



June 2023

# Human Nature Projects Ontario Newsletter



# TABLE OF CONTENTS

EXECUTIVE OF THE MONTH	3
FEATURE: Common and Glossy invasive species of Buckthorn in Ontario	4-5
We are hiring!	6
FEATURE: Wildfires	7-8
Invasive Species Recap	9-10
SOCIALS	11
CREDITS	12
BIBLIOGRAPHY	13

# EXECUTIVE OF THE MONTH

## CONGRATS

### Vishurdeey Sivakumar

Greetings! My name is Vishurdeey and I am a second year student at UOFT, currently majoring in English and minoring in Creative Writing and Drama. When I am not suffering in University, I am playing tennis and training in my spare time. I decided to join HNP because my high school friend Ridah was apart of it and being passionate about climate change myself, I thought it was a great opportunity to be physically involved.



# COMMON AND GLOSSY INVASIVE SPECIES OF BUCKTHORN IN ONTARIO



Figure 1: Glossy Buckthorn berry leaves

## BUCKTHORN SPECIES

### Invasive Buckthorn Species

In Ontario, There are two types of Invasive Buckthorn species; the common Buckthorn (*Rhamnus cathartica*) and the Glossy Buckthorn (*Frangula Alnus*). These two species of Buckthorn are some of the most dangerous invasive plant species in Ontario, as they are prone to invading different habitats and causing significant harm to local ecosystems (Invasive Species Buckthorn - NVCA, 2017).

### Characteristics of Buckthorn

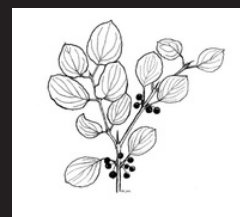
Buckthorn plants typically grow between 2 to 3m tall. In Common Buckthorn we can find fine teeth on the leaves whereas on glossy Buckthorn the teeth leaves tend to be smoother. We can distinguish common buckthorn from other species of buckthorn by identifying a thorn at each branch. Buckthorns also grow black berry's during the summertime. Common Buckthorn can be found near roadsides, riverbanks, forests, and farms, and as previously mentioned glossy buckthorn is typically found in wetlands where they are an invasive species (Invasive Species Buckthorn - NVCA, 2017).

## WHY ARE INVASIVE BUCKHORN SPECIES OF CONCERN

Common Buckthorn in specific is capable of acting as host for fungus that causes oat crown rust. Oat crown rust (*Puccinia Coronata*) has detrimental effects on plants such as leaf damage, stunted plant growth, reduced photosynthesis and reduced forage quality. Oat Crown Rust can also result in stunted root systems, and lack of drought tolerance for plants. All together, this ultimately impacts the success of crops and therefore impacts food supplies (Oat Crown Rust, 2017).

Both species are capable of adapting and thriving in numerous natural conditions and have the ability to create strong bushes that invade the habitats of native species. Not only do Buckthorn invade the habitats of native species but they also have the capability to alter the soil's nitrogen levels to better suit its own needs and through this can decrease the health of the surrounding species. Buckthorn species are able to reproduce quickly through seeds as birds often spread the Buckthorn seeds through the black berry fruit (Invasive Species Buckthorn - NVCA, 2017).

Glossy Buckthorn



Common Buckthorn

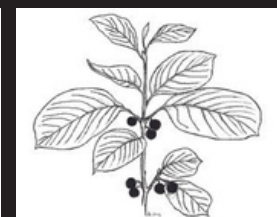


Figure 2: Common and Glossy Buckthorn species



# COMMON AND GLOSSY INVASIVE SPECIES OF BUCKTHORN IN ONTARIO



Figure 3: Glossy Buckthorn berry leaves (Invasive Species Buckthorn - NVCA, 2017).

