INITIATIVE CANADO-AMÉRICAINE SUR LA SANTÉ DES FORÊTS ET SUR L'INNOVATION

SUMMIT III
29 juin, 2015
Washington, D.C.

Un continent, une forêt, une menace :
Un résumé des discussions et des décisions

Résumé

Lors du troisième Sommet canado-américaine sur la santé des forêts, les coprésidents ont insisté sur le fait que les sciences, la technologie et l'innovation dans le secteur forestier font partie intégrante de la prospérité économique et sociale des deux pays. Ils ont également souligné que la collaboration a le pouvoir de renforcer le développement durable et la compétitivité de l'industrie. La collaboration dans le domaine des sciences et de la technologie (S et T) favorise l'innovation et assure la réussite des industries forestières canadiennes et américaines.

Dans le but de renforcer la collaboration entre le Canada et les États-Unis et appuyer le programme binational sur la santé des forêts et l'innovation, trois grands objectifs ont été établis pour l'Initiative canado-américaine sur la santé des forêts et de l'innovation (l'Initiative) :

- *faire progresser les connaissances* – favoriser le développement des partenariats en S et T en place et à venir entre le USDA Forest Service, le Service canadien des forêts et des partenaires qui contribuent à combler les lacunes les plus importantes sur le plan des connaissances prioritaires pour les deux pays;
- *catalyser l'innovation* – accélérer le développement de la technologie, la commercialisation, la transformation de l'industrie, la recherche et la production de données dans le secteur forestier au profit de l'économie et du progrès social dans les deux pays;
- *soutenir les gens* – renforcer les compétences et les capacités des effectifs des deux pays en partageant les pratiques exemplaires sur la façon de développer, d'attirer et de retenir les plus grands experts et dirigeants.

Pour réaliser ces objectifs, le Canada et les États-Unis ont convenu de mettre en œuvre de nouveaux projets bénéfiques pour les deux parties dans huit domaines d'action prioritaires :

- *Nouveaux domaines établis lors du Sommet III*
  - changement climatique
  - remise en état/réhabilitation des terres
  - foresterie urbaine
- *Domaines d'intérêt depuis le début de l'Initiative*
  - marchés émergents
  - inventaire forestier
  - rayonnement international
  - ravageurs forestiers
  - feux de forêts

1.0 Introduction

Le 29 juin 2015, M. Tom Tidwell, chef, United States Forest Service (USFS), et M. Glenn Mason, sous-ministre adjoint, Service canadien des forêts (SCF) de Ressources naturelles Canada, ont coprésidé le troisième Sommet canado-américain sur la santé des forêts qui s'est tenu à Washington, D.C., à l'ambassade du Canada. L'événement a été organisé, orchestré et animé par l'US Endowment for Forestry and Communities (US Endowment). Le Sommet 2015 a eu lieu à l'ambassade du Canada, à Washington, D.C.

Le Sommet a réuni des hauts fonctionnaires et des scientifiques de l'USFS et du SCF, ainsi que des représentants de l'US Endowment, de l'American Forest Foundation, du Forest Products Laboratory d'USFS, de FPInnovations, du Centre interservices des feux de forêt du Canada et du Conseil du bois d'œuvre résineux. L'annexe 1 dresse la liste des participants au Sommet. Le présent compte rendu résume les discussions tenues lors du Sommet et les décisions prises par les participants.

En 2011, le premier Sommet canado-américain sur la santé des forêts avait été organisé compte tenu du fait que les deux pays, étant confrontés à des défis de plus en plus compliqués en matière de santé des forêts, jugeaient qu'un programme binational leur serait profitable et renforcerait la collaboration. Ce Sommet a conduit à la création du l'Initiative canado-américaine sur la santé des forêts et de l'innovation (l'Initiative) qui œuvre à relever des défis communs, y compris l'approvisionnement durable en fibres, l'intervention efficace dans le cadre de perturbations, comme les feux de forêts et les ravageurs forestiers, sans parler du renforcement des capacités continentales pour prévenir et prédire les menaces qui pèsent sur la santé des forêts et y réagir. En 2011 et en 2012, les sommets se sont déroulés à Washington, D.C., et à Ottawa, au Canada, en 2013.

2.0 Établir le contexte et les priorités

2.1 Ouverture et accueil

M. Carlton Owen de l'US Endowment a prononcé le mot d'ouverture et proposé un nouveau défi pour l'Initiative, qui établit le contexte et justifie l'importance de cette réunion. Le mot de bienvenue a ensuite été prononcé par M. Denis Stevens, chef de Mission à l'ambassade du Canada. M. Michael Rains, directeur du Forest Products Laboratory (FPL) de l'USFS, a remis à M. Stevens un exemplaire d'un livre relatant les 100 ans d'existence de FPL. L'annexe 2 présente le programme complet du Sommet.

