

**Murray Clark, Regional Manager
Ducks Unlimited (DU)
July 14, 2003**

**Focus: Environmental Stewardship
- Wetlands/Waterfowl**

Murray Clark is a professional biologist with many years experience in the Peace Region. He is based out of the Ducks Unlimited regional office at Swan Lake. He was invited to share his views concerning the status of wetlands, and their conservation as well as recommendations . In recent years a Wetland Reconnaissance Assessment was conducted using a prioritization system (scale of 1-5 i.e. high to low priority) considering water quality, soils, emerging plants; invertebrates, aquatic vegetation, and upland cover/use (fresh grains, forages,)

Wetland Drainage

Government policies have indirectly encouraged by government (provincial, federal, and regional) through agricultural development incentives in oil/seed crop areas (e.g. 25% homestead land improvement requirement for homesteaders; also conversion of wetlands to forage production; often led to land abandonment due to poor agricultural productivity; in some townships 80-90% wetlands lost; a lot of areas have uncontrolled land development through diversion, berms, culverts, ditching

Rolla-Doe River drainage (10% wetlands left) if one considers wetland encompassing not just open water, but their retention function (chain effect); the focus on wetland conservation is on smaller wetlands – these need to be protected; only lands left in this area are what Ducks Unlimited purchased; agricultural lands not as productive

Rose Prairie/Beatton River drainage (70% of wetlands are degraded); in this area, deeper wetlands/drainage have been encroached; residual wetlands; Indian Lk. (Rose Prairie) have a lot of degraded streams due to private land development over 30 years.

Stoddart Creek drainage/Ft. St. John area (70-80% wetlands degraded); there are important breeding lakes/wetlands in this area; but they have been highly impacted wetlands, high nutrient loads (on wildlife); still good for waterfowl staging/migration

Cecil Lake drainage (60% of small wetlands lost); staging/migration habitat is O.K.; may try and breed on bigger lakes/won't succeed due to competition for watering by grazing livestock, birds/raptors/ungulates; in Alberta Boundary, 25-30% of wetlands degraded; impacted by cropping/hay production

Clayhurst/Lower Beatton drainage (50-60% of old wetlands lost); grain producing area; not as impacted from drainage as ongoing activity

Del Rio/Lower Moberly drainage (25-30% of wetlands degraded; marginal agricultural land/ranching; consume riparian grasses; polluting water; need for good grazing management (lack of adequate rancher investment in improved grazing systems & management; effluent from not as big a concern due to regulatory control (O/G); more problem due to access (predators), poaching/disturbance (e.g., Trumpeter Swans) due to long seismic lines; sump sites/waste disposal site fences have been destroyed resulting in

access to contaminated water by wildlife & waterfowl; flare pit ponds are another source of both air emissions; concern about follow-up.

Kiskatinaw drainage (west of Hwy. 97 to Del Rio; wetlands are more impacted 35-45%; now monitoring as many wetlands as possible, working with landowners; e.g. clearing/access/improved fencing to control wetland watering with 30-45% landowner participation; PFRA provides 35-45% of funding; landowner provides 10% minimum investment (in-kind contribution)

Agricultural Land Reserve Policy

Protecting good agricultural land is important objective, however sets up situation that prevents or inhibits landowners from creating environmental benefit (cannot be registered on titled land because it infringes); must emphasize good agricultural policies for riparian areas (presently they now actually discourage good environmental protection)

Lower productivity lands need to be assessed with consideration of need for protection of wetlands, erosion impacts downstream); need some flexibility on what can be done to balance benefits (agricultural; finer land-based control

Aspen harvesting on private lands

This has accelerated with demand for aspen wood to Louisiana-Pacific mills;
- harvesting of wood provides landowners with funds to support agricultural production (and wholesale land conversion); need for control of harvesting on private lands (through wetlands/streams where it results in increased runoff (erosion/sedimentation); problem waterbodies affected by aspen harvesting include Stoddart Ck./Charlie Lake, Tupper Creek, Saskatoon Creek, Lower Kiskatinaw; environmental farm plans will encourage more sustainable benefits for both the environment and agricultural production;

