

Fire and *Morchella*: Foraging and Learning in the Alaska Burn

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Forager Classification of Boreal Forest Burns



All Black Dry Burn

In this type of burnt forest one walk on soft, blackened, dusty-dry moss, surrounded by mostly thin black trunks. Overall, this is not a promising kind of burn, but it can produce morels in moss-free pockets near some, usually a bit larger, trees.



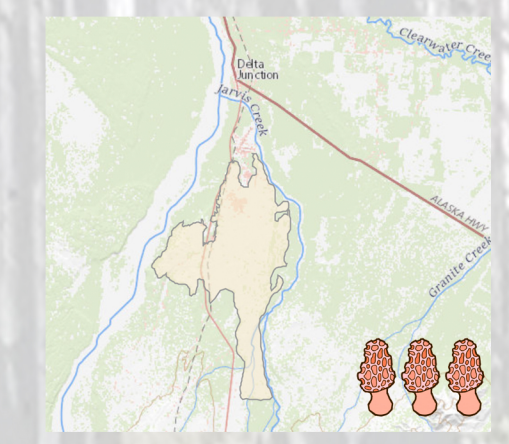
Mixed Black Burn

This is a dark black burn that features spruce, alder, and willow. In the flat stretches of this burn one walks on blackened moss, kicking up dust and picking up lots of soot. In the slopes, one sees more vascular plants, including top-killed fireweed seedlings. In this type of a burn morels are also typically found in the pockets/pits between the partially exposed roots of the trees. With a lower tree density than in the All Black Dry Burn, the Mixed Black Burn is a more desirable morel habitat, offering larger pockets/pits of exposed soil.

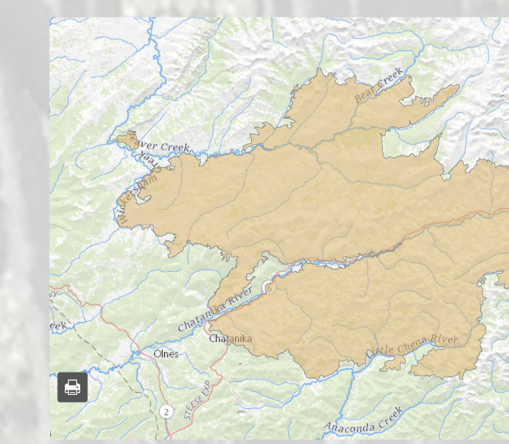


Mixed Partial Burn

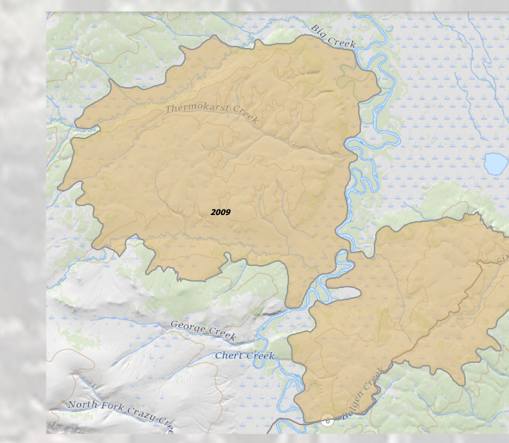
Featuring birch, aspen, cottonwood, large white spruce, this type of a burn tends to confuse people because it contains some living trees and those that are partially burned. When facing an aerial view one sees a lot of green foliage and may mistake it for an intact forest. The ground in this kind of forest is not blackened, with patches that are densely covered by fallen spruce needles - typically the most promising habitat for morels.



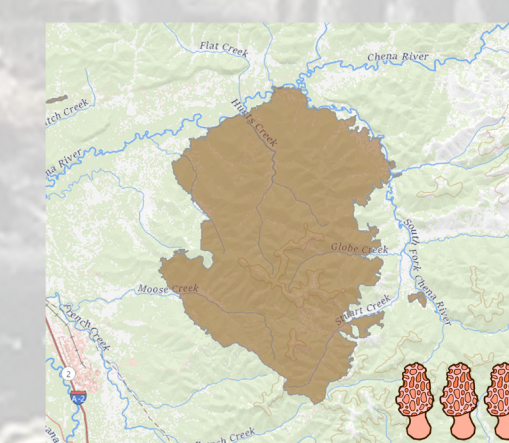
Fort Greely 1999
(Donnelly Flats fire)
June 11th-17th



