

Calgary Regional Land Use Plan Working Session Notes

Water & Ecology

January 24, 2008

Attendance

Elected

Councillor Al Gillis	High River
Mayor Truper McBride	Cochrane
Councillor Barry Williamson	Turner Valley
Reeve Dene Cooper	Bighorn
Councillor Maria Dunki	Bighorn
Councillor Bill Szabon	Nanton
Councillor Don Moore	High River
Mayor Bill McAlpine	Okotoks
Councillor Beth Kish	Okotoks
Councillor High Pepper	MD Bighorn
Councillor Jim Ridley	Canmore
Mayor John Blake	Nanton
Councillor Gordon Branson	Rocky View

Staff/Other

Peter Gilmore	Calgary
Jorie McKenzie	Rocky View
Paul Fesko	Cochrane
Craig Lawrence	Chestermere
James Robertson	Calgary
Kelly Learned	Cochrane
Patricia Sorfleet	Canmore
Darren Martin	Calgary
Anne Charlton	Calgary
Alex Broda	Calgary
Peter Vang	Crossfield Citizen
Tanis Houck	Airdrie
Andrea Czarnecki	Alberta Environment
Al Kenyon	Crossfield Citizen
Frances Jackson-Dover	Priddis-Millarville Residents Assoc
Ron Laycraft	Foothills
Doug Longson	Foothills Citizen
Bill Berzins	BRBC
Garry Pollock	Turner Valley
Hugh Pepper	Bighorn
Gloria Wilkinson	BRBC
Brenda Goode	Rocky View Citizen
Ron McCormick	Golder Associates
Lisa Fox	Sustainable Resources Inc
Carolyn Campbell	Alberta Wilderness Association
Mac Hickley	River Valleys Committee

Jim Webber	WID
Gordon McIlwain	Rocky View Citizen
Sharon Wood	Calgary
Tim Creelman	Calgary
Sarah Schumacher	Wheatland County
Amanda Cromar	CRP
Colleen Shepherd	CRP
Bob Miller	Calgary/CRP
Shana Barbour-Welsh	Redwood Meadows Citizen
Cathy Ascroft	Calgary
Charles Boechler	Remington Development Corp
Jodi Kohls	Westhoff Eng Resources Inc
Hilton Mierau	Mennonite Seniors Soc
Michael Murray	BRBC
John Buckley	MD RV Rancher
Belinda Racicot	MD RV citizen
Edith Wearmouth	MDRV rancher
Billy Oulton	MDRV rancher
Lori-Anne Eklund	MDRV citizen
Elizabeth Breakey	Action for Agriculture
Nick Parkinson	Calgary Fire
Judy Stewart	
Gord Lehn	Spray Lakes Sawmills
Doug Olson	O2 Planning and Design
Mark Bennett	BRBC
Mike Quin	U of C
Mary Ellen Tyler	U of C
James Shea	Bearspaw Village Water Coop
David McGee	
Francine Forrest	AB Environment/BRBC
Julia Gonzalez	Calgary
Philip Gregory	Blueridge Rise Water Coop
Bert Van Duin	ALIDP
Christina Rehbein	O2 Planning and Design
Kate Beatson	MD Rocky View
Kary Troyer	Okotoks Citizen
Tracy Tarves	Western Skyland Trust
Mike Scarth	Alberta Water Smart
Keith Parker	Calgary

1 Preamble

The Calgary Regional Partnership is creating a regional growth management plan where each municipality's uniqueness and autonomy will be kept, while ensuring that we have a way forward to make decisions about sustainable growth in the region for our future. The plan that we collectively create, with all 18 municipalities aboard, will help us determine a logical process for the **sustainable** development of infrastructure, land and community services across the region. Put another way, we will determine where the next 1.5 million new residents to our region will live sustainably; and what areas or lands need to be preserved forever – be that for agriculture, recreation or environmental protection. Taking this regional approach will allow us to not only avoid potential inter-municipal and environmental

conflicts in the region, but it will help us proactively plan. The plan is being built for citizens in the region, by citizens in the region. Opportunities for input have been created for expert groups alongside citizens. To date we have developed three growth scenarios that show what the region could look like if we made certain assumptions. The first being – what if we continued to grow as we are now? The second looks at growth management from an entirely environmental perspective and the third looks at nodes and economic and transportation corridors. These scenarios have been fully and spatially mapped out by our planning team and have been presented to all the Mayors, Reeves and Councillors across the region.

