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LAND RECLAMATION INTERNATIONAL GRADUATE SCHOOL

ABORIGINAL PARTICIPATION IN LAND RECLAMATION: ENHANCING THE DIALOGUE

REPORT ON A WORKSHOP HELD MARCH 23 2015

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REPORT SUMMARY

The Land Reclamation International Graduate School (LRIGS) at the University of Alberta and the Canadian Forest Service (CFS) of Natural Resources Canada hosted a one day workshop titled Aboriginal Participation in Land Reclamation: Enhancing the Dialogue, in Edmonton, Alberta on March 23, 2015. The objective of the workshop was to encourage an open and thoughtful discussion on Aboriginal participation in land reclamation and to continue identifying mechanisms to incorporate Aboriginal perspectives (knowledge, research, employment, developing business opportunities) into land reclamation.

A total of 63 people from the Aboriginal community, government, industry and academia participated in the Workshop. Participants discussed what successful land reclamation looked like from an Aboriginal perspective, how Aboriginal communities were currently being engaged in land reclamation and how that engagement could be enhanced. Participants then identified specific action steps that should be undertaken.

Trust was frequently mentioned as the foundation for success. It was clearly accepted that trust must be earned and continuously nurtured; that it takes a long time to build but a very short time to destroy. Four key factors were identified that could increase trust.

- Respect: Culture and traditions of Aboriginal communities are very important. Recognize and follow processes for engaging communities and especially elders. Recognize that each Aboriginal community has different interests, expectations and capacity.
- Communicate: Communication is an ongoing process, and should be regarded as a two way process. Recognize that terms and definitions may be a barrier and consider supporting and using translators to help. Develop improved visual tools and aids to clearly explain plans and expected outcomes.
- Engage: Actively seek opportunities to interact with communities. Create experiences for knowledge sharing, between communities and others and between generations within the communities. Seek the input of Aboriginal communities to enhance plans and procedures.
- Support: Communities need assistance in building capacity to deal with the increasing load of industrial applications. Communities are very interested in training and business opportunities. Barriers to engaging Aboriginals and Aboriginal companies need to be removed or overcome.

Many parties have a role to play in enhancing Aboriginal participation in land reclamation. Government, industry, consultants and academia were all mentioned as key players. A willing

and engaged Aboriginal community was considered equally important to success. An important point was that we are all considered partners in success!

There was considerable energy in the room during the workshop and a sense that continued dialogue would be useful. It was apparent from the discussions that many successes will be achieved on a one-on-one basis between communities and their external stakeholders. However, there seemed to be some larger initiatives that could be undertaken to improve the knowledge base for all. A working group comprised of people who are committed to action was suggested as a means of identifying the next steps that could be taken.

Some ideas arising from the workshop include the following.

- Document best practices examples or case studies of Aboriginal community engagement in Alberta. It was clear that many participants were hearing some of the successful practices for the first time.
- Document examples of communication tools used in Alberta and elsewhere to help explain technical information to Aboriginal communities. It was clear that many participants were hearing some of the successful practices for the first time.
- Document educational needs and opportunities for Aboriginal communities.
- Document perceived barriers to Aboriginal company employment and identify solutions.
- Develop a glossary of western and Aboriginal names for plants, animals and landscape features to enhance communication.

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The workshop organizers are grateful to the following students from the Land Reclamation International Graduate School for their assistance in the workshop, particularly for taking notes in the discussion groups: Sebastian Dietrich, Elizabeth Domreis, Jasmine Lamarre, Kangyi Lou, Kate Melnik, Valerie Miller, Alison Murata and Wenqing Zhang.

The workshop organizers thank Stacy Campbell Court, Michal Guzowski, Leanne McKinnon and Sarah Wilkinson for their technical support and organizational work throughout the planning phase and during the workshop.

1. INTRODUCTION

Aboriginal people are impacted by, and will live with, the consequences of land reclamation efforts and have a vested interest in their success. It is important to recognize the value that Aboriginal people add and begin to characterize the contribution they can make to land reclamation efforts. To this end, the Land Reclamation International Graduate School (LRIGS) at the University of Alberta and the Canadian Forest Service (CFS) of Natural Resources Canada hosted a one day workshop titled Aboriginal Participation in Land Reclamation: Enhancing the Dialogue.

The objective of the workshop was to encourage an open and thoughtful discussion on Aboriginal participation in land reclamation and to identify mechanisms to continue to incorporate Aboriginal perspectives (including knowledge, research, employment, developing business opportunities) into land reclamation practice. The workshop was held in Edmonton, Alberta on March 23, 2015. A total of 63 people from the Aboriginal community, government, industry and academia participated (Appendix 1).

1.1 Workshop Format

The workshop format was developed by a steering committee consisting of representatives from the Land Reclamation International Graduate School and the Canadian Forest Service. Chris Powter, Enviro Q&A Services, served as the workshop facilitator.

The workshop consisted of four sessions (Appendix 2). Sessions 1 and 2 were preceded by presentations (Appendix 3) to set the stage for table discussions. Discussions were guided by, but not restricted to, focus areas prepared by the steering committee. In the first three sessions each table of participants was asked to identify their number one lesson learned or key point they wanted to share with the other participants. In the final session participants at each table were asked to identify three specific actions they wanted to be initiated immediately.

1.2 Opening Remarks

Anne Naeth from the University of Alberta and John Doornbos from the Canadian Forest Service welcomed participants to the workshop. They described the development of a mutual interest in Aboriginal involvement in land reclamation that culminated in this workshop.

LRIGS had been interested and actively working on Aboriginal engagement in land reclamation for some time. Several LRIGS students had experiences in working with Aboriginal communities in their various research projects. In March 2014, LRIGS hosted a panel discussion on Land

Reclamation through an Aboriginal Lens[1]. Two LRIGS students who had shown considerable interest during the panel discussion were invited to attend TransAlta's plant collection field day with local Aboriginal students[2]. LRIGS was interested in finding partners to continue their work to have more Aboriginal participation in all aspects of land reclamation.

CFS has had ongoing relationships with Aboriginal communities through the Aboriginal Forestry Initiative and has recently focused research efforts on land reclamation, particularly in the oil sands. CFS took the opportunity to build on expertise developed through these two initiatives and to partner with LRIGS to explore research and knowledge dissemination project ideas.

Pauline Paulson, Elder-in-Residence at the University of Alberta, provided the opening prayer for the workshop. John Doornbos presented her with the traditional gift of tobacco in a pouch. Pauline explained the history behind the gift, saying that in pre-contact days a visitor would provide a host enough tobacco to fill a pipe which they would then share, thus forming a contract between the two to carry out a task.

Chris Powter provided a short presentation on reclamation to set the stage for the discussions. He outlined the format for the workshop.

2. SESSION 1: WHAT SUCCESSFUL LAND RECLAMATION LOOKS LIKE FROM AN ABORIGINAL PERSPECTIVE

Rachelle McDonald from Aseniwuche Winewak Nation and Daniel Stuckless from Fort McKay First Nation provided the context for the first workshop session by describing what successful reclamation looks like from an Aboriginal perspective.

Some key points from the two presentations were as follows.

- Traditional knowledge, learned by countless generations on the land, has a vital role in managing a sustainable landscape.
- "People and the landscape cannot be separated if reclamation is to be deemed successful in the eyes of community members" (Anne Garibaldi).
- Integration of traditional knowledge and scientific knowledge can reduce environmental impact and restore balance.

[1] See http://www.ualberta.ca/~lrigs/PDF%20Documents/Land%20Reclamation%20Through%20An%20Aboriginal%20Lens%20Summary%20Notes.pdf

[2] See http://www.ualberta.ca/~lrigs/PDF%20Documents/Transalta%20article.pdf

- One key objective of Aseniwuche Winewak Nation is to be involved in the reclamation and remediation of lands impacted by resource development.
- Successful reclamation will ensure Aseniwuche Winewak Nation children and grandchildren can maintain their connection to the land, critical to community wellness.
- The Fort McKay First Nation has been an active, engaged, progressive, relationship building leader in Alberta's regulatory landscape.
- To understand what expectations are for reclaimed land, land reclamation practitioners need to know how land users are currently using the land, their trap lines, practicing traditional ways or exercising rights.

The focus areas provided for the table discussions were successful land reclamation on the ground; needs of land users; re-establishing plant communities and soils to successful ecosystems; opportunities for economic development. All of the table discussions are presented in Appendix 4.

The most important lesson learned or key point the participants at each table wanted to share with the other participants were as follows.

- The land reclamation process is a collaboration between traditional knowledge and land use and western science. There is a need for collaboration between leaders, generations, cultures and organizations because land reclamation is a long term, adaptive process.
- Conversations on land reclamation need to be ongoing with Aboriginal groups, at all stages of development and reclamation. There needs to be funding for this. It requires continuity of people and development and use of a common language.
- Relationships must be sustained as the land reclamation work progresses, using outcome based approaches.
- There is a need to understand the overall vision for land reclamation, and to understand the limitations of what is possible (the land doesn't have to be identical to what it was before).
- Politics is difficult to remove (Crown and reserve land) from end land use goal conversations.
- Land reclamation needs to include socio-ecological factors to ensure integrated land use planning is incorporated.
- There is a need for bigger picture (regional) planning rather than planning for individual sites (smaller land parcels). This will require all players in a region to cooperate[3].

[3] See the Alberta Energy Regulator's Play-Based Pilot Project for an example of this at http://www.aer.ca/about-aer/spotlight-on/pbr-pilot-project

- There is a need to ensure interconnectedness between ecology, culture, time, space, people and knowledge, to build resilient and useful reclaimed landscapes.
- Land reclamation plans must be adopted at an appropriate temporal scale. There is a need for proactive planning now versus reactive planning, such as at the end of a life cycle.
- Planning, conservation and best management practices during construction and production are key to successful land reclamation and to reducing the disturbance footprint.
- Education and involvement is important for communities.

3. SESSION 2: WHAT IS BEING DONE NOW TO ENGAGE ABORIGINAL COMMUNITIES IN LAND RECLAMATION

Dan Kuchmak and Amanda Sanregret from TransAlta provided the context for this session. They described what they were doing to engage Aboriginal communities in land reclamation.

Some key points from the presentation were as follows.

- By involving the elders, traditional knowledge can be incorporated.
- By involving students, opportunities can be created to combine science with traditional knowledge and ensure that knowledge is handed down to future generations.
- The land reclamation exercise teaches students and other members of the community about the employment and career opportunities available in the fields of land reclamation and environmental sciences.
- The spiritual connection to land is important for Aboriginal communities. Removing plants or disturbing the land removes the land's spirit. The challenge then becomes how to return that spirit to the land during reclamation.
- During TransAlta's 2014 land reclamation program, and before the group started planting, one Paul First Nation Elder offered tobacco to the land to bless the reclamation and to heal the land so that the new seedlings would grow and flourish.
- Sharing knowledge was important but having the elders demonstrate that knowledge in action was far more valuable.

The focus areas provided for the table discussions were engagement strategies, timing and purpose; tours and educational opportunities; training and employment opportunities; knowledge sharing. All of the table discussions are provided in Appendix 5.

The most important lesson learned or key point the table participants wanted to share with the other participants were as follows.

- Engagement can be found by empowering Aboriginal groups to independently collect their own monitoring data and to use that data to compare with the same data collected by companies or government.
- Building a strong relationship between the company and the community if extremely important. Ideally this should be a blend of community involvement with empowerment to make decisions. However, there is a power imbalance between industry, government and communities that needs to be overcome.
- Opportunities for engagement exist through removing barriers to education, capacity building and community engagement. Government, industry and communities all have a role to play in this. Aboriginal Human Resources departments are instrumental in building capacity, participation and long term career and community development across multiple industries, businesses and governments.
- Engagement is a two way process and it is an ongoing process. Engagement and knowledge transfer processes must be tailored to each industry and community pairing.
- Different modes of communication, including experiential, should be used when engaging Aboriginal communities.
- Education and communication are very important in developing a successful strategy for Aboriginal community engagement.
- Education and exposure to connectivity to the land can be achieved by more on site, on the ground training and meetings. This isn't just for non-Aboriginals as many Aboriginal people are increasingly becoming geographically and spiritually disconnected from the land and need to be reconnected.
- Mobile classrooms should be developed and brought to the communities. An example of this is the Royal Roads University native plant collection[4].
- There is a need for more meetings to discuss where the gaps are and concerns from each group. Communication would be enhanced by using translators and/or by developing a common language.
- Development of native plant nurseries and training in seed collection and planting could be developed to provide engagement and funding opportunities for Aboriginal communities.
- Consideration of traditional use and inclusion of Aboriginal perspectives and people is becoming more commonplace in land reclamation. However, accommodation is an overlooked tool in most scenarios.

[4] See http://www.royalroads.ca/news-releases/new-training-partnership-native-plant-growing

4. SESSION 3: HOW COULD WE ENHANCE ABORIGINAL ENGAGEMENT TO ACHIEVE SUCCESSFUL LAND RECLAMATION

The focus areas provided for the table discussions were gaps to successful participation of Aboriginals in land reclamation; research; training opportunities; business and employment opportunities. All of the table discussions are presented in Appendix 6.

The most important lesson learned or key point the table participants wanted to share with the other participants were as follows.

- To be successful there is a need for more explicit policy with standards, processes and best practices; leadership; informed decision making; and education that provides experiences beyond the technical and encourages partnerships.
- Community and First Nation involvement can be maximized by building capacity for a local reclamation expert and team (independent business) and by providing more incentives. This helps to overcome the hurdle of encouraging post secondary education when it is hard to see opportunities for employment afterwards. Internships in companies and government are a great way to engage community members.
- Equal participation of Aboriginals and non-Aboriginals starts with an equal footing (capacity). Joint ventures are an example of this as they provide opportunities for more effective engagement and local benefits.
- Bringing more education, training and awareness opportunities to the communities is important. Companies, government, associations and consultants should lead these initiatives. Curricula on reserves are flexible so it may be possible to put an emphasis on environmental sciences to prepare future reclamation professionals.
- There is a need to develop and promote opportunities for traditional land use education sharing (Grande Cache has traditional use camps[5]) to be attended by Aboriginal youth, companies and government. These camps help explain why connectivity to land is so important to everyone.
- An integrated land management program could be developed, involving a broad landscape level to give stakeholders a better long range plan, improve efficiency and reduce the disturbance footprint.
- Land reclamation focused on Aboriginal goals may be gained by international examples.

[5] See CEMA's Aboriginal Elders Workshops at http://cemaonline.ca/index.php/news-a-events/cema-press-releases/89-cema-news/press-releases/press-release-articles/205-press-release-cema-hosts-aboriginal-elders-workshop-august-14th-2013

- Government needs to engage on end land use objectives in a more meaningful way. However, budget cuts are a challenge that may limit engagement opportunities at least for the short term.

5. SESSION 4: ACTIONS TO START IMMEDIATELY

There was no presentation for this section. After listening to the dialogues at the tables during the first three sessions, the organizers revised the final session objectives to identify three specific actions they wanted to be initiated immediately. Comments from some table participants are provided in Appendix 7. The recommended actions are as follows.

Engagement

- Commit to local relationship building and long term planning to ensure success, with consistent and continuous monitoring and updates. Engage with as many stakeholders as possible on an ongoing, re-occurring basis to ensure a real relationship is built. Provide consistent follow up. Make relationships, youth outreach and other options more consistent and with a long term intent. Provide consistent updates and monitoring results. Using the regional plan put forth by the provincial government, bring the stakeholders to the table regularly for updates. Continuous monitoring, planning, engagement and feedback are required. There is a need to build relationships and trust to make future projects and/or interactions smoother.
- Create a project advisory committee to keep things consistent when discussing issues over the long term. Prior to a new project, first address the more pressing issues or allow the community to air grievances, before beginning a more proactive approach to land reclamation. The onus is on industry to work with the affected community.
- Facilitate discussions in the community to figure out the ideal end land use and the ideal trajectory. Get shared vision. Remember that vision is what our landscape needs to look like at the end; trees, understory, water, wildlife, traditional use. An example is rat root and whether it would actually be used.
- Respect the elders, contact them before working on a project. Elder communication is critical in the context of development of ascendants. It is good to have youth with the elders to interpret value for further generations and to create context.
- Industry or government people should participate in daily First Nation life.
- Promote stewardship opportunities. The TransAlta example should be done more often. Involvement in early stages is critical for acceptance.

- Enhance communication among the actors on the landscape to make better decisions.
- Develop and use interpreters. Creates learning opportunities for First Nation people and encourages them to keep their language but also learn English.

Traditional Knowledge

- Create meaningful mechanisms for integrating of traditional knowledge and community knowledge into decision making and reclamation planning.
- Engage in two way education including the scientific world and traditional knowledge.

Reclamation

- Government, industry and Aboriginal groups should be talking together all the time and at all stages to determine reclamation project details and desires.
- Enhance information sharing among various reclamation stakeholders.
- Create Aboriginal reclamation standards in regulatory process because industry often does not do what is not required.
- Help people understand the long timelines in land reclamation work and the need to change the work or desired outcomes as science and practice changes over time.
- Develop an inventory of land reclamation techniques used to date. Use these as a talking point to discuss with communities. Show communities where land reclamation has taken place, and determine their perspective and expectations.

Education

- Facilitate education and training, from all sides on an ongoing basis. Consider setting a government baseline.
- Agree on all the definition of the terms and definitions, terms of references, intercultural workshop and conversations like this.
- Educate companies and community. Communities are concerned development will affect land in a way they don't want. They want to know why. More general issues need to be addressed and the specifics can be factored into a different part of the process. Not only focus on how it looks but the whole process overall, including timeline and processes.
- Need to know more about outcomes of the reclamation, the knowledge gap.