2.2 Priorités organisationnelles respectives

Le rôle de soutien du secteur forestier en Amérique du Nord que remplissent le SCF et l'USFS consiste à offrir un leadership éclairé et de l'information scientifique de pointe aux

propriétaires et aux gestionnaires de terres ainsi qu'à l'industrie. M. Javier Garcia-Garza, Ph. D., directeur général, Direction du programme des sciences, et M^{me} Julie Sunday, directrice principale, Division de la gouvernance de la S et T, tous deux du SCF, ont présenté les priorités du secteur canadien des forêts du point de vue de leur organisation, en brossant un aperçu du système d'innovation forestière du Canada. M. Carlos Rodriguez-Franco, chef adjoint intérimaire, Recherche et développement, USFS, a présenté le point de vue des Américains.

2.3 Observations préliminaires des dirigeants des deux organismes gouvernementaux

M. Glenn Mason, sous-ministre adjoint, SCF, a souligné que la nécessité d'une collaboration entre les États-Unis et le Canada sur les enjeux liés à la santé des forêts est plus présente que jamais compte tenu que les deux pays doivent faire face à des problèmes complexes tant à l'intérieur qu'autour de leurs forêts. Il a également mentionné que l'innovation fait partie intégrante des solutions visant à régler ces problèmes, et c'est pourquoi il a recommandé qu'elle figure en priorité au cœur des discussions dans le cadre de l'Initiative. Pour terminer, M. Mason a indiqué que l'Initiative avait permis aux deux pays de tirer parti de leurs connaissances et ressources respectives en vue d'atteindre plus rapidement des résultats et de réagir plus efficacement aux menaces qui pèsent sur la santé des forêts et que ne peuvent contrer les frontières nationales.

M. Tom Tidwell, chef, USFS, a pour sa part discuté de la nécessité d'intégrer davantage les sciences sociales pour mieux comprendre et accepter l'importance des forêts, non seulement pour les produits qu'on en tire depuis toujours, mais aussi pour les loisirs, l'eau, l'air et la qualité de vie qui y sont associés. Il a ajouté que les fonctions écologiques des forêts doivent être réhabilitées et que leur viabilité sociale et économique doit également être maintenue. M. Tidwell a conclu son allocution en incitant les participants à s'appuyer sur le Sommet pour élargir leur portée et leur impact.

3.0 Examen des priorités d'action

Les équipes transnationales représentant les cinq domaines d'action prioritaires désignés lors du deuxième Sommet – marchés émergents, inventaire forestier, rayonnement international, ravageurs forestiers et feux de forêts – ont fait de brefs comptes rendus sur les progrès réalisés dans le cadre de projets actuels ou achevés menés en collaboration et ont présenté des suggestions de nouveaux projets à entreprendre en 2015-2016. De nouveaux collaborateurs ont présenté des propositions de projets pour 2015-2016 à mener dans trois nouveaux domaines d'action prioritaires – changement climatique, remise en état/réhabilitation des terres et foresterie urbaine.

L'annexe 3 dresse la liste des responsables des domaines d'action prioritaires, tandis que l'annexe 4 présente les projets de collaboration dans les huit domaines d'action prioritaires pour 2015-2016.

4.0 Groupe de discussion sur l'innovation dans le secteur forestier

Voulant aller au-delà des approches scientifiques classiques aux problèmes liés à la santé des forêts, ce Sommet a souligné l'importance et la nécessité d'établir des marchés pour maintenir et favoriser la santé des forêts. Quatre conférenciers – M. Steve Lovett, chef de la direction, Conseil du bois d'œuvre résineux; M. Pierre Lapointe, président et chef de la direction, FPInnovations; M. Michael T. Rains, directeur, Forest Products Laboratory, USFS; M^{me} Mary Anne Hansan, directrice administrative, Paper and Packaging Board – ont partagé leurs visions des défis que posent la création et le maintien des marchés d'échange des produits classiques et novateurs qui sont nécessaires à la santé économique et écologique des collectivités riches en forêts. Chacun a souligné la nécessité de renforcer la collaboration et d'élargir l'offre des valeurs sociales et écologiques que procurent les produits dérivés de la forêt pour le continent et le monde.

