

Fraser Public Advisory Group (Fraser PAG)

Meeting #7 Minutes: Soil and Water Presentation

January 9, 2007

1. Call to order

Ron Frank, Fraser PAG Facilitator, called the 7th, meeting to order of the Fraser Public Advisory Group at 4:35 p.m. on **January 9, 2007** at the Pantry Restaurant, Chilliwack, BC. Ron asked the group if it would be acceptable to record the meeting with a voice recorder in order to improve the accuracy and efficiency of the meeting minutes. The recording would be used only for that purpose and subsequently erased. The table was asked if anyone objected. No objections were raised.

2. Registration of FRASER PAG Members

The following members were present:

Al Stobbart, Inch Creek Hatchery	Don Harris, Douglas First Nation / In-SHUCH-ch FN	Keith Warrener, Fraser Valley Regional District
Bruce Edwards, Hatzic Prairie	John Warren, Boston Bar First Nation	Sharie Conroy, Hatzic Valley, Durieu, McConnell Creek Ratepayers Association

Members Absent:

Chief Andy Alex, Union Bar FN	Mark Bond, Reo Rafting	Jean Warkentin, Norrish Creek Resident
Garry Davidson, Seabird Island Indian Band	Chief Sidney Douglas, Cheam Indian Band	Ken Webb, Agriculture
Jim Baker, Boston Bar	Earl Graham, United Steel Workers	Martin Edwards, Shxw'ow'hamel First Nation
Kerry Grozier, District Manager, MOFR	Gordon Sherwood, Cacus Point Resident	Shawn Gabriel, In-SHUCK-ch First Nation
Lloyd Forman, Boston Bar Resident	Gurdev Sidhu, Agriculture	Steve Harvey, Hope Machine Shop.

Others Present:

April Choquette, Teal	Jill West, Teal	Keith Chapman, Teal
Brian Taylor, May Trucking	John Pichugin, Teal	Kevin Stanczyk, Teal
Ed McWaters, May Trucking	Drew Brayshaw, Madrone Environmental Services Ltd.	Ron Frank, Facilitator

3. Documents Distributed to Members:

1. Fraser PAG Meeting #7 Agenda
2. Fraser PAG Information Tracking System – List of Completed Tasks
3. Fraser PAG Information Tracking System – List of Outstanding Tasks
4. Fraser PAG Group Membership (list)
5. Fraser PAG Group Membership – Contact List
6. Fraser PAG Meeting #6 Minutes
7. Draft Values, Objectives, Indicators & Targets – Biodiversity
8. Draft Values, Objectives, Indicators & Targets – Ecosystems
9. Draft Values, Objectives, Indicators & Targets – Soil and Water
10. Draft Values, Objectives, Indicators & Targets – Global Ecological Cycles
11. Draft Values, Objectives, Indicators & Targets – Multiple Benefits to Society
12. Cover Letter to Fraser PAG from Kerry Grozier and attached report: “ Overview Assessment of Forestry Development Related Issues in the Deroche Creek Area”

4. Health and Safety

Ron Frank reviewed health and safety items and asked members for any health and safety issues.

5. Introductions of new faces at the table

Ron Frank asked the table to introduce themselves. Jill West manages Teal’s South Island PAG and is observing. Drew Brayshaw, Madrone Environmental Services – guest speaker (Soil and Water). April Choquette, Teal-Jones Group – Observer.

6. Review Agenda for Meeting #7 / Adapt / Ratify

Ron Frank asked the group to look at the Agenda for Meeting #7. Ron Frank asked that the group put forward new agenda items at least 48 hrs prior to the meeting. No additional agenda items were presented prior to the meeting. No new agenda items were presented at the meeting. Ron Frank asked for the table to ratify the agenda. Motion Al Stobbart, Bruce Edwards 2nd, majority in favour - none opposed. Ron Frank noted an error in the date shown on the Agenda.

