NEWSROOM

Ministry of Forests, Lands and Natural Resource Operations , Factsheets

FACTSHEET: B.C.'s airtanker fleet and the Martin Mars

/ministries/forests-lands-and-natural-resource-operations/factsheets/factsheet-bcs-airtanker-fleet-and-the-martin-mars.html

Tuesday, July 22, 2014 3:35 PM

General comments:

- The Wildfire Management Branch continually works to ensure that the most appropriate equipment is available to protect B.C. communities from wildfire risks.
- The Wildfire Management Branch typically responds to 2,000 fires every year across the province. In an average season, airtankers conduct over 600 missions.
- It's important to note that aircraft do not put out wildfires, ground crews do.
- Many airtankers can drop long-term fire retardant on a wildfire to slow its growth and allow ground crews to safely contain it.
- The Martin Mars cannot drop long-term fire retardant, which is critical in B.C.'s terrain and firefighting conditions.
- In spring 2014, the Province acquired the contracted services of four Air Tractor AT-802F "Fire Boss" amphibious airtankers that can drop water, foam or retardant on a fire. They can skim up to 3,025 litres of water in 15 seconds from over 1,700 water bodies in B.C. and land at airports, including the Province's 17 airtanker bases. This airtanker group also includes a Cessna Grand Caravan bird dog aircraft.
- Because of its size, the Martin Mars can only land on and scoop up water from about 113 bodies of water in B.C.
- From 2007 to 2013, the Martin Mars was only deployed on 20 wildfires, or about 0.5 per cent of the 3,476 airtanker missions flown during that period (at a cost of about $4.8 million).
- When drawing a comparison between the Martin Mars and the Fire Bosses that worked the fires in Kelowna in 2003 and in West Kelowna in 2014 respectively, the Fire Bosses delivered more volume and were more cost-effective than the Martin Mars. On the Smith Creek fire (West Kelowna), the Province's Fire Boss group dropped 586,000 litres over 11.3 hours, at a cost of $0.19 per litre. In contrast, on the 2003 Kelowna fire, the Martin Mars dropped 690,000 litres over 28 hours at a cost of $0.63 per litre. The suppressant delivery rate for Fire Bosses in West Kelowna was twice that of the Martin Mars in Kelowna.
- The Coulson Group, the company that operates the Martin Mars, did not respond to the Province's offer of an "as when needed" contract for the 2014 fire season.
- Over the past six weeks, the new Fire Boss aircraft have actioned more fires than the Martin Mars did in six years.
- The Fire Boss is just one type of airtanker. Including these new aircraft, the Wildfire Management Branch has the following 31 aircraft available for fighting wildfires in B.C.: 16 airtankers, 8 bird dogs, 6 medium-lift helicopters and 1 light-lift helicopter on long-term contract.
- The province can bring in additional contract helicopters as needed. Over 100 helicopters are currently helping to fight wildfires throughout B.C.

- Depending on the level of wildfire activity in the province, the government may request assistance from other jurisdictions through the Mutual Aid Resources Sharing Agreement, which allows for the movement and sharing of firefighting resources (including aircraft) between B.C. and other provinces and territories.

Operations and technical capabilities:

- The targeting accuracy of the Fire Boss allows firefighting crews to take a more aggressive approach to fighting a wildfire.
- If one of the Fire Boss aircraft were to experience mechanical difficulties, the other three aircraft in the group would remain in service.
- There is only one Martin Mars in B.C. The mechanical failure rate of the piston engines used by the Martin Mars is much greater than that of modern turbine engines.
- Because of its relatively slow airspeed and large size, the Martin Mars is more difficult to integrate into B.C.'s firefighting operations, including close air support for firefighters on the ground.
- The Martin Mars' large drop pattern can sometimes make it unsafe to use when providing close air support for ground crews. Firefighters on the ground have to stop work until drops are completed, which may increase the risk of a fire escaping during the critical initial attack stage.
- Although the Martin Mars has a tank capacity of 27,250 litres, the average drop volume is 19,000 litres with an average turnaround time of 19 minutes. The average turnaround time for the Fire Bosses is seven minutes.
- The provincial aircraft fleet must be repositioned constantly during the fire season to be ready for anticipated fire starts in high-risk regions. This strategic prepositioning reduces firefighting costs overall.
- The ability to reposition the Martin Mars is limited due to its limited airspeed, its need to land on larger bodies of water, its inability to land at airports and its refuelling requirements when it's working away from its primary base at Sproat Lake.
- Repositioning the Martin Mars is more challenging than repositioning smaller aircraft because of the significant logistical support that it requires.
- The Wildfire Management Branch has the option to split up the Fire Boss group and attack multiple targets at once. This is especially valuable when fighting a series of fires sparked by intense lighting storms.
- The new Fire Boss aircraft are versatile, efficient and effective in suppressing B.C.'s wildfires. As of July 21, the Fire Bosses had flown 230 hours suppressing fires in B.C., dropping more than two million litres of suppressant on wildfires.

Costs:

- The Province does not own any fixed wing aircraft or helicopters. The four new Fire Bosses are operated by Conair Group of Abbotsford for $2.5 million per fire season, plus an hourly flying rate. This contract provides for the use of all four airtankers and a bird dog aircraft for 100 days per fire season.
- In 2013, when the Wildfire Management Branch last used the Martin Mars, the season rate was $672,300 with a flying time cost of $4,000 per hour for the first 45 hours and $18,800 per hour for any additional hours. This rate does not include fuel.
- The hourly operating rate (including fuel) for all four Fire Bosses combined is $2,000 per hour less than that of the single Martin Mars. This cost difference becomes a $17,000-per-hour disparity if the Martin Mars was flown over 45 hours per year.
- The "cost per litre delivered" on the West Kelowna by the Fire Boss in July averaged $0.19 per litre. In 2003, the Martin Mars cost per litre on the Kelowna fire was $0.63 per litre. The historic average cost per litre for the Martin Mars is $0.48 per litre.
- The cost of fuel per hour for all four Fire Bosses combined is less than half the cost of fuel per hour for the single Martin Mars.
- The cost of repositioning four new Fire Bosses combined is about $1,200 per day. The cost to reposition the Mars was about

$12,000 per day, or 10 times that amount.

- The Martin Mars' operational limitations make it difficult to sell surplus availability of this aircraft through mutual aid agreements. In contrast, the Fire Boss aircraft have already been in demand for deployment outside of B.C. earlier this season when they were not needed here. The Fire Bosses were deployed to the Northwest Territories earlier this summer, which recovered $287,000 for the Province.

Media Contact:

Media Relations
Ministry of Forests, Lands and Natural Resource Operations
250 356-5261

See More Ministry of Forests, Lands and Natural Resource Operations Stories

See more from the Ministry of Forests, Lands and Natural Resource Operations (/ministries/forests-lands-and-natural-resource-operations/)