



## Wildfire Operations Research Spring 2018 Advisory Committee Meeting Minutes

Networking Session and Business Meeting  
March 20, 2018

### Location

Hampton Inn, 10020 12 Ave SW Edmonton, Alberta

### Attendees

#### FPInnovations

Chad Gardeski	Wildfire Operations Research
Rex Hsieh	Wildfire Operations Research
Greg Baxter	Wildfire Operations Research
Steven Hvenegaard	Wildfire Operations Research
Roy Campbell	Wildfire Operations Research
Oleg Melnik	Wildfire Operations Research

#### Agencies and associations

Dan Thompson	Canadian Forest Service
Quentin Spila	Alberta Agriculture and Forestry
Dave Schroeder	Alberta Agriculture and Forestry
Kelsy Gibos	Alberta Agriculture and Forestry
Kimberly Morrison	Alberta Agriculture and Forestry
Wally Born	Alberta Agriculture and Forestry
Wesley Steed (conference call)	Environment and Natural Resources, Northwest Territories
Chris Dallyn (conference call)	Saskatchewan Environment
Larry Freemont (conference call)	Saskatchewan Environment
Dan O'Brien	Saskatchewan Environment
Cliff Henderson	FRIAA – Forest Resource Improvement Association of Alberta
Troy Mutch	Canadian Volunteer Fire Services Association; Seahawk Specialized Truck Service, Carman, MB

## Companies

Revie Lieskovsky	Conair - Conair Group Inc., Abbotsford, BC
Jeff Berry	Conair - Conair Group Inc., Abbotsford, BC
Rick Solomon	Direct Fire Suppression Inc., Onoway, AB
Peter de Bruijn	BRUIN Fire Services, Kamloops
Laura Blazejewski	Campbell Scientific Canada, Edmonton, AB
Martin Alexander	Wildfire consultant
Kevin Ledieu	ALPAC - Alberta-Pacific Forest Industries Inc., Boyle, AB
Robert Atwood	Hummingbird Network Inc., Kamloops, BC

## University of Alberta

Karen Blouin	Canadian Partnership for Wildland Fire Science
Eder Willa Coronel	Department of Mechanical Engineering

## Meeting start

<b>Welcome</b> .....	<b>Chad Gardeski</b>
▪ Acknowledged funding partners: government of Alberta, government of Northwest Territories, government of Yukon, government of Saskatchewan, BC Hydro, Conair, Coulson Group, Genics Inc. and also acknowledge many affiliates working with us on regular basis	
▪ Without your support our program would not be possible; thank you very much for being here today to help us shape a program of the future	
<b>Agenda, housekeeping, and emergency response information</b> .....	<b>Chad Gardeski</b>
<b>Introductions</b> .....	<b>Attendees</b>

## Morning session: program overview and presentations

<b>Review of the 2017 experimental burns</b> .....	<b>Greg Baxter</b>
<a href="http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/084501_Review2017ExperimentalFire_GregSteve.pdf">http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/084501_Review2017ExperimentalFire_GregSteve.pdf</a>	<b>Steven Hvenegaard</b>
➤ <i>Regarding underburning, did you notice any effect of surface fuel or density differences on fire behaviour?</i>	Dave Schroeder
➤ <i>Yes, there were quite a lot of differences depending on amount of surface fuels and stand density and resulting rate of drying of surface fuels</i>	Greg Baxter
➤ <i>Would you recommend reduction of surface/ dead fuels to reduce fire</i>	Dave Schroeder

