



The Prairie Arborist

The Official Publication of the ISA Prairie Chapter Issue 4 2017



Early morning moon in Battleford Saskatchewan

The snow flies, temperatures fall and the days are much shorter again...don't despair, we're 1/2 way to spring already!



Thank you all for your vote of confidence in my ability to chair the Prairie Chapter of the I.S.A., an organization I'm so proud to be a part of.

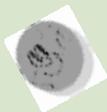
Please don't hesitate to contact me, or any board member, with concerns and suggestions - that's why we're here.

A big shout-out to Moose Jaw for hosting the 2017 annual conference - great job, Daily & Sarah & crew...I know I enjoyed it and know that's the general consensus. Looking forward to Olds next year!

Now that everyone is gearing up for the winter work ahead, I wish for you all a safe and productive season.

As we head into the holiday season, I send warm greetings to you and your families for peace & joy.

Cheers!



M.J. "Mimi" Cole

Meet our new Board Members



Toni Marie Newsham
Director for Alberta

Growing up with an Arborist father, trees have always been part of my life.

I graduated from the 2-year Arboriculture diploma program at Olds College in 2014 and previous to that, a diploma in Land and Water Resources.

I work and live as an Arborist in the Town of Didsbury, AB and am so excited to be your Alberta Director and all the learning that comes with it! Toni can be reached at :
403.415.5709
tmn200@gmail.com



Derek Barr
Director for Saskatchewan

Derek is an ISA Certified Arborist living and working in Regina Saskatchewan. He has worked at the Wascana Centre Authority (soon to be known as Provincial Capital Commission) for the past 12 years.

Some people think he looks a little bit like Elvis. Derek can be reached at :
306-545-2462.
derek.barr@wascana.ca

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Codie Anderson, pictured here with the Canadian contingent of ISA Chapter reps attends Certification/Leadership meetings in Champaign



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Prairie Chapter

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From FB, via Gerard Fournier, from Francesco Ferrini

December 7, 2017

PROVINCE ADVISES EMERALD ASH BORER FOUND IN WINNIPEG

Manitoba Sustainable Development advises the emerald ash borer (EAB) has been found in Winnipeg.

This highly destructive forest-pest is a wood-boring beetle that has been found in Quebec and part of Ontario, as well as throughout the eastern United States, and has now been found in Winnipeg. The EAB attacks and kills all species of ash trees, and is most commonly spread through the movement of firewood.

The province has been working closely with the Canadian Food Inspection Agency (CFIA, which regulates EAB in Canada and the city of Winnipeg. Additional survey and surveillance measures are planned, as the partners work together to determine the extent of the invasion and what the most appropriate next steps are.

Manitobans are encouraged to help prevent the spread of EAB:

- don't move firewood,
- burn firewood where it has been purchased,
- plant a variety of tree species to increase diversity,
- learn how to identify an ash tree, and learn how to identify the signs and symptoms of EAB.

More information is available at:

www.inspection.gc.ca/plants/plant-pests-invasive-species/insects/emerald-ash-borer/eng/1337273882117/1337273975030

www.gov.mb.ca/stopthespread/fis/eab/index.html

www.winnipeg.ca/emeraldashborer

**From the City of Winnipeg
Media Release**

Emerald ash borer found in Winnipeg - City ready to respond to invasive, wood-boring beetle that attacks and kills ash trees

Released: December 7 2017, 2:02 p.m.

Winnipeg, MB – Emerald ash borer (EAB) has been found in Winnipeg. Introduced into North America from China, EAB is an invasive, wood-boring beetle that attacks and kills all species of ash trees.

“While emerald ash borer will have a significant impact on our urban tree canopy, the City has been preparing for its arrival for over a decade,” said city forester Martha Barwinsky. “We are ready to respond.”



Emerald Ash Borer- Photos—CFIA

In the new year, a report outlining a recommended EAB management approach and associated costs will be coming forward for City Council's consideration. One option that will be considered is injecting a percentage of eligible ash trees on

public properties with a botanical pesticide to preserve them as long as possible. The remaining trees on public properties would be removed as they die and possibly replaced over time.

“We are working closely with our partners and will be finalizing our EAB management plans soon,” said Barwinsky. “The goal is to spread out the mortality of ash trees to allow more proactive management of tree removals and replacements, and to preserve our healthy ash trees for as long as possible.”

The Canadian Food Inspection Agency (CFIA) regulates EAB in Canada. The City is partnering with the CFIA and the Province of Manitoba on next steps. CFIA notified the City of Winnipeg of a confirmed find of an emerald ash borer larvae on November 30.

The City has been working with CFIA and the province to develop appropriate survey and surveillance measures which will help determine when the pest may have arrived in Winnipeg and the extent of the spread of EAB within the city. Surveillance work will begin within the

next month in the St. Boniface area where the infected tree was discovered. Should crews need to enter private property, homeowners will be provided with written notice. All staff will be carrying official City, provincial or federal identification cards.

“EAB beetles are generally dormant over the winter, so the next few months are the ideal time for us to conduct our surveying work and make preparations,” added Barwinsky. “We still want to remind citizens not to move firewood which is good advice no matter the time of year. Buy it locally and leave it where you bought it.”