Wetland classification and protection

Forest Practices Code has focused on larger wetlands on regional basis; smaller wetlands (species change from larger) need to be considered in Lakeshore Guidelines; FPC only classifies wetlands down to 5 hectares as this size is easier to enforce;

We need Small Wetland Area Guidelines (e.g. tools to protect and manage) including wetland classification system would need to include inventory, management scheme, (continuing protection), monitoring mechanism in land management scheme, tax relief, incentives, and education/information and proper response management tools.

Lakeshore development plans needs to have external review (e.g. Swan Lake Development); must avoid "cookie cutter" effect for setbacks, e.g. not always 100 m (may be more or less depending on type of water body, watercourse); need guidelines (site specific) for riparian and wetland assessment by land use planner/partner to ensure site objectives and goals are met; negotiation approach on zoning; develop partnership opportunities for practitioner training on riparian assessment

Possible Agency Roles

PFRA (Rural Water Development Program) shifting into EFP (hole in funding to consider strategic overview and replacement); BCAC will be administering the EFP program on an area-wide basis over a period of several years;

The PRRD can have various roles in protecting wetlands including:

- rural water policy;
- review of water use permits/applications;
- assist with education or regulation
- extending implementation of Lakeshore Development Guidelines;
- developing a water/technical extension roles in partnership with other organizations like the Peace River Watershed Council e.g. providing advice to support community stewardship groups (Swan Lake);
- identifying external funding sources to identify
- supporting best-practices demonstration sites (e.g. intensive rotational grazing)

Funding for wetland conservation

Crown lands rented for agricultural use (e.g., community pasture); they collect annual dues based on AUM's (Animal Unit Months); could direct some funding portion for environmental improvements; e.g., 20% of fees at Sunset Community pasture to promote offsite watering; and/or other objectives based on other land-use needs (could also be recreation/heritage); part of user fees could also be directed to wetland conservation (e.g., recycling fee)

What's the best mechanism for delivery of funds? Contracting to qualified group, or could direct funding to the PFRA or other assigned body; this mechanism would enable "multiple use benefits" from "single use pay" principle;

Rural Economic Development

Rural economic policies must be balanced, enable development that does not degrade environment; more balanced approach in the policy... don't wait to stop development, but must consider implications. Government needs to consider more cost effective, environmental management practices (riparian management), support local demonstration "champions" can show more benefits.

Local government must analyze from both economic and environmental perspectives; political will must be there; must realize that they can and should work with area partners to deliver appropriate response

Summary of Critical habitats

- #1. Boudreau, Boucher Lk. (Trumpeter Swan) represents prime habitat in the BC Peace
- #2 Cecil Lake (prime habitat for Eared griebe; important breeding population in BC.)
- #3 Swan Lake (Nelson sharp-tailed sparrow; largest population in BC)

Wetland Symposium (Reference article submitted)

“Wetland Management in the Peace River Region of Alberta, the Most Northerly Parkland Habitat in Canada”

MICHAEL J. WILLIAMS

Ducks Unlimited Canada, 9615-105 Street, Grande Prairie, AB, T8V 6V5 Canada

The Peace River region of northwestern Alberta is comprised of some 21 million ha of flat to rolling terrain characterized by numerous large molting/staging wetlands and pockets of pothole-like habitat. From a botanical perspective, the Peace River parklands are quite similar to the parklands of central Alberta. As in central Alberta, this region was once dominated by aspen/grassland communities but the suppression of fire has led to an expansion of the aspen component.