5.0 Conclusion : Entente sur les objectifs et les mesures à prendre

5.1 Vision et objectifs de l'Initiative

Tous les participants ont convenu que les contraintes imposées sur le plan des ressources publiques, humaines et financières, dans un contexte où les problèmes liés à la santé des forêts de multiplient rapidement, font ressortir non seulement l'importance d'une plus grande collaboration stratégique transnationale, mais aussi le fait que la réussite sera compromise sans collaboration. Même si la coopération entre le Canada et les États-Unis et leurs secteurs forestiers respectifs est bien ancrée dans l'histoire, les avantages associés à une meilleure stratégie conjuguée à l'innovation des marchés, adoptée comme élément essentiel, offrent la possibilité d'une valeur accrue à long terme.

Les participants au Sommet ont déterminé et se sont mis d'accord sur trois grands objectifs pour l'Initiative. Ces objectifs renforceront la coopération entre le Canada et les États-Unis et appuieront un programme binational sur la santé des forêts et l'innovation :

- *faire progresser les connaissances* – favoriser le développement des partenariats en S et T en place et à venir entre le USFS, le SCF et des partenaires qui contribuent à combler les lacunes les plus importantes sur le plan des connaissances prioritaires pour les deux pays;
- *catalyser l'innovation* – accélérer le développement de la technologie, la commercialisation, la transformation de l'industrie, la recherche et la production de

données dans le secteur forestier au profit de l'économie et du progrès social dans les deux pays;

- *soutenir les gens* – renforcer les compétences et les capacités des effectifs des deux pays en partageant les pratiques exemplaires sur la façon de développer, d'attirer et de retenir les plus grands experts et dirigeants.

5.2 Tournés vers l'avenir : Actions futures

Afin de réaliser les objectifs déterminés et acceptés pour l'Initiative, le Canada et les États-Unis ont convenu des mesures suivantes :

- les équipes scientifiques transnationales continueront à développer et à mettre en œuvre les mesures établies pour répondre à chacun des domaines d'action prioritaires;
- les résultats seront largement diffusés au sein des organismes gouvernementaux respectifs et parmi les partenaires du secteur forestier;
- une plus grande collaboration visant à favoriser l'innovation des marchés deviendra un élément essentiel au cœur des plans de l'initiative globale dans l'avenir.

La collaboration future sera renforcée pour que les populations urbaines puissent profiter de forêts saines, que les interventions communes pour lutter contre le changement climatique soient plus efficaces et pour favoriser la remise en état des terres. Des activités profitables aux deux pays seront également proposées pour promouvoir l'utilisation des produits du bois dans les marchés non traditionnels et pour entreprendre des projets de S et T en collaboration qui conduiront au développement de nouveaux produits et procédés.

6.0 Prochaines étapes

Le quatrième Sommet sur la santé des forêts se tiendra au Canada en 2017 de manière à coïncider avec le 150^{e} anniversaire de la Confédération. Entre-temps, les équipes scientifiques continueront à mettre en œuvre les plans de travail convenus. Les mises à jour prévues se feront par le truchement de webinaires thématiques ou de visioconférences. Les responsables désignés pour l'innovation des marchés – FPL d'USFS, FPInnovations, le SCF et de l'US Endowment – étudieront les plans et les moyens de mettre en œuvre d'autres projets complémentaires transnationaux.

Appendix 1 – Participants of Canada-U.S. Forest Health Summit III

United States Participants		
Name	**Position**	**e-mail address**
Tom Tidwell	**Chief, USFS**	**ttidwell@fs.fed.us**
Jim Reaves	Deputy Chief, Research and Development	jreaves@fs.fed.us
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Carlton Owen	CEO, US Endowment for Forestry & Communities	carlton@usendowment.org
Michael Goergen	Vice President, Innovation Director, P3 Nano, US Endowment for Forestry & Communities	michael@usendowment.org
Florence Colby	Manager, Organizational Support, US Endowment for Forestry & Communities	florence@usendowment.org
Tom Martin	CEO, American Forest Foundation	tmartin@forestfoundation.org
Steve Lovett	CEO, Softwood Lumber Board	
Mary Anne Hansan	Executive Director, Paper and Packaging Board	

Canadian Participants		
Name	**Position**	**e-mail address**
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	and Integration Division	
Kathy Beaton	Forest Program Planning & Project Leader, Forest Health and Biodiversity	Kathy.Beaton@canada.ca
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Appendix 2 – Agenda Canada-U.S. Forest Health Summit III

Third Canada-U.S. Forest Health Summit
Washington, D.C., Embassy of Canada
501 Pennsylvania Ave NW
June 29, 2015
07:30 – 18:30

Summit organised by the US Forest Service (USFS), the Canadian Forest Service (CFS), and the U.S. Endowment for Forestry and Communities.

