

Minutes

FPInnovations Wildland Fire Operations Research Program

Spring Program Advisory Committee meeting March 8th, 2011 Edmonton, Alberta

0835 meeting called to order

Safety, exits, washrooms,
Around the room introductions.
Introduction of on the web, dialed in members,

Attendees

FPInnovations

Peter Lister, Vice President Forest Operations Division

Ray Ault, Program Leader

Greg Baxter

Jim Thomasson

Roy Campbell

Rex Hsieh

Jon Large

Steve Hvengaard

Colleen Mooney

Kerry Anderson

Canadian Forest Service

Cordy Tymstra

Alberta SRD

Revie Lieskovsky

Conair Aviation Ltd.

Hugh Boyd

Alberta SRD

Jay Woosaree

Alberta Innovates

Mike Guterson

Wildfire Environmental

Dave Bokovay

Canadian Inter Agency Forest Fire Centre

Stirling Hutchinson

ICL

Gordon Frizzell

ICL

Patrick Loiewen

Alberta SRD

Kevin Quintilio

Alberta SRD

Mathew Cristie

Alberta SRD

Rob Hyslop

Thermo-Gel

Chad Nelson

Thermo-Gel

Darcy Miller

Thermo-Gel

Larry Nixon

Govt. NWT

Rick Solomon

Firefox

Jay Simmons

Thermo-Gel

On-line participants

Robert Janzer

Ontario MNR

Steve Newton

BCFS

Kevin Wilchak

Millar Western

Rob Kruus	Saskatchewan Environment
Larry Freemont	Saskatchewan Environment
Tom Wells	BC Transmission Corp

Minutes from last meetings

Any changes to the minutes? Correct the spelling of Revie's last name.
Chad Nelson approved the 2010 spring minutes, seconded by Revie Lieskovsky.

Any changes to the minutes? No.
Jay Simmons approved the 2010 fall minutes, seconded by Cordy Tymstra.

Staff changes

Scott VanderMeer. Now at Calgary Fire Department.
Steve Hvenegaard – on employment contract to September 30
Peter Stenstrom – contract finishing March 31, 2011.
Peter de Bruijn – on employment contract starting March 15
Jon Large – returned March 1 after winter break.
Rob Thorburn - contracted

Peter Lister, VP Forest Operations Division

Peter reminded the group that our research is *Member Supported* and then thanked the members for their continued support for the program.

Ray set the stage for the meeting. A copy of the 2010 workplan and an update document were sent to all members in January. Over the winter the fire group worked hard and completed 13 projects with three additional projects at the external review stage. .

With the added staff and some projects finished, we are ready to start fresh on some new projects. We changed the format of the advisory spring meeting to allow more time for discussion, comment and direction from the advisory members. Thirteen projects will be discussed and prioritized.

Detection Workshop Summary

Jon Large presented a summary of the detection workshop held in Hinton in October. The detailed survey of workshop participants is posted on the fire group web site.

Three key areas of future opportunity were identified by workshop participants:

1. Communications platform to share ideas and new products on fire detection
2. 310 FIRE application for smart phones (310 FIRE is the Alberta and Ontario toll free phone number for public reporting of wildfire)
3. Monitor changes and advancements in the Automated Smoke Detection technologies

These three projects were discussed later in the priority setting.

Website Update

Ray explained that the updated website is in response to member request and direction from the Fall 2010 meeting.

Colleen demonstrated the updated website, showing

- the features of the updated Home Page that will make finding project information easier for proposed, current and completed projects
- a link to a project proposal page that will describe the process and provide a form for submission – allowing members to submit proposals anytime during the year
- a feature for users to sign up for email notifications of new reports and updates as they get posted to the website
- the updated Research Page and the updated search function that will allow users to search our project database and sort search results
- an example of a Project Page and how all associated documents will be listed.
<http://wildfireresearch.ca>

The improved web site will be live in early September

Wildfire Wiki Fire Behaviour Documentation Tool

Steve Hvenegaard explained the history and demonstrated the web based tool to assist FPInnovations staff and others in wildland fire behaviour documentation.