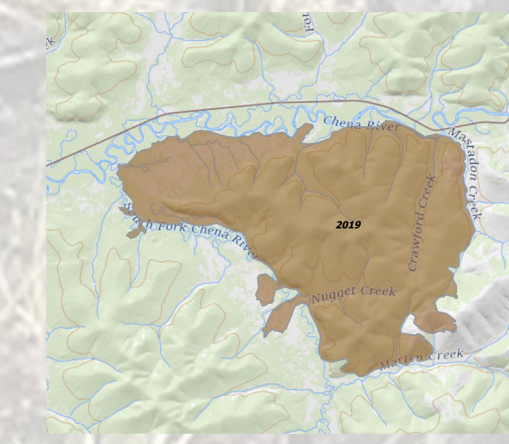
Chatanika 2004
-Started on June 13th



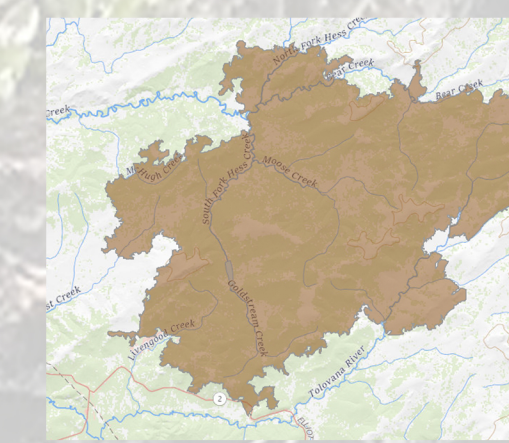
Circle area 2009
(Bluff Creek fire)
July 12-August 12



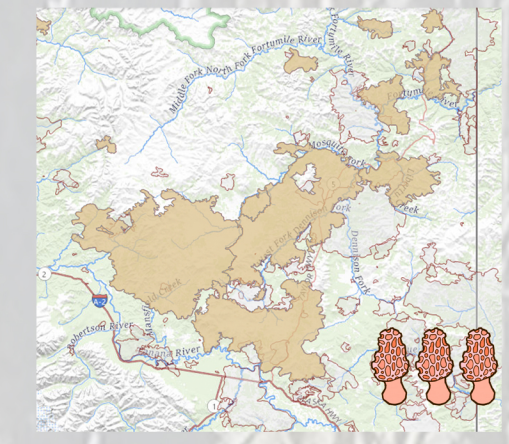
Fort Wainwright and Chena
Hot Springs road 2013
(Stuart Creek Fire)
June 19th-July 30th



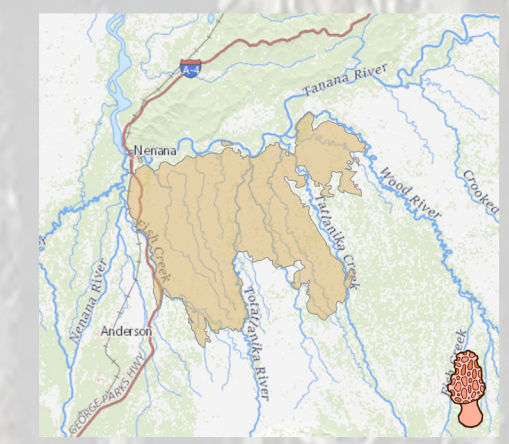
Chena Hot Springs 2019
(Nugget Creek Fire)
June 21- August 18



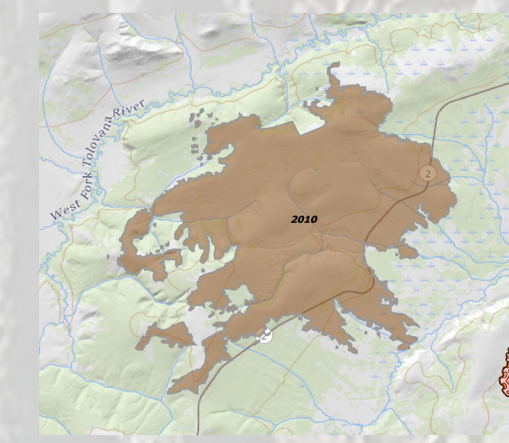
Livengood 2019
(Hess Creek Fire)
June 21-September 18



