

**VANCOUVER ISLAND NORTH WOODLANDS ADVISORY GROUP
(VINWAG)**

***Western Forest Products Inc.*
Community Advisory Group
Minutes of Meeting February 26th, 2015**

Attendance:

Jon Flintoft, WFP	Gaby Wickstrom, Port McNeill Chamber of Commerce
Dale Dorward, Small Business	Fred Robertson, Education
Ben Trerise, Fish and Wildlife	John Tidbury, Port Hardy
Patrick Donaghy, Local Government	Tom Doak-Dunelly, General Public
Dave Trebett, Tourism and Recreation	Graham MacDonald, Port McNeill

Presenter: Steve Platt, Strategic Natural Resources Consultants Inc.

Regrets: Paul Barolet, Stewardship Officer, MOFLNRO, Steve Lacasse, Environment, Katherine Dolmage, Aquaculture, Ione Brown, NICFLP

Observers: Gunnar Wigard (Candidate to represent contractors' sector), Jon Lok, NWAC Member and Strategic Natural Resource Consultants, Clint Cadwallader, Senior Operations Manager North Island Forest Operation, Ralph Wallas

Advisors:

Chairperson and Facilitator: Annemarie Koch

Minutes taken by: Jon Flintoft and Annemarie Koch

1.0 SAFETY AND INTRODUCTIONS

Annemarie welcomed everyone to the meeting, stressed the importance of safety in WFP's operations and reviewed the procedures to follow in the event of an emergency. Annemarie reviewed the objectives of the meeting, namely to review the minutes and action items from the November 13th meeting, hear a presentation by Strategic Natural Resource Consultants Inc. representative Steve Platt on the use of LiDAR and drones in forest management (general information for Criterion 5, Economic and Social Benefits), hear an update on the youth forestry initiative, review results of and recommendations from the 2014 participant satisfaction survey, confirm the schedule of meetings for 2015 and discuss membership, and set the date of the next meeting.

Annemarie reminded everyone to take a look at the operational map that Jon had brought for members to review and comment on, and then invited those present to introduce themselves for the benefit of the presenter and new VINWAG members. Annemarie noted, that in view of the interest in Steve's presentation, she and Jon had agreed to postpone the review of SFMP indicator results to the April meeting, to give more time for the presentation.

2.0 REVIEW OF LAST MEETING MINUTES AND ACTION ITEMS

Annemarie asked if there were any comments on the minutes of the November 13th meeting and reviewed action items requiring updates or immediate attention with members, and the results of the discussion are summarized in the table below, along with the addition or modification of three action items developed during the course of this meeting. For the benefit of new or recent members, Annemarie noted that she would be assuming all members had read their minutes and would not be taking additional time to go through them at the meeting, other than to deal with questions, changes and action items. Action items that were completed were dropped from the list and revised action items were retained as modified.

ACTION ITEMS					
#	Item	Responsibility	Initiation Date	Target Date	Completion Date
140	Follow up on engaging youth in SFMP	Fred Robertson/Jon Flintoft/ Kindry Mercer/A. Koch	June 27,2013	Ongoing, in 2015	
156	Update on producing a map for recreationalists	Kindry Mercer	April 24,2014	April 23,2015	
163	Provide an update on the Pacific TSA Timber Supply Review	Jon Flintoft	September 11,2014	Later in 2015	
164	Incorporate new information available through digital aerial imagery in relevant indicators	Jon Flintoft	September 11,2014	For 2014 annual report	
170	Post 2015 meeting schedule on PAG website	Annemarie Koch	February 26,2015	March 5,2015	
171	Invite Janet Dorward to represent business interests in Port Hardy and update membership list generally	Annemarie Koch	February 26,2015	March 5,2015	
172	Enlist an energy sector representative	Dale Dorward	February 26,2015	April 23,2015	

Annemarie noted that action items 166, 167 and 168 were completed last year. She noted that action items 152, 158 and 165 had been addressed in the preparation of the 2015 meeting schedule. She noted that action item 169 was being addressed and that, while Dave Craven of Strategic Natural Resource Consultants had declined an invitation to join VINWAG, because he was away in the field a lot and did not feel he would be able to attend the meetings, Dale Dorward had invited Gunnar Wigard of Westcoast Falling to the meeting to consider representing the contractors' sector on VINWAG. She noted that action item 156 would be addressed at the April meeting and added that the rest of the action items were ongoing.

