the potential for a problem is certainly magnified. Some serious long term planning needs to be done.

2) How do we determine appropriate development setbacks, buffers, and other measures designed to improve riparian health for developed land (residential, industrial, commercial, recreational), and agricultural land (extensive and intensive uses)?

Regulatory Stakeholders

- How do we determine – is this science or policy? I believe it is science but has not progressed far enough yet. Is 30 meters good measure to provide habitat support? Need more long range planning. Nose Creek where development has gone on for many miles – what is the appropriate setback?
- NRCB follows Alberta Agriculture guidelines. Unless we determine there is an environmental risk that would alter our decision, we follow the guidelines.
- Municipal mechanisms for project. Strategic Plan Environmental Assessment needs a reference to apply to the process (i.e. Management Plan).
- Leave it to the experts (Re: Alberta Environment – they should have to tell us.)
- Long range planning to identify corridors.

Environmental Groups

- Science based is one answer, but of course science is fuzzy.
- Determine the functionality.
- Start with a minimum, then develop a risk analysis assessment – review by proposal and determine the risk.
- Look at what we have currently, and then determine what is missing. We recognize the existing situation is not good enough.
- Recreationalists think they have a right to go into the water and do whatever they want. Some riparian lands are so environmentally sensitive, there shouldn't be access. I hope that would be included in some of our recommendations.
- Setback – what can and can't be done. Section 664, 666, 667 and 670 of the *Municipal Government Act* – get a copy. You can create a conservation zone.
- Environmental Reserves are to be left in their natural state. If you want to an ER. It would be very limited with access and utilities only. Saying I am going to take the ER and preserve for animals, doesn't fit the definition. Need to be more specific and structured. No legislative authority to make a conservation zone.
- We need assessments and a part of that should be a management plan.
- Risk analysis need to be developed.
- Rural and urban municipal text needs to be expanded for protection of riparian areas. When we get back to loving our parks too much, limiting recreation use should be part of the management plan.

- We need authoritative management of the park areas, where ever they are.
- There is an industry built around promoting recreation and it is very powerful.
- We don't defer the assessment to each individual application for development; we want to do it well in advance. We want to see it as a whole, can't do it piecemeal.
- In addition to restrictions, we also have to provide alternatives, like off-leash dog areas. Alternatives should be part of the plan.
- Determine functionality – risk analysis model, start with a minimum.
- Need legislative authority.
- Recreationalist – direct them away from sensitive areas!
- Update laws on birds and wildlife in parks.
- Evaluate the entire system, each area will have a different need. Look at potential impact and requirements on setbacks, easements etc. Look at best or desired condition as well as existing condition.
- Setbacks can be determined by direct and indirect impact to the riparian area and water quality.
- Risk matrix – what was there historically

3) How can we ensure that infrastructure (bridges, pathways, creek crossings, ponds) do not compromise riparian areas?

Regulatory Stakeholders

- Beddington Creek area, where a storm pond was to go into the main channel of the creek was determined as a suitable use by the community. That kind of planning restricts conservation of land base. Need better planning, understanding of resources. Long range planning. It is quite important to have a component of the WMP on how do we use this effectively.
- Alberta Environment approved the new bridge over Nose Creek and a number of conditions had to be followed. Through all planning documents there are provisions to protect water, and they are followed.
- A lot of Nose Creek has been impacted by the already approved regulatory decisions in place. A lot of the time, environment is not able to take in the whole picture for consideration.
- Resources are tight. The Government is now working with a Code of Practice vs. approvals. As a result we are not looking at them as closely as we used to.
- The Council of the MD would be hard pressed to enforce something more stringent than Alberta Environment would require.
- Land Use Bylaw – activity along the Elbow River where they restricted development – need a laid out plan along Nose Creek as they did for Elbow River.
- Developers that we don't have any control over already do a lot of the potential damage.
- In the absence of a lot of scientific data – stakeholders will say we see what has been done in the past and hope it can be improved upon. Have Council lead the charge with better, clearer standards than Alberta Environment has.
- Where scientific data is unknown, you apply the precautionary principle.
- Higher levels of regulations are required! Enforcement/Regulation – but this is probably not the responsibility of the local authorities

– no limited power in local bylaws. Isn't this either *Water Act* or the *Environmental Protection and Enhancement Act*? Storm facilities are already regulated. Bridges are already regulated but are not sure about pathways. Unregulated development should already be regulated.