Capacity, Jobs and Training

- Spend more time with contractors to increase Aboriginal work force involvement.
- Create opportunity for First Nation individuals to join as a participant in industry and in the land reclamation workplace (participate in monitoring).

- Allow First Nations communities to be involved from planning, to implementing, to assessing success and monitoring.
- Develop partnerships between Aboriginal groups and companies.
- Involve youth in reclamation work and follow up with them into adulthood.
- Provide more information on opportunities (what are they, what are the details). Get one key person to start process, to organize the opportunities.
- Use professional practice associations as a place to begin talking about standards, best practices and training and to reach out to Aboriginal groups to build capacity.

Commitment and Follow Through

- Develop a plan and follow through. Companies often put tremendous effort into planning but often, there's not as much effort put into execution as into planning. Regulation should make sure plan is implemented.
- Developers should notify the community of closure. This is following the format on private where the land owner gets a reclamation report.

Government

- Start regional reclamation funds and planning. Increase royalties need a slush fund for land reclamation. There is a serious imbalance between approvals to do industrial development and land reclamation certification. Companies roll over faster than land reclamation can occur. The province needs to take on some of that liability.
- Establish regulations to get Aboriginal groups involved, instead of checking boxes.

Barriers

- Reduce administrative barriers to First Nation people getting involved.

6. WORKSHOP KEY MESSAGES AND NEXT STEPS

6.1 Key Messages

A number of key messages arose from the workshop discussions. Trust was frequently mentioned as the foundation for success. It was clearly accepted that trust must be earned and continuously nurtured; that it takes a long time to build but a very short time to destroy. Four key factors were identified that could increase trust.

- Respect: Culture and traditions of Aboriginal communities are very important. Recognize and follow processes for engaging communities and especially elders. Recognize that each Aboriginal community has different interests, expectations and capacity.

- Communicate: Communication is an ongoing process, and should be regarded as a two way process. Recognize that terms and definitions may be a barrier and consider supporting and using translators to help. Develop improved visual tool aids to clearly explain plans and expected outcomes.
- Engage: Actively seek opportunities to interact with communities. Create experiences for knowledge sharing, not just between communities and others but between generations within the community. Seek the input of Aboriginal communities to enhance plans and procedures.
- Support: Communities need assistance in building capacity to deal with the increasing load of industrial applications. Communities are very interested in training and business opportunities. Barriers to engaging Aboriginals and Aboriginal companies need to be removed or overcome.

A number of barriers to success were identified.

- Community capacity: Many communities are overwhelmed by the number of project reviews and short deadlines required when responding to applications and the associated process. While providing additional capacity and time would be helpful, the communities need to know that their input will be valued and make a difference. Otherwise the view that consultation is just a checklist exercise will continue.
- Project based consultation: Communities face cumulative areal and temporal impacts of multiple projects and want to see regional solutions. However, consultation continues to be on a project by project basis. The government's regional plans, plus the Alberta Energy Regulator's new Play Based Regulation approach in the Duvernay shale development, are steps in the right direction.
- Reclamation goals: Communities and industry expressed concerns that consulting on desired reclamation outcomes is futile if the landowner is not willing to consider alternative land uses, including traditional land uses. There was an acknowledgement that the land will not be put back exactly as it was before.
- Awareness of successful reclamation: Whether it is a belief that the spirit of the land has been removed or killed, or the land is no longer able to support plants and animals for traditional use, or residual contamination is affecting plants and animals, there is considerable uncertainty around the potential for land reclamation to provide for acceptable future use. More demonstration sites and tours are required to help communities believe that land reclamation is possible.
- Continuity in personnel: High staff turnover in Aboriginal communities, companies and

government makes it difficult to establish and maintain the relationships that are so critical to successful engagement.

- Education, training and jobs: Providing able and interested workers with basic, practical and appropriate training and then finding committed employers and/or consultants who have a long term view is necessary for engagement of Aboriginals. A number of needs and opportunities were identified, including distance learning, on the job training and mentoring.

Many parties have a role to play in enhancing Aboriginal participation in land reclamation. Government, industry, consultants and academia were all mentioned as key players. A willing and engaged Aboriginal community was considered equally important to success. An important point was that we are all considered partners in success!

6.2 Next Steps

There was considerable energy in the room during the workshop and a sense that continued dialogue would be useful. It was apparent from the discussions that many successes will be achieved on a one-on-one basis between communities and their external stakeholders. However, there seemed to be some larger initiatives that could be undertaken to improve the knowledge base for all. A working group comprised of people who are committed to action is suggested as a means of identifying the next steps that could be taken.

Some ideas arising from the workshop were as follows.

- Document best practices examples or case studies of Aboriginal community engagement in Alberta. It was clear that many participants were hearing of some of the successful practices for the first time.
- Document examples of communication tools used in Alberta and elsewhere to help explain technical information to Aboriginal communities. It was clear that many participants were hearing of some of the successful practices for the first time.
- Document educational needs and opportunities for Aboriginal communities.
- Document the perceived barriers to Aboriginal company employment and identify solutions.
- Develop a glossary of western and Aboriginal names for plants, animals and landscape features to enhance communication.

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8. WEBSITES

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Alberta Chamber of Resources – Aboriginal Programs Project.
Alberta Indian Investment Corporation (AIIC).
Alberta Innovates – Technology Futures – Aboriginal Program.
Alberta Sweetgrass.
Aseniwuche Winewak Nation of Canada.
BEAHR Training Programs (eco Canada).
Belcourt Brosseau Métis Awards.
Centre for Indigenous Environmental Resources (CIER).
Circle for Aboriginal Relations (CFAR).
Métis Settlements Appeal Tribunal (MSAT).
Métis Settlements General Council.
Technical Services Advisory Group (TSAG).
TransAlta – Understanding and Respect.
Treaty and Aboriginal Land Stewards Association of Alberta (TALSAA).

9. ACRONYMS AND ABBREVIATIONS

AER	Alberta Energy Regulator
AESRD	Alberta Environment and Sustainable Resource Development
AFI	Aboriginal Forestry Initiative
AWN	Aseniwuche Winewak Nation
CEMA	Cumulative Environmental Management Association
CFS	Canadian Forest Service

COSIA	Canadian Oil Sands Innovation Alliance
EIA	Environmental Impact Assessment
EMEND	Ecosystem Management Emulating Natural Disturbance
EPEA	Environmental Protection and Enhancement Act
LRIGS	Land Reclamation International Graduate School
PBR	Play Based Regulation
TEK / TK	Traditional Ecological (Environmental) Knowledge

APPENDIX 1: WORKSHOP PARTICIPANTS

Jaime Aguilar	University of Alberta
Jorge Aviles	TransAlta
Greg Brady	Devon Energy
Gary Byrtus	Environment and Sustainable Resource Development
Jaymie Campbell	Aseniwuche Winewak Nation of Canada
Stacy Campbell Court	University of Alberta
Chi Chen	Environment and Sustainable Resource Development
R. Mitch Clegg	Grande Cache Coal
Michelle Cotton	Solstice Canada Corp
Sebastian Dietrich	University of Alberta, LRIGS student
Katy Dimmer	The Firelight Group
Elizabeth Domreis	University of Alberta, LRIGS student
John Doornbos	Canadian Forestry Service
Shellie English	Synergyaspen
Kim Gould	Wildrose Consulting
Michal Guzowski	University of Alberta
Kelvin Hirsch	Canadian Forestry Service
Donna Hovsepian	Government of Alberta, Aboriginal Consultation Office
Wallis Johnson	Alberta Energy
Nafis Karim	Canadian Forestry Service
Dan Kuchmak	TransAlta
Jasmine Lamarre	University of Alberta, LRIGS student
Thomas Lee	Government of Alberta, Aboriginal Consultation Office
Barb Logan	Paragon
Kangyi Lou	University of Alberta, LRIGS student
Laura Machial	First Nations Technical Services Advisory Group
David MacPhee	Aseniwuche Winewak Nation of Canada
Leslie Main Johnson	Athabasca University
Alexey Massarsky	Government of Alberta, Metis Settlements Appeal Tribunal
Josh McAlpine	Aseniwuche Winewak Nation of Canada
Stephen McCarthy	AMEC Foster Wheeler
Garry McDonald	Aseniwuche Winewak Nation of Canada
Kevin McDonald	Aseniwuche Environmental Corporation
Rachelle McDonald	Aseniwuche Winewak Nation of Canada
Leanne McKinnon	University of Alberta
Kate Melnik	University of Alberta, LRIGS student
Valerie Miller	University of Alberta, LRIGS student
Premee Mohamed	Alberta Environment and Sustainable Resource Development
Stephanie Mulrooney	Canadian Natural Resources Ltd
Alison Murata	University of Alberta, LRIGS student
M Anne Naeth	University of Alberta
Darryl Nelson	Nelson Environmental Remediation

Rachel Noble-Pattinson	Imperial Oil
Dee Patriquin	Solstice Canada Corp
Taras Pojasok	Environment and Sustainable Resource Development
Mike Poscente	CPP Environmental
Chris Powter	EnviroQ&A
Brett Purdy	Alberta Innovates
Shalan Ribar	Northwind Land Resources
Pierre Rocque	TransAlta
Ken Ruth	Devon Energy
Amanda Sanregret	TransAlta
Jessica Saunders	Shell
Amber Schram	Westmoreland Coal Company
Janet Scott	Canadian Environmental Assessment Agency
Hugh Seaton	NAIT Boreal Research Institute
Anne Smreciu	Wildrose Consulting
Karen Stroebel	Aseniwuche Environmental Corporation
Dan Stuckless	Fort McKay First Nation
Tawanis Testart	Canadian Environmental Assessment Agency
Paul Way	Canadian Forest Service
Sarah Wilkinson	University of Alberta
Wenqing Zhang	University of Alberta, LRIGS student

APPENDIX 2: WORKSHOP AGENDA

ABORIGINAL PARTICIPATION IN LAND RECLAMATION: ENHANCING THE DIALOGUE

Land Reclamation International Graduate School (LRIGS)
and Canadian Forest Service (CFS)

Monday, March 23, 2015

Wild Rose Room, Lister Hall, University of Alberta, Edmonton

0800 – 0830	Registration, refreshments
0830 – 0845	Welcome, introductions, safety information
0845 – 0850	Opening prayer
0850 – 0910	Workshop purpose and structure
0910 – 1040	What does successful land reclamation look like from an Aboriginal perspective? Speakers: Aseniwuche Winewak Nation, Fort McKay First Nation Discussion focus areas: successful land reclamation on the ground; needs of land users; re-establishing plant communities and soils to successful ecosystems; opportunities for economic development
1040 – 1100	Break
1100 – 1215	What is being done now to engage Aboriginal communities in land reclamation? Speaker: TransAlta Discussion focus areas: engagement strategies, timing and purpose; tours and educational opportunities; training and employment opportunities; knowledge sharing
1215 – 1300	Lunch (provided)
1300 – 1415	How could we enhance engagement to achieve successful reclamation? Discussion focus areas: gaps to successful participation of Aboriginals in land reclamation; research; training opportunities; business and employment opportunities
1415 – 1515	How can we continue the dialogue? Discussion focus areas: next steps to make it happen; priority setting; assess and rank the gaps
1515 – 1530	Wrap-up and next steps

APPENDIX 3: WORKSHOP PRESENTATIONS

The presentations setting the stage for the session discussion groups are provided.

Chris Powter	Enviro Q&A Services	Reclamation Context
Rachelle McDonald	Aseniwuche Winewak Nation	Successful Reclamation from an Aboriginal Perspective
Daniel Stuckless	Fort McKay First Nation	Aboriginal Participation in Land Reclamation
Dan Kuchmak Amanda Sanregret	TransAlta	Land Reclamation Engagement Opportunities

Chris Powter, Enviro Q&A Services

Reclamation Context

Chris Powter
Enviro Q&A Services

Reclamation is required

- Requirement to reclaim and get a reclamation certificate is in the *Environmental Protection and Enhancement Act*
- List of industrial activities required to reclaim land is in the *Conservation and Reclamation Regulation*
- At its most basic, reclamation is returning industrially-disturbed land to a future productive use
- Note that when required, remediation happens before reclamation

What use?

- In Alberta most often *agriculture* or *forestry*
- But, there are other options, including
  - Wildlife habitat
  - Recreation
  - Residential or industrial development
  - Watershed protection

What use (2)?

- In Alberta most often *agriculture* or *forestry*
- But, there are other options, including
  - Wildlife habitat
  - Recreation
  - Residential or industrial development
  - Watershed protection
- And in the context of this Workshop
  - Traditional land uses

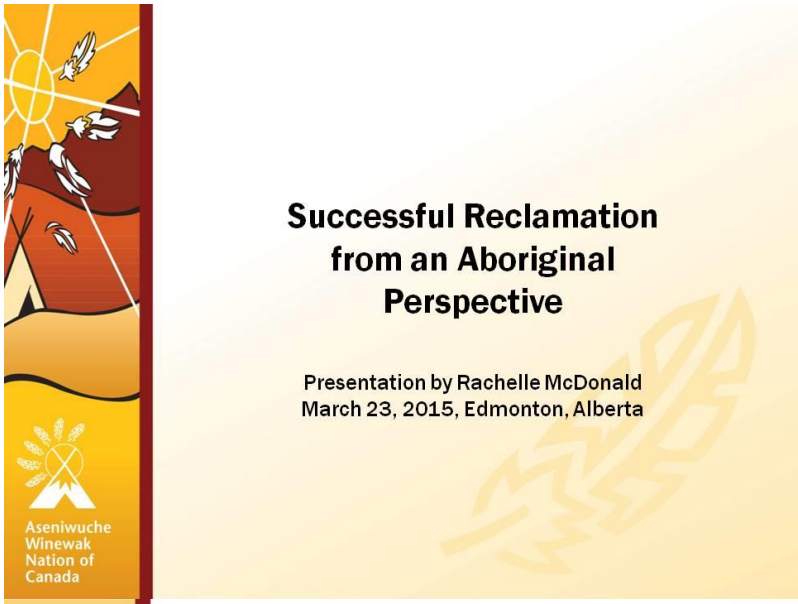
Reclaim how?

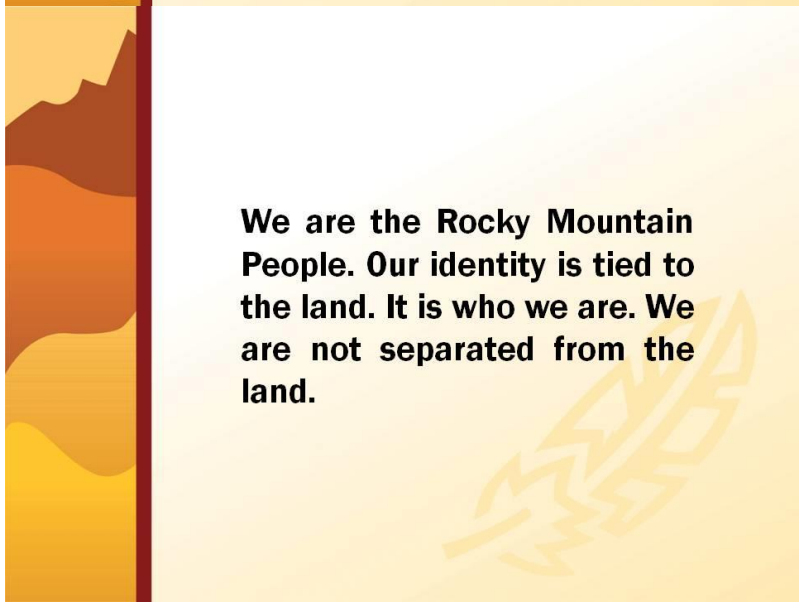
- Again, at the most basic level reclamation is a three step process
  - Contour the landform
  - Replace soils
  - Plant/seed vegetation
- Some other important steps
  - Before – planning
  - After – maintenance, monitoring, assessment, certification
- These are the places where Aboriginal communities and reclamation specialists can interact to improve reclamation outcomes

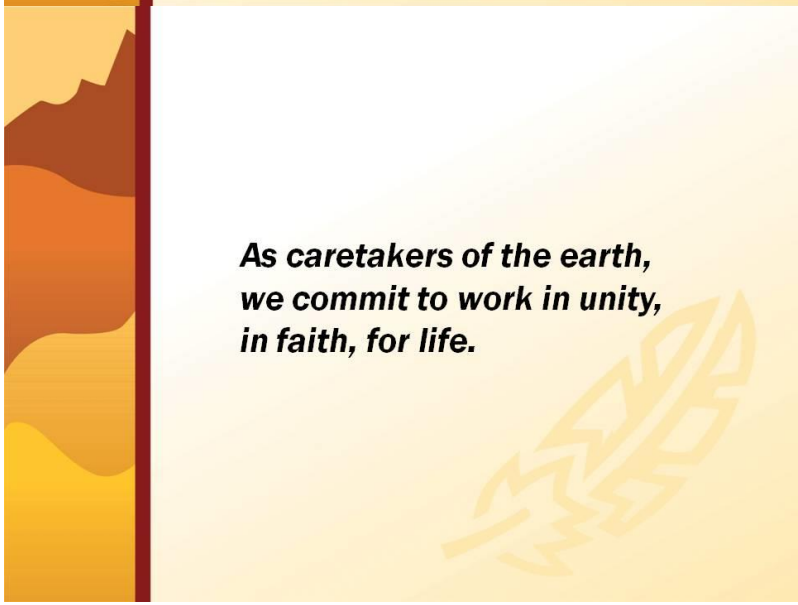
Traditional Land Use reclamation

- What use(s)
  - Compatibility with other uses
- Where (locations, travel corridors)
- Characteristics of land and plants that support use(s)
- Evaluate plans
- Evaluate success

Rachelle McDonald, Aseniwuche Winewak Nation







Since 1998, AWN has been collecting data for its traditional land use study.