<p><i>intensity?</i></p> <ul style="list-style-type: none"> <li>➤ Yes</li> <li>➤ <i>Did you notice difference in tree mortality?</i></li> <li>➤ <i>Yes, varied from 5 to 60 %</i></li> </ul>	<p>Greg Baxter Dave Schroeder Greg Baxter</p>
<p><b>Pelican Mountain updates (fuel treatment productivity trials).....</b> <b>(Link to the presentation)</b></p>	<p><b>Steven Hvenegaard</b></p>
<p><b>Windrow burning .....</b> <a href="http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/084503_Windrows_Greg.pdf">http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/084503_Windrows_Greg.pdf</a></p> <ul style="list-style-type: none"> <li>➤ <i>Are those windrows clean to keep an escape potential low?</i></li> <li>➤ Yes</li> </ul>	<p><b>Greg Baxter</b></p> <p>Martin Alexander Greg Baxter</p>
<p><b>Underburning for community protection .....</b> <a href="http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/084504_Underburning_Greg.pdf">http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/084504_Underburning_Greg.pdf</a></p> <ul style="list-style-type: none"> <li>➤ <i>There was underburning documented at the Elk island in aspen, so may be worth contacting James</i></li> <li>➤ <i>Is this all line ignitions?</i></li> <li>➤ <i>Yes, drip torch. We have to set of tests with two different methods of ignition at Northwest Territories</i></li> <li>➤ <i>We are interested in continuing underburning and do as much as we can and I put a proposal forward to conduct underburning closer to communities</i></li> <li>➤ <i>Are you monitoring re-vegetation after the underburning?</i></li> <li>➤ <i>We can be, lots of burns that have been done are quite new, but there are lots of older plots where we can document re-vegetation. We can keep eye on it through time. Site maintenance needs be documented</i></li> <li>➤ <i>In Wildfire Catalog there is good natural re-vegetation data for 2014</i></li> </ul>	<p><b>Greg Baxter</b></p> <p>Karen Blouin</p> <p>Martin Alexander Greg Baxter</p> <p>Wesley Steed</p> <p>Chris Dallyn Greg Baxter</p> <p>Dan Thompson</p>
<p><b>Initial Attack effectiveness in harvesting debris .....</b> <a href="http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/084505_Harvest%20Debris_IA_Greg.pdf">http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/084505_Harvest%20Debris_IA_Greg.pdf</a></p> <ul style="list-style-type: none"> <li>➤ <i>What is resource for initial attack testing? Is four-man crew with hand tools, back-pack pumps, whatever they have for operations</i></li> <li>➤ <i>Yes, four-man initial attack crew with back-pack pumps and gear they normally carry in helicopters including bucket</i></li> <li>➤ <i>Are you tracking harvesting process/ debris type/characteristics</i></li> <li>➤ Yes</li> <li>➤ <i>Two plot types: not piled and processed; no manipulations anymore; not in Rocky Mountains. Some research compares lodgepole pine with aspen. (Other topic) Economical cost of underburning; it can be used for species conversion depending on species and goals. Underburning has definite potential. Economical point; underburning can be done every 10 to 15 years</i></li> </ul>	<p><b>Greg Baxter</b></p> <p>Martin Alexander</p> <p>Greg Baxter</p> <p>Wally Born Greg Baxter Dave Schroeder</p>

<b>Retardants effectiveness in mulch fuels .....</b>	<b>Rex Hsieh</b>
<a href="http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/084506_RetardantOnMulch_Rex.pdf">http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/084506_RetardantOnMulch_Rex.pdf</a>	
➤ <i>How long it will take for retardants to dry out before testing?</i>	Rick Solomon
➤ <i>Application around 9-10 o'clock in the morning (ignition afternoon)</i>	Rex Hsieh
➤ <i>Why retardant, not gel? You will never achieve coverage level eight with tanker drop; 95 to 100 percent of water needs to be evaporated to achieve long-term retardant optimal efficiency. Why retardant on mulch, it will never dry to reach optimal efficiency and stop the fire.</i>	
➤ <i>We need to test it; under 5 cm deep mulch is still wet</i>	Rex Hsieh
➤ <i>Testing a retardant should be performed when retardant is dry to compare it properties; it works the same with water or without; to measure retardant's performance itself without effect of water</i>	Jeff Berry
➤ <i>Mulch is a new fuel to test retardants, how much we need; the focus here is mulch not the retardant</i>	Rex Hsieh
➤ <i>How you will apply?</i>	Jeff Berry
➤ <i>We are using flower watering cans</i>	Rex Hsieh
➤ <i>We used sprinklers, adjusted nozzle</i>	Jeff Berry
➤ <i>Plot is small , it is difficult to use nozzles</i>	Rex Hsieh