Annemarie added that, unless members of VINWAG wished to discuss any of these items, and unless there were any comments or changes, she would ask members to adopt the minutes of the previous meeting.

The minutes were accepted as circulated.

3.0 EVOLVING FOREST TECHNOLOGIES, THE USE OF LIDAR, DRONES AND TABLETS: STEVE PLATT, STRATEGIC NATURAL RESOURCE CONSULTANTS INC.

Steve provided some background, noting he started in engineering with MacMillan Bloedel and then started working with Strategic after getting his advanced diploma in GIS, after which time he moved on to working with LiDAR and now drones.

Steve briefly reviewed how LiDAR works and how it is used in forestry. He noted it is an active remote sensing process. He pointed to three ways to deploy LiDAR: ground, airborne and space. He noted that the forest industry presently uses mostly airborne deployment, using helicopters and aircraft. He described how Light Detection and Ranging works, using aerial laser scanning.

Steve pointed out that the process can capture returning reflections to create large point clouds. He explained that LiDAR has been around since the 70's and became commercially available in the 90's. He

pointed out that the uses were originally for bare earth sensing and that the sensing of vegetation for forestry purposes was a later application.

Steve explained that LiDAR's primary value for forestry lies in three dimensional structural images of the forest canopy. Steve explained that the more pulses hitting the ground, the better the image. Steve described the various ways that LiDAR interacts with the forest, from the top of the canopy to the bare earth below.

Steve reviewed the accuracy level of LiDAR, from less than 10 cm on hard surfaces to 30 cm absolute accuracy. He compared the accuracy of TRIM at 25 m resolution to LiDAR at 1 m resolution.

Steve reviewed various LiDAR products, including LAS files, and derived products including contours, digital terrain models, hillslope wetness, canopy heights, tree tops, and various forest metrics.

Steve demonstrated the extra level of detail generated from LiDAR, e.g. fine contour maps, digital terrain models showing ditch drainages, and hill slope steepness and geotechnical analysis for roadbuilding.

Steve reviewed the derivatives from basic LiDAR data, including hydrological models and canopy height models. Steve reviewed how tree top analysis is done. He reviewed how the point cloud can be used to identify vets and then determine what species they are.

Steve noted that LiDAR metrics are based on the structure of the point cloud and can be used as a basis for wildlife habitat modelling, wildfire risk assessment, enhanced forest inventory and percent cover canopy closure for example.

Steve discussed some of the validation measures that are used to check the accuracy of the LiDAR inventory work and how the west coast forest cover is more complex to measure than the more uniform forests in eastern Canada.

Steve reviewed some of the uses of LiDAR, including ungulate winter range habitat analysis. He pointed out how LiDAR points can be used to determine the effect of harvesting specific stems in a block.

Steve reviewed the geotechnical uses of LiDAR, including karst mapping, and identification of old slumps.

Steve pointed to how LiDAR can be used to develop much better visual impact assessments, by offering much better data sets from which to work.

He noted how LiDAR is used for pre-planning for development and engineering purposes. He pointed out how LiDAR data can be taken out in the field as a basis for planning, saving time and improving the results of fieldwork.

Steve reviewed how a program called RoadEng Optimal can be possible with the availability of LiDAR data.

Steve moved on to the use of Unmanned Aerial Vehicles (UAV's) or drones. He noted that UAV's can monitor change, refresh LiDAR canopy height models and collect multi-temporal data. He noted that drone technology is moving along very quickly and governments are developing regulations with respect to drones to manage their use. Steve noted that most drone products are based on photogrammetry, but that these uses will expand over time.

Steve talked about the quad-copter Strategic has acquired and its various uses and lift capacity. He pointed to possible applications using infra-red, and detecting whether aerial nests are occupied.

Steve reviewed the various types of UAV's, comparing cost to capability. He noted that the Sassin X1 purchased by Strategic has longer endurance, 8 kg payload, 20 plus km range and high resolution imagery. Steve talked about the possibility in future of mounting LiDAR equipment on the UAV.