Listening to our Elders when they tell us
that we need to think of our children and grandchildren is critical.

Traditional Knowledge,
learned by countless generations on the land,
has a vital role in managing a sustainable landscape.

There is great opportunity and a natural obligation to share our traditional knowledge, the knowledge of the Aseniwuche Winewak.

The rapid encroachment of development and urbanization is creating pressures on the environment unknown to previous generations.

Integration of
traditional knowledge and scientific knowledge
can reduce environmental impact
and restore balance.

Successful land reclamation will ensure natural resources are
available for future generations to maintain our culture and identity.

We want to live on land that we recognize, land that
supports our values. One key objective of AWN
is to be involved in the reclamation and remediation
of lands impacted by resource development.

Successful reclamation will ensure our children and our grandchildren
can maintain their connection to the land, critical to community wellness.

We have been making attempts to employ our traditional knowledge in our construction company since 1998…but we want to do more than that.

environmental protection and resource management services

AEC offers a range of services. We will consult with resource developers to create environmental solutions that meet each client's needs and budget.

www.traditionallanduse.com

This is a password-protected online system designed to expedite aboriginal consultation for resource developers. The developers fill out digital forms with information such as site location and a brief description of the development. The information is forwarded to the aboriginal community for review and processing. This accelerates site consultations significantly and allows industry to immediately know their status throughout the application process. The website also generates digital site maps.

Innovative Solutions that integrate Scientific and Traditional Aboriginal Knowledge

In today's economic climate, businesses are evaluated using many factors, and how a business impacts on the environment is becoming increasingly important. With regulations and policies constantly evolving, and the awareness of shareholders and the public growing, companies are more motivated to use green technologies and practises to maintain a competitive edge.

Aseniwuche Environmental Corporation (AEC) is an exceptional choice for environmental contractors. We combine historical and cultural knowledge of the geography and ecosystems in the region with relevant education, training and hands-on experience. When AEC is hired to provide environmental services, we have a vested interest: our ancestors lived and thrived on the land and we want future generations to do the same. Resource development has been fundamental to Alberta's history and economy, and sound environmental management and practices are critical to Alberta's future.

Land Use Consultative Services

Designed to assist resource developers in the assessment, operational and reclamation stages of their projects.

- online site review tools
- traditional land use studies
- training & workshops
- site protection & restoration

Environmental Field Technical Services

Support for resource developers in management and compliance of projects.

- air, water, vegetation, and wildlife monitoring

Vegetation & Soil Management

Designed to restore and balance impacts of developments

- soil conditioning
- erosion control measures
- stream bank remediation
- seeding & planting
- wild plant stock harvesting
- vegetation control

In 2010, we incorporated Aseniwuche Environmental Corporation as a vehicle to implement our vision.

AWN Has Negotiated Immense Opportunity

6.5 Reclaimed Land Use

AWN and XXX agree to work together on a decommissioning and land reclamation plan that incorporates or considers the following:

- Results of the Traditional Land Use Study, in the role of providing guidance to land use objectives, selection of landforms, wildlife needs and re-vegetation plants;
- Reintroduction of traditional plant and wildlife species;
- Provision for traditional plants and native seed in re-vegetation;
- Re-establishment of traditional access;
- Provision for a traditional land use camp, heritage site or interpretive sites;
- Statement of stewardship responsibilities;
- Context of land claims
- Other considerations such as:
  - Tourism opportunities
  - Dinosaur tracks
  - Fisheries

The closer we get…the farther away it feels

We now have agreements in place that ensure opportunities for our involvement in planning, implementing, and evaluating reclamation and remediation activities.

We have qualified and experienced leadership within our Environmental Corporation.

We have community members engaged and interested in developing and mastering monitoring, technical and field skills.

We have incredible partners who are willing to help us reach our long term goals.

BUT…

We need to focus our efforts, develop priorities.

We need to partner with researchers, other communities, and other organizations to develop meaningful solutions.

Specific Areas of Interest

- Development of a suite of services retailed to energy companies ranging from seed and plant harvesting to propagation to replanting to silviculture
- Development of a greenhouse and nursery for plants significant to AWN
- Developing a niche product (s) to retail to large pipeline companies for right of way restoration
- Reclamation in sub-alpine and alpine zones inclusive of plants, animals, birds and fish
- Products or services that support restoration of critical caribou habitat
- Developing the human resources and expertise within our community to undertake the above activities
- Others…the possibilities are endless

Kinanaskomatin

"Thank you" for your time.

Daniel Stuckless, Fort McKay First Nation

Aboriginal Participation in Land Reclamation: Enhancing the Dialogue

Canadian Forest Service/Land Reclamation International Graduate School Workshop - March 23, 2015

Daniel Stuckless, Fort McKay Sustainability Department

dstuckless@fortmckay.com

Acknowledgements

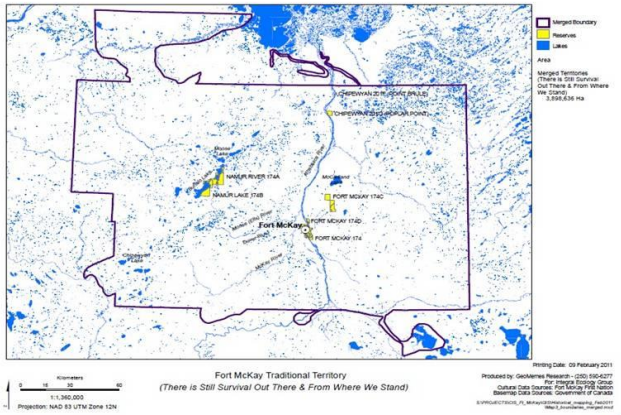
- First Nation and Metis communities in Wood Buffalo.
- Elders and community members of Fort McKay.
- Jean L'Hommecourt.
- Ann Garibaldi, Shanti Berry, Justin Straker, Lorne Gould, Gillian Donald, Jeff Battigelli, Bob Fuller and Carol Jones.

Ground Zero: Mineable Oilsands Area

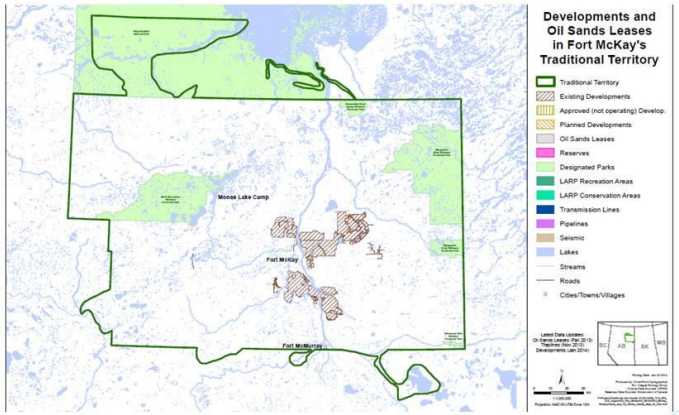
Aerial of oilsands facilities near Fort McKay

Southern facing aerial of Fort McKay First Nation in relation to Syncrude facility

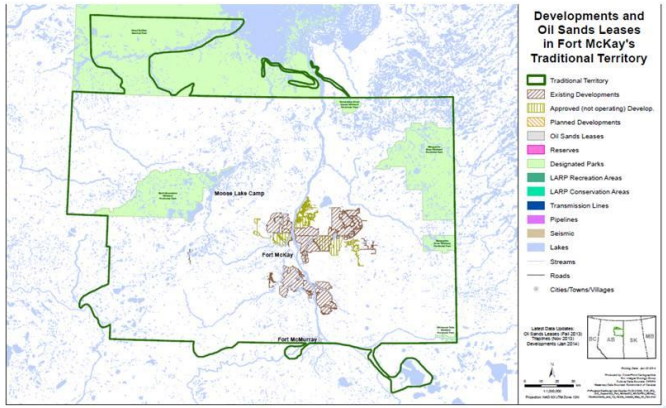
Fort McKay's Territory



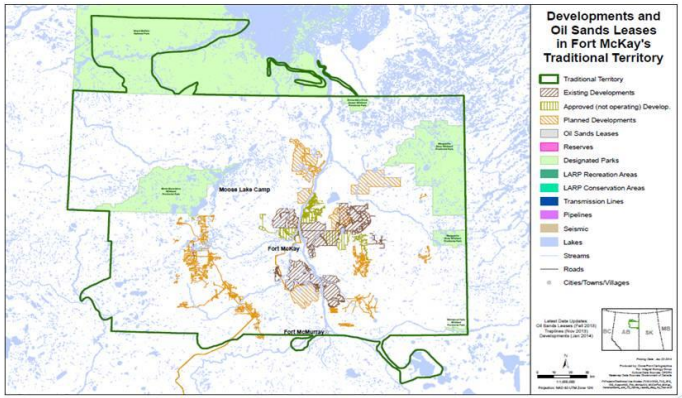
Existing



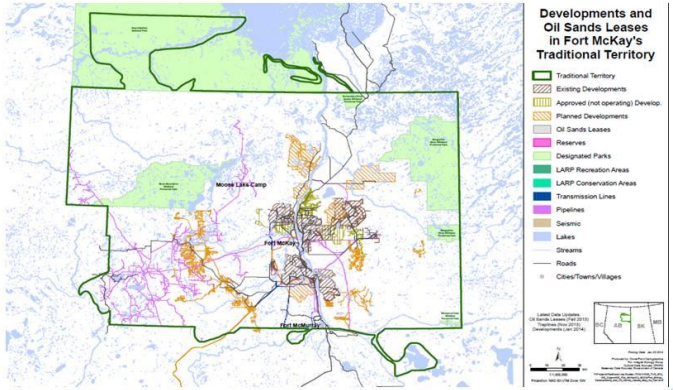
Existing and Approved



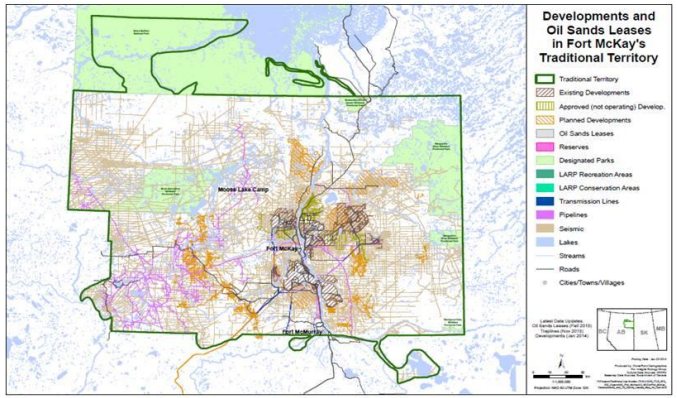
Existing, Approved, and Planned



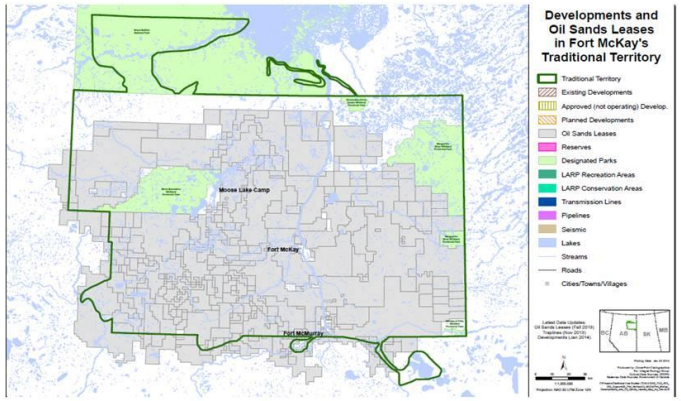
With roads, pipelines, and transmission



And seismic…



Leases



What does success look like?

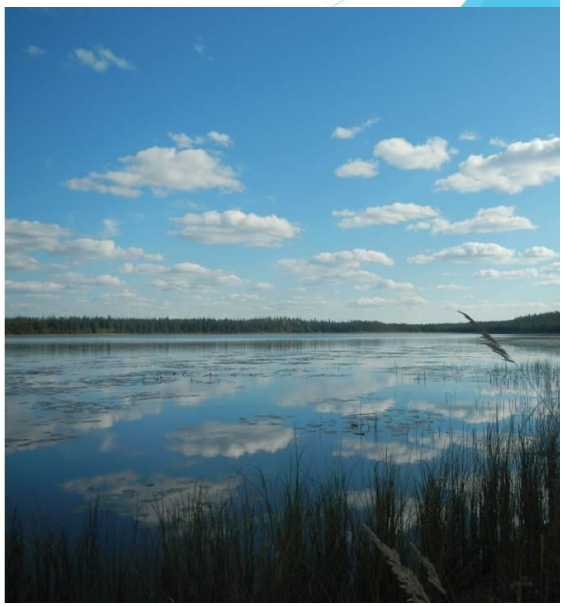
The Challenge

Oilsands Mining

InSitu Development

Aggregate, Infrastructure, Ancillary Development

Photo Credits: Ryan Abel



The conversation so far

- We will make the land better than it was before
- Put the land back the way it was
- The plants and animals will be poisoned
- Can you tell me what you want the land to look like
- It will never work

- When?

Communication

When industry come, the bosses or whatever, they talk their English, well, everybody speak English anyway. I listen good, the half of it I don't understand what he's talking about. And if I talk to you, and if you don't understand me, what I was talking about, and if you don't understand four or five words in between, you're out. You're out of what you're listening [to].

Fort McKay Elder Francis Orr

Defining success...Meeting expectations

- Recreating landscapes, both local and regional.
- Re-establishment of Traditional Land Use species including culturally relevant species.
- Establishing integrated landscapes
- Timing
- In order to understand what the expectations are for reclaimed land, you will need to know how land users are currently using the land, their traplines, practicing traditional ways, or exercising rights.

- *"people and the landscape cannot be separated if reclamation is to be deemed successful in the eyes of community members" - Garibaldi, 2006*

The path to success

- Capacity limitations and cultural barriers need to be removed
- Artificial barriers should be removed as well
- Government flexibility and leadership is needed
- Technology and tools
- Get outside! together!

Questions?

Dan Kuchmak and Amanda Sanregret, TransAlta

TransAlta

Land Reclamation

Engagement Opportunities

TransAlta

AGENDA

TransAlta

- Introduction;
- engagement strategies;
- timing and purpose;
- tours and educational opportunities;
- training and employment opportunities;
- knowledge sharing;
- Q & A

Whitewood Mine Site

TransAlta

INTRODUCTION

TransAlta

- Land reclamation is more than just "the right thing to do" – it's also an opportunity to share how much the environment means to ALL of us.
- 2014 – Two phase reclamation pilot project with Paul First Nation: transplanting trees from TransAlta land to the Whitewood mine area being reclaimed.

ENGAGEMENT STRATEGIES

- By involving the community, we show ownership over the challenge;
- By involving the elders, we incorporate traditional knowledge;
- By involving students, we create opportunities to combine science with traditional knowledge and ensure that knowledge is handed down to future generations.

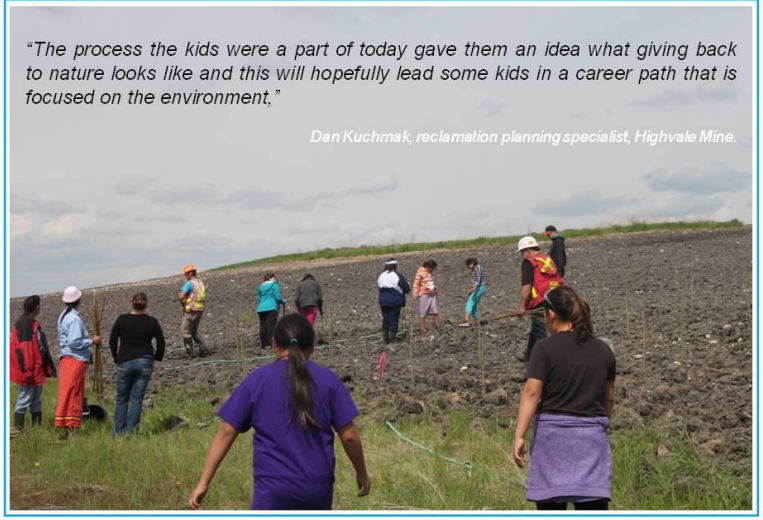
TIMING AND PURPOSE

- **Two phases:**
  - ***Phase 1 / March – collecting and storing plantings***
  - ***Phase 2 / June – transplanting to the site***

Phase 2

"The process the kids were a part of today gave them an idea what giving back to nature looks like and this will hopefully lead some kids in a career path that is focused on the environment,"

Dan Kuchmak, reclamation planning specialist, Highvale Mine.