7:30	**Registration and Breakfast**
8:15	**Introductory Remarks by Summit Facilitator** • *Carlton Owen, President and CEO, US Endowment for Forestry and Communities*
8:25	**Participants Introduction**
8:45	**Introductory Remarks by Deputy Head of Mission of the Embassy of Canada** • *Denis Stevens, Deputy Head of Mission, Embassy of Canada*
8:55	**Introductory Remarks by Co-Chairs** • *Tom Tidwell, Chief, USFS* • *Glenn Mason, Assistant Deputy Minister, CFS*
9:20	**Canadian and U.S. Forest Sector Priorities** • *Javier Gracia-Garza, Director General, Science Program Branch, CFS* • *Julie Sunday, Senior Director, Science and Technology Governance, CFS* • *Carlos Rodriguez-Franco, Associate Deputy Chief, USFS*
9:50-13:50	**Review of Priority Project Areas**
9:50	**Pests** • *Kathy Beaton, Forest Program Planning & Project Leader, Forest Health and Biodiversity, CFS* • *Brian R. Sturtevant, Research Ecologist, Institute for Applied Ecosystem Studies: Theory and Application of Scaling Science in Forestry, USFS*

10:10	**Wildland Fire** • *Doug Maynard, Director, Forest Innovation and Dynamics, Pacific Forestry Centre, CFS* • *Kim G. Connors, Executive Director, Canadian Interagency Forest Fire Centre* • *Matt Rollins, National Program Leader for Wildland Fire Research, R&D, USFS* • *Colin Hardy, RMRS Wildland Fire Program Manager, USFS*
10:30	**Health Break**
10:45	**Markets** • *Bob Jones, Director, Industry and Trade Division, CFS* • *World Nieh, National Program Lead, Forest Products, R&D, USFS*
11:05	**Expanding International Reach** • *Julie Sunday, Senior Director, Science and Technology Governance, CFS* • *Jennifer Conje, Senior Policy Analyst, International Programs, USFS*
11:25	**Forest Inventory** • *Jeff Dechka, Director, Forest Information, Pacific Forestry Centre, CFS* • *Brad Smith, Associate National Program Leader for Forest Inventory and Analysis – R&D, USFS*
11:45	**Urban Forest Research** • *Ken Farr, Manager Science Integration, Innovation and Integration Division, CFS* • *Beth Larry, National Program Leader for Urban Forestry Research, R&D, USFS*
12:10	**Lunch**
13:00	**Land Restoration** • *Javier Gracia-Garza, Director General, Science Program Branch, CFS* • *Marilyn Buford, National Program Leader for Silvicultural Research, R&D, USFS*
13:25	**Climate Change** • *Catherine Ste-Marie, Climate Change Science Coordinator, Forest Science Division, CFS* • *Toral Patel – Weynand, Forest Management Sciences Staff Director, R&D, USFS*

13:50	**Forest Sector Innovation Panel** • Moderator: *Carlton Owen, President and CEO, US Endowment for Forestry and Communities* • *Steve Lovett, CEO, Softwood Lumber Board* • *Pierre Lapointe, CEO, FPInnovations* • *Michael T. Rains, Director, Forest Products Laboratory, USFS* • *Mary Anne Hansan, Executive Director, Paper and Packaging Board*
14:45	**Health Break**
15:00	**A Vision for the Canada-U.S. Forest Health Initiative** • *Discussion with all participants*
16:00	**Looking Forward: Future Actions** • *Carlton Owen, President and CEO, US Endowment for Forestry and Communities*
16:20	**Closing remarks** • *Glenn Mason, Assistant Deputy Minister, CFS* • *Tom Tidwell, Chief, USFS*
16:50	**Depart for Cocktail Reception**
17:00	**Cocktail Reception** (*Nelson Mullins Law Firm, 101 Constitution Ave)*

Appendix 3 – Project Area Leads

Climate Change
CFS: Catherine Ste-Marie – Climate Change Science Coordinator, Forest Science Division Email: catherine.ste-marie@canada.ca Phone: (613) 868-7962
USFS: Toral Patel – Weynand – Forest Management Sciences Staff Director, USFS R&D Email: tpatelweynand@fs.fed.us Phone: (703) 605-4188
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USFS: Dale Dague – Branch Chief, Disaster Operations and International Fire at US Forest Service Email: ddague@fs.fed.us Phone: 202-205-1500 Matt Rollins – National Program Leader for Wildland Fire Research -FS R&D Email: matthewgrollins@fs.fed.us Phone: +7032362480