Steve reviewed the legal requirements to fly a UAV, including insurance, flight training and radio operator's certificate. He explained that Transport Canada allows some exemptions, for example, in forested areas and away from inhabited areas and aerodromes.

Steve reviewed the difference between LiDAR and photogrammetric point clouds, noting LiDAR produced better data. He noted though, that photogrammetry from drones can be used to follow change detection, such as tree growth and monitoring road construction. He reviewed additional applications from combining LiDAR data with data obtained through the use of drones and infrared imagery to monitor forest health and plantation surveys, for example. He stressed the importance of getting a return on investment for the use of the technology.

Steve then went on to discuss the use of tablets in the field. He noted that tablets make the dissemination of data in the field much easier and better. He noted that tablets allow huge amounts of information to be collected, stored, retrieved, viewed, analyzed, manipulated and shared. Steve noted that forms can be easily carried in the field, including Species At Risk forms and survey plots, and added that tablets can carry field friendly apps and geo-referenced pdf maps. Steve pointed out how the use of tablets has improved safety practices and reporting. Steve noted how three dimensional bridge designs can be done in the field now using tablets.

Steve pointed to how road designs can actually be taken into the field now using tablets. He pointed to risks, including battery life, and weather resistance.

Jon Lok explained that many of the graphics in Steve's presentation came from WFP's operating area. He noted that a lot of the data was used for the development of plans in the Holberg area, for example.

Steve noted that there was a shift to Strategic's North Island crews doing most of the LiDAR work. It was noted that some of the older members of the crew are embracing the new technology.

Jon Lok noted that the use of the technology helps offset some of the costs and challenges of working in remote locations. It was noted that the value of the technology is more easily proven in tough terrain like the coast.

Patrick asked about projects where use of drones and LiDAR would make sense. Steve noted that mobilization costs for fixed wing aircraft are high, so use of drones makes better use over high numbers of smaller areas.

Ben asked about wind and weather limitations for drones. Steve noted that most drones can handle 35 to 50 km winds. He noted that you weren't likely to want to use drones in driving rain and that it was more a fair weather device. Jon Lok noted that drones can be used on shorter notice because they are easier to mobilize.

It was noted that fog can be an issue for LiDAR. It was noted that LiDAR combined with drones can provide 'on demand' data collection and derivation.

Fred asked about the hillslope wetness model and possible landslide prediction uses.

4.0 UPDATE ON THE HIGH SCHOOL FORESTRY INITIATIVE: FRED ROBERTSON

Fred noted that, following a meeting late last year with the committee working to establish a forestry program in School District 85, he had committed to working with the superintendent of schools to develop a program that would be available as an option for students to take in the fall of 2015. He explained that the training course developed from previous discussions at VINWAG meetings and a concern for a need to recruit talented workers for the forest industry locally.

Fred added that a draft outline of the proposed program had been prepared and circulated to interested parties. He circulated a copy of the draft outline to VINWAG members and then reviewed some of the factors that had been taken into consideration to develop the program. Fred explained that Jay Dixon had suggested that the program be delivered in the form of an academy, allowing students to get away from

their regular course load during specific times of the year for two weeks at a time to work specifically on forestry skills, to accumulate credits towards Grade 12 graduation.

Fred reviewed the five areas that they proposed to cover with the program for students from Grades 11 and 12. Fred noted that the people developing the program were not foresters and would need assistance from people in the industry to put more detail into the course. Fred noted that the position of teacher to deliver the course would be posted and he hoped someone with the skill and passion to deliver it could be found.

Fred pointed to various areas of interest for students, including First Nations' interests in non timber forest products.

Fred noted that he hoped the posting would go out with the spring staffing process and that the person hired would have time to develop the curriculum prior to the course starting up in the fall. He noted that a way needed to be found for the students to pick up their regular course load after losing the two week slots to the forestry training. It was suggested that the two week periods might be taken from the summer months as a means to meeting regular course load requirements. He added that he would keep VINWAG members apprised of new developments with the course.

Graham said he felt the program initiative was wonderful, and that he felt there was a need to discuss agroforestry and growing other crops on the forest land base. Dale asked about the Port Alberni and Campbell River training programs. Fred noted that the North Island program was based somewhat on the work in the Campbell River area but was unique to this area. Fred noted that the basis of the program was project-based learning. It was noted that lessons had been taken from the Woss training initiative.