## Networking Break

## Program overview and presentations continued

<b>Appropriate technologies and approaches to protect infrastructure from wildfire in Alberta.....</b>	<b>Chad Gardeski</b>
<a href="http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/101501_Sprinklers_Chad.pdf">http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/101501_Sprinklers_Chad.pdf</a>	
➤ <i>About 30 literature sources; we are preparing a literature review on (I) state of Practices on water/ chemicals applications, different techniques and approaches depending on agencies, technology for application; (II) Technologies for community protection – gap analysis; (III)testing of equipment and techniques; (IV) community outreach</i>	Chad Gardeski
➤ <i>Are you going to use gels? California, fire tragedies; gels, ThermoGel for home protection; tests for structure protection; garden hose owner</i>	Rick Solomon
➤ <i>Sprinklers applications, including gels; we will be looking for all suppressants including water, gels, retardants, foam – this is a good point.</i>	Chad Gardeski
➤ <i>Starting point is to get people together to discuss</i>	Roy Campbell
➤ <i>Application of sprinklers too far before, so problem is they need to be used too long; probably need to be used just before the fire come. How and who will apply; education on sprinklers</i>	Jeff Berry
➤ <i>Who will be deploying and who maintain; remote activating systems; logistics. This is a very big project; we'll have more updates on it</i>	Chad Gardeski

- during fall advisory meeting*
- *How long these sprinklers will be running, how long it will be enough without next application depending on fuel type (how long it will last)?* Wesley Steed
- *This is a really good point* Chad Gardeski
- *I'm glad to see you are doing a Literature review to set a foundation* Martin Alexander
- *Embers* Jeff Berry

**Wildfire chemical performance evaluation road map .....**

**Rex Hsieh**

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/101502\\_WildfireChemicalPerformanceRoadMap\\_Rex.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/101502_WildfireChemicalPerformanceRoadMap_Rex.pdf)

- *Who is going to use thermal canister* Dave Schroeder
- *U.S. Forest Service is interested in application of chemicals on mulch* Rex Hsieh
- *Are you going to build a couple more of the canisters?* Dave Schroeder
- *After gel tests will be done, U.S. Forest Service will decide on how to proceed* Rex Hsieh
- *(regarding crib test from here) Are you using a certain wood/ moisture content for the crib tests* Quentin Spila
- *Yes, we are using the same wood and perform water content measurements*
- *There is anecdotal evidence on gel drops, marginal differences between chemicals; differences in the results are result of water amount reaching plant canopy during drops – not of chemicals. We are more interested in in the amount of application during drop using grid and airplane with water/ chemicals* Jeff Berry
- *Gel effectiveness – still not answered?* Martin Alexander
- *It's need to be done independently* Jeff Berry
- *Drop distribution is difficult to quantify (Missoula)* Rex Hsieh
- *Grid is simpler, more information is better* Jeff Berry
- *Easier definite is better; we need quantify both cost, benefit* Quentin Spila
- *Agree wait Jeff, we had all tests ; amount is important mixing, gel, collector, holder, we have done all that* Rick Solomon
- *Amount of water evaporation during drop is still important; water can be saved by gel during drop, it would be great to see difference* Jeff Berry
- *All drops amounts are anecdotal* Quentin Spila
- *With given RH (relative humidity ), it would be great to compare water evaporation for water and gel drops* Jeff Berry
- *Sounds like another separate project* Dave Schroeder
- *Let's talk to U.S. forest Service, they may have data* Rex Hsieh
- *We will transfer this discussion to business meeting* Chad Gardeski
- *How far is a radiant panel from the sample for testing chemicals?* Martin Alexander
- *Don't know but it needs to produce 35 – 40 KW/m2* Rex Hsieh

