

Exchanging ideas and experience

Members of **North American Fire Management Working Group** report on the 2011 fire season and trans-boundary co-operation in fire management

THE NORTH AMERICAN FOREST Commission (NAFC) – Fire Management Working Group (FMWG), which serves as the North American component of the UN/ISDR Global Wildland Fire Network, will be celebrating its 50th anniversary in 2012. The FMWG held its first meeting in Washington, DC in 1962 and has been rotating annual meetings between Mexico, Canada and the USA ever since. These meetings provide an opportunity to assemble the fire management leadership of the group's member nations at regular intervals and discuss

common fire issues. During the FMWG's 50-year history, all three countries have benefitted greatly from the collaborative activities and informal exchange of ideas and networking.

The FMWG operates under a charter which outlines objectives, membership and method of operation. Information exchange is a key activity of the FMWG, and this is supported through the promotion of formal study tours in North America and internationally. The FMWG is also very active in promoting greater international collaboration and information

Burnout along a fireline: North American experts exchange best practice to manage wildfires in the region

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exchange within the global wildland fire community. The International Wildland Fire Conference series is a key activity of the FMWG.

Lastly, a founding objective of the FMWG is to promote mutual assistance in wildland fire response among participating countries; this is still a driving force of the group today.

The group's membership represents operational and scientific leaders of the wildland fire communities within Canada, Mexico, and the US. Participation from federal, state, provincial, territorial, academic, and non-

governmental organisations is also strongly encouraged. Suppression resource-sharing is a critical component of fire management within North America. The 2011 fire season is a good example of the increasing trend in North American fire activity, and the increasing importance of resource-sharing among approximately 100 North American fire agencies.

Over 100,000 fires and 5.8 million hectares burned during the 2011 fire season in North America. The entire continent had higher than average area burnt when compared to

International study tours

Study tours, or international field trips, are designed to give participants a better understanding of fire problems in other countries, as well as the methods used to solve these issues. Representatives from several agencies, and often more than one nation, visit certain offices and field sites arranged by the host country. The exchange of information that typically occurs at these events usually results in recommendations and considerations for improvement in fire management from both the visitors and the hosts.

The first tour sponsored by FMWG was in 1968 when participants travelled through Canada and the United States for almost two months. Twenty-seven persons, representing 23 countries, participated in that tour, in addition to those from the host countries. The FMWG also sponsored a tour of Mexico and the United States in 1975 for 40 participants from 27 countries. Since then, numerous tours have taken place throughout North America. In addition, a local field trip is organised every year for participants at each FMWG annual meeting by the host country. More recently, FMWG members took part in a study tour of South Africa after the Fifth IWFC (May 2011), with colleagues from the Forest Fire Management Group in New Zealand and Australia.

In large part due to the networking that occurs on these study tours, the NAFC FMWG has developed close ties with

Australia and New Zealand and, approximately every four years, a delegation from North America travels to these countries. Visitors from Australia and New Zealand also tour the US and Canada on a four-year cycle – with an exchange between the two hemispheres about every two years.

The origins of this study tour arrangement date back to 1951 when Harry Luke, Fire Control Officer, Forestry Commission of New South Wales; and R Torbet, Fire Protection Officer, Forests Commission of Victoria, undertook a study tour to the US. Another such tour occurred in 1958. Beginning in 1971, formal study tour exchanges among fire management specialists were established.

Many important tools and technologies have been adopted, based on information exchanged on these study tours. This includes the use of the Incident Command System in Australia and New Zealand, the exchange of research, and emergency operational assistance during severe fire seasons between the United States and Australia and New Zealand.

Comprehensive reports – including recommendations for consideration – compile the knowledge and information gained on study tours. Through these study tours, a strong networking and system for co-operation has evolved between the fire communities in Australia and New Zealand, and Canada and the United States.

the previous ten-year average. This increased area was not necessarily down to more fires occurring, but was mostly because of fires being larger than in previous years. Compared to the previous ten-year average, the average fire size in 2011 more than doubled for North America as a whole: Mexico had a three-fold increase of average fire size, Canada had a two-fold increase, and the US saw an increase of 1.4.

Mexico's 2011 fire season was one of the most extreme of the last few decades. There were 956,404 hectares burnt in 2011, surpassing the last notable fire year in 1998, in which 849,633 hectares were burnt. A large part of the fire activity in 2011 was seen late in Mexico's fire season (April-May) in the country's northern states during a severe drought which also affected the southern US.

In northern Mexico, a fire complex made up of the La Sabina and El Bonito fires resulted in a declaration of disaster. Aerial assistance was provided from the US, and Canada was also consulted for assistance. This fire complex was brought under control on May 11, once it had grown to well over 300,000 hectares – which is about one-third of the area burnt across the country for the entire year. This fire is now among the largest ever recorded in Mexico; the northern state of Coahuila had the most area burnt. However, Coahuila experienced relatively few fires; the states of México and Chihuahua saw the largest number of fires in the country.

The US had an active fire season in 2011,

with 73,077 fires in North America and 3.5 million hectares burnt. Like the rest of North America, the US saw a larger area than average burnt than in the ten previous years. However, the number of fires was actually 21 per cent lower – showing that fewer, larger fires were responsible for the large area burnt.