Comments: Cordy Tymstra – this will be very useful. **Kerry Anderson** agreed.

Question: Who runs this and how do you know if changes have taken place?

Answer: Will have an invited list of Editors to manage site.

Question: when will this be online and how will members find it?

Answer: The link is active now but a member needs the address to find it. Once the updated web site is active in the fall there will be a link to the Wiki site.

Question: on the updated web site the name has changed from WFORG to wildfire research group – what is that about?

Answer: Ray talked about our groups name ‘Wildland Fire Operations Research Group’ - other than the people at the meeting few people know what the acronym WFORG identifies. Ray asked if a simpler, shorter descriptive name might be a benefit in making it easier for members and others to find our website.

Steve Newton (BCFS) commented that a name is important as it is ‘Branding’ or a Tag line and he suggested we think about the marketing aspect before we make a change.

Recent Web Reports and Project Proposals

Colleen showed where new reports, updates and project proposals can be found on the current website over the summer, until the updated website is live.

Question: Have you thought of setting up a blog to let people know what current work is taking place? Also, can you use the web site as a portal to other International Fire Research Groups and Governments to help members keep abreast of other research and database tools?

Answer: We can look into the possibility of linking to other organizations’ research databases. A blog is an idea we haven’t yet explored, although we have discussed Facebook and Twitter. We can certainly consider a blog. We plan to send automatic emails when new reports are posted on the website.

Updates

Ray asked the attendees how often they would like updates from the fire group.

Comment: – Chad – notices can be sent out by e-mail with links to the project updates or pages.

Ray – an update was sent out in January explaining the new project proposal process. Proposals will be brought up at both the fall and spring meetings. The intent is to make it as easy as possible for members to access our web site and to keep up to date on projects.

Canadian Aerial Delivery Systems and Fire Chemical Testing & Approval Process name change

Roy Campbell presented the study and reviewed the recommendations with the group. Included in the presentation was:

- An overview of project history
- Stakeholder survey
- Overall study findings
- Specific findings as they related to each of the two main study components (aerial delivery systems and fire chemicals).
- Study recommendations

The primary objective of the study is to determine future advisory committee direction in terms of pursuing changes to aerial firefighting delivery systems and fire chemical testing and approval process as well as possible follow-up requirements and expectations of the advisory committee.

Findings:

- Most survey respondents recognized a need for Canadian aerial delivery system and fire chemical testing & approval process.
- Respondents showed mixed interest in pursuing a Canadian testing & approval process.
- Canadian use of, and need for, aerial delivery systems and fire chemicals differed by jurisdiction.
- Canadian agencies and companies rely heavily on USFS process and standards for both aerial delivery system and fire chemical testing & approval process.
- USFS have two distinct programs that answer to different boards:
 - Aerial Delivery Systems are overseen by SDT&DC, which answers to the US Inter Agency Board (IAB).
 - Fire Chemicals are part of the WFCS Program at MT&DC, which answers to a Wildland Fire Chemicals Board.
- The USFS seems willing to work with Canadian agencies and companies on testing and approval processes (for both aerial delivery systems and fire chemicals).
- Respondents felt that Canadian process should align with current USFS process and standards where possible.
- Respondents felt that an independent third party is required to oversee a Canadian process.
- Majority of respondents cited CIFFC as the most likely to oversee Canadian process.
- Agency executive level support will be required to move a Canadian testing and approval strategy forward (CIFFC Directors).
- There is no testing and approval process in Canada for aerial delivery systems (agency call), but there has been testing done in Canada.
- FPInnovations has played an operational role in Canadian testing (data collection and analysis done through a data collection agreement with USFS).
- Testing is scheduled for this summer in BC.