**Determining the “next generation” infrared cameras for Alberta Agriculture and Forestry .....**

**Rex Hsieh**

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/101503\\_IRCamera\\_Rex.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/101503_IRCamera_Rex.pdf)

<p><b>Infrared technology application in wildfire management using UAS .....</b>  <a href="http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/101504_IRUAVPlatform_Rex.pdf">http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/101504_IRUAVPlatform_Rex.pdf</a></p>	<p><b>Rex Hsieh</b></p>
<p><b>Environmental Lapse Rate to forecast changes in wildfire behavior .....</b>  <a href="http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/101505_LapseRateResults_Greg.pdf">http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/101505_LapseRateResults_Greg.pdf</a></p> <ul style="list-style-type: none"> <li>➤ <i>CIFFC does a lot of data standardization, this is same thing, compiling data nationally, it may be interesting work with CIFFC . Not too many weather stations exist in western Canada that collect atmospheric data</i></li> <li>➤ <i>Any value, if this data in the system, to see why with the same FBP indices wildfire behaviour suddenly different; it is easy to collect lapse rate data to use them together with FBP indices</i></li> <li>➤ <i>What do you suggest, Dan?</i></li> <li>➤ <i>Talk to Susan Iskra From CIFFC</i></li> <li>➤ <i>I have names from AAF on this (from their weather section)</i></li> </ul>	<p><b>Greg Baxter</b></p> <p>Dan Thompson</p> <p>Jeff Berry</p> <p>Dave Schroeder</p> <p>Dan Thompson</p> <p>Quentin Spila</p>
<p><b>Stand Scale FireSmart Vegetation Management Decision Support System .....</b>  <a href="http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/101506_AAFDSS_Steve.pdf">http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/101506_AAFDSS_Steve.pdf</a></p> <ul style="list-style-type: none"> <li>➤ <i>There are lots of the experiments on mulching, knowledge doesn't spread far, we need more face-to-face meetings with wildfire prevention group</i></li> </ul>	<p><b>Steven Hvenegaard</b></p> <p>Dave Schroeder</p>

## On the Horizon for 2018

<p><b>Flammability of landscaping mulch products: A Comparison of ignition probability and fire behaviour .....</b>  <a href="http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/110001_LandscapMulchIgnition_Rex.pdf">http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/110001_LandscapMulchIgnition_Rex.pdf</a></p> <ul style="list-style-type: none"> <li>➤ <i>We already know this result from other studies</i></li> <li>➤ <i>Different brands and types need to be evaluated</i></li> <li>➤ <i>To many different products appear constantly</i></li> </ul>	<p><b>Rex Hsieh</b></p> <p>Martin Alexander</p> <p>Rex Hsieh</p> <p>Martin Alexander</p>
<p><b>Using a radiant panel to evaluate cladding/siding ignition probability .....</b>  <a href="http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/110002_SidingIgnition_Rex.pdf">http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/110002_SidingIgnition_Rex.pdf</a></p> <ul style="list-style-type: none"> <li>➤ <i>What is heat source for the testing?</i></li> <li>➤ <i>Radiative heat</i></li> <li>➤ <i>What about windows?</i></li> <li>➤ <i>Firesmart is mostly interested in siding</i></li> <li>➤ <i>National Safety Council didn't test it?</i></li> <li>➤ <i>They did from inside</i></li> <li>➤ <i>Distance, pretreated material beneath the siding</i></li> </ul>	<p><b>Rex Hsieh</b></p> <p>Troy Mutch</p> <p>Rex Hsieh</p> <p>Jeff Berry</p> <p>Rex Hsieh</p> <p>Troy Mutch</p> <p>Rex Hsieh</p> <p>Troy Mutch</p>