This working session is part of the evaluation process and is designed to explore all the key issues around the regional plan and in particular, with respect to water and ecology issues. We will present an overview of the three growth scenarios mentioned above with particular emphasis on how these scenarios will impact water and ecology within the region. Experts from around the region will join attendees to discuss the key elements of the scenarios as well as the essential criteria needed to move forward to the Draft Plan.

2 Welcome provided by Reeve Dene Cooper from MD Bighorn

Reeve Cooper welcomed all participants on behalf of the CRP Executive Committee. He highlighted several examples from his own experiences of environmental crisis – Haiti in 1985 and Atlanta in 2007. He added that we should learn from both these examples that the environment is important, it is changing and we had better pay attention! He finished by saying that today we are here with the luxury to plan without an immediate crisis – we should get on with it!

3 Session Presentations

All presentations are available to view in full at www.calgaryregion.ca under the Regional Land Use Plan/presentations or by clicking on

<http://www.calgaryregion.ca/crp/projects/projects/regionalgrowth/presentations.aspx>

Regional Land Use Plan – an overview of three scenarios for regional planning By CRP Core Planning Team member - Doug Olson, O2 Planning and Design

Doug Olson – planning consultant to the CRP on the regional land use plan core planning team provided a summary of the three learning scenarios, created by the CRP’s core planning team that look long into the future and assume the same 1.75 million additional population. The first -Trend and Regional Predictions maps out what the region would look like if we continued with current policies, all approved ASPs, MDPs, and other contemplated projects currently in the planning stages. The second scenario looks at growth from the perspective of Nodes and Corridors – A network of connected nodes and corridors of intensified development that provides for efficient infrastructure and transportation delivery whilst building complete communities that adopt the forms of towns and villages. The final scenario focuses on creating a future that assumes that we will identify an ecologically and culturally sensitive land base and that development is excluded from these areas. It will create complete communities that adopt the forms of towns and villages with non retail employment associated with all towns to reduce travel requirements. Each of these scenarios will be evaluated against the same set of impact criteria and the resulting “Plan” will be a hybrid scenario that includes critically important conditions/assumptions from each learning scenario.

This presentation can be viewed on the home page of the CRP or by clicking http://www.calgaryregion.ca/crp/media/25209/crp_overview_2007_12_14.pdf

Discussion following presentation

- Canals were not shown on the maps as the scale was too big but this information has been provided by Western Irrigation District and appears on the sub-regional maps.
- Do we have enough data to predict what might happen downstream from Calgary depending on what decisions we make here?

Panel Discussion

Members:	Reeve Dene Cooper	MD Bighorn
	Bill Berzins	Bow River Basin Council
	Jim Webber	Western Irrigation District
	Paul Fesko	City of Calgary
	David McGee	Alberta Environment

Panel Observations and Review of the following questions:-

- √ *“3 things we need to understand about water and ecology as we develop a regional land use plan”*
- √ *“3 important questions we need to wrestle with about water and ecology”*

Bill Berzins (Chair - Bow River Basin Council)

<http://www.calgaryregion.ca/crp/media/26315/crp%20workshop%2024%20january%202008%20berzins.pdf>

Key message – There is trouble brewing in Alberta’s watersheds i.e. the failure to meet water quality objectives in 2006 and the overallocation of water etc. BRBC’s core business objective is to “become the best managed Basin in the world”. Bill discussed various leadership initiatives in water around the world and asked what leadership from the CRP should mean. We must protect future generations and downstream communities and ecosystems.

The BRBC will report on the State of our Watershed, connect directly with decision makers, set ambitious per capita targets, aggressively manage the resource as an asset and fund collective interest over next 7 generations.

Jim Webber (Western Irrigation District):

Key Message – Growth will follow water – where else can it go? Jim gave a personal view of the Region with regards to the Land Use Plan and Water.