- Mechanism – developers required to present a current state of environment prior to development. Not consistent when asking for biophysical assessments prior to development.
- Important step to identify your entire natural environment – then present options to developers. Development can still occur depending on water quality etc. If developers are not willing to restore damaged land? Then hopefully a compromise can be reached to still maintain the area.
- What is the functionality of this creek and what can we save? What are we willing to focus on? Then develop water management plan (suggested by regions).
- Delineation of environmentally significant areas and conservation areas at the regional planning stages.
- Provide clear direction for construction and planning.
- Given the balance that we have to meet society, in a City like Calgary, we have made provisions for people to live in the lifestyle they are accustomed. Cars, bridges, roads are just part of the issues. Again we get back to functionality – if we do the rest right, hopefully this issue will be minimized.
- Once functions are determined, set standards, then look at how we can address infrastructure.
- Natural infrastructure has a huge role to play, and we have to look after it.
- In Calgary when bridge crossing proposed, direct them away from sensitive areas.
- Science based reclamation – no net loss should be the objective.
- Have seen “no net loss” being abused. Not a lot of confidence in regulations.
- Very important to develop, plan recreation/infrastructure features in a strategic manner, so it takes people away from riparian areas.
- On major infrastructure there is a lot of resistance to move roads etc. If we can be involved at stage where you can actually change something would be beneficial – but usually this happens years in advance.
- What standards do they go by? Can we provide them with more information to work with?
- Define what is allowed in which areas, as existing condition and best or desired condition.
- Long term planning – look at the actual land, not the “grid” system laid out over 100 years ago.
- Do not overuse the area. Identify if density is suitable to sustain. Determine areas which can handle higher density and areas with lower density.
- Infrastructure – access vs. protection.
- Bridges need to be higher, wider, and friendlier.
- Channelization – lost habitat should be made up somewhere in the system.
- Need to get involved in a stage where public consultation is actually meaningful.
- Buffer and riparian – two entirely different things. Buffer is man-

Environmental Groups

made augmentation to a natural riparian area. Irrigation ditch – although this is man-made, this is a riparian area – buffer may be required to protect natural riparian area.

- Need to tie economic dollars to riparian area.

PROTECTION OF WATER QUALITY AND AQUATIC ECOSYSTEMS

1) What actions can protect the water quality and aquatic ecosystems?

Regulatory Stakeholders

- We have a few storm water management facilities that have been developed to pre-treat the water as much as possible to take out some of the pollutants before they get to the system.
- Nose Creek in particular has a lot of rural and densely populated areas that will never see development. West Nose Creek has higher development. It is very important to educate the community.
- Springbank – master drainage plan – broken down to different watersheds which each have a sight specific plan.
- In Calgary we are trying to reduce peak flows, but nothing is being done to reduce volume. Have to consider controls, then put them in place and ensure they are enforced.
- What is going to make it get worse (urbanization etc.), and how do I stop those activities? Then determine the best management practices. The next question would be what is there now and how do I make that better?
- We always focus on rates – but we do not adjust the volumes. Nose and West Nose Creek are small creeks with large drainage areas. Not a lot of runoff used to reach the creek. The more we develop in the area, the more grading we do, which does have a significant impact. We need to concentrate on reducing total volume of stormwater.
- Has mitigation been considered under the Environmental Assessment Programs? Look into new technologies being used elsewhere.
- Pre-treat stormwater runoff.
- Let's not let it get worse. Monitoring, engineering standards, long-term vision, what is being challenged? Monitor how things get built.
- Storm facilities to pretreat water as much as possible. Maintain predevelopment discharge levels. Erosion and sedimentation control.
- Innovative source control facilities such as treatment of stormwater within the development envelope, more permeable ground.