- *They did it for the testing fire started inside the building* Rex Hsieh
- *City of Edmonton has tested external radiation exposure from structure A to structure B and C – heating from outside; they have from inside as well. Lots of such testing already done by Municipalities (Calgary, Edmonton)* Troy Mutch
- *We will look at this information* Rex Hsieh

**Experimental fire opportunities.....** **Steven Hvenegaard**  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/110003\\_ExperimentalFirePlans\\_Greg%20and%20Steve.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/110003_ExperimentalFirePlans_Greg%20and%20Steve.pdf) **Greg Baxter**

- *We have a couple of mixedwood stands and want to see fire behaviour in mixedwood; converting black spruce to tamarack – what is tamarack flammability? Debris management; ember transport; long-term studies, what will happen in 15 years; work with sphagnum* Dave Schroeder

## Networking Break

## Proposal submissions for 2018

**Comparing the flammability of Larix spp. and black spruce to inform stand conversion potential .....** **Chad Gardeski**  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501\\_ProjectProposals\\_Chad\\_v1.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501_ProjectProposals_Chad_v1.pdf)

- *Is it comparison of flammability for the particular time of the year?* Quentin Spila
- *Seasonal differences in flammability* Chad Gardeski
- *In terms of silviculture?* Martin Alexander
- *It will be part of the study, for sure* Chad Gardeski
- *This project was initiated out of the Slave Lake area and will likely be a collaboration with academia* Dave Schroeder
- *It seems that site is more important than stand* Martin Alexander
- *So we are going to try get a better some more quantitative information on that, for sure* Dave Schroeder
- *This study will help to determine if black spruce fuel type can be replaced by less flammable species for enhancing community protection; there are lots of questions that need to be answered* Chad Gardeski

**Stand conversions adjacent to communities using prescribed fire .....** **Chad Gardeski**  
[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501\\_ProjectProposals\\_Chad\\_v1.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501_ProjectProposals_Chad_v1.pdf)

- *Are you looking for some natural successions after surface fire?* Martin Alexander
- *Underburning is another type of fire for community protection. Moving underburning and research activities closer to communities will help to convince people that this work is important and needs to be done to help protect their communities; to promote new* Wesley Steed



*approaches of introducing fire back to the landscape and to have actual treatments completed*

- *Some work has done in Ontario; also Parks Canada, Elk Island performed similar exercises; Mike Flannigan and Jen Beverly;* Karen Blouin
- *Literature review, will contact them* Chad Gardeski
- *The question is; what is optimal fire to convert stands and protect communities in the long term?* Wesley Steed
- *Need to determine the frequency and severity required, to kill unwanted seed banks and encourage more favorable species succession* Chad Gardeski

**Emergency preparedness – Evacuation modelling and decision support .....** Chad Gardeski

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501\\_ProjectProposals\\_Chad\\_v1.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501_ProjectProposals_Chad_v1.pdf)

- *Need to consider the role of social media: Facebook, cell, Networking, info* Jeff Berry
- *Dependent upon Fire behaviour* Martin Alexander
- *There is lots of information available, but it's a decision of the municipality, Wildfire agencies provide recommendations* Quentin Spila

**Smoke exposure for firefighters – a PPE evaluation .....** Chad Gardeski

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501\\_ProjectProposals\\_Chad\\_v1.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501_ProjectProposals_Chad_v1.pdf)

- *Lots of work has been done in the USA on this as well as at the U of A; Fort McMurray, health effects; structural firefighting is different (different inhalation hazards)* Quentin Spila
- *There are many kinds of inhalation hazards in wildfire management as well other than just smoke (e.g. chemical release from uranium fields and mine areas where toxins could be present in the ground).* Chad Gardeski
- *The vision for this project is to evaluate on-site chemicals to determine what firefighters are exposed to; review of operational procedures; firefighter awareness and accumulative exposure thresholds* Chris Dallyn

**Automated manifest and load calculation – efficiency and cost savings opportunity .....** Chad Gardeski

[http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501\\_ProjectProposals\\_Chad\\_v1.pdf](http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501_ProjectProposals_Chad_v1.pdf)