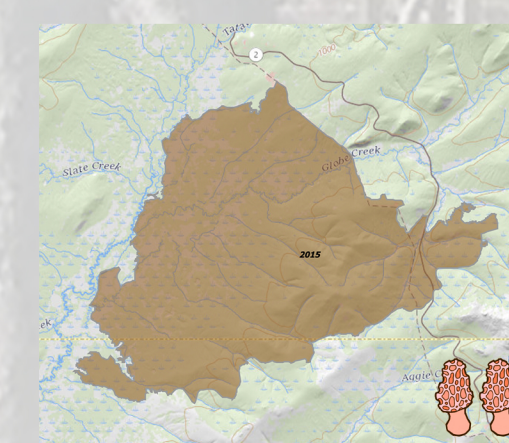
Tok area 2004 (701 fires)
June 15 -October 9



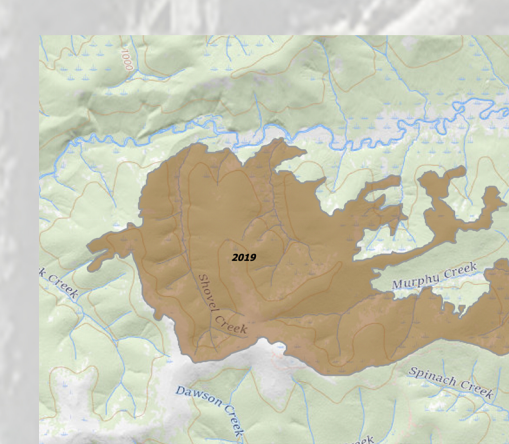
Nenana area 2006
(Parks Hwy Fire)
June 7th-June 25



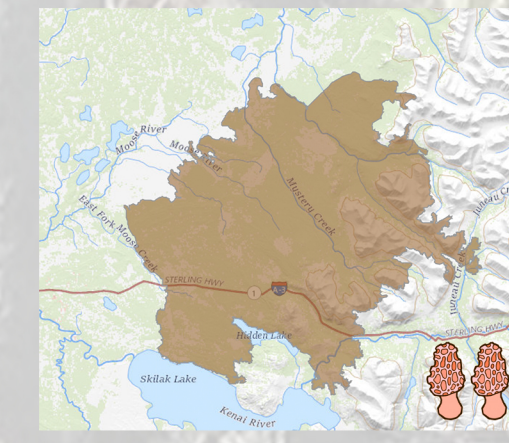
Livengood/Elliott Hwy area
2010
(Cascaden Ridge Fire)
May 26-June 3



North of Fairbanks
off-Steese Mile 33 2015
(Aggie Creek)
June 21-July 20



Murphy Dome 2019
(Shovel Creek Fire)
June 21-July 31



Skilak lake 2019
(Swan Lake Fire)
June 5 (first stage)
August 17-September 9
(second stage)

Fires and Harvests 1999/2000 - 2019/2020

Burn dates is another criteria that experienced morel foragers take into account. Forager experience for the fire/harvest years between 1999/2000 and 2019/2020 indicate that foragers generally do better in late summer fires than in the fires that burn in May and June. For example, in 2011, experienced foragers recall finding but a handful of morels after a full day of hiking in the Cascaden Ridge Fire (start date May 26, 2010). Of the four major fires that burned in 2019 in areas along the main road system of Alaska, the Nugget Creek Fire was the only one that burned in early summer. Whereas hundreds of foragers reported overwhelming success in the Swan Lake, Hess Creek, and Shovel Creek burns during the harvest season 2020, only one forager reported finding morels in the Nugget Creek Fire. We believe the question of interdependence of fire seasonality and forager success warrants further examination. It should be considered relative to other parameters, such as the burn accessibility, difficulty of the terrain, and favorability of weather conditions during the harvest year for both, pickers and mushrooms.