Recent Ducks Unlimited research and surveys by the U.S. Fish and Wildlife Service and the Canadian Wildlife Service surveys reveal that the Peace River region possesses some extremely productive waterfowl habitat. Mallard (*Anas platyrhynchos*) pair densities can be as high as 11.58/km². Wetland numbers range from 5.79 to 19.31/km² and are generally stable from year to year. This stability in wetland numbers is very important to breeding waterfowl in Alberta as this area serves as a valuable breeding reserve during drought-like conditions on the southern prairies.

With its rich soils and good moisture conditions, the Peace River region has been attractive for agricultural development. The generally sloped nature of the topography has facilitated the construction of both legal and illegal drainage ditches, making drainage the most important threat to wetlands in this region.

Ducks Unlimited, under the auspices of the North American Waterfowl Management Plan and in partnership with Alberta Fish and Wildlife, is managing the wetland resource in the Peace River region.

Multi-faceted waterfowl management program has been designed to ameliorate the impacts of agricultural development using the following steps: (1) small to mid-sized wetlands will be secured, created, or otherwise maintained through a water control program; (2) restoration/creation will be employed in areas with previously high wetland densities. Using a large-scale single-basin approach with traditional water control structures and a single multi-basin approach with simple ditch plugs; (3) where pair populations are high and upland nesting cover limiting, peripheral nesting cover will be managed (e.g., creating a back flood zone); (4) wetlands critical to Trumpeter Swan *Cygnus buccinator* will be secured and managed and; (5) key staging and molting wetlands in the forested biome will be secured and protected.

This wetland habitat program will not only give us the ability to manage a variety of waterfowl needs but will also provide the long-term ability to influence and direct habitat management by government agencies.

**Wayne Sawchuck, Director
Chetwynd Environmental Society (CES)
Oct. 1, 2003**

**Focus: Environmental Stewardship
- Land Resource Management**

Wayne Sawchuck serves on the Oil & Gas Commission advisory committee, and has been very active with the Chetwynd Advisory Committee and Muskwa-Kechika Advisory Board. Most of his background and knowledge has been focused on Crown land environmental issues. In this interview he makes points and recommendations concerning management of land-use issues at the Crown & private land interface. He also expressed concern that some colleagues whether if “this Rural Plan might be used as a basis to facilitate industrial development on every hectare in the PRRD”.

A key issue Wayne would like to see considered in the Peace Region Rural Plan is the linkage to the Land & Resource Management Plans in both the Ft.St.John and Dawson Ck. Forest Districts.

Specific comments related to oil & gas industrial development are as follows:

- Coal-bed methane was not considered in the LRMP’s, and questions regarding well-site density, produced water management needs to be re-evaluated;
- Zoning regulations could have considerable value if they were able to control oil & gas infrastructure siting, including greater minimum set-back distances from residences, roadways, water bodies; and also to eliminate or at least minimize the number of new resource roads;
- There are numerous environmental impacts created from oil & gas development that need to be monitored including air quality – foul H₂S smells & possible toxic effects from flaring, noise, water contamination, excess light; mitigation measures such as incineration/scrubbing and piping of flared materials should be required;
- Oil & gas infrastructure is also aging in the Peace region; PRRD needs to keep abreast of industry monitoring to ensure necessary upgrades are done e.g. Pine River spill;
- Truck spills from oil & gas activity are a serious hazard to health of people and the environment; should promote Zero fume emission technology, expand existing industrial waste collection facilities so there is less trucking around region;
- There should be more monitoring of compliance through increased fines, support for non-government mechanisms;
- Arbitration and mediation on oil & gas development does not deal with broader systemic issues; Commissioner not taking the advice or recommendations to reconsider are declined and there is no appeal process. Alberta has Natural Resources Conservation Board that does better job in resolving disputes – need alternative dispute resolution process;

Other points to consider in development of the Peace Region Rural Plan:

View sheds

Landscape aesthetics from residential areas also need to be protected, and industry should put forward development plans that consider this issue.