- *This would probably be a good starting project, my suggestion is to prove a concept of the technology* Dave Schroeder
- *It's proof of concept, perhaps. Depending on agency, regulations are different. If same crew every day in the morning time – I am not really sure how much time we are actually saving* Quentin Spila



<b>High volume water delivery system evaluation .....</b>	<b>Chad Gardeski</b>
<a href="http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501_ProjectProposals_Chad_v1.pdf">http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501_ProjectProposals_Chad_v1.pdf</a>	
➤ <i>What is type of the system? Member?</i>	Cliff Henderson
➤ <i>This is a high pressure/high volume system with 10 inch lines and flow rates of up to 300 gallons per minute. Non-member, this is and equipment manufacturer who wants equipment evaluation.</i>	Chad Gardeski
➤ <i>If we do not encourage and evaluate innovation we could be missing some opportunities. Need to develop a program that can rapidly respond to these requests and short list promising innovation in equipment. FPI is well positioned to develop standardized test methodologies for water delivery systems, for hand tools, for PPE etc. The question is who is going to pay for it. Need to develop a business case for the Fall meeting.</i>	Chad Gardeski
➤ <i>There is a model already – QPL in the US for certain products and chemicals</i>	Martin Alexander
➤ <i>Need to cover the logistical components as well as the operational components.</i>	Dave Schroeder
➤ <i>Do you have capacity? This should be the vendors responsibility, why we should membership dollars cover this?</i>	Quentin Spila
➤ <i>No capacity right now, we have to develop it. Responsible funding model needs to be established.</i>	Chad Gardeski
➤ <i>First step is to get proposals together; cost evaluation; what would it take to build a testing system; worth to learn what these companies will pay</i>	Dave Schroeder
<b>Ember transport and ignition potential .....</b>	<b>Chad Gardeski</b>
<a href="http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501_ProjectProposals_Chad_v1.pdf">http://wildfire.fpinnovations.ca/AdvisoryMeeting/2018Spring/111501_ProjectProposals_Chad_v1.pdf</a>	
➤ <i>Is this a high priority for the agencies</i>	Dave Schroeder
➤ <i>It is difficult to do, lots of money. Steve, there is lots of data from birddog aircraft</i>	Martin Alexander
➤ <i>There is lots of interest and lots of ideas on different ways to collect data; what we are missing is somebody to be a principal investigator to get consistency</i>	Dave Schroeder
➤ <i>So the principal aim of this project is state of practice review: see what we have, what are gaps, what we need to build up to answer some key questions. Is this a good fit for the collaborative research program or are there other folks that should focus their efforts on this subject?</i>	Chad Gardeski