Environmental Groups

- Buffer, Buffer, Buffer!
- There seems to be confusion re: buffer and riparian. They are two entirely different things. Natural vegetation and soil will tell you where the riparian area is. Buffer is a man made augmented area to support riparian area.
- Storm sewers – what people pour down those drains – we need to address that.
- Identifying existing wetlands and integrate them into storm management systems.
- Need to discuss all aspects as a whole and tie some economics into the discussion.
- Watershed Management Plan should consider functionality of wetlands. Majority (50-100%) of groundwater recharge comes from wetlands and creeks. As soon as you drain wetlands, you

lose groundwater. We need to make public understand importance of wetlands and their functions.

Agricultural Producers

- You need to look at groundwater as well as surface water.
- Where are the wetlands that provide groundwater recharge and where are those that are discharge?
- Buffers – ecological goods and services need to be talked about – information needed.
- 50-100% of groundwater recharge occurs in wetlands.
- Education – people, developers, owners.
- Legislation.
- Workshops for those who are impacted – ranchers, farmers, residents, business, departments of municipalities etc.
- Bylaws – development restrictions and enforcement.
- Fencing dugouts and springs, changing grazing practices.
- Wintering sites should be setback – not keeping them directly upstream.
- Totally ungrazed areas could pose fire hazards.
- Everything should be done in moderation – don't over graze or under graze. Perform your cattle management by using moderation.
- There are a lot of areas that could have a small dam put in to stop floods and utilize water flow better.
- Grazing and management practices have more to do with water management than anything else.
- Rotational or skim grazing is a very effective way to support good water management.
- Good grazing management improves the land and holds water. Minimum tillage is a good way to hold moisture in the land. Less summerfallow has proved successful – so that means more farmers adopt it quicker and easier.

2) How can we better integrate the water management plan and land use?

Regulatory Stakeholders

- Before land is zoned for specific use, some sort of Environmental Committee should approve the rezoning activity as is done when projects are implemented under the *Environmental Assessment Act*.
- CCME – Surface Water Quality
- Water management plans are non-statutory. The Land Use Bylaw is a water management plan and can inform Land Use Bylaw's, but the political will has to be there (implications must also be addressed).
- Integration of the Water Management Plan into the Land Use Bylaws or ensure that the plan be implemented in alignment with existing approved conservation plans (e.g. Calgary Open Space Plan).

Environmental Group

- Calgary Regional Partnership (CRP) – how can this play a part in this? Seems like a good venue to promote a consistent approach.
- Urban Park Master Plan – City of Calgary – could be a good guideline/source to assist with vision, guidelines etc.
- Identify areas to be protected with science. Get Council's buy-in and approval. Get Planning and Utilities involvement.
- Put the WMP into the Municipal Development Plan and then from there, the policy should filter down into other policies.
- Look at Calgary Regional Partnership consultant approach.
- Utilize some water before it enters the system.

- Use CRP to ensure consistency in implementation of WMP.
- Should look at the whole watershed as a single system, considering the linkage between surface water and groundwater. Example: The majority of groundwater is recharged by prairie wetlands.

3) How can we encourage the use of Best Management Practices to ensure water quality protection (i.e., education, standards/guidelines, legislation)?

Regulatory Stakeholders

- City of Calgary and Airdrie would have to look at standards – easier to implement and regulate.
- All of the above. For approvals, the “Experts” need to inform of their decisions

Environmental Group

- All of the above.
- BMP – all have a degree of success, but if only looking at 10% effective use of that BMP – how effective is it. Need to look at the “best bang for our buck”.
- Evaluate effectiveness of the BMPs – then embrace one or two of them. Provide the best bang for our buck.
- Enforcement – in Calgary we have a lot of rules, and a lot are not enforced.
- Three things: governing bodies – we like to come up with BMP – guidelines and policy. Enforcement and monitoring come out of legislation – they don’t come out of policy and guidelines. Four components, education, regulation, monitoring and enforcement.
- Require BMPs as standards within the municipalities.
- Discourage non-compliance with fines for developers – better BMPs, more credit.
- Practice what we preach.
- There must be an enforcement and monitoring program.
- We also need to investigate the harm being caused by pharmaceuticals, both human and agricultural, going into water supply.