Appendix 4 – Potential Project List 2015/2016

Climate Change				
Project	**Project Description**	**Expected Outcomes**	**Timeline**	**Contact person**
A Joint Approach for using Citizen Science to Monitor Changes in the Forest	Create a Canada-US Working Group to share information and approaches on Citizen Science.	The working group will share methodologies and successful examples where Citizen Science is used to collect data on Climate Change. The group will share information on tools and technologies to collect and report Citizen Science data in both countries. Identification of a subset of indicators that can be monitored by the publics with definition and communication of shared protocols.	2015-2017	CFS: Dan McKenney, John Pedlar, Sylvie Gauthier, Catherine Ste-Marie USFS: Duncan McKinley
Collaborative research under the NASA ABoVE project	Build on ongoing collaboration under the NASA ABoVE project. Share information on carbon and biomass estimation using ground-truthed data and remotely sensed images in northern ecosystems.	Improved efficiency in the delivery of Climate Change Science in northern forest ecosystems by building on collaboration under the NASA ABoVE project in area of interest for both parties.	2015-2017	CFS: Catherine Ste-Marie USFS: Hans Andersen, USFS/PNW, and NASA researchers
A Broader Suite of Information and Tools to support Climate Change Adaptation North American modeling of climate envelopes	Sharing information on data and tools being delivered and made available to support adaptation by the CFS and the USDA FS	Increased visibility and easier access to adaptation tools and information from both organizations in both websites.	2015-2017	CFS: Forest Change team USFS: Randy Johnson? Melissa Kenney?
North American modeling of climate envelopes for plants, pests & diseases	Access and exchange of available data to improve the modeling capacity of the Canadian Plant Hardiness website, including data for a module currently	Range shift projections for more species and with greater relevance across North America.	2015-2017	CFS:Dan McKenney, Denys Yemshanov, John

	being developed for pest and diseases.	Better characterization of the impact of uncertainty on model projections.		Pedlar USFS: Frank Koch
Development of risk assessment and surveillance planning tools for invasive alien forest insects & diseases in North America	Collaboration and information exchange regarding the development of mapping, assessment and surveillance planning tools for emerging forest insect and disease threats, in conjunction with the development of cross-border socio-economic datasets that help better understand the human-mediated movement of invasive organisms.	Improved modeling and forecasting capacity for emerging forest insect and disease threats in the face of uncertainty from a changing climate, plus a better understanding of the future impacts of these threats on forest health.	TBD	CFS: Denys Yemshanov USFS: Frank Koch, Kurt Riitters
Participation in U.S. National Stakeholder Invasive Species and Climate Change Workshop	Collaborate on presenting and participating at the U.S. national invasive species workshop on climate change and plants, insects and pathogens. Generate and share leading edge science from both countries at a national level.	Generate and share leading edge science from both countries at a national level to make information and data available to decision-makers.	2015-17	CFS: [TBD] USFS: Deb Finch, Chelcy Miniat, Steve Seybold, Deb Hayes
Conservation and Restoration of Forest Soils in North America: Assessing Vulnerability and Enhancing Resiliency in a Changing Environment	Collaborate on presenting and participating at the workshop proposed in late 2015, as part of a process of writing several documents that report on 1)state of the science of forest soils; 2) needs for research, data, and monitoring infrastructure; and 3) the availability and usability of existing soil management tools.	Generate and share leading edge science from both countries at a national level to make information and data available to decision-makers.	2015-17	CFS: David Paré USFS: Pouyat, R., Dumroese, Debbie -FS; Adams, Mary B -FS; Swanston, Christopher W -FS; Scott, Andy -FS; D'Amore, David V –FS
Expanding Markets				