Land conversion

This is another growing issue – shifting from forestry to agriculture resulting in loss of habitat, and views; Conversion is like “burning your furniture to keep warm”; a lot of this land is marginal for agricultural production, and therefore must consider classification, and possible need for re-evaluation to determine carrying-capacities to ensure sustainability – there needs to be more intensive management approaches for existing operations e.g. grazing tenures can incorporate use of tame pastures rather than developing new lands.

Lakeshore Guidelines

The PRRD should consider enforcing the Lakeshore Development Guidelines; would help to ensure protection of water quality & aquatic habitats; a lot of activities that cause harm are not monitored (e.g. lakeside heavy-equipment operators).

Protected Species Legislation

Protected & endangered species legislation (federal) could have implications for protection of certain species in the north-east e.g. north-east warblers, grayling – need to consider how farming/logging operations on private land may be affected; essential to have standards that minimize risk.

Cumulative Impact Assessment

Cumulative Impact Assessment is something that the PRRD needs to promote; they could have a role, and assist in establishing baseline conditions & values (socio-economic, community land-use objectives, etc.).

Watershed Planning Units

PRRD should consider watershed boundaries in its planning as they are more appropriate; more consistency with LRMP's is also needed as this was a community and stakeholder process that incorporates traditional/local knowledge; long overdue to have a review of LRMP's – something that PRRD could advocate.

**Gwen Johannsen, President
Hudson Hope Landowners Association (HHLA)
August 15, 2003**

**Focus: Environmental Stewardship
- Rural Land Protection**

Gwen Johannsen has been involved in various capacities, including presentation to Site 'C' Dam hearings, as Councillor for Town of Hudson's Hope, representative on BC Energy Council and on the Peace Williston Compensation Program Board. She identified a range of stewardship and planning issues that are important for rural landowners.

Gwen recognizes awareness about value of planning, but feels there is need to have more public education about its purpose; recognizing that impacts of oil & gas development may require more regulations that may be a challenge to the laissez-faire approach in the past. She expressed concern that the provincial government is promoting one sector and touting the benefits (e.g. oil & gas/coal-bed methane) at the cost of other sectors (e.g. agriculture, tourism); e.g., arguments always framed as economic prosperity vs. environment. This is exemplified most by the Ministry of Energy which in favoring economic development, may not be fully considering long term environmental and socio-economic impacts; e.g. potential problems of selling water becomes a slippery slope. She is also concerned about local benefits from resource extraction, and feels that government must consider employment potential and general assessment of the cost and benefits; e.g., tax benefits vs. local economic benefits; need to have a community discussion about further research that might be required.

She feels the PRRD must stand for people of the region, not allowing communities to be divided; could have a big role in ensuring proper assessments are done and helping to get appropriate modeling. Large projects like Site C have to look at various options in order to preserve opportunities, and should not be implemented at the cost of any one community. PRRD needs to be primarily concerned about the issues of the region and not as much concern about pressure exerted from the provincial government on the PRRD in various forms.

Oil and Gas Development

- Noise impacts (PRRD should determine minimum threshold which is tolerable to communities; must consider differences between rural and urban perspectives regarding noise)
- Poor quality of information on O/G development maps provided by OGC
- Inadequate consultation; there must be more at the pre-tenure stage; need involvement of surface landowners earlier
- Must consider rural people's right "to peace and tranquility"
- Surface landmen are used to dealing with agricultural producers, but not considering other resource users

- Economic impacts of coal-bed exploration: people are putting their plans on hold; (for e.g., residential expansion, renovations and improvement) due to uncertainty over impacts of this development; potential for real estate prices to decrease;
- Need to consider rights of subsurface owners vs. surface owners; sets up conflicts now because the surface landowners are being pushed by O/G Commission; can force mediation, but always leads to conflict.
- Need more involvement of surface landowners at pre-tenure stage; must have greater control -- are subsurface rights greater than surface rights?: BC precedents exist in case law; Kamloops case of gravel extraction; Hythe area flaring).