7. Review New Action Items

Ron Frank asked Keith Chapman to review the new action items from the previous meeting. Keith Chapman briefly reviewed these Action Items (6A to 6F).

8. PAG Meeting Schedule – February Day Session

Ron Frank explained the need for a longer day meeting in order to adequately review the Criteria and Indicator set (VOIT set). Ron Frank asked the table to consider Saturday, February 10th. No

objections to the date were raised. Al Stobbert commented that this date would be the only one he would be available for a weekend day in February. The date was ratified. Keith Chapman will confirm the meeting location (likely to be different than the Pantry Restaurant) and the time as soon as possible.

Action Item: 7A – Keith Chapman to confirm meeting location and notify members regarding a FPAG day session on Saturday, February 10, 2007

Fraser PAG Sub-committee. Due date: January 19, 2007

Keith Chapman added that Fraser PAG members should feel free to contact KC via email or telephone. Emails can be short notes and do not need to be as involved as those sent out by the Environment Department. Ron Frank added that Keith will also be able to address questions arising from the PAG's work – indicators for example. Keith would be able to consolidate that input and then share it via email with the other members. This would enable an online forum for discussion.

9. Presentation – Soil and Water Issues

Ron Frank asked Drew Brayshaw to conduct his Power Point presentation. (Note that a paper copy of the power point presentation will be distributed at the Jan 30th PAG meeting).

Drew gave an overview of his background and experience on this topic. Slide 4 photo depicts a large slide in the Kingcome River valley that occurred in old growth at least 10 km from any harvesting. Slide 5 shows recent flooding in Port Alberni.

Slide 8 depicts an example of when things go wrong. Center Creek in Chilliwack Valley – logged about 1985. Count approximately 11 landslides in photo. Several of these slides made it to the valley floor and the creek. Most of the slides resulted or happened near logging roads. Today a lot of these roads are rehabilitated. Management today would target harvesting to areas of this mountain side that are deemed to be more stable and avoid the areas that are not.

Slide 9 depicts a helicopter block near the Upper Stave River – harvested about 5 years ago. This is an example of careful harvesting in steep terrain. Slide 10, Drew commented that floods occur all the time – the question is “Will forestry change the size of flooding that is already occurring?” In addition to effects on rainfall interception and transpiration of soil water, the effects of forestry include changes to snow accumulation, snow retention, and snow melt. These effects can be quite complex in combination.

Slide 11 – Drew commented that the same storm in two different watersheds will likely result in two different responses. It is difficult to give hard answers about the probability of a response to harvesting. Answers are not numerical but are relative (Low Medium or High likelihoods).

Slide 12 – Noeick River near Bella Coola. Example of a watershed. Drew asked the audience to note the amount of forested area in the watershed – roughly 50%. The rest of the valley is snow, rock, ice and tundra. Slide 13 – Sawmill Creek between Yale and Boston Bar is a second example of a watershed. Note the forested area reaches the upper ridge crest. Photo shows lots of older harvesting (2nd growth). Drew asked the question: “Which watershed will be more affected by forestry – Noeick or Sawmill Creek?” Drew gave a hypothetical example of a watershed with only one tree. “Would harvesting that one tree have a significant effect?” The

answer is no. “The more forested an area is, the more effect that changing the forest cover will have”.

Slide 14 – Drew commented that forests can’t intercept all of the rainfall during really heavy rainfall. The trees wet out and water reaches the ground and flooding can result. The effects of changing forest cover are greater on small storms and small floods than on large storms and large floods. Forestry can affect the low summer flow in streams. Removing the trees results in higher groundwater which results in the low summer flow being higher.

Slide 16 – Drew added that groundwater is generally less vulnerable to forestry activity than stream water. Aquifers provide some basic water protection. He used Chilliwack drinking water as an example. That water comes from the Vedder Aquifer under Sardis to Vedder Crossing. The area is heavily modified by agriculture, industry, is largely harvested and urbanized – yet the water is some of the best in Canada. Logging results in more water percolating into the ground which generally results in higher ground water. Forestry can affect shallow aquifers when road cuts intercept shallow ground water and brings it to the surface.