TOURS & EDUCATIONAL OPPORTUNITIES

- ***Tour of fully and partially reclaimed lands***
- ***Opportunity to see different stages of the reclamation process***
- ***The students and elders return to the tree planting location in the fall so they can see what their efforts helped create.***

TRAINING & EMPLOYMENT OPPORTUNITIES

TransAlta

- *The reclamation exercise teaches students and other members of the community about the employment and career opportunities available in the field of reclamation and environmental sciences.*

KNOWLEDGE SHARING

TransAlta

- *During 2014's reclamation program, and before the group started planting, one Paul First Nation Elder asked the Creator to bless the day so they could have a good planting day. She also offered tobacco to the land to bless the reclamation and to heal the land so that the new seedlings would grow and flourish.*

HAPPY ENDINGS

TransAlta

- Bringing the land back to its original form takes time; it also takes the dedication and the interest of all those involved in a project;
- ***WE WANT A SMALLER FOOTPRINT***

APPENDIX 4: DISCUSSION NOTES ON WHAT SUCCESSFUL LAND RECLAMATION LOOKS LIKE FROM AN ABORIGINAL PERSPECTIVE

1. Visions Of Success

Successful reclamation an area where traditional activities could re-occur.

Elders would look at what is there for traditional lifestyles.

We want to live on a land that we recognize, that supports our values.

Another way to evaluate reclamation success would be to see whether the land quantity and quality is capable of feeding the entire community (with berries, wild game, etc.).

What does success look like; looks like industry has never been there.

Success: when you can no longer tell where the industrial development occurred.

Put the land back the way it was. Put the land back the way it was. Can't really do that, it will never look the same.

Success is to redevelop landscapes, re-establish traditional land use species, integrated landscapes (companies need to talk to each other), traditional land uses.

Success reclamation is minimizing footprint.

Plants and animals for successful ecosystems.

Difference between success under regulatory rules versus community perspective.

2. Community Engagement

The Aboriginal consultation period is much too short to really plan out a project properly (15 days before development begins).

No engagement at political level, very often. Frustrating if you have the same conversations over and over and do not move forward.

There should be more trust or is a need for more trust.

Syncrude and Fort McKay relationship shows that the work in between the different parties (industry and First Nations) is related to the personal relationships. Dan has seen four or five CEOs in the last six years.

The exchange of information, consultation so important. Need to make sure understanding, takes time to develop understanding; currently in a hurry up attitude.

Increasing requests to bridge gaps with aboriginal groups with regards to reclamation and policy development.

Ask approval from communities first before going to government; trying to get this organized so it will happen.

Involvement of First Nations at CEMA has occurred.

Consultants do not engage community enough. Consultants being able to communicate directly with Aboriginal peoples about the work they are engaging in (often this doesn't happen because industry employers need to vet all communications).

Companies that operate out of Calgary and hire consultants seem to have bigger issues in context with land reclamation and the involvement of First Nation's communities.

On all levels we need more participation of First Nations in context of moving aboriginal participation forward.

Try to involve First Nations in engagement process.

Input of First Nations is important.

First Nations are willing to talk about their issues.

Like the idea of meeting in the field, First Nation people showing industry/land reclamation what they want.

In pilot reclamation project, went to community and asked what needed to be done, industry was consultants but everything went through community/elders; traditional knowledge required especially as disturbances are so old.

Example of Aboriginal group who developed program (camp) looking at reclamation and brought industry in Capowaino, wanted to pick brain of industry.

First Nations reserves in the southern part of the province, standard program, programs developed by First Nations in context of end land use; programs quite flexible. Expect evolution in development of regulations.

Communities within 2 km but no engagement process; have taken it on themselves to engage in agreements with communities.

In traditional oil and gas, there is little consultation with Aboriginal communities with regard to reclamation of smaller well sites, etc.

No seismic consultation now.

Mainstream for oil and gas but no framework in place for coal mining, how do we plug in?

Oil and gas industry is easier to work with than government.

Participation of First Nations is still more on a theoretical level.

Relationships in between industry and First Nation's people are important. However, employees are often moved or circulated.

3. Communication And Consultation

Communication and timing key; effective communication to community members.

Elders should be consulted in planning stages, not at hearing stage.

Communication with elders when hiring the young people.

Reclamation, consultation not a onetime deal, needs to be continuous; evolution of project; it's a conversation. Is understood to involve a continuous conversation between industry, government and Aboriginal groups that starts with reclamation planning and ends when all parties are satisfied that reclamation has been achieved.

Consultation, discussion comes naturally to Aboriginal but it takes time, need positive outcome. How to develop skills? How do you support them?

Patience is needed. Approaches to elders have to be improved.

Connect to the kids in the community who can convey ideas for elders.

Relationship has to be built in between community and industries. Need to share ideas between cultures.

Annual workshop (cultural interaction) involving 150 people for 3 days; know persons instead of just companies. Serving traditional food and introduction traditional land use. This participation is significant.

Company asked elders what things looked like before; also did helicopter fly-overs to document the land use at the time.

Communication is the key between the community elders and people outside, and the delivery of ideas is the key. There are always misunderstanding happening during communication.

Work is sometimes very frustrating. Some companies are not returning calls. Companies who have Aboriginal working group are a lot better.

Good translators are in need. Possibly incorporate a trusted technical advisor(s) in conversations with Aboriginals and other stakeholders. Technical jargon can often derail real conversations if comprehension isn't there.

Misunderstanding of reclamation, remediation and other terms for the First Nation; how to explain these terminologies to them. Language barrier.

Involves a process that clearly communicates target species because common names for all flora and fauna are known and recorded from all Aboriginal groups involved in the reclamation.

Is consensus easy to achieve with the community? Yes, most of them. But issues about accessing the trap lands are not easy.

When dealing with multiple bands, why is communication so difficult? Some bands do come together and have business collectives to share resources and pool revenues, but most are feeling competitive. Politics are a major issue, not all bands want to work together, some will do it better/cheaper/have easier access.

Very hard to write technical report for Aboriginals.

Vision of reclamation results will be helpful.

Visual aids for aboriginals help. Drew a map about caribou distribution and ended up exactly the same as what scientist's data proved.

Now all the gathered data is in Arc GIS.

Information in binders with no follow through; how to communicate effectively to communities.

Government needs more leadership role instead of just telling industry to talk to Aboriginals.

Duty to consult rests with the Crown. In this province, that duty has been delegated to the proponent. Proponent determines whether there is potential for infringement, what we can mitigate. This is a flawed system.

Regulator been struggling with definitions. Traditional land use and EPEA definition in conflict.

4. Education And Training

Many kids graduating from high school but they don't go universities, because it is too far away, they cannot leave their family. Very few received environmental training. We are working with

Matrix; they are our partner and they mentoring community for the reclamation. We have kids go to post secondary and working with consulting companies. Giving kids field experience and sending them to universities means a lot to us.

People need to go to school to expand understanding, get certifications, get biology degrees; that's how you would implement long-term vision (have you heard elders talk about soils? no). Some community members get education, and get involved in reclamation remediation work.

Your average young person is not aware of all opportunities out there (reclamation). That's the purpose of getting the young people involved with tree planting; get them interested, let them know about opportunities.

Training people on reserves; challenges of poverty, worries about losing people when they move to the city (brain drain). Difficult then to get an education and move back to the reserve (no work).

There's job shadowing opportunities; by itself it's not sufficient training on its own, but encourages people to get education.

Capacity and collaboration seem very idyllic, but fall flat, maybe because training doesn't happen appropriately, or not with the right people. There was training available for basics, but they weren't able to provide enough employment opportunities, and things just fell back. Some companies come in and promise training, and jobs, and great things; but those companies end up walking away because the promise was too great.

5. Capacity

Capacity building important.

Understands and makes allowances for the varying capacities of different Aboriginal groups to articulate what they want in reclaimed areas.

Processing 50, 60 applications for well sites, roads and mining applications per year, only around 15 days for approval for each application. In one year, we have 120 applications to process, and too much pressure for elders and the community, they are exhausted.

Time is too tight. Sometimes we only have 5 days to look into applications. This only allows application with huge problems to go to the board. Others have to be processed without deep investigation.

Elders are very busy with many meetings, can't always engage; many meetings with different companies around the same time, and the companies approach the issue from different ways, confusion, lack of integration.

No human resources to deal with workload.

Need to remove capacity limitations and cultural barriers, government flexibility and leadership needed, tools and technology.

Need integration between government and aboriginal.

Need many leaders, partners; not just Aboriginal leading or industry leading.

Involves Aboriginal groups with a large capacity to express and defend their environmental interests helping those groups with lesser capacities.

Industry pays to have resources provided to Aboriginal groups needing help to articulate their desires.

Burdens are financial and human resources.

What capacity does AWN have? Not a lot, trying to grow; starting from flat footed start, trying to build; one individual who has studied law so hire lawyers. What are income sources? No court funding; raise own money.

Relies on dependable institutional memory in the face of turnover of industry employees and turnover of Chief and Council members.

People that are affected by development are not even in the financial situation to participate.

Often deal with new applications and it is hard to address old issues.

The biggest issue is resource allocation: one government department charged with protecting/managing on area, and other in charge of say subsurface mineral allocation. It's a matter of economic opportunity almost at odds with conservation.

Knowledge transfers are really lacking, collaborative.

Communities want to get involved; but there are regulations and guidelines that companies would stay within.

6. Partnerships

Reclamation joint venture with Stantec in Cold Lake; but never reached the potential.

Will be working with Aboriginals around Bonnyville in fall.

Our Company is getting a lot of employees from the local community, and it is wonderful; we have cultural training; a lot issues have to be taken care of working with young people in the community.

Started engaging students to plant trees.

Geopolitically, it is challenging. If can get the same level of service from the reserve, will use that instead of mobilizing consulting company from Calgary.

7. Social

Subsistence, residential schools, wages.

Use revenue from their economic development to build social programs for their community. But the question is how to balance dollars with their morals and ethics

Next generation has to be reclaimed.

Way society in western world imposes change on lifestyle of aboriginal people.

8. Incorporating Traditional Knowledge And Traditional Land Use

Official government reclamation guidelines don't really incorporate traditional land use or traditional knowledge.

Traditional knowledge needs to be incorporated.

In western science, we expect a written record; but in Aboriginal culture, much of the knowledge is passed orally.

Different First Nation families associated with different plants, or other activities like hunting, ceremony, cultural uses of traditional uses.

Undertaking TK and ethnobiology[6] research to gather landscape knowledge

Place trust in traditional ecological knowledge and respect desires of Aboriginal peoples who will be using reclaimed land in future.

Large database of information on their territory, traditional land uses historically and today.

Values of First Nation people end land use: access to land, medicinal plants, food generation. It is the Crown's responsibility to incorporate that, find out what the end land use should be.

Oil sands reclamation revegetation guide; take out commercial forest focus and look at traditional land use.

How do we integrate traditional knowledge into reclamation both as information source and for decision making?

Incorporate traditional knowledge at design stage, such as siting to get community buy in.

Need to understand opportunities for traditional uses in between successional stages.

People and landscape cannot be separated.

Balance of traditional knowledge and western science.

Most reclamation based on biophysical currently, justifies the traditional uses but not the focus.

Western idea that noxious weeds have to be knocked out so it is sprayed and revegetation effort started over, could policy be changed so this doesn't happen? Some weeds are beneficial to Aboriginals for medicines and species. Certification is denied if there is noxious weeds, could this be looked at by an elder's perspective?

Construction during reclamation needs to be considered with regard to traditional land use.

Who is keeping is the knowledge, maintaining it.

Confidentiality of information and notions of private ownership.

Site with no consultation for traditional land use; medicine plant gathering and hunting are local priorities.

Access to traditional use areas lost when trails removed. Instead use roads and cutlines for 50% of sites.

9. Planning

Big takeaway. We need a unified approach to land reclamation, not disjointed sites. PBR is play based regulation.

Resources need managed progressively, rather than just giving resource extraction free reign.

Balance between economic development and protecting the land.

Lots of frustration of understanding big picture re approvals on singular basis; only have access to one company's corporate information.

[6] See http://en.wikipedia.org/wiki/Ethnobiology

EIA is terrible tool for cumulative impact. What is needed to do strategic environmental assessment? Compare and contrast of all policies (different industries) and how they fit.

Government of Alberta is trying to improve regional planning; split the province into six to seven regions. Land Use Plans is where you can deal with cumulative impacts; LARP in place but already over some thresholds.

Government is beginning to look at cumulative effects, and how we can go from site based reclamation to that big picture goal, or at least incorporate that idea. The current success definition is more site based than landscape.

Need land use planning post development.

Not think about future generations, communities don't have ability to plan that far ahead.

Project planning should be less disjointed; plan reclamation of multiple sites as a whole, not just project by project (focus on landscape reclamation rather than site reclamation). Hard for land management and consultation for a small size distribution instead of overall land impact, because small disturbance is hard to evaluate. But cumulative environmental impact is huge.

Too much isolation planning; end up with two parallel roads within 5 km of each other; industry tries to do that because saves money; some of old roads can't be used though. Oil sands mines butt up against each other but mines don't share roads.

First Nations seem to be looking at the big picture of reclamation, not just small sites.

Some habitat is so hard to build, make it clear at planning stage, build project differently, too costly sometimes, should be looked at EIA stage with Aboriginal consultation.

Historic and new work should be part of land use plans

What are baseline conditions, especially old disturbances.

Land reclamation planning, how to achieve this regarding the existing footprint.

Involves a process that is flexible and can change over time to reflect advances in scientific knowledge.

Cumulative impact.

No one looks at regional ecosystem.

Landscape doesn't stay forever because of natural disturbances, etc.

Lack of integration between oil and gas and forestry.

Reserve land vs crown land, different problems. Reserve land is owned by federal government but end land user is Aboriginal. Crown land is the primary focus of reclamation in Alberta. Reality is that there are multiple interests by multiple communities on crown land; such as 13 First Nations, plus other groups involved in one project.

No home for seismic lines.

Access used to be by trail; usually now with oil and gas use those roads and old cutlines, now trapping on old cutlines, maybe 50% of all gathering spots, fishing, hunting, we would use gas and oil roads. Can still find old trails, cabin sites, wells even if afforested. Have a mind map of trails. Maintain trails.

We do a lot of pre-disturbance assessment, and plan for conservation and reclamation.

958 ha mine site will create boreal desert in the middle of the mountains.

Joslyn project post cutting down of trees is now frozen, however landscape has been disturbed and is extended. When are they going to put the trees back?

10. Reclamation And Remediation

Reclamation process is a collaboration between traditional knowledge/land use and western science; need collaboration between leaders, generations, cultures and organizations because reclamation is a long term adaptive process.

Amount of development currently existing or soon to makes reclamation so important.

Magnitude important (remove entire landscape); how to do huge project without irreversibly changing land? Can't, impossible to put back mountain. Practitioner educated to believe you can figuratively put back mountain, Aboriginals take literally. Scale not same for everyone; industry says small, Aboriginals think huge.

Reclamation is not exactly what it was before; it was impossible to put a mountain back, conversation relating to putting everything back is naïve. Alternatives could be feasible.

Definition of reclamation, whether or not end use is the same, that could be in conflict with elder, the policy could be flawed. Needs may change or it may not be suitable to put it back. Elders not fixed on what it was, because they can benefit from roads, but they want the balance of the species brought back.

Need to change perspective on what end land use should be. Should count as equivalent land capability because equivalent for Aboriginal users.

Sometimes what First Nation wants, or where, is not possible.

Sometimes regulations don't allow what industry and Aboriginals want. Have asked companies for things knowing that mountain is not coming back (pond in pit for fish), can't do because regulations. Can understand regulations not saying just go ahead and do it, but should be process for approving that. Have done that; reclaimed to aquatic ecosystem that wasn't there before; in past, good success; hard to do with regulations.

Political approach vs. land reclamation approach. How do you separate politics from end land use goals? Politics get in the way of deciding an end land use goal. For example, government wants forestry but First Nation doesn't.

Trying to get to agreement with Aboriginal community; original land is agriculture, so is success in reclamation to return land back to agriculture? But this area falls within traditional land delineation; the community wants to see land reclaimed to traditional use. Feels like sometimes it's a political use, and it's hard to achieve an understanding.

Self sustaining boreal forest is a new reclamation goal in mine approvals, rather than just a forestry plantation approach. Moving away from alfalfa and fescue on everything. There also may be room to have flexibility in regulation; if a community wants a novel ecosystem, is that something that should be acceptable?

Is understood to potentially result in a completely different landscape from the original. In other words, some original land uses may no longer be possible and some new land uses may result.

Communities must recognize that the landscape will change. Landscape changes naturally too; it's not necessarily true that Aboriginal people don't want to see change (burning forest for use for horses). They accept that it's the natural cycle of things; to manage mountain pine beetle they would accept to burn the damaged forest and wait for it to regenerate.

Mining gives opportunity to be creative with the landscape, decide what it will look like.

Equivalent, options need to be available, functions need to be there.

Necessity for integrated reclamation that includes cultural and socio-economic factors need to give adequate time length and non-permit tied information (end of life time); socio-ecological reclamation; companies need to reinvest.

First Nation people have trouble describing what success looks like (communication barrier). Need to have a model of what success looks like. Need to look at it from a landscape perspective, not micro; hard to say exactly what species they want in an area) Maybe need to have a baseline site for each possible disturbance to be able to compare back.

Part is to create vision for what they want new land to look like; can't look exactly like before.

What is the challenge or gap in reaching the end land use, if we clearly know what it is? Who's job is it to play different roles in obtaining that end state?

It is an education gap. Education of general public (from government) on how the government is managing the land. Complete lack of understating (energy and reclamation literacy).No interface between government and First Nation on reclamation standards leads to lack of trust and lack of understanding.

Not enough First Nation interest in the education provided. Hard to communicate the technical side of it. First Nation people will dig their heels in at the reclamation conversation, but don't show up for the explanation meeting.