He gave the background to the Irrigation Districts and explained that they live, breathe and work in the world of water rules and regulations. Their licenses are for water leasing for agriculture only – they currently have just submitted one application for a broader purpose. WID needs to raise the capital for construction to conserve, based upon the security of water lease agreements and they will seek to fund and build a Regional Reservoir site with possible opportunities for centralized water treatment and distribution.

Questions responses:

- ID's are giving up their future agricultural growth to satisfy urban demands. It will not be given free, water conservation has to be engineered and constructed, and those who gain will be expected to put up the investment. WID could find 20,000 acft through engineered solutions to cover the East Calgary/East MDRV/Wheatland demand for next 20 years. After that you would be paying farmers not to irrigate. This practice of leaving the land fallow can be found in the USA.
- We need to complete a Water License amendment to allow the WID to service to municipal customers. We need to create a Regional Reservoir (\$90m) for off-stream storage for shared Municipal and Agricultural use and we need to accelerate a major water conservation program to \$100m to create 20,000 acft of availability.

Paul Fesko (City of Calgary)

<http://www.calgaryregion.ca/crp/media/26325/final%20crp%202008-01-24%20fesko.pdf>

Question Responses:

- We need to understand about the Urban Water Cycle and that the Price of Entry has changed. It costs more to reduce per capita demand because of investment into leak detection, mains replacement, metering and conservation tactics. We should understand that all the problems in the water start on the land. There needs to be shift in thinking – e.g. we should be thinking that stormwater is a resource and not a nuisance. We need to know and understand the risks e.g. the drought/flood cycles, pine beetle and effects of mixed land use etc.
- We need to determine our vision for sustainability and what does integrated water resource planning look like for our region.

David McGee (Alberta Environment):

Key Message – People in other jurisdictions have different ways to deal with water. In the far north, they have no quantity problems but are starting to deal with quality issues. In the South it is all about allocations, sharing, rights, downstream demands and the snowpack. The Calgary Region has an opportunity to find a unique solution for our unique area by drawing on the experiences from the Lethbridge area. That area wants to help you to start to deal with the problems.

Questions responses:

- You need to keep an eye on the big stuff – the status of the water supply in your back yard, what you have allocated and what the demand is downstream. We may have a higher demand in the future than the sum of all our licenses – how will we decide who gets and who does not get.
- We may have reached the capacity for all our rivers to cope/absorb our waste. It is cheap and easy to dump in the water but we should be aware of the speed in which things travel in water.
- We manage what we measure. We need to measure the impact of growth on ecology and the landscape.

Reeve Dene Cooper (MD Bighorn):

Key Message – The MD of Bighorn is 2600 sq km of prized eastern slopes land and it is highly valued for its recreational and tourist value as well as its oil and gas value. It also has limitless value in its

renewable resources like lumber, food and water. There are no water licenses in the MD so conservation is not an idea for tomorrow, it is an idea for yesterday.

Questions responses:

- Water licenses mean nothing in the absence of an adequate water supply of quality water supplied from rural landscapes – if surface waters are contaminated, ground water is contaminated. We already have distribution issues and unless managed these will lead to social tension. We need to respect the rivers as there are no replacements for the best distribution systems that we have. If we want to preserve our rural countryside, we will have to learn to eat and drink from it.
- Taxation structures and equity in infrastructure grants are essential if we are going to preserve what is required and build what is needed. We must do cumulative effects studies. There must never be a tyranny of the majority or a tyranny of the minority when it comes to something as essential as water. We have to go beyond self-interest to begin to see human need. Our right to water is best protected by our responsibility to the land.