## HOW CAN WE REDUCE THE EFFECTS OF BUCKTHORN

Buckthorn shrubs can be removed and the earlier the plants are removed when identified the better. It is ideal to remove the plants when the surrounding soil is damp and is ideal during October when other native species will not be disturbed. Through this process, it is crucial that the entire shrub is removed as if it is not entirely de-rooted the Buckthorn can re-sprout and reproduce in even larger amounts (Invasive Species Buckthorn - NVCA, 2017).

## OTHER TIPS TO REDUCE THE SPREAD OF BUCKTHORN

- Dispose of invasive plants in the garbage. Do not put them in the compost or discard them in natural areas.
- Discarded flowers may produce seeds.
- When hiking, prevent the spread of invasive plants by staying on trails and keeping pets on a leash.
- Gardeners are also advised to utilize native and non-invasive species when gardening.



Figure 5: Glossy Buckthorn berry leaves (Invasive Species Buckthorn - NVCA, 2017).



 <p>Illustration by Andrea Kingsley</p>	 <p>Illustration by Andrea Kingsley</p>
<p><b>Common buckthorn</b> (<i>Rhamnus cathartica</i>) (invasive)</p> <ul style="list-style-type: none"> <li>• Grows in drier areas</li> <li>• Often two to three metres tall; can reach six metres</li> <li>• Twigs end in sharp thorn</li> <li>• Usually opposite leaves with finely toothed edges</li> </ul>	<p><b>Glossy buckthorn</b> (<i>Frangula alnus</i>) (invasive)</p> <ul style="list-style-type: none"> <li>• Grows in wet areas</li> <li>• Often two to three metres tall; can reach six metres</li> <li>• No sharp thorn on end of twig</li> <li>• Alternate, shiny leaves with smooth, wavy edges</li> </ul>

Figure 4: Common and Glossy Buckthorn characteristics (Invasive Species Buckthorn - NVCA, 2017).



# WE ARE HIRING

## COMMUNITY REPRESENTATIVES

*Want to be part of the HNP Team?*



## Responsibilities

Act as a liaison between HNP Ontario and your high school eco-club:

- Create visual media to advocate for the environment
- Plan and organize high school environmental events
- Attend HNP events with your eco-club to support our initiatives

Assist the executive team by completing tasks around the organization:

- Make TikToks and posters promoting future HNP events and community initiatives
- Write articles on pressing environmental problems around the globe for HNP's website

1-2.5 hr/week time commitment

## Requirements

- High school students in upcoming school year with a passion for environmental advocacy
- Ability to motivate others, and meet strict deadlines.
- Ability to work both independently and as a part of a team
- Strong verbal and written communication, listening skills
- Prior experience planning events is an asset

## Why you should join

Drive environmental change within your local community!

- HNP has hosted 20+ events that have educated 1500+ youth volunteers globally. With your help, we can increase our impact!

Earn Volunteer hours!

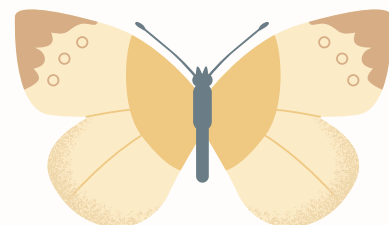
- HNP has given out over 250 volunteer hours to our incredible team of community representatives

A marvelous mentorship opportunity!

- Free professional development workshops (eg: resume building, learning strategies, cover letter writing) are offered to help improve core skills that are crucial for future careers.

Network with like-minded individuals!

- Connect with our incredible team of 60+ executives and community representatives who are just as passionate about protecting and defending the environment through education, activism and advocacy work.



**Apply Here!**



# THE PATTERNS OF WILDFIRES IN CANADA

## HOW THE WILDFIRES STARTED

Over the past six weeks, Canada has been experiencing severe wildfires, burning millions of acres and causing massive evacuations (Cara Korte, 2023). As Canada leans into a season increasing with wildfires, climate change is the main factor to blame. Two factors that have been causing the Canadian wildfires include increasing temperatures and drought (Cara Korte, 2023). As temperatures continue to increase and drought becomes more prevalent in surrounding areas, the weather breeds more lighting strikes, which eventually start forest fires. As jet streams from the Arctic that manage cold and warm air continue to weaken as well, the regulation of air and water temperature also affect the frequency and intensity of forest fires. (Cara Korte, 2023) As a result of these wildfires, thick, blanket-like smog has been covering many parts of Alberta, Saskatchewan and Manitoba, as well as large portions in the US (Cara Korte, 2023). Many advisories were put into place, warning people about the poor air quality and the smell of smoke.