Water supply

Concerned that multiple users are now drawing from surface sources; potential loss of use for rural residential and agricultural uses (ponds, sloughs as an example) must be considered in the context of climate change impacts.

Water quality

CBM testing for disposal of produced drilling fluids into shallow wells, is a concern; have been told that high levels of calcium can be precipitated out, but not sure potential impacts on water quality on remaining produced water; Farrel Creek area may have potential for CBM with serious concern about expansion in adjacent farming areas; PRRD needs to give support to MWLAP regarding water use/licensing, water quality testing and disposal

Air quality

Must also consider non-farming rural residents who are only interested in rural lifestyle and not agricultural production; e.g. air quality preferences for people with respiratory difficulties (recognize that people living near flaring/processing facilities are impacted with respiratory problems, like asthma). Concern that other PRRD members don't have adequate appreciation of CBM to the degree that the chairperson does.

Public Dispute Resolution

Concentration of power in OGC is a growing concern; deputy minister of energy will also be chairman of OGC; therefore have both regulatory and political role (may be a conflict), then lack of balances to check the situation. How is OGC able to stand up for other interests when priority mandate is on economic development; also concern about O/G Act taking precedence over AG/land Conservation Act. PRRD could have a role to consider impacts on other sectors given these changes.

Site C Development

PRRD has declared support of Site C, but don't know reasons for that stand in relation to regional costs and benefits.

Water use planning requires minimum of 10,000cubic metres per second flow. This is an improvement over the past, when it was set at 5,000 cubic metres per second. Need to consider environmental impacts, like fish stranding, temperature increase, also economic

impacts; needs community monitoring of levels. Some people draw water from the river; others have wells along the Peace valley which may be affected.

In Williston Reservoir, there are certainly concerns from the Fort Ware people (Tske Dene/Kwadacha) concerns about impacts from dust; e.g. health concerns in draw down areas from reservoir rising and lowering. PRRD should be monitoring this to ensure protection of community.

Cumulative Impact Assessments

PRRD needs to pursue these CIAs, not just relying on project-by-project assessments, because “we’re not getting the bigger picture or considering the long term”. CIAs will help to create this long term vision, then work backwards, in term of land use planning objectives.

Rural plan should be more strategic; consider that regulations may be needed but they must be realistic. Planners should lay out development scenarios and trends (e.g.; who is buying up here, and migrating to region due to preferences for rural lifestyle and lower risk to health because of cleaner environment; she’s been told that people are moving into the area because of concerns for long term health risk existing in southern Alberta, from O/G development and water shortages, etc.)

Urban Encroachment Into Rural Areas

Need to have better locations for subdivisions. Should encourage closer developments to Hudson’s Hope; (infilling) don’t want scattered residential development like a free-for-all; creates problems for farmers and conflicts that are unnecessary. We also need to have some reconsideration of ALR boundaries which may not be accurate.

Other Concerns:

- In terms of services, there is a need to expand Hydro energy to the end of Dunlevy Rd.; also consider wind energy diversification (green alternatives).
- Noxious weed control should be enforced.
- Don’t try to have too much mixture of industrial and agriculture; minimize the number of these types of land use interfaces, due to problems like traffic, smells, noise, access control, trespass, cattle theft, property damage; should concentrate industrial development in one area.
- Hydro lands still have limited economic development in the Peace River Valley. Are there other sustainable opportunities that should be investigated?
- Also need to consider we should be protecting shorefront properties; e.g. along Peace River and lakes, from various environmental problems, like erosion, water contamination. PRRD may have to be a watchdog on that issue.
- Hydrocarbon disposal onto farm land may be acceptable, if done according to regulations, but the problem is that the public does not know if it is being properly done, as there is no communication; in the Peace there is a general view there is “rules and regulations” and then there is the way it is really being done. This allows

for a lot of environmental damage and breaking of environmental laws. For example, water quality samples are often discarded during land disposal operations for hydrocarbons.