It's in the best interest of the First Nation group to not get a reclamation certificate. It's in the economic interest of the group to remove income stream.

First Nation groups can change their mind on end land use, right when consultants are ready to get a reclamation certificate on a site. Government doesn't back reclamation companies or push First Nation to understand that industry.

Government won't back the reclamation certificate if reserve communities are still unhappy or have shifting expectations of what reclamation success looks like. Need to have more backing from government.

Operational perspective: put parts back, are they working properly, end land use.

Can focus on wildlife habitats for example.

Plant trees to fit with what next natural cycle (trees reach 180 to 200 years in AWN area) would be (willow, poplar, pine), succession. Oil sands used to put in mature species, now using succession.

Succession always happening; trees naturally moving into meadows; people like meadow because they use it.

Does the ecosystem have the processes in place for succession should be most important?

Man-made tends to simplify for variety of plants so diversity may not be there.

Disconnect between restoring ecosystem functionality and appearance? Yes, things too segregated; all part of the same thing. Need education that it's more than appearance? Stages of development?

CFS trying to replicate succession following natural disturbance, create natural progression cycle, maybe won't fit exactly with current ecosystem beside it. Harder with oil sands mines because nothing left (organic matter, propagules, etc).

After fire, what is different from forestry cut block? Cut block year 1, then reclaim (scarify, plant), wait year to grow, burn, then plant. Works with policy, not science; different amount of residue left on ground; also size and type of residue. Some species depend on fire; what about leave site for 2 years and then burn it? It has been studied; leaves ash, heats soil, opens cones. Wouldn't cost much, have you seen it done? No, people see risk of fire. It is possible to safely burn, rare to have fire get away/out of control; prescribed burns done for long time (controlled burns in Waterton, National Parks). Would caution against burning too small areas, could integrate with cut blocks. What about money spent to reclaim site before you burnt it? Big investment for something that might not work.

Why jump to burning? Because building block in natural cycles. Fire culturally to get rid of old grass, new grass grew better; natural meadows and grassy slopes getting covered by bush, is that natural? In Jasper.

Would it be successful to be on right trajectory but not at same stage as surroundings? But area would go towards matching forest? Could improve forest health to have area of different stage. Maybe, but wouldn't want to make it a practice.

Breakthroughs have been made with LFH forest floor transplanting, very effective between compatible sites.

Vegetation prescriptions will eventually dictate land uses, so what do we do differently? These conversations are usually between companies and communities, not something dictated by the government? The government should be a bigger driver to encourage consistency and cooperation between sites/companies/communities.

Vegetation guidelines (manual) are currently targeted by industry. Currently have one seed collector. Flexibility is required in context of prescription.

Is there a place or project that lists plant species that should be prioritized?

Oil sands work very hard to collect seeds for after the project.

Identify what seeds are important to community and see if can be propagated in greenhouse; source of seed problematic.

Nature or nurture with plants, sometimes one or the other is more important.

First Nations need access to clean water, water quality is also part of reclamation.

We are being reactive in reclamation, not proactive with good planning. Oil and gas is more exploratory than a more straightforward industry such as forestry. We're so focused on solving yesterday's/today's issues that we're not planning for the future. Economic development tends to be treated more urgently than the need for reclamation and future development.

Need to have progressive reclamation goals to get around short time horizons of permit duration. Reclamation has to be done in a timely manner as the costs are increasing if you wait in context of reclamation.

Progressive reclamation; what can we do today to make reclamation easier later?

Roads and cut lines are narrow, but lots of them; what are Aboriginal thoughts? Totally different things? Old seismic lines (15 to 20 m), newer are narrower. Old bigger but less. New smaller but more. Don't know what that did to landscape but all together (regional basis) is lots of land. Line of sight affects animals, hunters use.

Natural slopes on mountains, natural meadows have gophers, mice, voles; grown in with shrubs and animals disappear; what was their function, what relied on them?

Lot of money goes initially into site safety and preventing public injury, followed by remediation, then leftover for reclamation. Adequate funding to be aside for project closure and reclamation.

We are limited by funds for quality of reclamation.

Promises of reclamation to pre-disturbed land condition.

Why not mimic original land contours? Can do on small well site scale.

How do you assess? Who determines? What are the needs of land users?

Uses adjacent natural areas as frame of reference to help determine when successful reclamation has been achieved.

Check marks for species on reclamation certification; but is it functioning? Are all of the ingredients all there?

Process on developing criteria has not started but is on the list. Need of tech support and community input.

Traditional land use indicators needed.

Many end-goal visions incorporate water, but wetland reclamation research still in its infancy.

Want it now, reslope, replace soil, want generic green

Haven't gotten any large reclamation; no parameters so no funding from shareholders to invest in reclamation; what does company get out of it?

Not creating microsites.

Reclamation can get half way done then re-disturbance occurs.

Less restrictive access to industrial sites during reclamation planning and reclamation work stages for consultants and Aboriginal peoples to more quickly achieve desired outcomes.

In North cutlines result in loss of permafrost leading to permanent effects; no evidence that it has ever been successfully reclaimed.

Remove contaminated soils to landfills but creates a future problem; landfills are engineered and problem for our grandkids.

11. Wildlife And Fish

Caribou are big issues for us and we are part of anything about caribou.

Caribou rely on old growth forest, 80 years minimum to reestablish on cut blocks.

Contribute to caribou decline; wolves use cutlines to spot caribou, issue for caribou.

Caribou; government asks what do you want and Aboriginal people don't know.

Have generations of experience managing the land; stopped harvesting bull trout and caribou a long time ago when they noticed their populations in decline. Community stopped hunting caribou 40 years ago because it saw decline.

New issue with grizzly populations being pushed into caribou/moose habitat? Could be due to different vegetation? Unintended repercussions on fauna populations. How do we design reclamation plans to keep predators controlled? Are we beyond mitigating that and just need to accept the linear disturbances (seismic lines, pipelines) with regard to predators? The government doesn't realize that it takes decades to revegetate lichen and other caribou fodder.

What do we do now to preserve what's left while working on the long term future of disturbed areas?

Government does not deal with integrated landscape planning; oil and gas road, forestry road both in caribou zone.

Areas where sheep were going to get put back, must have been reason why sheep were there (food, safety from and view of predators).

Coal mining big around Grand Cache; have had some successful reclamation; not all reclaimed, pattern of where animals go has been disrupted.

Mining causes fish decline; elders often ask for fish to be brought back (building new streams is most likely necessary) but may not be possible.

Such things as caribou habitat are not even on the radar of reclamation.

No net loss of habitat for fish, are alternatives for fishing from dewatering a river and setting up another site acceptable to Elders?

Cannot manage the ecosystem for a single species.

12. Timelines

Seven generations; what you decide today affects seven generations .

Resource industry; short term.

Roads very long.

Mines 5 to 10 years.

Oil and gas 20 to 30 years; reclamation of wells occurs later as they often have a 25 year lease.

Forestry planted trees; growth cycle.

Old growth harvest; mining not replaceable.

Peatland reclamation, time frame is thousands of years but industry needs instantaneous things to happen; 5 to 10 years.

Reclamation is understood to occur over many generations, not in one person's lifetime, and will need to be tweaked along the way.

Respect of nature; takes a long time, reclamation may not be able to follow those timelines, such as old growth forests, timescale.

A site needs time to see if it is functioning.

Patience, nature will take over and fill in gaps, do people (stakeholders) understand timeline?

Challenge is want responsibility to be released so timeline needed. Why doesn't government be responsible for reclamation? You have to be responsible for reclamation while doing project or you won't be as careful.

13. Research

Lots of different groups of people are studying caribou, fungi, etc. but where is the connectedness between the species and landscape.

Forestry misses natural cycle of fire, what are we missing? Need long term studies, some results should be coming in now (EMEND[7] began in 1998); what is the story going on there? Can the successes and failures of this project be made known?

What does COSIA do re: reclamation? Sharing information.

Beginning CFS biotron research to emulate conditions in 200 years with climate change, what species would do well?

14. Business Opportunities

Just starting to get into environmental side, developing interest after being exposed to it. Didn't go out much growing up.

AWN can get involved in the reclamation, and want to get involved more. Trying to be active.

Business opportunities in context with nurseries. Reclamation center based out of Fort McKay?

Industry pays to have work done that will satisfy clearly communicated desires of Aboriginal peoples.

Young people are not excited to go to field and working on the site.

Economic development

15. Oversight

How do you regulate something that is part science and part art?

Policy exists; needs to be implemented

Need to collaborate, get stakeholders together. Need holistic perspective; there is grey area between projects, they blend together. EPEA should encompass everything but can't address smaller, site specific issues, stockpiling soil kills it, better to bring fresh, but not everyone knows. Even disconnect in oil sands between mineable and in situ; don't work together.

Alberta has different rules for every industry, they never meet. Oil and gas has high standards, others can get away with more things.

Regulatory review takes too much time.

Licenses have no oversight, so useless.

No company can sign on for 80 year liability; needs to be overseen by government

If company is sold where is the accountability?

Construction plans are not followed.

Monitoring; no linkage to actual practices.

Who has responsibility to ensure long term monitoring?

Monitoring has to be figured out. Every Alberta group they deal with wants to help monitor, but they lack the skills, money to do it. Monitoring is seen as an economic driver for communities, but that is not sustainable. They don't trust the crown or companies to monitor properly.

[7] See http://www.emendproject.org/

Monitoring for First Nation people often means watching consultants monitor, then billing them for traditional knowledge, which they did not actually have access to. Maybe this is not being utilized properly, we're not asking anything of them but they are billing because they are making themselves available.

Company can ask for approval amendments with no new EIA; missing cumulative impact.

Plan is followed up and changed on an as need basis for restoration/reclamation.

Long term projects; agreements made when project started may not be acceptable, people who agreed at beginning likely not around anymore.

Need specific guidelines, e.g., trees per ha.

Want outcome driven goals, not prescriptive.

16. Other Information Sources

BC is currently compiling a native plant restoration guidebook for reclamation/restoration.

Tazi Twé Hydroelectric Project 8 (formerly known as the Elizabeth Falls Hydro Project) is a water diversion hydroelectric project located on reserve land that has been designated for the Project by the Black Lake First Nation. Good example of brining in First Nation in the beginning planning stage.

17. History

Roads from 1950s, few upgraded so new roads go in and old ones just get left, not reclaimed. Roads are orphaned, got sign off in 1980 before anything had to be done.

Example, they purchased land from someone else 25 years ago, and possibly the community wants things fixed not only from current company, but from previous company too.

Example from Tuktoyaktuk in 1980s; big airport, dry dock, 2,500 man camps but no reclamation at all; left everything right there; how can we protect local communities from that.

Giant Mine had 200,000 tons arsenic trioxide under Yellowknife as a by-product of gold production; no technology even to clean this up; government is responsible.

APPENDIX 5: DISCUSSION NOTES ON WHAT IS BEING DONE NOW TO ENGAGE ABORIGINAL COMMUNITIES IN LAND RECLAMATION

1. Philosophy / Vision

We have responsibility to reclaim land to viable standing, we have shared stewardship with Aboriginals, learn more about spiritual connection to land.

At the end of the day, landowner has to live with the reclamation result; but at the end, in 100 to 300 years, the others will have to live with the land; some areas should not be disturbed; it's not just about the landowner.

Land reclamation is more than just the right thing to do, it is an opportunity to share how much the environment means to us.

Morally correct before financially correct.

Want to be welcomed into community.

So involved with Aboriginal because have been there for so long, they are neighbours.

2. Engagement

Big takeaway. One of the most effective ways of communicating has been getting people on the ground. Pictures are not good enough. There have also been meetings between Aboriginals and reclamation professionals to address knowledge gaps and pressing concerns; but this is much different than just a consultation on a reclamation plan.

When industry practitioner gets exposed, you see value, are transformed; it becomes ethical to include Aboriginal, to go beyond regulations for reclamation.

What is engagement? Early consultation, planning projects. Engagement is a knowledge transfer mechanism. Engagement is a two way street, allow self to be engaged, not just industry going to Aboriginal community. It is not a step, it is an ongoing process. Can't go out just once, need to go out over and over; re-teach, be diligent, have education materials.

Relationship building with the First Nations is extremely important; good to empower the communities to make decisions.

Engagement begins with children. Ongoing engagement may be successful; gradually increase immersion into nature and eventually reclamation. Start the interests early and continue nurturing throughout adolescence. Society is too good at distracting younger generations (technology). As people become more disconnected from the land, it becomes harder to garner interest. Wait for the holodeck to immerse kids in virtual nature.

Smaller communities could be key to keeping up interest in reclamation and connection to nature, but 65% of Aboriginal population now lives in urban centres. Values change over time, and the urbanization of the Aboriginal community could change cultural values?

Work with elders, kids, company to share knowledge. Involving kids is opportunity to combine science and TK and share knowledge to future generations.

Different perceptions; older people in the room slowing down the development; and kids wanted to see reduce reuse recycle.

Every community is different in what matters to them. Every industry is different. Engagement needs to be adapted based on each industry and community.

Strong facilitators are needed when working with aboriginal groups. Aboriginal people have some trauma and rebuild the trust and eliminate the misunderstanding.

Explore creative opportunities for inclusion; e.g. contract local assistants, capacity building, expose to opportunities, share knowledge.

Elders do not communicate in a direct way. Stories instead of direct information. Stories don't come out when they are not comfortable. Trust is a barrier. Building relationships (smoking pipe, participating with them) might help them feel more comfortable.

Invite community and Métis for community presentation, this is what we'll be doing, what are important aspects of site before you commit engineering review again, then show people on the ground work; how rebuild stream etc.

Open house of industries is a good way to approach industries. Leave some time for community to think about after the conversation initiated.

Field trips are helpful, take community to the field frequently and get them involved.

Tours and education opportunities. Reclamation tours, seeing natural revegetation as a reclamation plan, First Nation people are not understanding or trusting that this is a valid or productive way to reclaim. Tours can help them see the success of the natural revegetation and think of alternatives. Show them the berries, the browsing, tracks, show them that the wildlife is visiting the site.

Engagement is being attempted, but the other, more pressing issues (especially in the oil sands) are dominating the conversation. Getting training from elders would be useful. You learn as you work. We also need to acknowledge that our values will change with the landscape. Outreach should also involve the proactive side of things: get the First Nation community involved in caretaking and stewardship beyond reactive reclamation, as well as get involved in the planning stages of development. Also incorporate a "venting" period where the community can air grievances.

Environmental advisory committee with AWN; their consultation departments, ideas, monitoring results, send to AWN and Métis as well as province. AWN sends out to a third party, then come back. Joint advisory committee will have Métis.

Taking First Nations on sites to learn and incorporate their knowledge should be done more often instead of giving presentations.

Industry has ignorance of Aboriginal culture (e.g. spirit of land).

Help to develop tools to engage are required.

Provide information to consultants on how to work with communities, often people scared to interact, don't want to offend anyone. Training makes engagement easier.

Regulatory tool that allows and engagement are needed. More chances for meetings are needed. Potential to discuss topics projects will engage with given a chance to develop.

Legal challenge for land reclamation in context of 2 levels to engage. How do First Nations want to be engaged? Almost unknown on the government side.

Not enough engagement and not early enough engaged.

Engagement plans are needed and industry has often better conditions than the government.

3. Communication

3D models of sites used in NWT project, very effective.

3D software.

Google Earth fly-by.

Can show through ARC-GIS etc, visual model.

Translation into local language. Words have different meanings to Aboriginal people.

Stories are powerful tools and can help overcome cultural discomfort; e.g. one 87 year old elder told a story of falling off a grizzly bear two years ago and he was funny, he did not speak English at all but he communicated with body language. Another talked about the Alexander Mackenzie family story and how he was impressed.

Empathy, even if not able to agree with values, you are able to accept them.

Break down explanation of complex industrial processes and practices into simpler steps.

Training and successes need to be communicated.

4. Consultation

Province doesn't consult with Métis.

Different notions of the Crown; delegates consultation to companies; don't take ownership of process and results.

Consultation is very procedural for the province; fill out paperwork; not outcome based. The Consultation can be a box to tick off rather than understanding the results of consultation.

Objectives behind new levy so First Nations have more resources so can deal more effectively with accommodation; may come out potentially this summer.

Not enough time to answer in context of planned operations; 10 to 12 week timelines instead of 3 week timelines.

Oftentimes, consultation with community sits beside the EIA; the Aboriginal viewpoints are not incorporated, separate from the science point of view.

Very difficult to get community members to talk/consult about reclamation when they unsatisfied with current project. Stuck on present, not looking forward to 25 years down the road.

Communities work with different companies; and the companies come in with different plans. Community needs to know what they want, and move in that direction.

Alternatively, overlapping territories for different communities makes clear answer difficult to get.

Zero requirements from province, on own initiative 6 stages of meetings during reclamation stages. Invite leaders to come in. Métis leaders, Forest Lake First Nation if they come down.

Need better legal framework and better policy tools; effective co-management, successful consultation and accommodation.

Oil and gas often throws money at Aboriginal communities, looks like engagement but is not; utilities don't have that kind of money so need to actually work with communities.

Consultation has really moved us forward with Aboriginal communities, involvement.

Encourage real partnerships and setting of shared goals.

Educating, early consultation throughout.

Successful reclamation needs a better understanding on the First Nation's community side so that an involvement can be more productive. Only First Nation people know the traditional land use, communication with them.

5. Capacity And Education

Educational outreach really important for capacity building. Important to help with the kids.

Education needs to go both ways. We need to learn from them as much as they learn from us.