Summary Comments and Questions:

- Does Calgary have any plans to reduce the amount of phosphorous that goes into the water?
- How realistic is watershed protection when quarter sections currently sell for \$4m? What will be the impact on individual landowners? This is something that should be worked on now.
- We have to change some paradigms to move forward. One of them is that industrialization is best. What is the chance of moving towards the assumption that we can form a community that is truly sustainable and does not measure success on prosperity indicators? We will have to continue to fight this culture of progression, expansion and land development – a decision may need to be made about a stopping point.
- Has there been an analysis of food production in the Irrigation Districts? The market place is the control on irrigation farming and in Alberta – the religion is money.
- We must ensure that we do cumulative effects studies on what will happen if we carry on as we are.
- Legislation may be necessary to ensure that change happens. To make this work, we have to find a way to keep the small rancher/farmer in business without him having to sell off a section of his land to make enough money to stay in business.
- Water is being exported from this region – how can we stop it? This is where production is happening here (and using water) and then goods are exported out.
- We have to have a regional set of assumptions – the first one being that we have to consider the region's rain and snow. No one owns the rain and snow – how can we capture it better?
- Little was mentioned of the principles of planning, sustainability and conservation in the panel's
- Have we considered any methods of capturing wealth of developments and then transfer to wetland protection areas and landowners in the watersheds etc? In MD Bighorn, they are starting the first project using the transfer of land use/development credits.

Session Presentation

Landscape Ecohydrology – Water in our Regional Landscape

By Dr Mary-Ellen Tyler and Dr Mike Quin of the University of Calgary

http://www.calgaryregion.ca/crp/media/26335/crp24jan08_ecohydrology.pdf

Drs Tyler and Quin are part of a research partnership between the CRP and the University of Calgary. They are part of the Technical Planning team and ensure that the results of their research are integrated into the scenario building and development. Their area of focus is on spatial ecology and ecohydrology where they assess the impact of land use intensification on water resources ecohydrology and landscape connectivity in the region.

Their presentation considered the hydrologic cycle, the resilience model and the challenge to actively enhance and strengthen the resilience (the capacity to cope with change and perturbations) of both ecosystems and human societies, and to explicitly incorporate the role of freshwater in this. It focused on Ecohydrology which melds landscape ecology with hydrology & focuses on the interactions between the water cycle and the distribution, structure, function, and dynamics of biosocial systems. It also looked at Integrating Water & Land-use Planning and noted that water management cannot be based on natural scientists' knowledge and understanding alone. The social, economic and managerial dimensions have to be understood and accounted for in order to strengthen the resilience of intertwined human and ecological systems. With regards to the scenarios, they asked us to consider how will we meet the water demands of 3 million people in a system that is currently over 100% committed? And that we need to start a regional conversation about our water budget. The two key principles summarized are that we need to minimize development to the west to protect snowpack and related transition zone of foothills parkland/fescue which functions as a regional water storage and release mechanism and secondly, we need a network type spatial distribution that maximizes potential for multi-nodal return management.

Group Working Session

Attendees were split into smaller groups for a facilitated discussion to address the following questions:-

1. Please identify and explain the strengths and challenges of each scenario.
2. Please identify the major concepts of these scenarios that should:
 - Move forward into the hybrid scenario
 - Be eliminated from the list of options
3. Please identify any additional considerations we need to look into, and do more homework on, as we move forward to build the hybrid.

Summary of Responses

Nodes and Corridors - Strengths

- There would be reduced pollution as development on corridors would allow for transit
- It is a smaller area requiring mitigation and therefore regulation
- The distribution of commercial/industrial land needs to be appropriate and equitable
- This scenario protects the character of the region and its major water sources
- It synchronizes housing & employment
- It provides clear choices or areas of focus
- It provides efficiency and cost of serving and servicing options

- It seems more 'regional' as in distribution of growth nodes and not just Calgary growing
- This scenario will minimize infrastructure through intensification
- It protects the most amount of agricultural soils
- This will minimize 25% intensification

Nodes and Corridors - Challenges

- We may have security issues as infrastructure in corridors – no redundancy
- Some municipalities already have limits i.e. Okotoks limit of 30,000
- How will we handle the taking of development rights / opportunities
- We may have a hotspot to East – wetlands (check soils)
- Calgary – Okotoks corridor - need to have the water infrastructure in place for intensification
- Assumes that efforts for transportation will be made and will work
- There is the potential for dispersed industrial development being a nuisance factor for residential in small nodes

Ecological - Strengths

- This is a smaller Footprint – 1/3 of trend and consistent with livable communities
- It provides good protection for watershed and is cheaper to service
- Wildlife corridors infiltration
- There would be good water recharge and long term water security
- It protects the viewsapes and area requirements for wildlife – particularly to the west
- This scenario will minimize infrastructure through intensification