3a) How can we encourage the use of Best Management Practices in agriculture to improve water quality and protect aquatic ecosystems? Which BMPs would you recommend to be used?

Agricultural Producers

- You have an agricultural tour every year.
- Tie economics to new practices.
- Show benefits with demo sites and test plots.
- Cash incentives.
- Offsetting economic costs – would be valuable.
- Hard bottom crossing of creeks to make cattle easier without affecting creek. This might be considered a better practice, not necessarily best.
- Technical information.

3b) If BMPs are required to be implemented, what would be the expectations of the government/regulators (i.e., funding, maintenance, standards)

Regulatory Stakeholders

- Would have to be a part of regulation at all levels.
- How does BMP get enforced? Upside if you have the rules – at least they are there and people know what they should be following. Unfortunately it comes down to resources and money to properly enforce.
- Very problematic to put burden on MDs to develop their own standards. May not all be consistent – different standards. Provincial government is getting out of regulating and putting at municipality’s level. This is not an issue that a single MD or

jurisdiction can regulate. The regulations should come from the province and they should enforce as well.

- Alberta Environment going in that direction with “Water for Life”.
- Is there an acceptable amount of damage to watershed – then work back from there. You have to have a starting point. What are the specific targets? What is the final target(s) for Nose Creek? How do we decide on anything before we set some standards or targets and know what our end product is?
- Develop more on what the watershed needs and don’t focus on provincial standards.
- Municipalities are responsible for replacement and maintenance – only makes sense that we do rather than Alberta Environment.
- Standards need to come at the community level. If there are higher standards set for one of the basins – should that be reflected with the approval officers? There has to be some kind of philosophy change to make this work at all levels.
- Water should be regulated by the Province, or federally when there is fish habitat involved. Local implementation can happen re: Watershed Management Plan.

4) The implementation of BMPs, setbacks, land-use bylaws, etc., will likely result in higher costs for businesses/development. Please help identify benefits that would offset these costs.

Regulatory Stakeholders

- Cost would increase and planning would have to be further in advance.
- May be restricted in areas – some conflicting priorities with different types of land use adjacent to Nose Creek that may impact the ability to meet some of the goals and objectives of the plan. There should be room in the plan to identify compensation for different areas.
- Conflicting priorities and regulations can cause need for flexibility in the Water Management Plan.
- What kinds of action? Costs are placed on developers (more land for ER equals less land for development). Would the developers be looking for compensation?

Environmental Group

- Source protection – most obvious feature and we often don’t recognize it. Do everything in your power to protect source. In the eastern slopes intensive plans for agriculture, forestry, oil and gas development. All of this is taking place on our source waters – the obvious is being left with no plan and nothing is being done. Out of these meetings, we need to develop a plan to protect our source waters.
- Conservation – we need to conserve what we have. We do not do a very good job of that. We need to do much better.
- Aesthetics – recreation time we go out and enjoy nature – often it is near riparian areas.
- In healthy riparian areas, flood activity is reduced. Recreation impact, hunting, fishing and opportunities – all have economic value to them.
- I don’t think we want to start talking about source water, etc.; we want to start talking about a watershed. Encourage a watershed approach.
- Carrot to development industry, incentives: higher land values, maintenance costs, ER credit for lands they use for infrastructure.
- Grants, both provincial and municipal.
- Better long term environment is a selling feature.

- Lower costs: lower engineering and maintenance costs. ER credits if this creates wet marshes.
- Erosion control. Reduced stream bank erosion = low costs. Better water quality = reduce cost to clean.

4b) The implementation of BMPs, setbacks, restrictions to certain activities, etc., may result in higher costs for agricultural producers. How would these actions impact on your business and what are the benefits that would offset these costs.

- Agricultural Producers**
- If had to fence both sides in a pasture situation may have to not pasture in that area, may have to put in a water system, fencing cost and maintenance.
 - Do you use it as a riparian pasture and skim graze?
 - Would create more work for managing the cattle.
 - Positive outcome may be better quality water and better beef production.
 - By leaving grass long, could add nutrients to water, but also could filter impurities as well.
 - Cultivated land – established buffers would reduce the land that a farmer has available.
 - Grass waterways work very well and has very little inconvenience.
 - Cultivated land – affects may be erosion and runoff into creek. With minimum tillage, less need for grass waterways on very minor slopes and there are all kinds of root material and stubble to hold it.