Project	Project Description	Expected Outcomes	Timeline	Contact person
NRCan's Tall Wood Buildings demonstration/USDA Tall Wood Buildings competition	The CFS and USDA are funding large-scale demos of Tall Wood Buildings and demonstrating the non-traditional uses for wood in domestic markets in Canada and the U.S.	Showcase the architectural and commercial viability of advanced wood products in tall buildings. Expand the use of wood into non-traditional markets.	TBD	CFS: Bob Jones USFS: World Nieh
Development of Timber Bridges Market: U.S. and Canadian Handbooks for Timber Bridges	Both U.S and Canada researchers will jointly contribute to the development of source/handbooks for both U.S. and Canada markets	Strengthen collaboration, exchange of design information and harmonize requirements.	TBD	CFS: Mohammed Mohammed USFS: James Wacker
Cellulose Nanomaterials International Standards – Terminology Standards	U.S., Canadian and other international experts are collaboratively developing standards, ISO and TAPPI standards for cellulose nanomaterial.	International standards will support a harmonized product certification and remove international trade barriers for Canadian and U.S. wood products. They will provide input to international organizations that will inform new harmonized policies and regulations.	TBD	CFS:Matt Schacker USFS: World Nieh Other partners: FPI, CSA, PNNL, industry partners
Cellulose Nanomaterials International Standards – Characterization Standards	U.S., Canadian and other international experts are collaboratively developing standards, CSA and ISO standards for cellulose nanomaterial.	International standards will support a harmonized product certification and remove international trade barriers for Canadian and U.S. wood products. They will provide input to international organizations that will inform new harmonized policies and regulations.	TBD	CFS: Matt Schacker NRC: Linda Johnston USFS: World Nieh Other partners: FPI, CSA, PNNL, industry partners
Enhancing Fire Performance of Cross Laminated Timber (CLT) Assemblies	Evaluating the fire resistance of hybrid CLT manufactured from lumber and engineered wood products (EWP such	Ensure the enhanced mechanical and fire resistance properties of hybrid CLT panels and assemblies manufactured with combined lumber. Will promote the	Expected completion by 2016	Canada: Jean-Frédéric Grandmont, FPI

	as LVL and LSL).	safety and value of these products.		USFS : Samuel L. Zelinka
Timber/Concrete Composite System for Bridges	A joint research project with University of Toronto, FPInnovations, CWC, a glulam manufacturer, an engineering firm & US FPL.	An efficient and economical design concept for short span hybrid timber-concrete bridges for Canada and the U.S.	Expected completion by 2017	CFS: Mohammed Mohammed USFS: James Wacker
Seismic performance of Cross Laminated Timber (CLT) in mid- and high-rise building applications	Evaluate the performance of CLT connections and shearwalls and develop models to better understand the seismic performance of CLT assemblies. Develop seismic design guidelines for CLT buildings.	Facilitate the implementation/alignment of CLT in mid-high rise wood buildings in both Canadian and U.S. building codes.	Expected completion by 2016	Canada: Marjan Popovski, FPI USFS: Douglas Rammer, John van de Lindt
Forest Inventory				
Project	**Project Description**	**Expected Outcomes**	**Timeline**	**Contact person**
North American Forest Commission Database – phase 1	Integration of Canadian, US and Mexican forest inventory reporting data for borderless assessment of North American forest ecosystems.	A North American forest inventory reporting database that seamlessly integrates NFI data from US, Canada & Mexico; a harmonized ecological stratification map for North American forest ecosystems; a report describing the map and database and phase 1 data analysis products.	planned phase 1 release at WFC in September 2015	CFS: Graham Stinson, Alex Song, Joe Kapron (ON) USFS: Brad Smith, Sonja Oswalt, Pat Miles
North American Forest Commission Database – phase 2	Phase 2 expansion of the NAFC database.	Explore expanding the NAFC database to include new forest assessment attributes for forest health and risk assessment.	TBD	CFS: Graham Stinson, Alex Song USFS: Brad Smith, Sonja Oswalt
Boreal Disturbances and	Explore Boreal forest disturbances and	Maps and for products science, policy,	2015-17	CFS: Dr. Mike Wulder, Joanne