Extreme fire season

Some areas of the US saw average or below-average fire seasons, but others, such as the American south-west, had a very extreme fire season. Additional personnel and aircraft on some fires were provided by Canada. Texas, New Mexico, and Arizona saw just over two million hectares burnt – more than 50 per cent of the national total for the year. In these three states, record-breaking fire sizes and destruction were recorded, along with significant losses and suppression costs. More than 2,900 houses were lost, tens of thousands of people were evacuated, and several firefighter and civilian deaths resulted from the fires.

Texas had the largest area burnt, with well over one million hectares – about 27 per cent of the national total. This was largely seen in spring fires during what is being called the worst one-year drought in state records. The drought and extreme fire season in Texas continued into September with a destructive fire called the Bastrop Country Complex. This fire destroyed 1,554 homes and killed four people.

In Canada the 2011 fire season resulted in a

▶ below-average number of fires (4,327), but an above-average area burnt (more than 2.5 million hectares). Many provinces had record-breaking years in terms of large fires and area burnt, while other provinces were relatively quiet. The northern territories saw an early start to the fire season, Alberta had significant fires in May and June, and Ontario saw the majority of its fire activity in August and September.

In western Canada, Alberta had a very active fire season, with close to one million hectares burnt; about 75 per cent of that area consisted of one large fire. Alberta spent hundreds of millions of dollars on suppression this year, and used resources from almost every Canadian province and territory, as well as from Mexico, to support suppression efforts. A devastating interface fire occurred in May in Slave Lake, Alberta. Evacuation of the town's 7,000 residents meant no lives were lost, but a third of the town was destroyed and massive damages were incurred.

In central Canada, Ontario had a significant fire season with the largest area burnt in 50 years, including the province's largest fire in recorded history. Over 600,000 hectares burnt, which is eight times the average from 2001-2010. Evacuations in Northern Ontario were abundant, owing to significant smoke issues from multiple fires and also from direct danger of fire. Like Alberta, Ontario imported resources from across Canada and also from Michigan and Minnesota.

Effective wildfire management strategies in North America rely on mutual aid through reciprocal resource exchange agreements. Historically, these agreements were designed to exchange suppression resources, but are evolving by necessity to include all aspects of wildfire management, such as training, exchange of best practices, research and prescribed fire.

The US – Canada reciprocal exchange agreement was signed in 1982 and, with the exception of one year, has been used annually since then. At the start of each year the annual operating plan is updated and validated to ensure its preparedness for the upcoming season.

Of the ten Canadian Provinces and two Territories that have wildfire programmes (the Nunavut Territory does not have a wildfire programme), all but one Province (Prince Edward Island) are active members of an international compact with bordering states. All three compacts are used annually for the exchange of training, consultation, ideas and suppression resources. There are three such International compacts:

The Northeastern Forest Fire Protection Compact is composed of the New England

The International Wildland Fire Conference series

Working with international partners, the Fire Management Working Group (FMWG) promotes collaboration and the exchange of wildfire management experience and technology within the global wildland fire community by sponsoring the International Wildland Fire Conference (IWFC) series. The International Liaison Committee (ILC) serves under the FMWG as the custodian of the IWFC series, and as an advisory and liaison body to the hosts of these conferences. The ILC recognises that fire management is an international issue. As such, the sharing of fire management, fire research and fire operational techniques in this international forum serves to strengthen each individual nation's abilities to protect citizens, communities and natural resources. Since the first conference in 1989, the IWFC has become the premier international forum on wildland fire policy, management, and transfer of science and technology applications.

International Wildland Fire Conferences were previously held in the United States in Boston, MA, in 1989; Vancouver, Canada, in 1996; Sydney, Australia, in 2003; Seville, Spain, in 2007; and Sun City, South Africa, in 2011. Through the ILC, the FMWG is currently involved in planning activities for the 6th International Wildland Fire Conference to be held in South Korea in 2015.



The North American Fire Working Group



Working on the Bastrop fire, which destroyed 1,554 homes and killed four people

National Forest, the States of Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York and the Provinces of Quebec, New Brunswick, Nova Scotia and Newfoundland – Labrador;

The Great Lakes Forest Fire Compact is composed of the States of Michigan, Minnesota and Wisconsin and the Provinces of Ontario and Manitoba; and

The Northwest Forest Fire Compact is composed of the States of Montana, Idaho, Washington, Oregon and Alaska and the Provinces of Saskatchewan, Alberta, British Columbia and the Northwest Territories and Yukon Territory.

In October 2008, a Memorandum of Understanding was signed between Canada and Mexico to start the process of developing a bilateral agreement for the exchange of wildfire management resources between the two countries. Talks are currently ongoing in preparation for such an agreement prior to the 2012 wildfire season. A border response agreement has been in place between Mexico and the US since 1968, and the two countries are currently involved in talks to develop a bilateral agreement for the exchange of wildland fire management resources.

Future problems

The exchange of resources is growing in North America as fire severity and activity increase. Fire management agencies are being challenged as never before by many factors, including increasing fuel loads, an expanding wildland-urban interface, changing fire regimes and increasing costs of fire suppression. The wildland fire community recognises that greater inter-agency collaboration (nationally and internationally) will be a key strategy to addressing future wildfire problems. As such, the FMWG will continue to promote activities under its three objectives: communication, co-ordination, and international co-operation. To that end, the FMWG has recently signed a new Inter-Working Group Collaborative Agreement with the Forest Fire Management Group of Australasia. This will support greater collaboration between the North American and Australasian regions into the future. CRJ

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