Slide 17 – depicts a private water intake and cistern on Vedder Mountain. This intake was located near proposed harvesting further up the hill. There was no surface water to connect the harvesting and the intake. Recommendation was to harvest. After harvesting, more water reached the intake and water began to seep out of the hill directly above the cistern, but water quality was not adversely affected.

Slide 18 – Landslides caused by forest roads are an engineering problem. Problems occur when something was done wrong during the construction stage – i.e. water diverted to where it should not have been, over-steepened fill slopes etc. When roads are engineered properly – you don’t get slides. The Sea to Sky highway is an extreme example of how a road can be put anywhere if engineered properly (given enough money).

Slide 19 – Loughborough Inlet, BC Central Coast. Photo shows most slides (approximately 7 slides) in this area originated from forest roads. Road building probably late 70’s. Drew commented that there is a legacy of old roads built to the “standard of the day”. These old standards had poor building techniques, no rehabilitation nor pull-back of unstable areas. This led to the problems of today – which are very expensive to deal with. These old standards are in no way close to the standards of today.

Slide 20 – Drew added that we cannot say that we are not going to have landslides. We can say that we will strive to not increase the likelihood of landslides. The Forest and Range Practices Act addresses slides that have “a material adverse impact”. Not all slides are equally bad. A slide that does not impact water, fish, or people is not as bad as a slide that affects an intake, fish habitat, or pushes a house off of its foundation. Resources are allocated to managing for the potential for adverse impacts. Prevention involves identifying trouble spots before logging and road building and prescribing and implementing recommendations during engineering and harvesting. The Forest Practices Code resulted in a decrease in the number of slides following harvesting and road building from 8 times the natural rate to approximately 2 times the natural rate and we are still working to improve. Slides in areas under new management regimes most often result from someone making a mistake. Those mistakes are analyzed and management improved in order to ensure that mistakes are not repeated.

Slide 21 – depicts new road construction in District of Mission’s TFL on Red Mountain on a steep slope near a creek. Drew explained that the construction depicted includes using coarse granite

rock that is well drained for the fill slope. Rock at the base of the fill is “keyed” into the soil to anchor them. Drew commented that he would expect to see this road remain much as it is now over the next few decades.

Slide 22 – Drew added that bare soil needs to be connected to water by flowing water – typically a stream or ditch - in order to present a sediment or erosion problem. Roads and ditches are the primary concern for erosion and sediment.

Slide 23 – Drew explained the photo. There are two roads – 1) running up through the center of the photo and another running perpendicular across the bottom of the photo. These are old roads (40-50 years old) that are now functioning as streams and dirt bike trails. Water has moved all of the fine sediment and left the gravel and stones. The sediment was deposited into streams.

Slide 24 – Photo: Upper Norrish Creek (down stream from confluence of West and East Norrish Creeks). Log in upper left of photo was deposited by the stream. Drew explained that there was a lot of logging in the 70’s and 80’s which resulted in lots of landslides and lots of erosion and sedimentation. Sediment filled in the river and riparian area in this section of the valley. Sediment was being deposited faster than it was being carried away. Floods deposited new layers and channels would jump around. This resulted in a lot of habitat being destroyed and a lot of sediment being moved down stream (reduced water quality). Over the last 10 years there was less logging, and the logging that occurred took avoided unstable terrain and used appropriate harvesting techniques, which led to a lot of recovery. Also FRBC spent a lot of money on rehabilitating roads. Better forest practices are also playing a role in recovery. This has led to less sediment supply and the stream is beginning to stabilize by down-cutting into the deposited sediments and restoring its channel vs. wandering around the valley floor. However this site is now supplying sediment downstream, eventually depositing at the Fan near Inch Creek Hatchery.