Acknowledgments

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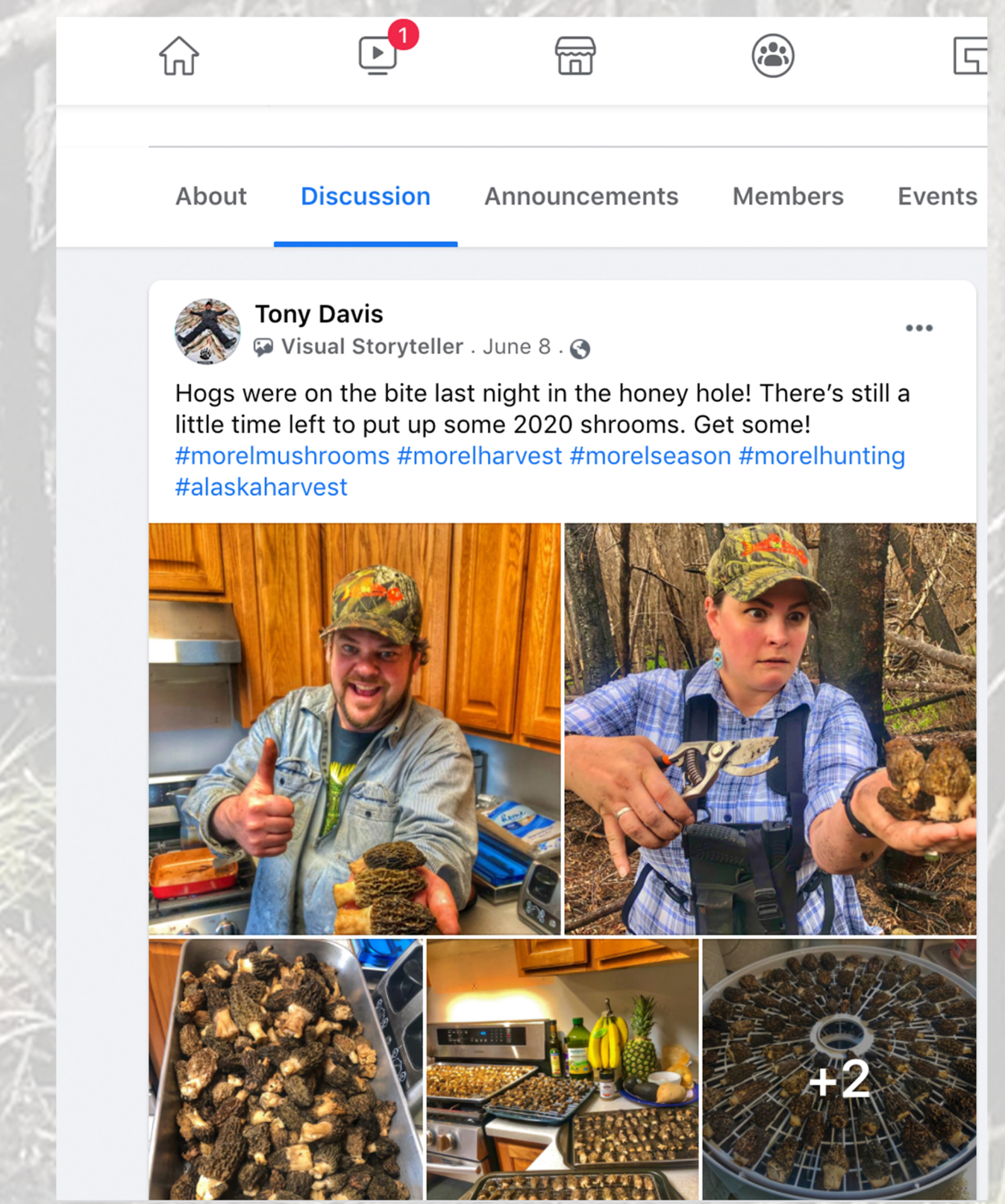
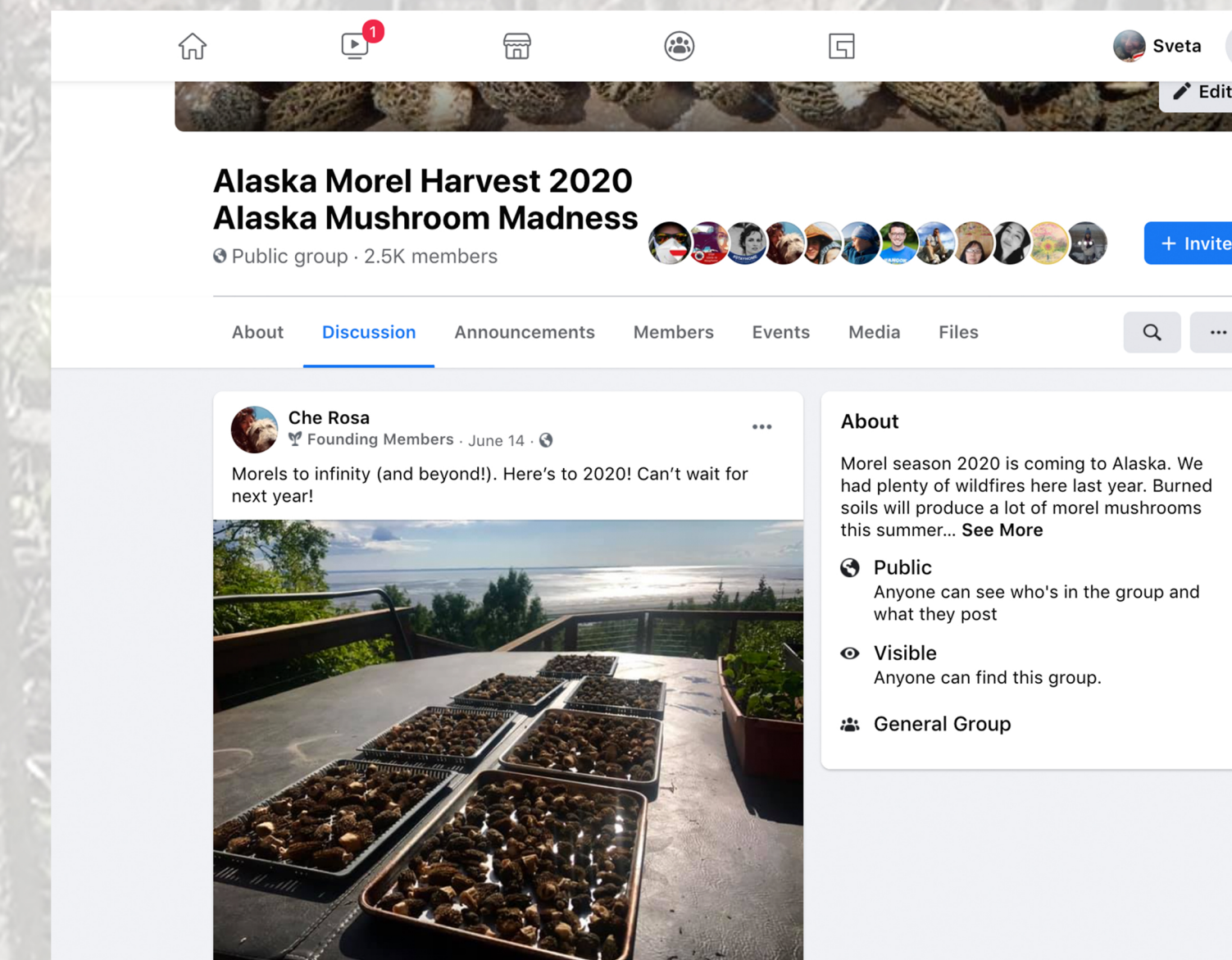
Fire Morel