- Mixed interest in developing a Canadian testing and approval process (likely due to individual program use and need).
- A core group of respondents are interested in pursuing a testing and approval process.
- There was specific interest to develop an Airtanker Grid as part of a testing and approval process.
- The CIFFC Aviation Working Group already oversees Canadian Fire Chemical standards.
- CIFFC process relies heavily on USFS standards (with the addition of a Canadian Addendum to Long-Term Retardants and a Canadian Long-Term Retardant Qualified Products List (QPL)).
- There is some stakeholder interest in further developing a Canadian process (likely based on use and concerns with USFS process).
- Stakeholder concerns with USFS process included:
 - Being overly reliant on USFS process could restrict Canadian use (e.g., concerns that only US delivery systems will be tested or fire chemical choice and availability may become restricted).
 - USFS process tends to restrict competition and innovation (i.e., only larger companies are able to meet process requirements).
 - Current USFS process is costly and slow.

Recommendations:

- Advisory members interested in proceeding with a Canadian Aerial Firefighting Delivery System and Fire Chemical Testing and Approval Strategy should form a committee to advance the concept.
- The stakeholder survey identified a need for an independent third party to oversee the process. The CIFFC Aviation Working Group was noted as the logical choice.
 - Aerial Delivery Systems – Interested advisory members should table the concept through the CIFFC Aviation Working Group.
 - Fire Chemicals - CIFFC already oversees a fire chemicals approval process. Interested advisory members should bring improvement ideas forward to the CIFFC Aviation Group.
- Specific to Canadian fire chemical testing and approval process:
 - It is recommended that Canadian process / standards be thoroughly researched. This is a complex subject that requires understanding and expert opinion.
 - It is recommended that Canadian process be developed in such a way to encourage both opportunity and innovation.
 - USFS alignment will be critical to Canadian process development.
- It is recommended that an Aerial Grid strategy be pursued, included:
 - A grid strategy should identify site(s), process, standards and support (grid selection criteria is included within the report and support requirements can be determined from the FPInnovations / USFS Data Collection Agreement).
 - An equipment support trailer would provide for efficiencies in operational field testing. Contents can be determined by referencing the FPInnovations / USFS Data Collection Agreement.

Discussion

Roy noted that this is now in the hands of the advisory to decide what future requirements and actions are required. This was stressed several times.

Question: Are other companies doing grid testing or only USFS?

Answer: We understand that only the USFS and FPInnovations are drop testing in North America.

Question: Do we want to get into this – grid testing is very expensive?

Answer: Chemical companies indicate they want testing options. In fact one of the missing components to testing is the fire science, or practical testing. FPInnovations is already providing drop testing over a grid in response to member requests.

Question: If a company came up with a new gate system, how does it get the new gate into service?

Answer: FPInnovations is working directly with the provinces, Canadian aviation companies and the USFS to document the drop results. There isn't an approval process in Canada. Currently FPInnovations submits a report to the province involved documenting methods and results. The agency then decides if it will use the equipment.

Question: How would the chemicals testing process in Canada work?

Answer: There are several scenarios but this question should be something answered by a committee of interested and affected Provinces and companies.

Comments: FPInnovations does corrosion testing within the pulp and paper division. They have both a 90 day and a more streamlined corrosion test.

Don't duplicate efforts. Most companies test their product in a third party laboratory before sending it to the USFS for listing on the QPL.

Chad Nelson – more testing of chemicals in field is required including operational, not just lab tests. This does not happen in the US.

Question: Would any environmental impact work be done on these potential Canadian drop sites?

Answer: This is being considered in the development of a grid in Alberta.

Question: Are cups still using for grid testing?

Answer: Yes and FPInnovations is using U of A Mechanical Engineering class to look at improving the cup process.

Ray asked the members to identify the next step. After some discussion the members agreed to forward the study to the CIFFC director and Aviation Working Group as a good starting point and the next step.