5) What can we do to ensure a long-term economic viability and watershed sustainability?

- Environmental Group**
- The City of Calgary – treating resource as a utility. If we look at it from a different perspective – it might help. Need to re-evaluate development land is not an endless resource for us to use up.
 - Long term commitment and vision from principle players. Not achievable in one or two years.
 - Should look at different countries and see how they handle their situations, use a tool to help us understand how we can improve. Environmental impact in different countries due to vast populations; we may be able to learn from their mistakes.
 - Economical principles – we can look at how we assign value to things. Our true costs of operations will affect the value. Highly recommend Natural capital – implement some of the recommendations.
 - Long-term users and contracts. Implement recommendations from “Natural Capital”.
 - Re-evaluate what development is in Alberta. No longer can we use the land as endless resource. (Urban sprawl is an example).
 - Municipal Government must lead by example and set regulations.
- Agricultural Producers**
- You can do both. Some situations would be more difficult than others – but when there is a problem you react, but into the future you should be able to deal with these situation. The watershed is going to be there, so you have to deal with it.
 - If we implement what we talked about, long-term sustainability will be possible.
 - Implement legislation. Have the rules, but it has to be enforced and followed.
 - Might have to assist producers when there is a general benefit identified when it is above and beyond the economic potential of the farmer.

6) Do you think that ecological protection should be the foundation for a water management plan?

Regulatory Agencies

- All aspects of water use should be considered in the management plan. Must consider a sustainable water system, taking into account the economic, social and ecological impacts.

Environmental Group

- Yes.
- Yes, from majority of participants.
- If you don't have ecological protection as foundation – you won't have water in long term.
- The City of Calgary looks at the triple bottom line – environment, economy, social.
- Yes – it is a foundation.

7) Do you think that more legislative and enforcement action is needed to protect watershed ecosystems?

Regulatory Stakeholders

- Only if the non-legislative actions do not work. Should work on pollution prevention as approval and reactive stance with legislation and enforcement.
- Incorporate enforcement into Municipal Land Use Bylaws. Develop standards and incorporate into construction specifications.

Environmental Group

- Yes. This is unfortunately the only way Alberta society can get educated on environmental issues.

Agricultural Producers

- Yes, specifically with development issues.
- Legislation and enforcement is OK, but let's make sure everyone is in agreement.
- I don't like any kind of intervention. Conditions change on a farm all the time, to try and find a set of rules that meet all conditions is very difficult and a hardship to some. I don't believe that anyone want to destroy streams etc. and farmers generally have years and years of experience and are only trying to work the land the best for them and environmentally. Related to agricultural producers that know the land. I don't support more regulation.
- Developers are very smart; they work around the laws. The best thing is to get the best people as possible to develop and enforce legislation, but it is very difficult.

8) Do you think that incentives for constructing BMPs can improve water quality?

Regulatory Stakeholders

- It is give and take – incentives could work.
- Look at the objectives of the WMP – look at the incentives for developers.
- Need to be really careful on what you trade off – so you don't lose recreational fields etc.
- Incentives from whom, the City or Province? Yes to incentives but implications, re: loss of other Municipal Reserves for Communities.
- Incentives are working in Stoney Industrial.
- If you are going to use incentives – you also have to use enforcements. You can't use one without the other.
- NRCB – if we see the applicant has come to an agreement with the Municipality – we can make that a condition to an approval, the NRCB is responsible for enforcing the conditions of its approval.
- If the Municipality does have the enforcement – we don't have anything.
- The City of Calgary – regulations will be come more stringent next year. May be an incentive for other Municipalities to have stricter standards.

