

# Fighting Fires: Innovative Technology for Wildfire Management

Thursday, September 17, 2020

*\*Questions were taken from question/chat function during the duration of the webinar*

## Audience Questions

### 1. What work is being done to improve the residential/forest interface protection?

**Ann:** Work is being done in site-specific communities, advancing fire wise communities where there is interest, and continuing implementation of the fire adapted communities' goal of the national cohesive wildland fire management strategy. For interface protection, there are some more activities surrounding the use of prescribed fire via prescribed fire councils. The goal is to have a council in every state.

### 2. To Dan: What is the problem with the BC-based Coulson Martin MARs & its 8000-gallon loads?

The Martin MARs is an amazing scooper with significant water dropping abilities. It was tested/evaluated several times by the USFS. To my knowledge, the required ICAs (Instructions for Continued Airworthiness) for the fire mission have not been incorporated for the MARs. The requirement for these ICAs was a direct result of the C130 airtanker wing separation in 2002 and conclusions of the Blue Ribbon Panel Report (<https://www.govinfo.gov/content/pkg/CHRG-108shrg87175/html/CHRG-108shrg87175.htm>). All airtankers and scoopers contracted with the US federal government are required to develop these inspections for each aircraft type to detect structural failure due to the increased stresses of the fire mission. Depending on the date of manufacture and build standards of the aircraft; significant engineering work, inspections, and structural modifications are required. I'm unable to say as to why the Martin MARs owner has decided to not develop this program.

### 3. Dan: From Sen. Cuffe (MT)-How would we better the initial of bombing harder the first day to get \$0 cost second day?

Increase the number of airtankers under EU (Exclusive Use) contracts. The USFS 2018-2022 Aviation Strategy calls for 18 Large Air Tankers (LAT). Multiple federal government funded reports have suggested the USFS need 18 to 28 LATs. Increasing the number of LAT aircraft will provide for quicker responses during widespread fire-starting events (i.e. widespread dry thunderstorms). The USFS has activated every airtanker they can contract this year (36). Almost half of those activations are CWN (Call When Needed) which have a higher cost, 15-30% more. Relying on CWN does reduce the USFS contract and budget risks however with the increase international demand airtankers are leaving the US for southern hemisphere fire seasons which impacts our shoulder season needs. As the southern hemisphere season lengthens, aircraft

maintenance events are pushed further and further into the US spring and early summer impacting the number of tankers available. With the majority of US airtankers under CWN contracts, vendors are more hesitant to build additional expensive aircraft which only perform one very specialized mission, firefighting.

**4. Is there an issue with private drones interfering with fixed wing and helicopter tankers?**

**Dan:** Yes, hobby drones flown by private individuals do pose a significant risk to firefighting aircraft and flight crews. This is such a flight hazard that all flight operations (including helicopters) are suspended when a non-participating drone is spotted. Flight operations only resume when the offending drone operator is located or it can be visually verified the drone has left the area. To compound the issue, losing air cover when ground crews are counting on aircraft to assist them, increases the safety risk to those firefighters.

**5. Question for Ann: I noticed a difference in communication strategy and frankly quality between California and Oregon in these fires. I was recently in the Bay Area and found their update format both comprehensive and streamlined, which lent a better sense of control and decision-making capability to affected communities. What are some trends and improvements happening in communication strategies and tools, especially considering the variety in community members' preferred sources of information? For example, I found Facebook to be a useful source (following CalFire and the CZU Complex team), but my parents don't use social media or cell phones.**

Every community/county is different so communication strategies have to differ. The key point with communications mentioned in the question was your parents don't use social media or cell phones. If the Bay Area example of communications being streamlined, I would question were those communications focused and provided to a younger generation that do use social media and cell phones? What I experienced was many younger generation individuals contacted their elderly parents and informed them of evacuations and fire situations. Many things still need to happen to address the needs of evacuation and fire/disaster event communications. I believe we have a long way to go to get better. I heard today there was an experimental evacuation software used in California. I am not sure who or where they were used, but will look into it and can provide feedback if needed.

*\*Please feel free to reach out to Ann at [annwalkerconsulting@yahoo.com](mailto:annwalkerconsulting@yahoo.com) to follow up.*

**6. Can Dan speak to the circumstances surrounding the recent midair collision?**

Not in much more detail than the NTSB preliminary report. The first aircraft dropped retardant, second aircraft flew into the retardant and then pulled up into the first aircraft.

<https://app.nts.gov/pdfgenerator/ReportGeneratorFile.ashx?EventID=20200730X91205&AKey=1&RType=Prelim&IType=LA>

**7. When does the National Guard weigh in?**

**Dan:** Once all available US contracted airtankers are utilized MAFFS are active depending on DOD mission needs and available guard aircraft. MAFFS are the first to be released when fire activity decreases.

**Ann:** Only the Governor activates the NG. It is done by recommendation of the State Fire Chief/Forestry-Fire Marshal. State agencies and fire responsibilities vary by state. CO is under the Department of Public Safety, OR is under State Forestry/Fire Marshal.

**8. In your experience, which states or provinces in the west do the best with integrating new technology and investment in Wildfire Management?**

**Dan:** Each state has different needs, budgets, and capabilities and will adapt as they can and need. I do see states that are starting/developing a state led and funded fire aviation program to be quicker to adopting new and emerging technology. Those with longstanding programs still adapt tech just a slower rate due to the need to integrate into currently programs and tactics along with training for those new items.

**Ann:** As for integration of new technology for wildfire suppression, I would say CalFire, CO, OR in the West, MN in the Middle, and FL/NC in the south. Other software technology, I would say CO.

**9. Dan: What are the characteristics of an aircraft tanker to fight fires?**

The aircraft needs to be of a robust design (structurally strong), maneuverable, able to operate out of all USFS tanker bases, and able to carry the mission load (roughly a minimum of 36,000 lbs). Most import, at a price the USFS and other agencies can afford, hence the reason you don't see any newly manufactured aircraft being used as airtankers. With the exception of the scoopers and SEATs (Single Engine Air Tankers) every airtanker is a repurposed aircraft.

**10. Dan: How much of the aerial firefighting effort is contracted?**

100% of the US federal airtankers are contracted (except MAFFS). The vast amount of the helicopter fleet is also contracted. Almost all of the support aircraft are contracted as well. The USFS and BLM do own a few support aircraft and helicopters but not many.

Cal Fire owns all their aircraft but contracts out the maintenance and crewing of those aircraft. Cal Fire will contract for additional aircraft depending on their fire season and needs.

The remaining US states employ a mixture of contracted and owned aircraft into their fire programs. In Canada, fire support aircraft and airtankers are contracted at the province level. Most are contractor-owned as well.