Figure 1: Picture of the wildfires in Quebec (Norimitsu Onishi, 2023)



Figure 2: Obedjiwan residents taking a break after helping out with the fires (Norimitsu Onishi, 2023)

## WHO THE WILDFIRES AFFECT

Majority of Canada's most famous provinces such as British Columbia, Alberta, Saskatchewan, Manitoba and Ontario were most affected by the wildfires. Despite the fires spreading rapidly across Canada, smog has been transferred to places in the US, such as the entirety of New York City and smaller places such as Manhattan (Cara Korte, 2023). Recently however, the fires have been said to be blazing in Quebec, where about 109 French firefighters assisted more than 1,000 Canadian firefighters and soldiers in putting out the wildfires (Norimitsu Onishi, 2023). Where the boreal forests are located in Quebec are also large communities "of about 2,000 members of the Atikamekw First Nations in the reserve of Obedjiwan" (Norimitsu Onishi, 2023). As these wildfires continue to destroy natural habitat, they also greatly affect the First Nations communities living around them, depriving them of food, water and other natural resources. Some reported to have witnessed the loss of their ancestral hunting grounds, which is an aspect of Indigenous culture that is highly crucial to their communities (Norimitsu Onishi, 2023).

# THE PATTERNS OF WILDFIRES IN CANADA

## CONSEQUENCES OF POOR AIR QUALITY

Wildfire smoke from Canada has increased air pollution to levels that may be harmful to those exposed, especially those in susceptible regions.

About 150 wildfires are currently destroying 300,000 hectares of forest in Quebec. Having fires more frequently can be difficult for wildlife. Even though many species are adaptable and will recover, researchers warn that the amount of forest burning is having a detrimental impact on animals, insects, and even the boreal forest itself (Watts, 2023). Steeve Côté, a biology professor at Université Laval and its centre for northern studies says that it's far more complicated for the smaller species at the bottom of the food chain. They aren't able to move very quickly and the fire moves too quickly for small mammals. According to him, little research has been done on animals' instincts for surviving wildfires, although some will undoubtedly die while others may attempt to bury themselves underground to avoid the heat. Animals that do manage to escape a forest fire may have difficulty surviving in their new environment. Animals will be a newcomer to an established ecosystem and will face competition for resources. If their food sources burn, they must find other ones, and for some species, this requires a lot of learning time.



Figure 3: Wildfire smoke forecast for June 8, 2023 (CBC News, 2023)



Figure 4: Firefighters in British Columbia (Le Monde, 2023)

## WAYS TO PREVENT WILDFIRES

The majority of wildfires are started by negligence, which are rendered more likely by the heat and dry conditions brought on by climate change. There are a variety of factors that can start a wildfire. Here are certain safeguards the Red Cross has advised us to take to ensure everyone's safety. Make sure you are in a suitable fire pit that has been cleaned of all vegetation and is surrounded by stones before lighting a campfire or bonfire. Before departing, always make sure the fire is totally extinguished with water and covered with earth. Never build a fire on a windy day and never leave one alone, especially overnight. Do not burn yard waste or garbage cans unless your municipality permits it. Anything that is highly combustible should not be burned, including oil- or gasoline-soaked paper or fabric. Have a bucket of water, a garden hose, or a fire extinguisher on hand when using fireworks. Before setting off your fireworks, you might want to moisten the nearby grass and other plants. Avoid parking a hot car or other machine on dry grass and avoid letting engine oil or fuel run onto grass or other vegetation.