Environmental Group

- Yes. Credits, property assessment credits given to developers for voluntary ER/MR dedication as a buffer. (Habitat Conservation)
- Yes. BMPs have to be science based, regulated and monitored to be effective.
- Incentives will help, but all other elements should be addressed first. I don't believe we should be paying people to do the right thing. Stewardship, then penalties. The penalty for a developer is just say no to permit until you come up with a BMP.
- Industry to offset some of their costs because they have

something of value. If we start thinking of it this way, it could become a very strong negotiating tool with developers.

- Address all other avenues first – stewardship, penalties.
- Establish value of BMPs. Look at environmental protection as valuable, and talk about that way. It's a good marketing tool.
- Yes – with grants. Need to get Utilities and Transportation involved.
- Developers don't like to spend money on anything that doesn't make them money.
- Yes, it can improve water quality.
- Needs to be science based and need information and knowledge for those who implement and those who fund.

Agricultural Producers

- Incentives and awareness is the best way to go for Ag producers

STORMWATER RUNOFF CONSERVATION AND REUSE

1) Do the existing policies, standards and bylaws support water conservation initiatives (stormwater reuse, wetland retention, infiltration and other strategies that promote natural hydrological processes)? How can they be strengthened?

Regulatory

Stakeholders

- At the airport we are going through the process to upgrade our stormwater master plan. One issue focused on was that we should not just develop a master storm drainage plan – but also look at reuse and promote reuse with multiple of satellite tenants outside the main terminal.

Environmental Group

- Land use bylaws re: xeriscaping? Can they be strengthened – No!! Well maybe things could be improved.
- City of Calgary trying to focus on stormwater reuse. The more we reuse, the less that ends up in the creek. It only makes sense to capture and reuse mostly for irrigation purposes. This is one of the ways to deal with issue – less pollution, erosion and more where it is needed.
- City of Calgary is trying to encourage this conservation initiative, but it is not policy etc.
- Policies, standards and bylaws DO NOT support water conservation initiatives. Until something stronger is implemented, the voluntary adoption process is “dead in the water”.
- Definitely policy with city and municipalities can be strengthened.
- Education is important (no green laws) but can do a lot more with bylaws, getting our mind around more water in rivers then to encourage people to reuse as much as possible so the cities and municipalities can have short term wealth.
- Policies are easy, but how do you enforce and penalize for using too much water?
- Raising the price of water is a major incentive to change the landscape habits of homeowners.
- City of Calgary – smaller consumer pays more than the large consumers. It goes back to practices and educating that natural landscape on your lawn is OK.
- Existing policies don't support this – need something stronger (voluntary only now), need more education.
- No – need utilities involvement on the environmental side. Also, need input from “science” to tell us where, how and what to implement. Big picture environmental planning is required prior to development.
- No.

2) Should water conservation efforts be legislated?

Regulatory Stakeholders

- There are some ways where the Provincial government can help – but not sure it should necessarily be legislated.
- Yes, look to BC's regional growth plans for clues, i.e. Provincially Legislated, locally implemented, for large scale, and building codes for micro-scale.

Environmental Group

- Which ones? New licenses are possible for conservation requirements, however most of our use is under existing (old) licenses that don't require conservation. New legislation affecting even the old licenses would be bold move.
- Yes, absolutely.
- Permeable surfaces such as asphalt and landscaping. Spread out the contaminants.

SURFACE WATER ALLOCATION ISSUES

1) What mechanisms can we put in place to ensure that (“in and out”) water conservation objectives are met?

Environmental Group

- Performance indicators – some way to measure objectives.
- If too much water going in – creating wetlands, but we need science to look at ecological damage created wetlands are doing to environment.
- One mechanism could be permeable surfaces – driveways as an example. All of the contaminants not just going into wetlands – but spread out.
- This goes back to existing policies etc. New policies need to ensure in/out works. i.e. Out can be reduced by irrigating with stormwater etc.
- Need performance measures/indicators – how to control who is doing what.

Agricultural Producers

- There are licenses and permits currently in place.
- Record keeping and monitoring of the amount of water used.
- New Ag producers have to have a record keeping and monitoring system, but for existing producers, they do not require.
- Pumping surface water into wells to extract oil and gas is a concern.
- Car washes – water goes right to sewage plant and does not go into water system. Airdrie's car wash water goes to sewage plant. It could also be recycled water – that is their choice and that should be encouraged.
- A lot of room for water conservation and recycling and needs some strong legislation. E.g. car washes, washing machines etc.
- Pumping water down abandoned wells to bring oil closer to the surface should not be allowed.