Slide 26 – Photo depicts Madrone staff at a silt fence located in the ditch along the Fleetwood Forest Service Road in Chehalis. Drew explained that the photo shows good and bad. The road is surfaced with fine erodible sandy material that generates a fair amount of sediment. The ditch is well vegetated which helps to trap sediment but it could be deeper. The silt fence is one method of managing sediment. It traps silt but needs to be maintained and cleaned out periodically. If left for too long they can get backed up which can lead to it being overtopped or bypassed and subsequently lose the trapped sediment. Drew commented that he prefers to use hay bales which allow water to percolate through and be filtered; seeds in the hay germinate and assist in revegetation.

Drew concluded his presentation and Ron Frank adjourned the meeting for a 10 minute break before questions.

10. Questions and Answers re: Soil and Water issues

Sharie Conroy commented that she had mentioned during previous meetings that they get large storms every 5 years or so in the Hatzic Valley and now they have had 3 in 3 weeks. Drew Brayshaw responded that he has noted indications that the climate is changing in many locations. Climate change will bring higher winds, changing temperatures, and increased precipitation.

Sharie Conroy said that, speaking as a landowner, they had a water intake below crown land on a steep slope. This area was all logged 50—80 years ago and there has been no logging since. Water levels appear to be getting worse and Bellcharton Creek is getting very high. The stream is still within its ravine but the valley is flooding. Sharie said that her concern/value is that any logging will push water levels to the point that they cause damage. She understood from the presentation that trees help to reduce water levels through transpiration and interception. Drew responded that he cannot say for sure for such a site specific case. One would have to look at it specifically and then make a determination.

Sharie commented that well water in the valley was lost at some locations when the valley was logged 80 years ago. What is the relationship between wells and logging? Sharie explained that her intake system was similar to that shown in the slide presentation. The water comes from a bedrock aquifer. After the 2006 drought (~3.5 months with no significant precipitation) it took twice as long to fill their water tank as before the drought. Drew responded that bedrock aquifers tend to behave that way - flows tend to be steadier as the flow is likely precipitation averaged over the last 10 years. In comparison, a shallow aquifer in sand or glacial till is recharged from precipitation from the last few weeks. Since the water from Sharie's intake was still flowing after 3.5 months it confirms that it was a bedrock related aquifer.

Sharie asked if the wet benches on the mountain above her intake are likely to be the recharge area for their aquifer. Drew responded that wet areas on slopes are typically not recharge areas but are typically discharge areas. Again, one would need to map out the recharge area. Blasting can affect subsurface water. Drew added that it would be useful to look at the well logs.

Ron Frank raised a question from John Warren regarding sediment loading in Anderson Creek. John had raised the lack of pools in Anderson Creek and the rate of flow that changed after logging. Drew responded that the lower part of Anderson Creek is largely in a bedrock canyon with crumbly rock sidewalls that naturally slide. Forestry at the upper half of the watershed can have impacts to sediment supply. But all of the good forestry practices will not counter a large rock slide depositing material into the stream.

John Warren asked if the removal of forest cover and leaving 7 foot trees as (hydrologically) greened up areas affects snow melt. It appears that they get faster snow melt in the spring when the river torrents and then lower amount of water in the summer. John also asked if forestry affects water temperature as warm water from the exposed cutblock eventually makes its way to the Fraser River where it may affect fish. Drew cited an example of temperature and streams. It appears that shade from riparian reserves is more important for protecting stream temperature. Drew said that forests can affect snow melt. Cutblocks tend to have more snow due to the lack of canopy that shelters the ground and melts snow. South facing cutblocks tend to have faster snow melt in spring. North facing blocks melt more slowly. When conducting CWAPs these factors are taken into account. In drier climates, such as around Boston Bar, snowmelt is more important to the total flow of a stream than a similar situation in wetter areas closer to the coast. This can also be analyzed in the CWAP process.