# INVASIVE SPECIES

# EVENT RECAP

---



On the weekend of **June 3rd & 4th**, we hosted an invasive species pull, being able to pull over **25 bags** of plant debris at the two locations of **Severn Creek Park**, and **Rattray Marsh Conversation Area**. We were able to pull **six different invasive species**, namely: **Wood Avens**, **Celandines**, **Common Burdock**, **Mugwort**, **Garlic Mustards**, and **Common Buckthorn**.

We involved a total of **84 volunteers** over the two days, as well as **19 HNP executive members**, and **10 lead stewards** from **Toronto Nature Stewards** and **Credit Valley Conservation** who helped with educating the volunteers and helped lead the pull. Of the volunteers, there were two prizes of a **\$250 OLA Bamboo gift-bundle**, and a **\$50 18waits gift card**, both provided by our sponsors.





◆ INVASIVE SPECIES ◆

# EVENT RECAP

---



We would like to thank all our volunteers, supporters, executive team members, sponsors, and community partners!

---





# SOCIAL MEDIA

STAY CONNECTED WITH US!



[@hnpontario](#)



[www.hnpontario.org](http://www.hnpontario.org)



[hnp\\_ontario](#)



[@hnpontario](#)



[@hnpontario](#)



[HNP Ontario](#)

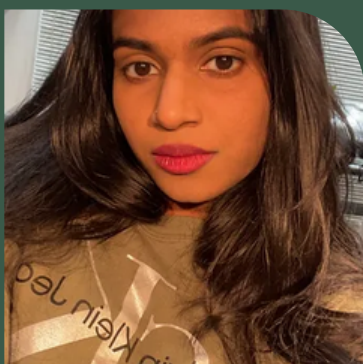


<https://discord.gg/2rfG9SyBNW>



# CREDITS

## COMMUNICATIONS TEAM



Neelaksha Srisangar

CO-DIRECTOR



Uyanda Mntambo

CO-DIRECTOR



Tarani Esparam

CO-DIRECTOR



Vishurdeey Sivakumar

ASSOCIATE



Tracy Lin

ASSOCIATE



Tanisha Patel

ASSOCIATE



Huda Kashif

ASSOCIATE



Sadra Ghaderpanah

ASSOCIATE





# BIBLIOGRAPHY

## Common and Glossy Invasive Buckthorn Species in Ontario

*Invasive Species Buckthorn - NVCA.* (2017). Nottawasaga Valley Conservation Authority. Retrieved May 31, 2023, from <https://www.nvca.on.ca/Pages/Invasive-Species-Buckthorn.aspx>

*Oat crown rust.* (2017, April 10). USDA ARS. Retrieved May 31, 2023, from <https://www.ars.usda.gov/midwest-area/stpaul/cereal-disease-lab/docs/cereal-rusts/oat-crown-rust/>

## The Patterns of Wildfires in Canada

*American Red Cross.* (2018). Prevent Wild Fires. Redcross.org. <https://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies/wildfire/how-to-prevent-wildfires.html>

*Cohen, L.* (2023, June 7). Doctors warn of these bad air quality health effects as Canadian wildfire smoke blows through East Coast - CBS News. [Www.cbsnews.com. https://www.cbsnews.com/news/health-effects-of-wildfire-smoke-bad-air-quality-toxic/](https://www.cbsnews.com/news/health-effects-of-wildfire-smoke-bad-air-quality-toxic/)

*Shingler, B.* (2023, June 8). How "severe and unusual" smoke from Canadian wildfires is spreading and what it means for your health. CBC. <https://www.cbc.ca/news/climate/canada-wildfire-smoke-spreading-1.6868662>

*Watts, R.* (2023, June 7). Forest fires could destabilize Quebec wildlife for years to come, say experts. CBC. <https://www.cbc.ca/news/canada/montreal/quebec-wildfires-destabilize-quebec-wildlife-1.6867744>