- She's aware that reports that there are various infractions from O/G development; like proximity of flare pits to wells and flammable liquids. How to we ensure that community safety and health impacts are being properly monitored if O/G development proceeds at too rapid a pace?

Focus: Water Management

<p>Brent Henschel, Al Eagle, Garth Mottershead, Brian Haddow, Prairie Farm Rehabilitation Administration (PFRA) Aug. 11, 2003</p>
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The PFRA has long been responsible for various aspects of water and soil conservation in the Peace Region. For this consultation, all PFRA staff were invited to share their own perspectives on various aspects of water management issues, trends, and opportunities for the PRRD to consider:

Drinking water protection

There are groundwater guidelines coming from the BC government, at present PFRA applicants not involved; Faye Spring is a good example of need for source definition; there are gaps in groundwater protection

Groundwater Information and Water Licensing

The PFRA keeps a data-base of wells it funds for exploration and development; for other private water development, Anderson Water Wells keeps its own data and there is no requirement for it to be submitted to regulatory agencies; although the provincial government registers and license water use, they don't know if a given source is fully allocated, and in many cases licensed users don't use a supply (i.e. actively drawing it for industrial purposes) but keep licensed for its natural recharging function (e.g. to supply cattle watering sources)

The province requires more data (e.g. from Land and Water B.C.). A big challenge is how to facilitate between regulatory agencies: i.e. including MWALP on pollution, fish habitat protection; OGC on hydrogeology; and LWBC Inc. on licensing volumes: who is responsible for ensuring the necessary studies are done...there is a need to have OGC provide and share data. If farmers apply for assistance for the Rural Water Development Program, there is no licensing required e.g. for remote watering)

Federal Government Role

The Dept Fisheries & Oceans (DFO) has limited involvement due to lack of operational presence resulting from insufficient financing, and given that MWALP is responsible for fisheries management; a lot of people get away with impacts to water resources due to lack of enforcement such as the destruction of riparian habitat, wintering sites, area discharge, manure loading; many producers confused about various legislative requirements and believe that "right to farm" protection in the Agricultural Practices Code allows them to manage these resources as required e.g. cattle access ramps into creek, watering in stream .

Environmental Farm Planning

EFP may be conflicting legislation with other legislation (e.g. APC - Agricultural Practices Code) therefore need for both regulatory harmonization given references are made to both provincial and federal legislation; plans are to have regional technical advisors to assist producers; there are no financial incentives going to be collected under EFP; e.g., for off-site

watering, will rather be emphasizing Best Management Practices 33-50% max. cost-shared financing for riparian protection, and will depend upon extent of waste management problem

Key questions about EFP: who interprets the legislation? (federal, provincial, regional agencies?) since direction does not get transferred to extension personnel; what differences will exist between regions (e.g. Alberta vs. B.C. Peace region); how will be priorities by regional manager differ as laid out in area action plans? and what will be the different guidelines for federal, provincial, regional, local; there is going to be need for both DFO, and Environment Canada's review and representation. Another issue will be consideration of zoning bylaws, e.g. setback requirements as required under provincial legislation.

There remains questions about how PRRD (Agricultural Committee) is going to be involved in facilitating producer group participation, and developing an action plan for coordination; any referral system between agencies has to be very clear as there are many players involved in managing land use on a regional basis; there is also some question about delivery approach e.g. workshops, and/or individual delivery to land-owners.

Species at Risk Legislation

This new federal legislation also relates to the proposed new Environmental Farm Plan initiative; there are implications for Peace: question about how various levels of government will be involved e.g. Provincial, Federal (e.g. DFO), or whether third party delivery will be involved e.g. BC Agr.Council

The Species at Risk legislation triggers when funding accessed under a federal program, or with federal government projects where EIA's are required and following a screening process e.g. the National Water Supply Expansion Program (which replaces the Rural Water Development Program) is being reviewed; a RWDP "exclusion list" will likely be developed based upon similar activities (dugouts, wells) where there is not likely to be impact to Species at Risk since it would be very costly for watershed assessment to undertake cumulative environmental assessments; federal government will have a reference guide to determine requirements.