## Advisory committee business meeting; session for funding partners

<p><b>Approval of fall 2017 advisory meeting Minutes.....</b></p> <ul style="list-style-type: none"> <li>✓ Approved by: Quentin Spila</li> <li>✓ Seconded by: Revie Lieskovsky</li> </ul>	<p><b>Chad Gardeski</b></p>
<p><b>Review of the 2017 program .....</b></p>	
<ul style="list-style-type: none"> <li>➤ <i>Regarding the productivity studies – how much data do we need to be able to be confident and make informed decisions? Automating this process as much as possible is important economically. What data should we collect and what activities should we focus on?</i></li> </ul>	<p>Dave Schroeder</p>
<ul style="list-style-type: none"> <li>➤ <i>We are able to collect productivity information for mechanized operations and non-mechanized operations. It is really a question of what you want collected and what the data is intended to be used for. Regarding how much data, hundreds of data points have been collected for feller buncher operation for example to factor in different operational conditions. Will follow-up to determine if FPI has determined a minimal amount of data points to build a reliable curve.</i></li> </ul>	<p>Chad Gardeski</p>
<ul style="list-style-type: none"> <li>➤ <i>Regarding the productivity of manual treatments: It would be interesting to compare productivity study results with the actual cost of the contract. We should also evaluate other data sources; Saskatchewan may have similar data</i></li> </ul>	<p>Dave Schroeder</p>
<ul style="list-style-type: none"> <li>➤ <i>Black spruce fuel amendment project: we put project off for 2018 at Pelican Mountain since fuel treatment wasn't done this winter and due some staff changes in the Slave Lake office</i></li> </ul>	<p>Dave Schroeder</p>
<ul style="list-style-type: none"> <li>➤ <i>The black spruce fuel amendment is on the books for the 2018 burns in the NWT. Additional preparatory work is scheduled beforehand.</i></li> </ul>	<p>Wesley Steed</p>
<ul style="list-style-type: none"> <li>➤ <i>The two projects from Wood Buffalo on ignition potential of landscaping mulch and siding ignition potential; are these being funded?</i></li> </ul>	<p>Dave Schroeder</p>
<ul style="list-style-type: none"> <li>➤ <i>These projects are funded through FireSmart Canada and the Regional Municipality of Wood Buffalo and not directed from the collaborative research program. Direct contracts.</i></li> </ul>	<p>Chad Gardeski</p>
<ul style="list-style-type: none"> <li>➤ <i>Contracts outside of the collaborative program are critical to the sustainability and growth of the program.</i></li> </ul>	<p>Chad Gardeski</p>
<ul style="list-style-type: none"> <li>➤ <i>Good that you are getting more money, but what about time frame?</i></li> </ul>	<p>Quentin Spila</p>
<ul style="list-style-type: none"> <li>➤ <i>Those project are useful for government of Alberta.</i></li> </ul>	<p>Dave Schroeder</p>
<ul style="list-style-type: none"> <li>➤ <i>Additional projects are only taken on if we believe that we have the capacity to do them without having the collaborative project deliverable impacted. Each contract is evaluated case by case.</i></li> </ul>	<p>Chad Gardeski</p>
<ul style="list-style-type: none"> <li>➤ <i>FireSmart decision support system is closely tied to our work</i></li> </ul>	<p>Dave Schroeder</p>
<ul style="list-style-type: none"> <li>➤ <i>If you need extra researchers or contractor – get them; we need to make sure that core projects are not impacted; the caution is – don't</i></li> </ul>	<p>Quentin Spila</p>

- over extend yourselves*
- *Just hire more, if needed* Jeff Berry
- *We need a string case and a sustainable revenue source in order to hire more permanent staff. If this does not make sense financially additional projects may be contracted out to our existing trusted contractor base.* Chad Gardeski
- *Core a collaborative research program currently receives about \$630,000. Direct contracts for members and non-members add up to be approximately \$575,000 annually Our total project estimate is \$1.2 million for each of the next three years.* Chad Gardeski

**FPInnovations structure for 2018** ..... **Chad Gardeski**

**Review of key research themes** ..... **Chad Gardeski**

**Discussion of projects slated for 2018** ..... **Chad Gardeski**

**Review of project proposals and ideas from the morning’s break-out session** **Chad Gardeski**

**Priority projects – voting** ..... **Funding Partners**

- *Priority setting exercise; would like to determine the top three projects from each of the proposals and the lunchtime brainstorming session.* Chad Gardeski

**Voting results — from highest to lowest (proposals)** **Funding Partners**

1. *Smoke exposure for firefighters – a PPE evaluation*
2. *Stand conversions adjacent to communities using prescribed fire*
3. *Comparing the flammability of Larix spp. and black spruce to inform stand conversion potential*
4. *Emergency preparedness – Evacuation modelling and decision support*
5. *Ember transport and ignition*
6. *Automated manifest and load calculation – efficiency and cost savings opportunity*
7. *High volume water delivery system evaluation*

**Voting results — from highest to lowest (brainstorm)** **Funding Partners**

1. *Evaporative loss study*
2. *Lapse rate*
3. *Future fire seasons*
4. *Fire weather*