Mushrooms are the fruit of mycelia - the bodies of fungal organisms consisting of single-cell threads called hyphae. The hyphae of certain species of the genus *Morchella* tend to proliferate abundantly in forest soils in the year(s) following the forest fire. Under favorable conditions, such mycelia produce varieties of *Morchella* sp. mushrooms known collectively as "fire morels."

This poster integrates published information on Alaska fires seasons 1999-2019 with the experiences shared by morel foragers, including the authors, who hunted morels in various burn sites the year following the fire. Foragers observe interdependencies between dates and conditions of the burns and harvesting successes.

Alaska Morel Harvest 2020: More Foragers and Morels than Ever!

Starting April 2020, the authors have been administering the Facebook group Alaska Morel Harvest 2020. The group was started by Igor Pasternak in April and grew to having over 3,600 members (as of March, 2021). With the earliest reported harvest on May 16 (Swan Lake) and the latest on August 13 (Shovel Creek and Swan Lake), the collective experience of the foragers in the group shows that the duration of the 2020 morel harvesting season is the longest on record. Throughout the season, dozens of photos were being posted on the page each day, showing prolific "honey hole" patches, bountiful hauls, delicious meals, and many happy harvesters. The majority of the group members shared that the year 2020 was the first season they attempted to hunt morels. As researchers, we also look forward to continuing learning about the workings of fire and *Morchella* from this diverse, engaged, and rapidly growing community of Alaskan foragers. Screenshots of posts and featured photos are shared with author permission.