ACTION ITEM

1. Study to be forwarded to CIFFC director with an accompanying letter explaining the study and study recommendations.

Update on project proposals – listed on the web site

Ray explained that we would discuss the carried forward projects and in detail projects proposed at the fall meeting.

FireSmart - Forest Fuels Treatments

Ray explained that community protection from wildfire has been brought to the advisory members several times and each time it has been given top priority – including the fall of 2010.

WFORG will continue to work in the area of community protection from wildfire under the various names it has given, FireSmart and most recently Forest Fuels Treatments. Roy Campbell will update the group on our plans. We are looking for feedback and direction or confirmation on or approach.

University of Toronto grad student

Another FireSmart project will be a U of Toronto Grad student collecting solar radiation data around Hinton FireSmart treatments. Data will be used in new generation Fire Behaviour model.

Water Enhancing Gels

This project was given second priority at the fall vote. Three approaches are being taken: vertical surfaces, evaporation rates, and field observations.

Helicopter bucket data collection

This project was brought up at the spring 2009 advisory meeting. It was unclear then and it remains unclear today what role the fire group should play in assisting the development of the technology. The fall 2010 proposal focused on development of a standard or format for the data. Phone calls and discussion have found interest but no clear direction on how to proceed.

At the stump processing -slash disposal

Greg discussed the proposed workplan to investigate debris levels from at-the-stump processing in order to determine the balance between fire hazard and silvicultural needs for regeneration. The project will focus research in the southern part of Alberta.

Comment – consider Bio-fuels and measure the amount of debris.

Variable angle sprinkler design

This project was proposed by fire folks in the Southern Rockies and was one of the five projects submitted by ASRD in the fall of 2010.

Question: would this be a project for the University of Alberta mechanical engineering class?

Answer: Yes, good idea.

Ignition Device Matrix

Roy Campbell explained the project. Roy will meet with the Alberta Wildfire Ignition Working Group and will contact organizations where prescribed fires are common (Florida, Australia) to learn more about the tools used for ignition.

Fire equipment tracking systems

Ray explained that this project was presented from the floor at the fall meeting and he contacted agencies to learn if there was an interest and need for a project in the area of fire equipment management. Comments were received from BC, Alberta, CIFFC and indirectly from Ontario. The use of bar code systems is not a priority project for the equipment management people because current systems are working. No project will be undertaken.

Wiltronics moisture meter

As noted in the January 2011 update, Alberta SRD is working with Wiltronics to develop a calibration process for the moisture meter and therefore WFORG does not have plans to take on this project.

Workplan documents for summer 2011

Ray showed a power point with four slides. Each slide contained a table with a list of projects. Copies of the tables were included in the printed information provided to attendees. Ray explained the idea behind the tables was to help advisory members see the scope of activities and planned effort for each project by person days, and to give an overview of the work proposed.

1. slide *existing projects*
2. slide *proposed projects*
3. slide *potential directed projects*
4. slide *proposed projects not planned*

Priority setting by the advisory members – determining priority by vote

Ray handed out vote paddles to the attending members and made a note to include those members joining the meeting over the web. Each project was re-introduced and members were asked to vote as high, medium, or low priority. The lowest score is the highest priority. 1 point for high, 2 points for medium and 3 points for low. The total points are divided by the number of votes cast by members. The closer the number is to 1, the higher the priority.