Keith Warrener asked who determines which streams are regulated and what is the criteria. Drew responded that the term "regulated" means that there are structures that regulate flow. Norrish Creek is a regulated stream as it has intakes and a weir.

Ron Frank asked about CWAPs. We know that they are a significant cost to complete – is there a way to use existing completed CWAPs and apply them to similar streams? Drew responded

that there is some info you can apply but there is also much that you would not be able to use. As a CWAP includes an assessment of forest cover and Equivalent Clearcut Area – that would be watershed specific. There are probably 30 studies in the Chilliwack area and these do give us a reference to use. The majority of the studies are archived on a government website and are available to the public.

Brian Taylor asked if Drew could characterize the recent storms and the impacts on the watersheds. Drew responded that these storms illustrate the difficulty in taking an amount of rainfall and predicting stream flow. A recent storm was a 1 in 200 year rainfall but one of the watersheds it impacted had only a 1 in 25 yr flood event. The amount or lack of precipitation preceding the storm plays a big role in how that watershed behaves in a storm. Forests are not parking lots. A 1/200 year storm on a parking lot will result in a 1/200 year flood. Forests are different.

Al Stobbart commented that they did not see an unusual amount of sediment at Norrish Creek compared to other storms last year. They did see something unusual – an upwelling in Nicomen slough. They had no idea about where it was coming from.

Ron Frank noted the time and said that the meeting will have to move on. Drew will be here for dinner and we can ask him questions.

11. Review and Ratify Meeting Minutes

Ron Frank turned to the meeting minutes. Ron Frank asked about the action item regarding Jim Baker discussing Deer Winter Ranges with Ed McWaters. Ed McWaters said that Jim had not stopped by.

Ron noted on page 5 of 10, second paragraph from the top, first sentence should read “...in a way that gets *it* done in...” Ron also noted a typo on page 5 that begins with “Line 3”. The first sentence should read “...line reads as Ron Frank since he had summarized comments...”. Ron noted an error on page 3 in the first sentence of the paragraph before “8. Review Action Items”. This sentence should read “Ron Frank stated that Teal already indicated that this wood should be used...”.

Ron asked John Warren if the production of 1 million board feet per year from the Boston Bar Mill sounded correct. John W. said that it produced 1.1 million board feet in one day. Brian Taylor said that it achieved 100 million board feet per year.

Ron Frank asked for any amendments to the minutes. It will become public record once the minutes are ratified. It is important to check the statements attributed to you. The minutes may not capture what was said exactly but we strive to capture the intent of what was said. Ron asked for any other changes. Ron said that members should read these when they get the email copy so that they can email changes ahead of the meeting. No other changes were presented. Ron asked for a motion to adopt the minutes. John Warren 1st, Keith Warren 2nd. The table ratified the minutes as amended.

12. Review of Draft Soil and Water VOIT tables (CSA SFM Element 3.1 – Soil Quality and Quantity)

Ron Frank asked Keith Chapman to begin the review of the Draft Soil and Water criteria and indicators. Keith explained that they will go through the lines and pick out things that they do not

understand or think needs improving and discuss them. We can direct questions to Drew and draw on his expertise while we work on these tables.

Al Stobbart commented on Lines 1, 2 and 3 etc that the indicators and targets should refer to new construction/development to differentiate the different standards from past outdated standards of road building etc.

Bruce Edwards asked if Teal Jones causes a landslide that occurs 15 years from now – what do we do when we will not know if the target is met until 15 years has passed?

Drew said that the time period of 15 years during his presentation was in relation to slopes that are dependent on root strength for stability. Root strength stability decreases the most between 6 and 15 years post-harvest. Most slope failures occur due to the increase in water which is immediately after harvesting. Most slides occur within the first year after logging. The number of slides decreases with time.

Bruce Edwards commented that in the past, slides were shrugged off as “well that is a result of the practices in the past but now we do it different so it won’t occur again”. It appears unfair for Teal to lose its certification over something that happened 15 years ago. Ron Frank responded that they would use the best knowledge of the day. The indicators and targets will be applied to new development.