Alaska Morel Harvest 2020 Alaska Mushroom Madness

So great to catch our awesome buddies in such intense multi-generation cooperation in a prime morel patch. The five-year old is already so fluent and comfortable at spotting and identifying morels. I sure envy her, in a good way, for being decades ahead of my learning curve. Congratulations, *Lena* and *Philippe*, on your fantastic harvest and this very precious memorable time for your family (and thank you for the permission to share these photos). Wishing a wonderful day to everyone heading out into the burn, with the loved ones or solo. Happy hunting!

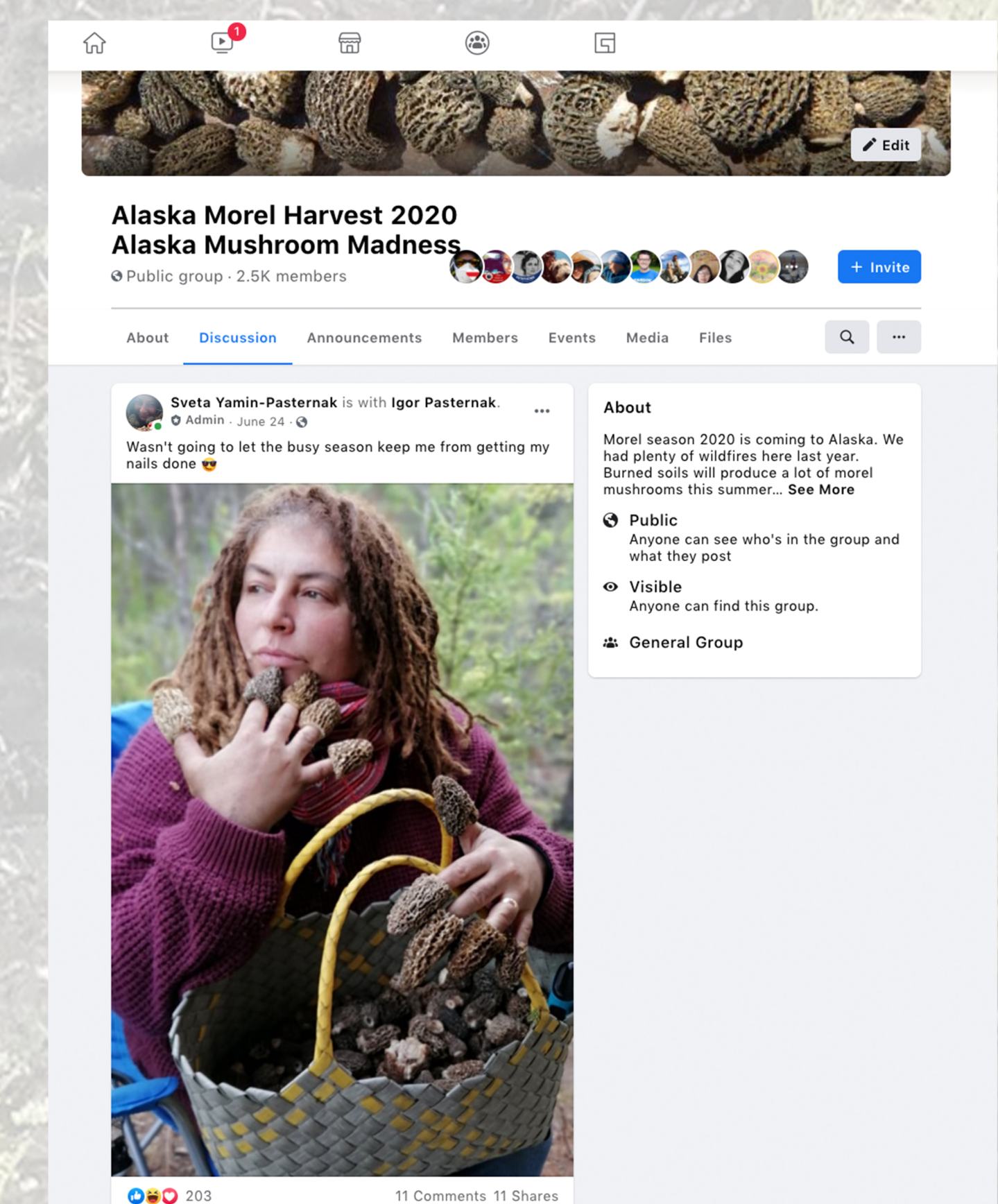


Photo by Kristin Dunn. Featured with permission

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