Ecological – Challenges

- This high density mixed land use may meet with opposition among some developers and there may need to be development restrictions imposed
- There is a lack of information regarding wetlands
- We need to have priority levels for ecological infrastructure
- This scenario will require strong leadership

Trend – Strengths

- This option would be easier politically and with less difficult political tradeoffs
- It is a more reliable prediction
- It would have greater net impact with the status quo
- High comfort to land owners

Trend – Challenges

- Connectivity, particularly in the urban centres will be difficult
- It leaves us most vulnerable to rapid climate change
- It could just delay the inevitable
- We do not understand the thresholds of cumulative effects as yet

What would you like to see carried forward?

- We need to get developer's input
- We need to get industry involved e.g. drilling contractors and the energy industry
- Would Like to see regional network but how do you establish political will
- There needs to be protection of riparian zones / buffers
- We need to explore mechanism for compensation especially with regards to wetlands
- The staging of land use planning is critical to final (hybrid) scenario
- We need to protect corridors (E) & "sponge" area (W of Calgary)
- All scenarios should see the pre-eminence of transit
- All watersheds are important
- Need to have a better co-operative framework to move forward
- We need to have first nations at the table
- We should treat water as a valuable asset and have multiple regional systems
- We have to focus on downstream and sub-basin considerations – quality, quantity
- We need to encourage development alternatives

Any additional considerations?

- We need to think about intersections of human infrastructure with ecological movement zones across all scenarios
- We need to have mechanisms in place to compensate private interests for the production of public goods – incentives
- We should take advantage of gravity for regional water
- What happens if everything tanks – we are assuming growth
- What is driving the marketplace
- Education is critical e.g. Wildsmart in Canmore
- What is the actual cost of H₂O – we should communicate this
- Best management practices for land conservation and water management
- Low impact development needs to be part of by-laws and building codes
- We need to start with a level playing field e.g. riparian setbacks should be consistent
- We need to have buy-in / commitment from Prov. including integration
- Economic benefits of open space – maintaining these is not a sacrifice
- We have to maintain H₂O for agriculture
- We must include Airsheds – not just water as an Ecological factor
- General concern about agriculture and employment for rural people independent of a specific scenario
- Should be a connection between location of jobs and housing to enable access with shorter commutes and less automobile dependency.
- The focus or dependency on only the City of Calgary should be reduced.
- Concern was expressed that Calgary seems unable to continue to provide regional services such as health care (hospitals, doctors), arts and culture and recreational activities (such as ice time at community arenas. Therefore there is less incentive for regional population to want to come to Calgary. An example was cited of people going to Strathmore to see a doctor rather than Calgary.
- Preference was expressed for controlling country residential development based on ecological and water related concerns or zoning but not the outright banning of country residential development.

- Concern was expressed as to how landowners would be compensated if they were not allowed to develop their land for country residential.
- Some concerns that 'social issues' were not being addressed in the land use scenarios with respect to what types of lifestyles or housing affordability ,community demographics or family needs/opportunities might be associated with the scenarios. This was raised as an important issue with respect to why people might choose to live in an alternative way to the 'Business as usual' or Trends scenario.
- Issue of municipal boundaries was not that important in viewing and considering the scenarios. One group member stated " Boundaries are passé" and this was met with general agreement.
- The issue of 'scale' was raised with respect to the fact that it was difficult to think at the scale of the scenarios when day to day issues and concerns are at a much smaller and more local scale.

Final Comments

- We must ensure that we consider stormwater in our predictions
- We need to make the case for why water is the basis for our lives etc. It is the foundation and elected officials need to realize this
- Local government is the best level to promote and manage the Plan. Regionally, they can set the plan but it is locally that it must be implemented
- We know enough to know what not to do and why not – we should use this to make sure that we prevent instead of react
- We need to further address the cost of this planning and implementation. The current funding model for provincial grants will not work – we will have to consider things like levies on developers in the City which is goes out East and West to pay for watershed protection in the region.
- We need to find out the best way to get the next 1.75m people into the region and then worry about the interests of our current municipalities.