Priority list votes from March 8 meeting

	PROJECT	LEAD RESEARCHER	EFFORT (DAYS)	PRIORITY	H	M	L
1	Aerial Delivery Strategy and Fire Chemical Testing	Roy Campbell Peter De Bruijn	20	1.0	1 2	0	0
2	FireSmart <ul style="list-style-type: none"> solar radiation in treated stands 	Ray Ault	30	1.25	9	3	0
3	Fire Detection <ul style="list-style-type: none"> communication platform 	Rex Hsieh	18	1.66	4	8	0
4	Standards for at the stump processing slash disposal	Greg Baxter	70	1.6	5	7	0
4	Standards for Helibucket Drop Data Recording	Peter De Bruijn	12	2.0	1	9	1
4	310 FIRE app	Jim Thomasson	45	2.0	3	6	3
5	Hand-held IR Camera for Mop-up Use	Steve Hvenegaard	75	2.1	4	3	5
5	Ignition Device Matrix	Roy Campbell	25	2.1	2	7	3
5	Water-Enhancing Gel <ul style="list-style-type: none"> field evaluation of helicopter drops 	Ray Ault	24	2.1	3	5	4
	•						
6	Water-Enhancing Gel <ul style="list-style-type: none"> evaporation 	Peter de Bruijn	60	2.25	0	9	3
7	Variable Angle Sprinkler Design	Roy Campbell	15	2.33	0	8	4

8	Water-Enhancing Gel vertical surfaces	Peter de Bruijn	40	2.36	0	7	4
9	Monitor automated detection advances	Jim Thomasson	12	2.66	0	4	8

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Comment: On the 310 Fire App: Google is currently beta testing 'Picture' by phone. Take a picture and Google searches for similar things. Consider this development when developing the fire app.

Question: Who has rights to this application?

Answer: Most likely Alberta Sustainable Resource Development.

Question: Would there be a charge?

Answer: We hadn't thought that far but unlikely.

Comment: It will be paramount that this be marketed – if not, then don't build.

Western Partnership for Fire Science at the University of Alberta

Cordy Tymstra presented a brief overview of the new center, being led by Mike Flannigan on secondment from the Canadian Forest Service and Researcher Soung Ryu. There is one graduate student at this time with plans to add three more students. It is anticipated that FPIInnovations – WFORG will be an active partner in this new initiative.

Wildfire Landscape Laboratory

Ray provided an overview of this directed research to develop a wildfire operations research proposal to be funded by Western Economic Diversification for work in northern Saskatchewan. Rob Thorburn is working with Larry Freemont in Saskatchewan to focus efforts around projects or studies that would have the result of reducing the impact of wildfire on northern Saskatchewan industry – specifically the mineral exploration and mining industry.

Rob will complete the proposal and it will be submitted in mid April.

The project has the potential of adding another site similar to that at Fort Providence, NWT where challenging questions can be addressed through field studies. Western Economic Diversification will match industry contributions. Initial discussion are for a budget of between \$200 – \$800 thousand dollars.

Mountain Pine Beetle Regeneration Initiative

Greg Baxter provided an overview of this project which is a partnership between the U of A, Foothills Research Institute, Alberta Sustainable Resource Development and the Alberta forest industry (Weyerhaeuser and Alberta Newsprint Corporation). Two sites have been selected to compare regeneration success for under-burning and mechanical site preparation in MPB killed stands. FPIInnovations –WFORG will help with the project and collect fire behaviour data on the underburns.

Question: when will the burns take place?

Answer: Horse Creek is planned for 2012, Jackfish is planned for 2011.

Community Protection Plan / Forest Fuels Treatment overview 2011

Roy Campbell gave an overview for four individual studies:

1. Thinning
2. Stand cleaning (pruning and surface fuel removal)
3. Under-burning
4. Mulching

Fuel Treatment umbrella and Work Plan is posted on the web site.

New proposals

No new proposals made at the meeting

Contract Reports

Jim Thomasson gave a presentation of the contracts / directed research completed in the past year.

1. C5 Oilfield Enterprises Navigation Package,
2. Sapphire Research – Market Survey.
3. Coulson Aircraft – Night Operation Night Vision Goggles
4. BCFS Aerial application of water enhancing gel
5. BCFS evaluation of FireWatch Platform.

All reports were sent to the companies.

Fall 2011 meeting

Proposed for **November 8**, 2011 at same location at Alberta Innovates Technology Futures.

Agreement with the date and location.

Closing comments.

Peter Lister thanked everyone for joining the meeting and for their input and ideas.