Recovery	recovery over 30 years.	and communications.		White USFS: C. Woodall
Tree Range Maps	Explore Canada/USA integrated tree attribute maps and digital products and also integration of pest impact areas into the range maps.	Improved data for input to risk assessments of pathogens and pests, enabling more informative risk assessment at more actionable scales.	TBD	CFS: André Beaudoin USFS: H. Perry, J. Shaw
Future Tree Ranges	Explore the application of Plant Hardiness models in combination with NFI and tree extent products to produce multiple scenarios to changes in future tree range.	Improved ability to work across borders and share information which may help each nation prepare for future issues (pathogens/ pests)	TBD	CFS: D. McKenney USFS: TBD
Urban Forests	Urban inventories which could assist earlier detection/mitigation of pests such as Emerald ash borers and Asian longhorn beetles before they expand their range. Development/use of tree mapping technology specifically designed for urban forestry	Strengthened collaboration on urban forest inventory and mapping; development/use of tree mapping technology specifically designed for urban forestry	TBD	CFS: Don Leckie François Gougeon USFS: TBD
International Outreach				
Project	**Project Description**	**Expected Outcomes**	**Timeline**	**Contact person**
Promote cooperation under the Initiative at the FAO World Forestry Conference in September 2015	Delegates to the WFC from the USFS and the CFS will present the integrated NA map of forest biomass in the context of climate change done under the initiative at the U.S. booth at the Congress.	Raise the profile of both the initiative and Canadian and U.S. forest health scientists and research. The initiative becomes a model for international cooperation on forest health issues.	2015-2016	CFS: TBD USFS: Jennifer Conje
Promote regional collaborative work at FAO Committee on Forestry (COFO)- Spring/Summer 2016	Analyze and compile lessons learned in working regionally under the Initiative and share our experiences and products with other regional forestry	Raise the profile of both the initiative and Canadian and U.S. forest health scientists and research. The initiative becomes a model for regional	2015-2016	CFS: TBD USFS: Jennifer

	commission members. Delegates from the USFS and the CFS will present collaborative work/lessons learned during the session or as a side event on the following: integrated North American map of forest biomass in the context of climate change, regional collaboration on 2015 Forest Resource Assessment, adaptation of FAO phytosanitary e-learning courses to region, and the regional collaboration on the FAO State of the World Forest Genetics Resources Report.	cooperation on forest health issues.		Conje
Continue collaboration on FAO and UNECE reports, such as the 2015 Global Forest Resource Assessment, State of the World Forest Genetics Resources Report, etc.	Participants will discuss continuing collaboration on UNECE and FAO reports, in particular the issue of the definition of 'forest employment' for the 2020 Global Forest Resource Assessment.	Continued collaboration on reporting methods and indicators will allow for information sharing and bigger picture analysis.	2015-2016	CFS: TBD USFS: Jennifer Conje
Land Reclamation/Restoration				
Project	**Project Description**	**Expected Outcomes**	**Timeline**	**Contact person**
Land reclamation and restoration	US and Canadian researchers will explore developing collaborative research in the area of land reclamation and land restoration.	- A cross-border directory of CFS and USFS researchers in this area will be developed and distributed. - At least one webinar will be held to share information and begin developing collaborative relationships	June 2016	CFS:Renée Lapointe USFS:Marilyn Buford
Pests				
Project	**Project Description**	**Expected Outcomes**	**Timeline**	**Contact person**
Integrating spruce budworm dynamics in forest landscape	Researchers will combine and enhance parallel USFS and CFS developments in modeling technologies to simulate	1. Enhanced strategic decision support for mitigation of short and long-term	Ongoing, to be completed in	CFS: Barry Cooke USFS: Brian

modelling	budworm outbreak dynamics and consequences in response to dynamic landscape conditions, land management, and climate. The new model will be validated using data from a US-Canadian study in the Great Lakes region and applied to the emerging outbreak in the northeast.	losses to spruce budworm. 2. Facilitation of risk analysis to estimate likelihood of damage and assessment of system variability.	2016/17	Sturtevant
Spruce budworm atmospheric transport model (SBW-ATM)	This project uses meteorological model data to model and predict the flight of the spruce budworm in the eastern Canadian-US border region. This model is based on the hypothesis that wind currents allow for pest migration and in turn large scale outbreaks.	Insights from the model help inform the spread dynamics of the current outbreak, and address how multi-scaled wind patterns can interact with SBW dispersal behavior. This will allow us to better understand the spatiotemporal dynamics of SBW outbreaks.	Ongoing, to be completed in 2016-17	CFS :Jacques Régnière, Barry Cooke USFS : Brian Sturtevant, Joseph Charney
An operational tool for projecting wind dispersed pests *(extending the SBW-ATM)*	An integrated weather and insect dispersal system that could project insect deposition patterns near real time, building upon the SBW-ATM framework that may be extensible to multiple insect pests.	This can inform early intervention strategies and prepare agencies for outbreak scenarios.	2016-17	CFS: Barry Cooke USFS: Frank Sapio, Brian Sturtevant
Harmonization of pest population monitoring across jurisdictions	TBD	TBD	TBD	CFS: TBD USFS: TBD
Building a North American insect and disease risk map. *Especially critical for invasive species*	TBD	TBD	TBD	CFS: TBD USFS: TBD
Forest health research knowledge network mapping	Applying modern social network mapping tools to US-Canadian authorship of S & T knowledge products to better outline collaborative potential in cross-border forest health research, especially regarding (i) spruce	Dynamic co-authorship maps of four major areas of literature will illustrate where synergies could lie in international collaboration on specific forest health issues. A competitive call for proposals could be developed using	April 1, 2016-March 31, 2017, possibly sooner.	CFS: Jean-Luc St-Germain or Marie Anick Liboiron USFS: National