Connection to colleges (Northern Lakes College), involvement of communities; bring in students from communities. More a background role of the college with potential of collection of reclamation materials. We are in early stages and the capacity is getting an issue in context of the Grande Cache situation. Generate communication in between different communities.

Local college has programs to bring in traditional knowledge in land reclamation. Tours with elders and community members. Potential of creation of employment opportunities.

Caribou patrol programs; visiting schools.

University is working, as with today's workshop, to be a facilitator by bringing industry, consultants, government and Aboriginal peoples together.

In China, they had education programs for native ethnic groups, to encourage them to get an education, special scholarship programs if you promise to go back to your community after. It's almost like the land rec program needs to be combined with the native studies faculty. Social and formal level.

AWN is trying to push/support people trying to do post secondary education. What are issues in moving away from community? Culture shock overwhelming (same for others too, e.g., moving from small maritime town). Opportunity drives people. Community leader, has responsibility for creating opportunities for work in community so people can come back to work after education.

When out of school for 10 years, hard to go back; big adjustment to school, impacts others and teaches them. Four years is big commitment but Olds and Lakeland do 2 years, good programs.

Explore potential for job shadowing.

Mentorship: employment programs within target First Nations; provide scholarships; spots designated within company with certain schools.

Enbridge has a young water monitors program[8] through which participants can get U of A credits and can transition participants to environmental science employment. Shell, with partial funding support from Government of Canada, is employing community-based monitors in Fort Chipewyan First Nation and thereby increasing Nation's education levels and energy literacy.

People don't know the job of inspecting land is a paid job that exists; only familiar with driving heavy equipment.

Lots of interest in community but have never been in environmental field; need to find people now who can pursue post secondary education and get meaningful job in reclamation (not just

[8] See http://www.tsag.net/documents/Enbridge%20youth_Dec%202013.pdf

equipment operator). Start in Grade 9 and later, build support systems to get people into reclamation.

Frog Lake First Nation; good involvement opportunities for youth, they get really interested in reclamation work.

Brought Aboriginal community members in for forestry projects, but disconnect between seeing what is happening (tours) and participating (technician).

Trying to find out strengths and weaknesses of Aboriginal communities; what is desire to learn technical?

AWN has had courses on planting, soils; classes of 12 to 16 people.

Many progressive Aboriginal groups want to understand the science, engage non Aboriginal scientists to work for them.

Need to target youth; hopefully lead on path to careers in environment, show outsiders and elders working together. Why Grade 6; will care, extend their knowledge, share with their families and future kids. Starting younger catches kids before they decide about what high school courses to take.

Share knowledge that may be lost, surprising how few kids don't have many opportunities to work with elders. Elders and youth in different Aboriginal groups are being brought together. Elders have the cultural memory and youth have the passion and energy of the future.

Science degree doesn't teach First Nations how to start a business.

Field operations for students are applied and practical.

Capacity building implications are a problem. Takes time to build capacity in community.

Capacity issue; there is a need of time to understand the industrial operations. Tensions in between First Nations groups can arise when involving one group more than the other.

Industry wants more involvement however is sometimes struggling in doing so.

Government people are being transferred into industry jobs as the salary is out-competing government.

Opportunities for First Nation people seem so obvious to us, but not to them. Exact same thing for them, industry and consultants can't seem to understand what TK is important.

6. Social And Cultural

Knowing the custom is important. Grandparents in the community raise kids. People walk in the door without knocking. Talking to kids is good for spreading the knowledge.

We want to bridge more with environmental companies, like we do with Matrix. You cannot drop by and take elders to work onsite, relationship has to be built. There are many people would like to work with environmental issues.

Partnership and achieving the knowledge sharing is we want to see. That is good for both.

Our organization function to serve our community, to be sustainable, does not for profits.

"Rent-a-feather": when contracting companies give 51% ownership of their company to uninvolved Aboriginal people, just to win the contract. This is messing up the system that is trying to promote First Nation owned companies.

Social and economical problems need to be addressed. Social institutions for communities are important (libraries), which allow education and more involvement of communities. First Nations and Government should take the opportunity of low activity to act. We need conditions that allow creating solutions that work for both sides.

Easy to point to industry and say it's their fault, they have the money; however environmental effects are result of many things.

7. Goals And Expectations

Restoration of sacred connection. Need spiritual connection. Incorporate science and spirituality

According to elders beliefs, land is dead; ask Creator to bless land, reclamation, give back life. Because believe disturbed land dead, show successful projects. Even with reclamation, elders don't think land is alive again, still dead. Talking with elders provides opportunities to discuss.

The community members may say they want it back the way it was, but they don't know the steps or what input is necessary. Also don't trust that it is possible for it to go back to the way it was. Leads to resistance to development.

Acceptance that there will be a disturbance in the first place can be an issue. Emotional impact of the disturbance. Moving them past that reaction is difficult.

Elders coming from different time when reclamation was different, more of a cowboy mentality. Maybe need to show everyone, including elders, how reclamation is different now.

Changing the culture and incorporating into applications. Five years to do the mine, 50 to 100 years to put it back. Take it down in your lifetime, but can't put it back.

In 100 years, how much land in Alberta will be undisturbed? Protect for everyone, because this small piece of land may be the only piece that can be undisturbed.

Elders have been able to consistently differentiate between natural and constructed wetlands, so incorporating their knowledge as part of success measurements would be invaluable.

Reclamation takes time, dedication, is multi-generational. Time scales differ. Hard to put reclamation on understandable time frame. Forest development example is probably in time of 75 to 100 years. This could equal around 3 or 4 generations to them; if we assume 25 years is a generation. Time scale of ecological development is well beyond our life span or understanding.

Before, they were concerned about historical resources, but then realized that it's important to protect the current land use.

8. Cumulative Impacts

Cumulative habitat impacts to aboriginal people shown in Jackpine decision; Pierre River Shell, shelved indefinitely means progress is occurring.

Recreation users do a lot of damage as well (quadding across essential bull trout streams).

9. Best Practices

Everyone in the company is responsible for company relationship with Aboriginal communities.

Get to know your Aboriginal communities, develop relationships; makes easier to access things.

I see companies trying to understand and incorporate Aboriginal issues and are succeeding.

Planners need to be on site.

Open it up to community members (anyone) to provide feedback or to learn. Show them old reclamation projects in the field, see what they think and if they have anything they would prefer, better ideas.

Do companies share best-practices? Environment is a common end goal; not a core business practice; encouragement to share. What gets shared is only a fraction of what is being done, but they do try to share info that helps them to get reclamation certificate faster.

Canada also needs to look at international models.

Lots of data sharing possibilities not implemented. Data collecting often not well enough coordinated.

British Columbia's mining companies have a bigger involvement of communities.

10. Reclamation

Traditional knowledge; gathering berries in Wood Buffalo.

Fort McKay developed a position paper on reclamation.

First Nations more interested in land uses and landscapes.

Depends what your definition of reclamation is. Back to what it was before traditional knowledge or something different but equally capable (Industry). Important to identify success, say what are we trying to achieve. It needs to be clear that industry is not committed to putting it perfectly back to what it was before (because that is not regulated). Need better communication and bridging of perspectives. Restoration vs reclamation needs to be explained.

Government pressure to decrease forestry cutline widths and add mulching. Wolf can go 80 km/h down the line, wolf highway, moose don't have a chance with the more narrow line. First Nation trapper brought up the idea to leave it wide but with more woody debris to block it up. Coarse woody debris can be better for reclamation too. Help with species regeneration. Mounding too. Leaving the woody debris is the cheapest option for industry too, they would prefer to leave it. Government pushing for mulching (8 ha of disturbance is better than 10).

Issue is reclaiming the land; Aboriginals have never done that because have not disturbed it so much; interested because want to get back to managing the land.

Does reclamation budget go up and down? Yes, some (10%) reclamation driven by regulations but work goes when no money available; can push projects back to later.

We do presentations and programs about caribou issues many places. We have made a lot effort into protecting the caribou from traffic and we see many improvement. And now we are looking forwarding having reclamation to be a part of it.

11. Environmental Quality

Water quality, air quality and pace of development are overshadowing reclamation. Communities need the basic needs addressed before reclamation can take place. At one point, a member of the table was work-shopping in Fort McMurray to try to educate First nations about reclamation, but the issues of water and air quality superseded the reclamation discussion.

When air and water are in jeopardy now, it's hard to engage in discussions of the reclamation future. The Aboriginal communities have more concern about water quality and air quality right now than the reclamation process.

Health impacts includes people's perception; lack of trust; beliefs re consumption of foods at certain times of year for health.

What about contaminants in food chains?

Educational opportunities on both sides. What is First Nation perspective, what would it take for the land to no longer be contaminated/tainted/dead? How to restore spiritual connection? Spiritual cultural connections to the land is the most important. Education is important to show when the land is not contaminated (show safe levels of metals, etc). If you prove the western interpretation of poison is no longer there (something that is understood to be true before reclamation occurs), maybe they would understand better. Show them an animal that is stressed vs one that is healthy. Show them that animals are happy and nutritious. First Nation people in Fort McKay don't eat moose anymore, say it tastes different. Need a blind taste test?

Pace and scale of development have been overwhelming in such a short timescale.

Looking at whole ecosystem – not just trees on site.

12. Wildlife

Need species specific strategies; caribou critical habitat.

Some sites now are getting wildlife use now; land is becoming useful, closer to the end-goal.

13. Research

Research can be done, but the people never come back to look at it again (monitor only first 5 years); 15 to 20 years is more important to monitor in forests.

Lack of documentation, lack of replication in previous studies; hard to go back to the sites and figure out what exactly was done in terms of reclamation.

Need to integrate scientific research with operations.

14. Different Industries And Different Approaches

EIA is for big projects with big budgets; seismic operators have small budgets, cumulative impacts; no budget.

Easy for big companies like TransAlta to do reclamation.

There are differences in between the different companies that operate in the oil sands.

15. Government

Conflicting mandates of ministries are problematic.

ACO can't be seen positive and is contra productive and in context tax shortcuts should be abolished. ESRD is better.

Knowledge of ACO is not enough.

Disconnect within government and between government and First Nations.

Current budget constraints to travel and contact First Nations.

Regulatory system needs to be dynamic, always will have some people unhappy.

Alberta Environmental Monitoring, Reporting and Evaluation Agency is starting community based monitoring system. Short term learning program (certificate) to learn the basics of environmental monitoring.

16. Business

Company employs people from community for environmental monitoring, pays for schooling, another getting credential.

We have contracted with First Nation groups in our projects. And they worked out all the environmental impacts.

Need to encourage First Nation people to be the reclamation practitioners, get involved in that process, would be the perfect solution. Instead of doing things for or to First Nation, doing it with.

How can industry engage community members regarding positions? Find right person? Work with community; present idea in newsletter, word of mouth; went after people who they knew would be interested; chose people who would be successful and supported them; very involved process. Start broad in finding person for position so that you can find who would be best. Do you need trial run for positions? Field trips, gradual exposure, don't just throw people in.

Employment opportunities. First Nation people want meaningful employment opportunities, have started some very good business ventures. Sometimes they have unemployment rates lower than provincial average. But there is still a huge gap on the environmental side. Why? We have a very hard time filling positions with community members. Very hard to get them to do entry-level jobs. Want to bring in more, would make their job easier. In China, if you go to work with local ethnic group, payment is higher than normal. Maybe not the same here. Would they be considered going to the dark side by joining the environmental department of the company that they don't trust? Level of education is higher to work in environmental department than to be a heavy equipment operator (and you'd make less money too). Lower barrier to entry by involving people in all levels of development that they can, gives them desire to know more and get educated to participate in a more meaningful way.

Parents are afraid of letting their kids go away to school, they're afraid they might not come back. Afraid of losing the community. Maybe a bit more common with older adults (late 20s or 30s) who already have established families to leave and get education because they will for sure come back.

Asked coal mining company to give one of summer student positions to Aboriginal community member; get experience, push towards school.

What about business within community (greenhouse for native species)? Various things (did training welding program, Olds College and University of Alberta), became business, industry gives contracts. Incorporated environmental company (monitoring), at beginning stages. It is very business dependent (leave if no jobs, not profitable). So develop versatile skills? Yes, and can specialize if choose to. Diversity is important, spread out and work with different industries (when one goes down, others are probably ok).

Have you approached industry about having greenhouse? Have been approached, but it's just

for that moment, would need may companies to support in order to get project longevity. Approached industry, only interested in large scale to meet needs. Greenhouse would provide material for industry, but maybe market isn't there, transportation is expensive. Have railway, trucks that bring stuff in and leave empty. What about growing other things in greenhouse too (food)? Need to do research and development to see possibilities, feasibility (size, cost, demand); how small could you cut back in bad times? How big could you go? If related to forest industry, CFS could work with community. CFS' work with Aboriginal communities gives support (some expertise, money). Could partner with existing groups who have experience; PRT out of Whitecourt, cooperative group of greenhouses. Can play legitimacy card (operating on traditional land, community development).

Managers say we are wasting money on training people who leave. If they are treated right, they will stay or come back.

In my community it's all driven by money, fast paced, environmental stuff that's long term, no one is really thinking long term, they say they're worried, but when they go out they see how much work there is.

Is land reclamation too far down in the food chain (economically) to be interesting for First Nations? Is it too small in an economic context?

ATCO; global and regional employment opportunities.

First Nation companies don't get a lot of contracts.

Joint ventures in between First Nations companies and consulting companies would create more of a social license for works done in context of land reclamation. Joint ventures with consulting companies and first nations groups need still critical input from outside.

CFS working with three communities in British Columbia (Kitimat area); creating inventory of projects they thought they could contribute to; one community wanted to develop sea wall (diversified to developing community, tourism).

Introduce to broad range of employment opportunities.

Aboriginals need employment too; they want to do some meaningful for the environment, not just hunting or trapping as before.

Hiring wants education and experience; right now we're at the level of having community members as grunts; want to move forwards into higher positions.

Business people, schedulers and estimators are needed.

There are some specialized First Nation's recruitment institutions.

Human Resources of bigger companies are often not working well enough in context of involvement of First Nations.

Job fairs in communities are often more a stakeholder relation act.

APPENDIX 6: DISCUSSION NOTES ON HOW COULD WE ENHANCE ENGAGEMENT TO ACHIEVE SUCCESSFUL RECLAMATION

1. General Comments

First Nation people don't see the benefit of development. They see it as given away. You're not going to play the game if you never have a chance of winning.

Acknowledge the more pressing issues and understand how they are being managed so that it doesn't distract from the conversation.

Land reclamation as a whole would benefit from increased public awareness of the field.

Consistency between industries across the province needs to be the government's goal.

Government needs to represent entire population and cannot take the stand of a single player.

Upper level people in industry need to be more involved in mapping out what Aboriginal involvement in reclamation should look like so they can give it a greater priority and devote more resources to it.

What could the provincial government do? Kick start programs? Why should we be against ideas (co-management) that work very well in other provinces? Co-management, shared ownership of the land.

Stewardship is not an opportunity in Alberta. Whether it is a species or an area. Co-management is a term that is not wanted in Alberta. ESRD is not supporting those ideas. However this now a concept again that is being discussed through Parks. Parks Canada is more open to relationships compared to other governmental institutions.

Reflection of state of economy as to when we are having these kinds of discussions.

2. Consultation

Act on consultation and demonstrate action to Aboriginal peoples. Aboriginal groups tired of being consulted with no measurable or visible resulting action.

First Nation people input is not being truly listened to, leads to apathy. They think/know that the project will go on whether or not they participate or get involved. Same could be true on industry side; First Nation people are not being listened to so they will try to slow the process. This leads to industry apathy. Dialogue is most time consuming but most effective solution.

Need a policy for consultation, current is too broad. You have talked to me, is that enough? How do you address? Proposed milestones?

Need more explicit policy with standards, processes and best practices; need leadership; need informed decision making.

Government guidelines are setting the bar too low for community consultation. Industry won't do extra consultations ($$$). Bands can have well-established consultation guidelines but those are not always followed but industry because they are not required.

Timelines, work needs to get started, no time for proper consultation. Restrictions on lease tenure timeline. Rights to the lease include obligation to explore within a certain period. You need to prove those lands. Consultation should occur before land sales/lease (Consultation

before notification). Legal risks, the way the system is currently set up. GOA says you have 15 business days to respond. First Nation people get 15 projects per week, they have to respond to site-specific concerns. People (elders) can't/don't want to respond on the spot. No time for proper feedback. Capacity issue for First Nations consultation offices. Not all companies choose to follow the 15-day rule. Government of Alberta and First Nation posted closure days.

Missing Métis consultation? If issues not mentioned in agreements have little standing, need policy so can do it right.

Needed consultation included early.

Move from notification to consultation. Build trust with First Nation groups that their concerns will be listened to.

Meaningful consultation, meaningful input.

Consultation should be outcomes-based.

People mixed up consultation and economic activities. Consultation is more about building connection; bring up the platform, looking more at environmental sides.

In terms of consultation, Aboriginals want to know what will happen after reclamation is done but consultation doesn't address.

Lots of consultation about development, but nothing about reclamation. EIA is opportunity to engage, reclamation should be in there. But don't get to see it because project goes so long.

Want Aboriginal to be satisfied with consultation, not clear in policy what satisfied/meaningful is. Meaningful not defined, is a problem.

Consultation is currently where environmental focus was 20 years ago.

3. Engagement

For engagement, time is the biggest issue. There is a gradual shift, we have seen companies getting involved, government policies and relationship among government, industries and aboriginal relationship are changing gradually, but we are still at an initial stage, we are working towards to a way which is more clear and easy for collaboration, but this requires time. The time on education, the training for the community, about bridging the gap between traditional knowledge and science.

