

# Case study of the 2016 Fort McMurray (Horse River) Wildfire, Alberta

The Social-Ecological Consequences of Future Wildfire in the West: A workshop June 13-14, 2024

Dr. Tara K. McGee  
Department of Earth and Atmospheric Sciences, University of Alberta,  
Edmonton, Canada

# Land Acknowledgement



# RMWB and Fort McMurray



	2011	2016
RMWB	65,565	71,589
Urban Fort McMurray	60,555	66,573

# The Fort McMurray (Horse River) fire

- Sunday May 1<sup>st</sup> Horse River Fire Starts
- May 2<sup>nd</sup> fire grew and almost 1 km from Highway 63. Overnight, fire expands west, away from Fort McMurray.
- Morning of Tuesday May 3<sup>rd</sup>, smoke and flames not visible from city, but at 11am fire chief warned that winds could shift.
- Noon: The fire jumped the Athabasca River and heads towards the city. Later that day, the fire entered Fort McMurray.
- A mandatory evacuation order was issued by the RMWB for all of Fort McMurray at 16:20.



# Preparedness

**Table 2.** Survey participants' rating of the wildfire threat a few days before the evacuation on a scale from '1' no threat to '5' very high threat (n = 418).

	'1' no Threat	'2' Low Threat	'3' Medium Threat	'4' High Threat	'5' Very High Threat	N/A (I did not Think about It.)	Total	Mean	St. Dev.
Perceived wildfire risk to my family	21.6%	33.3%	25.2%	11.5%	6.7%	1.7%	417	2.48	1.2
Perceived wildfire risk to my property	30.5%	36.1%	16.1%	10.1%	5.8%	1.4%	416	2.23	1.2
Perceived wildfire risk to my community	10.6%	34.2%	28.7%	15.4%	10.1%	1.0%	415	2.8	1.1

"Had I known how close the fire was to the city, I would have left that morning. I asked a fire captain the day before and he told me it was far away and not to worry." (Respondent #216)



## Warning and evacuation

"The evacuation was very chaotic and we were not told to leave Beacon Hill until houses were already on fire."  
(Respondent # 89)

"I hope it is something I never have to experience again...  
Sitting in stand still traffic watching fire coming towards you is something no one can imagine until you go thru it..."  
(Respondent #31)

"We had to literally drive through mountains of flames to make it out... if we had to stop or slow down we would have died in our car." (Respondent #49)

"I wish the order of evacuation was made early as I left to pick up kids and I couldn't go back home. I left with no cloth[e]s or anything." (Respondent #425)

# Staying in a host community

**Table 6.** Types of accommodation for survey respondents (n = 412).

Where Survey Respondents Stayed during the Evacuation	Number of Respondents
I stayed with friends and family	299
A hotel room	206
A camper	91
A rented apartment or house	80
A work camp	25
I stayed with someone I had not met before the evacuation	21
A summer home/cabin	16
My own home outside of Fort McMurray	10
My car/truck	9
A cot in an arena	9
A rented room in a house or apartment	9
A room in a university/college dormitory	8
Other	14

# Help

*"People were handing out food and water on the highway where traffic was backed up." (Respondent #416)*

*"In every town we stopped in, people were amazingly kind and helpful, going out of their way to do whatever they could to help and accommodate us." (Respondent #294)*

*"So many people gave donations of food! Restaurants gave us free food, hotels have discounted rates, and stores gave us discounts to buy new clothes. The help we received was astounding."*

*"With the generous response, I don't think there is anyone who could say they did not receive any help – from offers of places to stay, to discounts from stores to help out, free pet food, etc. The generosity was overwhelming."*



# Conclusions