	budworms, (ii) bark beetles, (iii) invasive alien species, and (iv) climate change impacts and adaptation.	these maps, and these maps would help in analyzing the potential for various proposals to fill key knowledge gaps regarding spruce budworms, bark beetles, invasive alien species, or climate change impacts and adaptation.		Program Leader in Forest Entomology (TBD)
The use of weather radars to document mass flights of the spruce budworm in the EIS context	Weather radar will be used to document mass flights of the spruce budworm in the EIS context	Mass flights of spruce budworms can be readily observed on weather radars. This technology may enable the documentation of the regional moth migration by assessing when, where, in which direction and at which frequency these flights occur.	Ongoing, to be completed in 2016/17	CFS: Yan Boulanger, Deepa Pareswaran University McGill: Frédéric Fabry USFS: TBD
TreeTaggr	TreeTaggr is a mobile and cloud-based tool for Emerald Ash Borer (EAB) surveillance that will involve Canadian citizens in forest pest surveillance. This project will be run in collaboration with US institutions such as the Institute of Forest Biosciences (IFB).	Adaptation of a low-cost, user-friendly Twitter-based tool is a simple detection method that will provide CFS and our stakeholders with valuable information about urban forest pests, for which there is currently very limited data and means of evaluation.	2015-2016	CFS: Daniel Doucet and Armand Séguin U.S. Institute of Forest Biosciences
Urban Forestry Research				
Project	**Project Description**	**Expected Outcomes**	**Timeline**	**Contact person**
Joint urban forest science directory.	Develop a comprehensive list of USFS – CFS scientists and urban forestry expertise/research focus on which to build collaboration.	Identification of highest potential areas for USFS – CFS science collaboration	Autumn, 2015	CFS: Ken Farr USFS: Beth Larry
USFS – CFS research crosswalk	Synthesize and cross-walk current urban forest research activities, beginning with the three initial focus areas and expanding to others.	Identification of opportunities for joint products.	Autumn, 2015	CFS: Ken Farr USFS: Beth Larry

Strategic partner map	Conduct a joint USFS/CFS urban stakeholder/partner mapping exercise.	Identification of partners that could help support, facilitate, and/or leverage USFS and CFS urban research, application, and education	Winter, 2015-2016	CFS: Ken Farr USFS: Beth Larry
Workshop/urban tour.	Plan a physical meeting for exchange and follow-up within 6-8 months, e.g. a dedicated urban research forum and/or a CFS site visit to a USFS urban field station.	Synthesis of efforts to date; comprehension of agency perspectives and approaches from science exchange and site visit; identification of specific action items or projects under each of the three focus areas.	Spring, 2016	CFS: Ken Farr USFS: Beth Larry
Wildland Fires				
Project	**Project Description**	**Expected Outcomes**	**Timeline**	**Contact person**
Canada-U.S. Wildland Fire Arrangement	Canadian and U.S. officials met to update the Canada-U.S. Agreement for collaboration on forest fires. The current agreement has been in place for 33 years and has been used in all but one year.	Improve emergency response to wild fires by sharing fire management knowledge, innovations and research, and pooling necessary resources during times of crisis.	2015	CFS: Doug Maynard CIFFC: Kim Connors USFS: Dale Dague
Integrated Fire Danger Rating System (e.g., fuel characterization)	Both countries will work to share meteorological data to create an updated and seamless common fire danger map and a data sharing system.	A continuous (borderless) fire danger map will encourage increased data sharing and will improve forecasts of potential extreme wildland fires.	2017	CFS: Doug Maynard CIFFC: Kim Connors USFS: Dale Dague
Community Fire Response Plans	Assess and create community fire response preparedness plans and awareness. Develop a joint best practices manual as currently the guidelines and practices have been developed independently.	Approaches to estimate the probability of interface fire events (present and future climates)	2017	CFS: Doug Maynard USFS: Matt Rollins

International Wildfire Training	Identify how to support wildland fire training activities for global partners.	Expansion and strengthening of the response capacity to extreme wildland fires.	2017	CFS: Bill DeGroot CIFFC: Kim Connors USFS: Dale Dague