Soil Conservation

Soil Removal legislation; some question about classify topsoil (maybe defined as silt but still productive soil) when its being removed e.g. case of alluvial deposits being transferred to Doe River; who permits (BC Agr)? till soil classified as topsoil but cannot be reviewed; memorandum of understanding is needed to recognize provincial legislation.

Other emerging trends affecting water supply and quality

- population increase leading to increased demand for water supply in rural areas;
- livestock inc. in Peace (variability in weather causing droughts; industry assoc. claims 25% increase in last 4 years and BC Peace fastest growing region for cattle industry;
- expansion of O/G well sites (1981-94); and expansion onto private lands, and increased incidences of conflict over water use.
- continuing practices of drainage diversion, and no compliance due to right-to-farm legislation; issue of wetlands being drained to increase crop production, and importance of wetlands not adequately understood.

- economic incentives being provided to improve water recharge; e.g., zero tillage practices – amongst grain producers have seen 30% increase in conservation tillage and is also given economic impetus to reduce chemical use (reduce costs, improve profits) and create environmental benefits; can be demonstrated through economic quantification as documented through the NAHAR program – National Agro Health and Reporting Process); conservation tillage being actively promoted by Soil Conservation Council (grain), and Forage Association
- the amount of extension resources will impact upon water management monitoring; presently these resources are less available in BC than in Alta. where they rely on Agr. Service Boards; community watershed groups have also been supported by the National Soil Water Conservation Program, Green Plan programs, Community Riparian Protection programs

Environmental Concerns & Soil Quality

The PFRA currently manages federal/provincial programs in soil & water conservation, and suggests the following objectives need to be articulated in the Rural Plan policy:

1. Continue to support and enhance the national soil conservation program (Canada BC Soil Conservation Program)
2. Ensure cross compliance of soil conservation programs, and legislation
3. Compare water quality monitoring for ditch water, and groundwater used for drainage; monitoring data should be made available to farmers
4. Need program to collect and dispose used farm chemical containers

Flood plain protection

- Need water course setbacks
- Livestock barriers (riparian exclusion)
- Baseline studies (hydrogeology, storm water management plans, fertilizer and pest management plans);
- Impact studies on water, soil, wildlife and fisheries
- Maintaining tree cover (retention, planting)
- Placement and removal of fill
- Wetland and riparian buffers
- Natural wetland retention (storm water; water quality)
- Waste management (nutrients, pesticides and drainage)
- Water availability for fish
- Improved harmonization and enforcement for Code of Agricultural Practice for waste management (WM Act); Agri Land Conservation Act, Farm Practices Act, Fisheries Protection Act
- Data Sharing; all government should utilize cumulative data; have data sharing between agencies: e.g., Northern Health Authority – the PFRA can't get access water chemistry data, or can't be transferred to other data base)
- Turnover time for licensing
- Contingency plans for farm spills
- Rural fire protection (hauled/developed) Spills-farm contingency
- On going monitoring e.g. Pine River oil spill (wells contaminated)
- Manure management- not using; collection ponds/overflow
- Education about licensing
- Boundaries of watersheds (PFRA) 1:1,000,000

- Support for watershed conservation groups (e.g. PRAD, BC Investment Agr., BCAC) e.g. need to focus on priority water bodies like Kiskatinaw River, Stoddart Ck. and Swan Lake; Dawson Creek (fish bearing); more ephemeral

Rural Watershed demonstration/best practices; producers not being driven to start these type of groups as they are being promoted in Alta (e.g. riparian groups, demonstration projects, ranchers input is essential (e.g. Cattlemen's Association); will do what they want as there are no penalties/fines because compliance and enforcement is lacking by Water Resources Branch of WALP.