Bruce Edwards said that if the slide occurs after 15 years – what sanction or incentive is there to ensure that they meet this target 15 years from now. What if the target is not met? Keith Chapman said that if they do not meet the target it could be a minor or major non-conformance and risk losing their certification. Jill West added that where a target was not met, an auditor would dig into that issue to find reasons why and the supporting rationale. If there is insufficient rationale or poor diligence then the auditor would consider the target not met.

Brian Taylor commented that the company recognizes and realizes that roads can pose a threat if not managed properly and that they strive to make roads that will be there for the next rotation and do not create problems along the way.

Al Stobbart commented that in the Pitt River valley there were a lot of problems prior to the Forest Practices Code coming into force on the ground. Previous to the FPC, roads were built as they went with the materials readily at hand and there were lots of problems. Since the code, there have only been two slides in the last 10 years – and most of them in the Park. Twenty years ago roads would be built and he would see debris torrents for weeks afterwards. That problem has all disappeared. It’s also nice to see the changes in the last 10 years are so substantial.

Sharie Conroy commented that flooding is a very important issue in their community. How will logging, rainfall and flooding be measured and addressed? Drew responded that the inter-relationship between these events can be tricky. You cannot measure rainfall in one area and predict flooding in another. You can only study these events after the fact with statistical analysis and compare records of all previous floods. You also need to know the antecedent (previous) rainfall leading up to the event. That is very tricky to measure and requires a lot of statistics. Statistics, in turn can be debated which leaves the issues with many questions. It is better to measure and manage the area harvested and try to keep it at a reasonable level. Sharie Conroy asked if he meant no large clearcuts. Drew responded that this would mean the amount of

harvested area at the watershed level – lots of little cuts or an equivalent area in fewer, larger cutblocks. The amount of cut over area would need to be determined in a watershed level study.

Keith Warrener commented that one cannot attribute all of the flooding problems in an area to the harvesting. There may be activities in the floodplain that are creating problems as well. Flooding may be influenced by factors such as farm crops or drainage issues. Drew responded that land use is distinguished between the activities upslope and the activities on the valley bottom. If streams flowing into the valley are flooding then there will likely be flooding on the valley floor. The question is: How big will the flooding be? Land use can affect how water drains away. Land use on the valley floor may play some part in drainage – gravel load in streams etc. For the Hatzic Valley, the Fraser River's level can play a role. In January when it is at its lowest, the water table in the valley can be lower than in May when the river is higher.

Line 6: Ron Frank asked Keith Chapman to continue the review at line 6. After Keith reviewed the line, Drew commented that it could be adjusted to address human safety outside of the Community Watersheds as Coastal Watershed Assessments would be completed in the Community Watersheds. Wording should include the role of Terrain Stability Assessments in protecting human safety within and outside Community Watersheds. Keith Chapman said that this line will be amended to reflect these points.

Line 8: Keith Chapman reviewed this line. Keith noted that the words “site disturbance” should be changed to the more accurate wording: “soil disturbance”. Also “operational plans” should be changed to “operational plans and Site Plans” to be more accurate. Ron Frank enquired about Rainfall Shutdown guidelines and if they would be useful to include with respect to protecting soil productivity. A brief discussion of what Rainfall Shutdown criteria is and how it is applied. Rainfall shutdown is a procedure followed by forest operators where certain activities - such as road building – are suspended if the amount of rainfall in a 24 or 12 hr period exceeds a level set in a Standard Operating Procedure or similar protocol. Rainfall shutdown is geared around worker safety (workers to leave the area if the amount of rainfall suggests that the risk of landslides is increased) or the risk to the environment during activities such as road building is increased by the amount of water moving and transporting sediment to streams. Keith Chapman will incorporate a new line under line 8 and under the objective of protecting forest soils with rainfall shutdown as an indicator.