5.0 REVIEW OF 2014 PARTICIPANT SATISFACTION SURVEY RESULTS: ANNEMARIE KOCH

Annemarie noted that copies of the participant satisfaction survey results had previously been distributed to members with the agenda. She reviewed the main findings and recommendations from the survey, noting that members had called for ongoing attention to ensuring sectors are represented in the membership, continuing efforts to gain a First Nations' perspective through FNIEG and ongoing efforts to recruit a high school age individual to represent youth on VINWAG. She noted that the request for youth participation had also come from NWAC and added that there was a possibility that attendance at a public advisory group meeting might be included as part of the curriculum for the proposed forestry program, thereby giving students the opportunity to gain credit for participating in the meeting.

She added that it had been suggested that members be informed that some presentations may contain proprietary information and that, consequently, copies of such presentations would not be distributed to the membership or posted on the website for wider circulation.

6.0 REVIEW OF DRAFT 2015 MEETING SCHEDULE AND DISCUSSION OF MEMBERSHIP: ANNEMARIE KOCH

Annemarie noted the most recent draft of the schedule of meetings had been circulated with the agenda and asked members to review and confirm it with respect to proposed meeting dates, presentation topics and agenda items.

She noted that she had confirmed a presenter to address the fisheries habitat topic, but pointed out that she was unable to secure a speaker from DFO's Fisheries Protection Program. She explained that, as best she could interpret, recent changes to the Fisheries Act have pointed to the use of qualified professionals to address habitat management issues, along the lines of the role foresters played when the Forest Range and Protection Act replaced the former Forest Practices Code Act. She noted that Doug McCorquodale of Pacificus Consulting had agreed to talk about the types of things DFO might want to consider, should they move from a regulatory framework to one where standards are set and qualified professionals are expected to meet them.

She noted that SNRC had offered to provide a speaker to address LiDAR and evolving forest management technologies, as BCTS had declined an invitation to present on this topic.

On the subject of membership, Annemarie noted that she approached SNRC to see if they would offer someone to represent the contractors' sector and that Dave Craven had declined to take on this role, due to work commitments in the field. She noted that Dale Dorward had offered to find someone to represent the contractors' sector and welcomed Gunnar Wigard to the meeting and thanked him for his interest. Members agreed to include Gunnar on the mailing list and invite him to represent contractors at future meetings.

Annemarie added that, following the recent municipal elections, she had approached the Town of Port McNeill and District of Port Hardy to appoint new representatives for local government and that Graham MacDonald had been selected to represent Port McNeill and John Tidbury to represent Port Hardy. She welcomed both of these individuals to VINWAG and thanked them for their interest.

Annemarie went on to say that former District of Port Hardy representative Janet Dorward had expressed an interest in staying with the group, if possible, and she asked whether members would agree to Janet returning to VINWAG to represent one of the sectors. It was agreed that Janet should be invited to represent business interests in Port Hardy.

Dale noted he would continue to try and secure a representative from the energy sector, possibly Gord Muir.

Jon mentioned a recent elk release in the Mahatta area by the Fish and Wildlife Branch to increase the numbers in the Mahatta River drainage. It was noted that there were wolves in that area. Jon noted that the elk were taken from the Sayward Valley herd, where there seems to be an excess of the animals.

Graham asked what the benefits were of releasing the elk into the forested area. It was noted that elk have an impact on silviculture plantations.

Patrick asked about historic elk population numbers.

Graham noted that high numbers of geese are nesting in the open slash.

Jon noted that an external audit was coming up in Holberg at the beginning of May and that the auditors would likely want to speak to people from VINWAG at that time. He noted he would talk to members further about this at the April meeting.

7.0 NEXT MEETING:

It was agreed that the next meeting would take place on April 23, 2015. Annemarie noted that the proposed topic was Stumpage Calculation Methods and Purpose (Criterion 5, Communities and Sustainability). Annemarie and Jon thanked everyone for coming and wished them a safe journey home.

When: APRIL 23, 2015
Dinner: 6:30 p.m.
Meeting: 7:00 p.m.