Need to maintain relationships, consistency; need leadership.

Expand on current efforts to involve Elders and youth.

Who are we engaging? Youth? Chief? Sustainability department? This is different for each community. Some communities has sophisticated system for choosing representatives, others do not.

Relationships and trust are important.

Need leadership, who takes that role?

Problem when all consultants, no oversight; no leadership, relationship building with communities. On consultant side, go into community when have project; limited funding for building relationships, limited time.

Corporate level versus personal relationships.

4. Communication

Incorporate Cree names into location identification to make it easier on the elders.

Keep the Aboriginal community involved in all steps of development.

Needs to be more than talking to groups, need to be talking with.

Government acts as an integrator to bring people and ideas to the table, but should be more proactive?

Lack of clarity can cause waste of resources.

Need clear communication especially when dealing with large areas, multiple Aboriginal communities.

Find ways to engage Aboriginal peoples through their mobile devices like using applications to identify flora and fauna and using GPS through devices to pinpoint locations of wildlife to develop species distribution maps on Aboriginal lands.

5. Capacity

Holistic capacity building; you can't equally participate if you are not equal going in.

Do not have capacity to deal with consultation – gap.

Notified of all projects? Yes, in 2004, got about 4,000 dispositions for his traditional lands (roads, pipelines, mines, well sites, cut blocks). Hard to look at all. Big part is capacity to deal with volume.

Involve First Nations in monitoring and initial assessment.

The leverage local communities have is related to the knowledge single members have.

Identify and work with champions in Aboriginal groups, people most likely to support reclamation work and be able to explain why it is important to rest of community.

Centre for Indigenous Environmental Resources; lots of capacity building.

Industry has a desire to partner with aboriginal communities.

Investment into communities (infrastructure, social programs).

Government could provide capacity in technical support to communities.

6. Traditional Knowledge

Recognition of value of traditional knowledge.

Question qualifications of industry and government people reviewing traditional knowledge.

Lack of significance of spiritual aspects.

Caribou is big issue now, community is involved in discussions (where is range), scientific data mirrors traditional knowledge of historical range. Frustrated at beginning when told there was no evidence to support the traditional knowledge.

Cataloguing which plant they use for food, medicinal. Collecting the common names and Latin names of those plants.

Aboriginals can bring historic use, species, etc. information so can make plan to bring it back.

Focus on short term rewards, need to store cultural connections.

Information provided for reports to consulting companies is often not appropriately used in context of reclamation.

Aboriginal input not always included in reports. Maybe this is to protect locations of important areas, to avoid vandalism or Indiana Jones. They don't want TK used against them. Their knowledge might not be shared/applied exactly the way is should be shared. Trust is a major issue. They don't trust industry/government with their information.

Confidentiality agreements.

Share certain types of information, not others.

7. Training And Education

Missing integration of opportunities for employment, training.

Training needed in the communities; currently a barrier.

BEAHR; building environmental and human resources program; add reclamation program.

Need to connect programs. Limited capacity.

Internal training programs to work with Aboriginals. Not always gaps but barriers, fear, risk.

Continue increasing training and involvement both ways: Aboriginal knowledge can train reclamation professionals, and vice versa.

Education of industry, Aboriginal, reclamationists; informed decision making. At the same time that Aboriginal peoples are taught environmental sciences from a Western perspective, non-Aboriginals should be taught about traditional ecological knowledge so that both groups are more likely to have intelligent and meaningful conversations with each other.

Not enough people educated in both traditional and western science to bridge the two.

Gap in culturally and academically relevant training programs and materials.

School-age students need to see their community members leading in education, as teachers in their school.

Aboriginal peoples have flexible control over the curricula taught to their children in schools so an emphasis could be placed on issues important to them, such as environmental sciences, and have the curricula taught in a manner that is more experiential in nature.

The opportunities are there (jobs, training), the challenge is getting people to get there (education). Change the system. If the students won't travel to university, college in other cities, maybe bring it to their communities? Extracurricular activities. Build it into curriculum at a very young age. Think of reduce, reuse, recycle, and how ingrained that is in the younger generations now.

Invite faculty of native studies to next LRIGS workshop. Long-distance learning is great but not always an option (not in the right language, technical barriers).

FNMI; First Nations Métis Information; course is required for young students in Elk Island school board, needs to be spread for other school boards. Problem with this is that Caucasian teachers often teach it.

Link graduate programs with Aboriginal programs. Link up with Aboriginal schools, learning how to collaborate.

Concern that education might lead to leaving community. Skills are given to an individual – the individual may choose to move away to a different spot; this happens in any company; risk of individuals moving onto something new.

Provide distance learning or on-site learning opportunities so advanced education can be achieved by interested youth without having to leave home.

Barriers to education; despite the high level of long-distance education, not everyone has the foundations to follow it or even proper Internet connection.

Need education that provides experiences beyond the technical and encourages partnership.

Maybe doesn't need to be formal education. Maybe just invite First Nations into the field for a full field season, so they can understand the entire process, integration and experience.

Community had an internship positions open with expectation that the intern will go back to post-secondary, but will have an opportunity to get a job when done. Contribute to the overall project, but also working. Communities don't need opportunities by the dozen; they need a couple really good opportunities for the couple really solid candidates.

Need qualified people to supervise.

Safety training needed.

Training issues are problematic in context of involvement of Aboriginals; and besides also compliance issues with insurance companies.

Site visits should be able to be done with only a certain proportion of members of a party trained (H_2S training for example).

Opportunities for community members are important to participate in reclamation works. Canada's insurance companies need to be more flexible with higher aged groups.

Training is required for persons that are doing reclamation.

Incorporate opportunities of mentorship for young people by the Aboriginal community.

Continue outreach at schools (early college/university, high school job fairs).

Proactively invite Aboriginal peoples, especially youth, to participate in and/or view reclamation work at multiple times over timeline and, when possible, to view results.

Canadian Land Reclamation Association could go on a road show and send a few people to do hands-on, interactive exercises to take to Aboriginal communities (model after sports outreach).

Some First Nations have TLU camp/workshops for the reclamation professionals; increases knowledge both ways, as well as communication.

Traditional Land Use camps!

Collaboration in between science and business might more required.

8. Jobs And Business

Reclamation partners don't always achieve same results with same money. Reclamation might be done by on site companies, cheaper and with a social license.

Hire aboriginal workers, so could have some involvement themselves.

Business case, how much money do we save, what problems do we solve? We are novices at reclamation.

Lots of opportunity in reclamation business; need capacity/training/ability to meet needs. You are building a business? Yes. Need key/core people to stay around; a limitation is length of commitment, need long term. Need to find right people and get them the right education. Do you see a solution? Trying to create a team, good reputation.

Increase engagement by having community take the lead (own reclamation company); need to identify niche; need commitment/financial resources to start company.

Having problems getting good workers from Aboriginal communities he is working with. Having problems with people being unfit for duty. AWN is only 500 people and some have very high barriers to employment; always have some people who don't want to work.

Hard to encourage people to go to school if employment can't be guaranteed (not many jobs available). A lot of companies don't direct hire, they get contractors to get the jobs done; not many opportunities within the main company.

In forestry, working to match industry need and community availability (need people for 1 to 2 months to plant trees).

Seed collection can be done as part time work in summer.

Lots of opportunity (greenhouse); lack expertise, experience.

Aboriginal company has advantages due to less tax rate in competition with other companies. Aboriginal community might not speak languages of business; Build tax structure to provide tax benefits for companies to work in the first nation people's places. Train aboriginal community for working in industry.

9. Planning

Well sites is challenge issue for First Nations, landscape and regional level things; move from one project or one site to larger context; sub regional plan; play based consultation; plan road, pipeline, water, power line network; multiple company cooperation; might be a problem for dealing with different Aboriginal communities at this area; different footprint impacts of oil, gas, coal mines; water license is not supposed to be transferable.

Example of plan brought up around Grand Cache, but never got implemented. Discouraging for the community to see the plan that took lots of effort gathering dust in a cabinet.

People see big disturbance such as Gateway pipeline, but there are a lot of small disturbance happening.

Be better at going out and establishing a baseline prior to development, as well as making a more detailed plan that incorporates any effects from construction.

Helped create a portal/database of mapped AWN TLU areas to facilitate development planning.

10. Reclamation

Many Aboriginal don't believe that reclamation works, use audit to show success. Cultural barriers; working on the reclaimed sites that are dead.

Do current Alberta standards fit what Aboriginal communities want?

Aboriginal representatives should also be involved in making strategies for reclamation.

Ideal results of reclamation; trajectory in 5 years, 10 year, and after. Functional for human use, wildlife use.

After start of reclamation, what the timeline to get the reclamation certificate? Anywhere from 1 year to 20 years; after planting, at least 2 growing seasons are required before doing and assessment. Cultivated sites; need at least a year of vegetation growth; forested sites; lots of weed control needed, from year to year.

There's both a process of reclamation, and practice: are there gaps on the landscape of where the traditional land knowledge could be applied? Examples of arrested succession, wheat grass invasion; reclamation doesn't move forward towards woodland. From community point of view, ecological integrity; use land, use moose, other animals.

Should look at progress or success of reclamation compared to what was there before; bring back to equivalent capability, monitor (slumping), apply for reclamation certificate.

Size of company affects how many sites to reclaim. One company had 18,000 sites; other companies had less (hundreds to thousands, 800 to 1,800). Company has 4000 over the next five years. Type can matter too; can do 1,000 Oil Sands Exploration (OSE) sites in one year.

Alberta Energy Regulator's Licensee Liability Ratio can drive people to abandon but doesn't drive them to reclaim.

Coal mine has smaller footprint; reclamation may take 30 to 40 years in the oil sands mining areas, laws or policy might change that time later; economic issues and environmental issues, keep a balance; what point to issue reclamation certificate for government; standards several decades ago might be different from today, that can affect the standards for reclamation success; abandonment standards change constantly.

Western mind set is changing the ideas of land use.

Expand the structure and terms of reference in context of oil sands revegetation cooperative. Capturing contracts for seed collecting might be set with 10% margins to ensure an appropriate leverage. Idea of local beneficial seed collecting work in compliance with seed zones is driven by controlling and storage and quality issues.

Syncrude bison ranch experience: people that were involved are employed for a long time. Can't tell were the idea with the bison came from, however it is accepted now.

The only useful end uses in the Fort McMurray area is probably forestry once the oil mining activities are over.

Mining structures (infrastructure) could be turned into publicly-accepted infrastructure and is not.

Audit of reclamation projects and include requirement for traditional land use.

Technique is important (minimal disturbance in construction, microsites, less grooming, LFH).

Seeds are collected annually in different areas. Seed collection should be done in cooperation with communities.

The record of progressive reclamation is missing in Alberta.

Timelines for reclamation are not appropriately set.

11. Research

How to set parameters; listen to local conceptions of what is needed; do it in collaborative fashion.

Is there a way for the aboriginal communities to bring forward good research ideas? Budget constraints, often limited to things required by regulations.

Industry or government could pay for third parties to help Aboriginal groups articulate the research questions they want answered and the environmental indicators they want monitored to help determine when reclamation successfully.

Get a commitment from industry and government to identify gaps in knowledge and understanding, to identify potential problems and not to sugar coat potential problems.

Not many opportunities to get involved with some companies that do research on their reclamation projects.

12. Social And Cultural

Have high-level involvement; Chief on the board of directors or leader of the tribal council. Maybe need to develop tribal council too to bring bands together.

Impacts relationships and social and psychological well being.

13. Funding

Impact Benefit Agreements (IBA) depend on negotiation between traditional users/or owners and industry. Can be seed money for local reclamation companies.

Royalties in go to general coffers, don't go back to communities.

Big government programs for training/education.

14. Oversight

With ongoing and overlapping development, when does site get to recover; cut block turned into well site, no time to recover, who is in charge. Play based pilot project was a good idea.

Monitoring data to be shared completely and uncensored with Aboriginal peoples to build trust. Industry and government to pay for access to experts to explain data when necessary.

Reclamation standards; is it required?

Tier 1 categories are residential, industrial, agriculture and recreation, where does Aboriginal uses go?

Need collaborative to decide what standards.

Problem when Environmental Impact Assessment process changed. Focus on completeness of information rather than criteria. Restructuring issues, hopefully will be overcome.

Double standards; different industries have different standards. No confidence in standards. Forestry would have to cap over ephemeral stream, oil and gas could just go straight through; ephemerals get skipped by oil and gas because not around to see it's there; forestry sees ephemerals because on the ground when wet.

No standard for professionals involved in socio economic impact assessments; needs to be developed for greater involvement of professionals.

Deal with access to land, lease holders; unrelated to reclamation. In Métis communities, access granted to land unrelated to land reclamation, environmental concerns haven't been brought up in appeals in his experience.

Mostly old mine sites around to reclaim in AWN area. In 10 years, newer sites will be ready for reclamation. What environmental obligations are there for coal mines? In AWN area, coal mine was opened and company went belly up and another company took over, went into receivership, withdrew money set aside for reclamation, AESRD on the hook for it. Companies sell to smaller and smaller companies until government has to take over. No companies are left to pay for reclamation of that mine.

15. Learnings From Other Places

BC example BC Hydro had right of ways and went through backyards. Community college used money to run native plant propagation program. Students got opportunities to get involved with reclamation activities. Full calendar year life cycle.

Learn from areas don't have the treaty systems (BC, NWT). Treaties might be holding us back.

Institute for urban ecology Douglas College[9]; concept for responsibility, co-op with a partner that can effectively use the funding (schools, college). There might have been a bit of a government push. College as mediator in between the different players. Personality driven; you need a person that can carry forward a program like that. BC has programs to support this kind of development (stewardship groups).

Book: Resource Rulers (Bill Gallagher). Shows examples of First Nation groups vs. provincial governments conflict (BC: forestry, East coast: fisheries, etc.) were unresolved in provincial courts. Once the issues were brought to Supreme Court, Supreme Court almost always voted in favour of First Nation groups. Same thing is likely to happen in Alberta.

Inuvialuit History site on Facebook.

International impact assessment conference in Calgary.

World Bank Equator Principles[10].

[9] See http://www.douglascollege.ca/programs-courses/faculties/science-technology/institute-of-urban-ecology

[10] See http://www.equator-principles.com/

APPENDIX 7: DISCUSSION NOTES ON TOP THREE ACTIONS TO INITIATE TODAY

Some of the tables provided comments and observations in addition to their list of three actions:

Give enough info to understand all the processes. This way communities are accepting of the end product, and more invested.

Look into integrated land management.

Who owns the impact?

First Nations make it clear what their end land use goal is. Involving them in all levels of planning. Important to be clear on objectives.

Recreate the value of the land.

Need some policy changes that is not so site specific reclamation.

Ensure there's a minimum species number (put in thresholds).

Seed collection opportunities.

No provision for costs of monitoring over the reclamation.

Mitigation measures.

Involve communities in stewardship process.

Traditional model that exists in connectivity to the land. Cycle of dysfunctional face and rebuilding the land is driven by elders.

Require First Nations consultation before any land sales. Change the Mines and Minerals Act, or change consultation policy. Tenure timeline.

More investment in project.

Lots of meeting; lots of talk, seems like there's not enough action.

Government hesitant to empower another stakeholder to be more involved (government likes to control things).

Get appropriate personnel.

OSRIN survey responder said Canadian NGOs funded by American companies who don't want business taken away from them[11]. Industry is ok when issues raised by people who are actually affected (not NGOs or celebrities). Have to listen to people who actually have something important and legitimate to say.

Do you feel like you're left out of things? Less than before. So much development, don't have the time to find all reports on reclamation and closure and then interpret into lay terms.

We need real assistance and training opportunities.

[11] See Oil Sands Research and Information Network, 2014. Survey of Oil Sands Environmental Management Research and Information Needs. OSRIN Report No. TR-58. 67 pp. http://hdl.handle.net/10402/era.40128

APPENDIX 8: QUOTES FROM SELECTED LITERATURE SOURCES REFLECTING PERCEPTIONS OF THE ABORIGINAL CONTEXT FOR RECLAMATION

1. Aboriginal Consultation Interdepartmental Committee 2007

Oil sands consultations: Aboriginal consultation final report. Alberta Energy. Edmonton, Alberta. 89 pp. On line at http://www.energy.alberta.ca/OilSands/pdfs/AboriginalCon2007_MSC_OS.pdf.

Common First Nations Recommendations

- Keep reclamation on pace with development, involve First Nations in planning and implementation, and set and enforce reclamation standards that will return the land to a functioning boreal ecosystem that will sustain traditional land use.
- Establish a formal process to involve First Nations in environmental and biodiversity monitoring.
- Incorporate TEK into oil sands environmental management and planning more effectively.
- Create programs to promote community based monitoring.
- Recognize First Nations stewardship of the land and promote partnerships between Alberta and First Nations for managing and monitoring environmental impacts.
- Develop opportunities for First Nations businesses to participate in the oil sands economy.

2. Alberta Environmental Protection 1998

Oil Sands Mining End Land Use Committee: Report and recommendations. Alberta Environmental Protection, Edmonton, Alberta. 17 pp. plus appendices. On line at http://environment.gov.ab.ca/info/library/6856.pdf.

Reclaimed natural and conservation areas established with consideration of biodiversity, aesthetics (attractive views), traditional land uses, general community hunting, fishing, trapping and gathering of plants.