Line 9: Keith Chapman reviewed this line. Keith noted that the Indicator wording would be changed to reflect new development (post 1995, FPC) as per Al Stobbart's earlier comments for lines 1, 2, and 3 etc.

Line 10: Keith Chapman reviewed this line. Similar wording changes as Line 9.

Line 11: Keith Chapman reviewed this line. He explained “reportable spills” are significant spills as determined by the Ministry of Environment / Provincial Emergency Program. Fuel and other chemicals are reportable to the government as determined by the amount of a particular chemical and whether it is on land or water. Environmental Management Systems, such as Teal's CMS, adopt or expand on this criterion. In short, “reportable” means that it has been determined to be significant for that chemical in that amount. Keith added that the target of “Zero” – and other targets in these tables – will be considered against a variance around the target. The variances will be discussed at the all day session in February. Keith added that the variance takes into account that disasters do occur as planes crash and bridges collapse etc.

Ron Frank commented that Teal's Corporate Management System forms a basis for the CSA and that the PAG can draw on the information or the procedures in the CMS for use in these indicator sets.

Line 12: Keith Chapman reviewed this line. Keith explained that the Target for this line will be changed to reflect the target for the similar line discussed at the Dec 12th meeting. The target will be 7% with some wording to account for situations where there are very small cutblocks or difficult terrain.

Line 13: Keith Chapman reviewed this line. Keith noted that similar issues in regards to elements of the general public abusing the crown forest by dumping garbage, grow operations, degrading trails, vandalism etc has come up at previous meetings. The objective towards managing this issue would be to limit the damage. Teal is a tenant on the land and other people have a right to access the crown land. Keith repeated Kerry Grozier's point made at an earlier meeting that controlling access through gates or laws etc is difficult as if it is not enforced it becomes fruitless. Keith commented that this problem could be approached through signage, reporting incidents to authorities, and supporting organizations such as Wilderness Watch. Wilderness Watch has mandated itself to look out for wildlife – mainly poaching – and report what they see. Keith said that he had not had a chance to review this approach with Teal. Some ideas may be that Teal may be able to support a group such as Wilderness Watch by supplying them with gate keys, maps, or by directing them to problem areas. Keith will explore this public access issue with Teal. Keith asked the Table for any ideas on how to manage this problem.

Keith Warrener commented that he thought the items mentioned by Keith C were good indicators. Keith Warrener added he has observed that “no one sweats” minor infractions such as an isolated garbage dumping but that isolated pile of garbage becomes the point where everyone else dumps their garbage and it becomes a big problem. Keith Warrener added that refuse from grow-ops are often dumped and, in addition to becoming a nucleus for further garbage, the grow-op refuse can be toxic and may require special disposal. Keith Chapman commented that it would be difficult to solve the world's problems but that sustainability is about taking steps towards that goal. Keith Chapman cited an example of how New York cleaned up graffiti in its subways as a first step to addressing the city's huge murder problem. By addressing the small crimes, people were less likely to think that they could get away with murder.

Drew added that access control can be effective. People with truckloads of garbage are not going to challenge a locked gate – they go somewhere else. Drew gave an example of how a logging company left a large machine behind an unlocked gate and came back after the weekend to find it had been cut up with cutting torches and sold as scrap. The problem comes down to how much money and time a person or company spends to keep out these people and how much time and money people spend to get into these areas.

Ron Frank noted the time and began to close. Keith Chapman made a quick reminder and comment about the January 30th meeting – “Societies Responsibilities”. The main topic will be in regards to First Nations issues. Keith will contact First Nations to ensure that they are well prepared for the topic.

Ron Frank closed the meeting and thanked Drew for his presentation and help during the meeting.

The meeting was adjourned at 7:35 p.m.

The Next FRASER PAG Meeting will be held January 30, 2007 at the Pantry Restaurant, Chilliwack at 4:30 to 7:30 pm