5. UAS
6. Evaluation incendiary devices
7. Database for case studies

*Discussion on Ember Transport and Equipment Evaluation:*

- *We are going to incorporate Jen Beverly's work/ models in some our community protection work; ember transport is something that is a concern; it's important to know how fire gets into the community* Wesley Steed
- *If ember transport a priority do we need a state of practice review?* Chad Gardeski
- *Yes* Wesley Steed
- *We are collecting data on ember transport at the Pelican Mountain research site; but there is no real research program at this time. A research question has not been well defined and a methodology will need to be developed. It is a difficult problem to solve* Dave Schroeder
- *Agree need to define the question....what are we looking to achieve* Quentin Spila
- *As a starting point, it may be valuable summarizing what is state of knowledge on ember transport right now.* Dave Schroeder
- *Need to define what we are going to do with the information, i.e. how will ember transport knowledge change or preparedness and operational operations? These answers will help shape the research question.* Chad Gardeski
- *We want to have spotting included in fire behaviour models, but so many factors; very challenging problems* Dave Schroeder
- *We can't affect firebrands generation, but we can do quite a lot to stop (prevent) ignition from embers by fuel engineering and management* Steven Hvanegaard
- *the questions we are trying to answer is what conditions created spotting, how far will embers travel and what size of ember is required to ignite other fuels. Models will benefit from this information.* Quentin Spila
- *As a fire situation escalates, it's very important to be able to predict spotting distance; this determines the area where we are looking for values to protect.* Jeff Berry
- *Information would be useful to determine the trigger points for community alerts and evacuations based on fuels and fire behavior* Quentin Spila
- *It would be useful to have basic performance indicators to decide if we even need to consider a particular equipment...weed out list* Quentin Spila
- *FPI can create a list of key performance indicators with the agencies, for various equipment. Vendor should pay for the testing.* Jeff Berry
- *An equipment evaluation program could serve to identify technology gaps and provide vendors with the information/criteria on what exactly agencies need* Dave Schroeder
- *Danger of pressure of conclusion/validation signed by FPI. Agencies don't like more pressure because, in some cases, they don't need this particular equipment; if vendor asked FPI to evaluate the equipment and it was validated this doesn't always mean that agencies need it...* Quentin Spila

- Example of service to everybody; definitive evaluation/consultation service; consultation fee do clarify requirements to and capabilities of a particular system/equipment; to filter proposals Dave Schroeder
- Kind of pre-screening/evaluation, certain fee on some website (CIFFC?) for initial consultation/screening for vendors/equipment. Dave Schroeder
- The result of consultation/screening should be not validation but information that is necessary for the agencies to answer their questions and make a decision if they need/want the equipment Jeff Berry
- Is advisory committee prepared to pay from the core funding for these 10% percent of proposals actually get done? Chad Gardeski
- Vendor should pay Revie Lieskovsky
- Validating vendors claims is good for us – no pressure. Dave Schroeder
- We do not recommendation products or services. Rex Hsieh
- This is going to evolve. Vendors’ “unique” ideas → FPI consultation/screening and placing equipment/system parameters on CIFFC database/website (vendor pays FPI for time to confirm/verify parameters that vendor advertised) → decision of agencies and conditions of testing from industry Dave Schroeder
  
- Equipment evaluations; we believe that it appropriate strategy for FPI. No one else is doing this in Canada and Agencies are receiving a lot of pressure from manufacturers and service providers. FPI has experience with this type of services in other areas of research (Transportation). We will look at the structure and elements that made that program successful, determine the scope of this program and develop a proposal that can be presented at the fall meeting. Chad Gardeski
- It was a good discussion; I support, how we’ll go with this Chris Dallyn

**Workshop/knowledge exchange needs .....** **Chad Gardeski**

**Closing remarks.....** **Chad Gardeski**

- *We’ll develop proposals for the top-six projects, assign the budgets and resources, present to voting members, and will have another look at it; we can get together through a conference call to decide what will be for this fire season or re-evaluate during the fall meeting*