2) How can we ensure a fair water allocation strategy that will meet water conservation objectives?

Regulatory Stakeholders

- Whoever applies first (**question to be changed or removed**)
- Regulation of all water users; Water Management Plans – already regulated under the Water Act.
- There are currently some issues on water allocation.
 1. In stream flow
 2. Current usage
 3. First in Time

Environmental Group

- Get rid of FITFIR. (First in time, first in right)
- Develop wetland working group – role of wetlands and water

- quality.
- Agricultural Producers**
- It isn't fair the way it allocated now. It may be that uses are occurring upstream and not getting down stream.
 - In the last few years, we haven't had any runoff. There isn't enough water in the last two/three years to fill the creek in the first place.
 - We have to be very careful about allowing any more licenses to take water out of the creek.
 - We already have problems in allocation, as there isn't enough water out there.
 - There are a total of 96 licenses to withdraw water from the watershed; 62 for Nose Creek, 9 for West Nose Creek and 25 for other tributary sources including Beddington Creek and Big Spring Creek.

3) Should common diversions from the creek for agricultural purposes be permitted?

- Regulatory Stakeholders**
- What doesn't have to be authorized? Statutory Right – household use (ground or surface – does not have to be a well) 1250 cubic meters. Provided they are not supplied by a regional system.
 - Under Water Act – exemption for dugouts, traditional agricultural uses. With both exemptions, they can be pulled if severe water shortage.
 - If you don't fall under an exemption – they are all regulated or permitted.
 - Don't traditional users already have established rights under the Water Act? New developments need to be regulated, including agriculture. Although I think they already are.
 - If you own land along the creek – do you have access to hauling water out of the creek? (time to confirm)
 - Livestock water takes second to household water – whether or not you have a license.
 - For the last forty years you could do it as long as you got a license.
 - There has to be provisions to access water in a user friendly, BMP way without destroying the region's habitat.

EDUCATION AND KNOWLEDGE

1) Is the information you've been provided about the Nose Creek basin useful and adequate?

- Environmental Group**
- Yes.
- Agricultural Producers**
- Information has been useful, but need more backed up research.
 - Become more aware of particular problems and cause of problems with some suggestion solutions on what we can do better. We all want a healthy creek; what can we do to help improve. If we don't stop the deterioration, we are going to see flash floods or a dry gully.

2) Will you use the information in the Water Management Plan to comment on the development proposals and other issues related to Nose Creek Watershed in your jurisdiction?

- Environmental Group**
- All municipalities within Nose Creek will have to agree/sign and amend their policies to match the Water Management Plan.
 - More information and education would help me do this. Also, Transportation Planning and Utilities need this same continuing education.

3. Would you contribute to additional research related to water quality improvements in Nose Creek?

Environmental Group

- Where possible in my capacity.
- Yes.

4) Do you think that additional research related to water quality improvements in Nose Creek is needed?

Agricultural Producers

- There is a lot of potential for water conservation and higher quality water – technology is moving forward quickly.
- Need economic incentives to move water conservation practices along.
- Ag producers who have been contributing to higher water quality for years, should they be economically compensated? Yes.
- If an incentive program is implemented, look back a few years to see if they could qualify and not be penalized for being a leader.

Additional Comments:

- What are the implications of a Water Management Plan being implemented?
- Do you want us to develop a Communication Plan or provide input into the plan? Direction is unclear.

Consensus:

- Standards set at the watershed level – on a consensus basis.
- Province has adopted guidelines for CCME – that is the point we should start from to set water quality guidelines. (CCME display at next focus group)
- Technical Committee needs to get copies of standards (all) – to compare to the draft BMP.
- The plan needs to be adopted by all municipalities. The parameters need to be consistent. Variables: soil type, the political acceptability with Airdrie and Calgary being involved in decision making that does not happen within their regions, rural acceptability, and urban acceptability.