Lands reclaimed for forestry will be established with consideration of biodiversity, aesthetics (attractive views), traditional land uses, general community hunting, fishing, trapping and gathering of plants.

The oil sands industry and interested stakeholders will work with Métis and First Nations people, within the Regional Municipality of Wood Buffalo, to develop reclamation guidelines for replacement of traditional land uses.

The regulatory process for new and ongoing oil sands projects must consider traditional land uses in the impacted areas, and stipulate the following actions where appropriate.

- Avoid creating the disturbance.
- Re-establish the use elsewhere, if possible.
- Re-establish the use as quickly as possible on reclaimed land.

3. Alberta Government 2012

Lower Athabasca Regional Plan 2012 - 2022. Alberta Government. Edmonton, Alberta. 94 pp. On line at https://landuse.alberta.ca/LandUse%20Documents/Lower%20Athabasca%20Regional%20Plan%202012-2022%20Approved%202012-08.pdf.

Aboriginal culture, with its connection to the land and environment, provides a unique opportunity for engagement in land planning, conservation, recreation and tourism initiatives.

The Alberta government will look for opportunities to engage these communities and invite them to share their traditional ecological knowledge to inform land and natural resource planning in

this region. Reclaimed lands will be used to help achieve the region's desired economic, environmental and social outcomes based on the region's evolving needs.

4. Alberta Sustainable Resource Development 2002

Fort McMurray - Athabasca oil sands subregional integrated resource plan. Alberta Sustainable Resource Development, Edmonton, Alberta. Publication No: I/358. 59 pp. On line at http://esrd.alberta.ca/forms-maps-services/publications/documents/2002_Amended_IRP.pdf.

To maintain, and, if possible, to enhance the diversity, abundance and distribution of wildlife resources for Native subsistence, recreational and commercial benefits.

The Fort McKay Indian Band has expressed concern about the effects of existing and potential development activity on traditional lands, which make up much of Mildred Kearl Lakes Resource Management Area and beyond. These lands are vital to their traditional activities, such as trapping, hunting and fishing.

Landscape reclamation strategy to develop a reclaimed land base of capability equivalent to a boreal forest environment and that will support a range of activities, including timber harvesting, wildlife and fisheries habitat, extensive recreation and traditional Aboriginal uses.

5. Barnaby, J. and A. Emery 2001

Report to the Cumulative Environmental Management Association, Wood Buffalo Region, on the use of traditional knowledge in project planning and implementation in the Athabasca oil sands areas including the communities of Fort McKay, Fort McMurray, Anzac, Fort Chipewyan, Gregoire Lake and Janvier. Cumulative Environmental Management Association. CEMA Contract No. 2001-0010 TEK. Fort McMurray, Alberta. 56 pp. On line at http://library.cemaonline.ca/ckan/dataset/261f73ae-4c8a-4512-ad88-5ba2b38fa7c8/resource/8467f2fc-42e2-4c84-b05d-b768241f5e18/download/tekreport.pdf.

Aboriginal peoples need to live both during the period of exploitation and after all the miners and their equipment have left to explore and work in other parts of the world. Aboriginal peoples want and deserve a role in shaping their destinies and deciding how would be best to work with nature and development to create an enjoyable and rewarding life during the projects and after the projects have finished.

Aboriginal people have a great deal of fundamental understanding about the environment to bring to those decisions. They have a fund of traditional knowledge that is much different than the existing scientific understanding of the specific region, and which can add significantly to the accuracy and effectiveness of the decisions that must be made.

6. Buffalo, K., C.E. Jones, J.C. Errington and M.I.A. MacLean 2011

Fort McKay First Nation's involvement in reclamation of Alberta's oil sands development. IN: Mine Closure 2011. Fourie, A., M. Tibbett and A. Beersing (Eds.). Proceedings of the Sixth International Conference on Mine Closure, September 18-21, 2011, Lake Louise, Alberta. Australian Centre for Geomechanics, Nedlands, Western Australia. Volume 1: Mine Site Reclamation. Pp. 255-261.

In the future, Fort McKay will continue to push for faster reclamation that will restore the land to pre-mining conditions … and will seek to ensure that the reclaimed landscape will support the full range of traditional uses including medicinal plants, berries, hunting, fishing and trapping.

The Community … has taken a proactive approach … providing valuable recommendations to industry and government on how Fort McKay would like to see oil sands leases … reclaimed

once active mining and bitumen extraction has come to an end.

The reclamation objectives of Fort McKay differ in some respects from the reclamation objectives of Alberta Environment. Fort McKay's key concerns.

- Return the land to the way it was prior to mining.
- Who is responsible for the land after reclamation.
- Recreate the sprit in the land, without which the value of medicinal plants may be missing.
- Timely reclamation that allows the Community to use the land for traditional purposes.

Because Fort McKay will continue to have rights under Treaty 8 to continue to carry out its traditional uses after mining, it must have a say into the state of the land following reclamation.

7. Conklin Métis Local #193 2011

CNRL Grouse PTOR Comments from Conklin Resource Development Advisory Committee. Prepared by Fourth Meridian Consulting Group Ltd. for the Conklin Resource Development Advisory Committee.

To effectively participate, input early in the regulatory process is required. The capacity to understand the process and the resources from government to secure and manage competent technical and sound legal advice has not been available to the CML #193 to date.

Recommendation #17: Application of traditional knowledge; CML #193 recommend that CNRL address a few areas of the EIA very thoroughly for inclusion of traditional knowledge (vegetation, wildlife, historic resources). As always, the CML #193 are willing to propose which key areas would be suitable test topics to pursue traditional knowledge integration. If CNRL can achieve success in these key tasks, AENV could adaptively broaden the integration of traditional knowledge further, step by step, with subsequent applicants.

Mitigation needs to consider all options (avoidance, reduction and offsets of impacts), not just green paint. No amount of mitigation will address the past impact (from resource development) on the CML #193 members, their community and their protected rights to their traditional lands.

The following amended terms of reference clauses were provided in the attachment to the letter.

- Use constraints mapping for the siting of facilities, well pads and infrastructure. Report on involvement/input of Aboriginal communities in the constraints mapping process.
- Describe proponent's plans for facilitating aboriginal group regional access to traditionally used lands and waters where TLU areas overlap with proponent's lease areas. Provide rationale where these opportunities will not be implemented.
- Discuss how the proponent will involve aboriginal communities in reclamation planning.

8. Fort McKay First Nation 2013

November 1, 2013 letter to Director, Environmental Assessment, Operations Division, Alberta Environment and Sustainable Resources Development re: Fort McKay Comments on Syncrude Canada Ltd. Mildred Lake Mine Extension (MLX) Proposed Terms of Reference for the Environmental Impact Assessment. On line at http://esrd.alberta.ca/lands-forests/land-industrial/programs-and-services/environmental-assessment/documents/8952.pdf

The following amended terms of reference clauses were provided in the attachment to the letter.

Describe the process followed to identify and contact potentially adversely impacted aboriginal communities, the concerns and issues expressed by Aboriginal communities and the actions taken to address those concerns and issues, including how Aboriginal community input was incorporated into the project's design, EIA development, impact avoidance or mitigation, and

monitoring and reclamation. Describe consultation undertaken with Aboriginal communities and groups with respect to traditional ecological knowledge and traditional use of land, and water and the mitigation and buffers planned for minimizing effects on traditional land use and resources within the area in particular, regarding Fort McKay First Nation's reserves: 174B at Namur (Buffalo) Lake and 174A at Gardiner (Moose) Lake, and the areas adjacent to these reserves and access.

Provide a conceptual conservation and reclamation plan for a project considering the following.

- Current land use and capability, vegetation, commercial forest land base by commercialism class, forest productivity, recreation, wildlife, aquatic resources, aesthetics, aboriginal traditional land uses use, and land use resources including wildlife and forest productivity (include actual measures of forest productivity not just those based on calculations from the Land Capability Classification System).
- Anticipated timeframes for completion of reclamation stages and release of lands back to the Crown and for aboriginal traditional use including an outline of the key milestone dates for reclamation and how progress to achieve these targets will be measured. Provide a table and graph that shows cumulatively, for each year and for the entire project life, the land disturbed by clearing, land disturbed through drainage alterations, land disturbed by soil removal or covering, the total land reclaimed and the land that remains unreclaimed. Describe how project design and reclamation planning has contributed to an accelerated (compared to existing projects) reclamation pace.
- Discuss how the proposed reclamation methods have performed in similar situations (include specific examples of successful in-situ project reclamation), including ecosite and ecosite phases diversity establishment and re-population of these areas by plant and wildlife species of importance. Include in this discussion the plants and animals included in the Aboriginal communities' traditional species lists.

Discuss how the proponent has consulted with and will involve Aboriginal communities in reclamation planning and monitoring.

Describe and map the vegetation communities, wetlands, rare plants, old growth forests, and communities of limited distribution and plants for traditional, medicinal and cultural purposes.

Describe and assess the potential impacts of the project on vegetation communities, wetlands, rare plants, old growth forests and communities of limited distribution and plants for traditional, medicinal and cultural purposes in the project area. As appropriate, refer to Fort McKay's cultural keystone species list and traditional plant list.

Consult with Aboriginal peoples and review existing literature to establish relevant and meaningful Study Areas and to document TEK regarding vegetation, wetlands and traditionally used species.

Review existing TEK documents and consult with Aboriginal peoples to ascertain information on key wildlife species and wildlife use areas.

Identify the key wildlife, culturally important wildlife and habitat indicators used to assess project impacts.

Comment on the availability and quality of species for traditional use considering habitat loss, habitat avoidance, vehicle wildlife collisions, increased non-aboriginal hunting pressure and other Project related effects on wildlife populations.

Clearly identify those mitigation measures, including buffers and offsets, to ensure that wildlife

populations are maintained within their natural range of variability and are available for traditional use.

Provide a list of the culturally important plant species (including, but not limited to, Fort McKay's cultural keystone species and traditional plant species list) that will be used in reclamation and indicate the species that are currently available commercially and can be used successfully in reclamation. Cross reference this information with vegetation section of the EIA.

Provide an assessment of the richness, abundance and vigor of culturally important species collected during project vegetation surveys and include a summary of that information in both the Vegetation and Traditional Land Use sections of the EIA. Discuss project development impacts on those species (and the ecosites that support them) as well as mitigation and reclamation strategies that will be employed to address those impacts.

Determine the impacts of the project and cumulative effects on traditional land use, traditional medicinal and cultural purposes and identify possible mitigation strategies. Describe the results of the consultation with Aboriginal communities with respect to traditional ecological knowledge and traditional land use. Include a clear summary table of traditional land uses, project related concerns, the Aboriginal community's recommended mitigation measures, and the Proponent's response to these.

Describe how TEK was incorporated into the technical components of the EIA and C&R report. Cross reference sections of the EIA that address or relate to TEK (e.g. socioeconomic, vegetation, wildlife and aquatic resources) as appropriate.

Describe how TEK will be considered during operations, through ongoing community consultation and review of existing reports, and in the reclamation plan development. Cross reference this in the project descriptions and reclamation and closure plan sections.

9. Four Directions Management Services Ltd 2014

Aboriginal Economic Development Opportunities in Land Reclamation in Northern British Columbia. Prepared by Four Directions Management Services Ltd., Kamloops, British Columbia for the Kitselas First Nation. 18 pp.

Use traditional knowledge.

Gather knowledge from elders and include them in every step of the process.

Involve elders to learn more about past land disruptions in the territory to better understand reclamation possibilities.

Training plus employment.

Is there an opportunity for Aboriginal groups to cultivate native plants for use in reclamation.

Helps to preserve Aboriginal territories.

People of the land need to take a leadership/convener role and be proactive, provide a model.

Community membership awareness; honest and transparent information from proponents to First Nations.

Funding needs to be in place and provided by proponents for Aboriginal reclamations activities.

Partner with reclamation firms to better understand the scope and breadth of the proposed

community project in order to establish a project description, timeline and budget.

Respect roles: traditional landowners, hereditary chiefs, citizens …, elected council, elders, all different parts of the whole.

Begin a culture camp that would include youth, elders and general community members promoting land use and traditional understanding.

Develop traditional skills of the community members such as plant identification and cultural medicine, foods and other land usage means.

Aboriginals to lead the studies and set acceptable levels of development.

10. Jones, R.K. and D. Forrest 2010

Oil Sands Mining Reclamation Challenge Dialogue – Report and Appendices. Oil Sands Research and Information Network, School of Energy and the Environment, University of Alberta, Edmonton, Alberta. OSRIN Report No. TR-4. 258 pp. On line at http://hdl.handle.net/10402/era.19092

In aboriginal culture, are sites (which include location, plants, surroundings) rather than only plants more important in traditional ecological knowledge? Will an aboriginal community use a reclaimed site even if its newly established ecosystem is similar to a natural one?

I think in some aboriginal culture it is the site that is important, and reclaiming an area will not increase its value.

It is true that local residents in the community of Fort McKay would like to see land returned to a functional state as quickly as possible, to protect regional ecosystems, and the cultures that are dependent on them.

Muskeg is certainly a critical element of the pre-industrial landscapes that supported/supports traditional use by aboriginal peoples.

Peat-forming wetlands; highly desirable reclamation endpoint since dominant wetland type pre-disturbance, high First Nations value.

Aboriginal groups (and other stakeholders) should be part of determining reclamation certification of a piece of land.

It is Fort McKay's position that, as a long standing and long term occupant in the region, that that community should have direct input into setting certification objectives and direct participation and influence in certification decisions.

The concept of a beneficial use to humans begs the question of which humans? The local First Nations, the people of Fort McMurray or the public at large?

Some First Nations think that restoration should be the target.

I was of the thought from experience that the elders and aboriginal communities want the land to be the way it was prior to oil sands development.

Aspects of end land use feasibility include obligations under conservation related legislation, and consistency with Aboriginal treaty tights.

Regarding ensuring reclaimed land provides values for all Albertans; does Alberta not have a separate and distinct duty to Aboriginal peoples created by treaty and constitutional rights?

Are end uses relating to ecosystem services, conservation objectives or obligations under Aboriginal treaty rights included envisaged under productive use, or is it only industrial

development that is envisaged.

Public expectations, especially local and First Nations have high expectations which should influence the desired outcomes and goals.

End land uses … they are not independent of each other. Wildlife, recreation, First Nations use, forestry, all can occur at the same location.

Natural boreal wetlands are a critical habitat for many important wildlife species, including woodland caribou, moose, muskrat, beaver, waterfowl (particularly diving ducks) and amphibian. They link to the traditional way of life of local Aboriginal people.

In Fort McKay we have reclamation keystone cultural species that would indicate success; the presence of beaver for example or ratroot.

A couple of thoughts from an aboriginal community's perspective

- Critical wetland features to date cannot be recreated (bogs, fens, muskeg), this is where critical medicinal plants are collected (e.g., rat root).
- There is skepticism that recreated lakes (either compensation lakes, or water capped tailings ponds, end pit lakes) will ever be productive and will likely never be used by aboriginal peoples for fishing.
- Reclamation is too slow, need to move all companies' closure and reclamation plans to progressive reclamation and consideration should be given to no net loss to reclamation; can only disturb so much and then have to reclaim before any further disturbance.
- Aboriginal groups (and other stakeholders) should be part of determining reclamation certification of a piece of land.

11. Oil Sands Research and Information Network 2014

Oil Sands Rules, Tools and Capacity: Are we Ready for Upcoming Challenges? Oil Sands Research and Information Network, School of Energy and the Environment, University of Alberta, Edmonton, Alberta. OSRIN Report No. TR-53. 120 pp. On line at http://hdl.handle.net/10402/era.39985.

What are Aboriginal desires and needs; how can we accommodate those needs into plans and operational practice.

Aboriginal issues (understanding their needs; varies by family, politics, tradition; balance sustainable development with environment and health; footprint impact on Fort McKay; need to show reclamation progress) (low readiness for government but high for industry; unknown for Aboriginal communities).

More emphasis on obtaining, considering and incorporating Aboriginal views in plans and decisions.

Aboriginal issues (reflecting Traditional Land Use in LARP and frameworks; stewardship initiatives; compliance and enforcement; conservation offsets).

Aboriginal led companies can help develop and implement solution (involved in long term maintenance as they are the long term users).

Consider how to include Aboriginal groups in the … discussion of water release … (as water users).

What is the Aboriginal view (on the end point of reclamation) and could they have a role in long term maintenance; need to understand science, engineering and societal expectations.

12. Oil Sands Research and Information Network 2014

Survey of Oil Sands Environmental Management Research and Information Needs. Oil Sands Research and Information Network, School of Energy and the Environment, University of Alberta, Edmonton, Alberta. OSRIN Report No. TR-58. 67 pp. On line at http://hdl.handle.net/10402/era.40128.

Research need; traditional land use studies focusing not on particular aboriginal groups but the general traditional land use on a regional scale.

Information needs as follows.

- How have First Nations used and accessed land in the oil sands region in the past? How do they wish to use and access the land in the future? How has oil sands development impacted this, and how is it expected to impact it in the future? Need interviews, particularly with elders and youth.
- Traditional knowledge did not seem to be considered as a source of valuable information for environmental management. Aboriginal/stakeholder engagement as it is often done does not adequately cover this. Enabling First Nations to participate meaningfully in management and data-collection is key to success of oil sands monitoring and management.

13. Technical Services Advisory Group

First Nations (AB) Technical Services Advisory Group, Edmonton, Alberta. On line at http://www.tsag.net/programs/environment/index.html.

Environmental management program vision: First Nation community members of all ages connecting with their traditional and reserve lands by engaging in sustainable environmental management practices.