Citizens are encouraged to help prevent the spread of EAB:

- ✦ Don't move firewood,
 - ✦ Burn firewood where you buy it,
 - ✦ Plant a variety of tree species to increase diversity,
 - ✦ Learn how to identify an ash tree, and
- Learn how to identify the signs and symptoms of EAB.

More information is available at: winnipeg.ca/emeraldashborer.

Background

EAB is an invasive pest introduced into North America from China. It feeds on and kills ash trees whether

they are healthy or stressed. It is the larval stage of the beetle that kills the tree.

The larvae feed on the tissue underneath the bark. The larval feeding girdles the tree, cutting off the flow of nutrients and water causing the tree to die.

Once detected, it cannot be eradicated. The metallic green beetle is currently in northwestern and southwestern Ontario, southern Quebec, and in 29 states in the United States, including Minnesota and is now in Winnipeg.

(Continued on page 6)



Emerald Ash Borer- Photos—CFIA

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Emerald Ash Borer- Photos—CFIA

Over a 10-year period, the City is at risk of losing 30% of boulevard and park trees valued at approximately \$437 million. Many ash trees on private property are also at risk of becoming infected over the next decade.

The City's Urban Forestry Branch has been preparing for EAB for over a decade by:

- ✦ creating a public tree inventory and private ash tree inventory,
- ✦ initiating discussion within industry including working with the nursery industry to increase the diversity of nursery stock,
- ✦ educating and training staff and industry,
- ✦ monitoring for EAB in partnership with Trees Winnipeg and CFIA using green sticky prism traps,
- ✦ establishing diversity guidelines for the City's reforestation program and new developments,
- ✦ partnering with the Province of Manitoba and CFIA to develop a Manitoba EAB Preparedness Plan, and removing ash species from its reforestation program.

From the CFIA website

Emerald Ash Borer – *Agrilus planipennis*

The emerald ash borer (EAB) is a

highly destructive invasive beetle which attacks and kills all species of ash, but **not** mountain ash, which in spite of its name, is a completely different species of tree. The emerald ash borer has already killed millions of trees in North America.

To help **prevent the spread** of EAB, the movement of ash logs and firewood out of [regulated areas](#) is restricted. [Don't Move Firewood](#).

Report any detections outside of regulated areas to one of the CFIA's [offices](#).

To learn more about identifying and preventing the spread of the EAB, see: [Identifying and Preventing the Spread of the Emerald Ash Borer](#)

Emerald Ash Borer - Questions and Answers

What is the emerald ash borer?

The emerald ash borer is a highly destructive invasive beetle. It is a pest of ash trees. It was confirmed as present in Canada in the summer of 2002.

It has killed a large number of ash trees in North America and poses a major economic and environmental threat to urban and forested areas across Canada and the United States.

What does the emerald ash borer look like?

The beetle is metallic green in colour and is 8.5 to 14.0 millimetres long

(about ½ inch) and 3.1 to 3.4 millimetres wide (½ inch). While the back of the insect is an iridescent, metallic green, the underside is a bright emerald green. The body is narrow and elongated, and the head is flat. The eyes are kidney shaped and usually black.

Emerald ash borer larvae are white and flat, with distinctive bell-shaped segments, and can grow up to 30 millimetres long (1 inch).

What trees species are susceptible to attack by the emerald ash borer?

In North America, the emerald ash borer has been found to attack and kill all North American species of ash (*Fraxinus* spp.). The mountain ash (*Sorbus* spp.) is not related to ash trees and the insect does not attack that tree.

Infested ash trees in North America generally die after two to three years, but heavily infested trees have been observed to die after only one year of beetle attack.

How serious a threat is the emerald ash borer?

The emerald ash borer poses a very serious threat to all species of ash trees throughout their range in the United States and Canada.

During the relatively short time that the emerald ash borer has been in North America, it is believed to have killed millions of trees in the United States and Canada, with billions more across North America at risk of infestation and death.

What is the importance of ash trees?

Ash trees are an important part of Canada's urban and rural landscape. They are commonly found on city streets, in woodlots, in windbreaks and in forests across southern Canada. In many areas of western Canada, ash trees are one of the few suitable for planting in urban areas. Ash wood is also used to make furniture, hardwood floors, baseball bats, tool handles, electric guitars, hockey sticks and other materials that require high strength and resilience.

Where did the emerald ash borer come from? How did it get to Canada? How long has it been here?

The emerald ash borer is native to China and eastern Asia. It was found in North America in 2002. In May 2002, it was discovered in southeastern Michigan in the United States and in July 2002 it was found in Essex County in Ontario. Like some other exotic pests that

affect plants and trees, it is believed to have been accidentally introduced to North America in imported wood packaging or crating material.

How is the emerald ash borer spread?

The most common way for the emerald ash borer to spread is through people moving infested materials such as firewood, logs, branches, nursery stock, chips or other ash wood. The emerald ash borer also spreads naturally through beetle flight. Research indicates the adult can fly up to 10 kilometres, but generally does not stray from the immediate area when it emerges.

Who has the responsibility for regulatory control of the emerald ash borer?

It is essential that all partners including other federal departments, provincial and municipal governments and industry continue to work together to protect Canada's valuable forest resources.

Under the authority of the [Plant Protection Act](#), the CFIA is responsible for preventing pests of quarantine significance from entering or spreading within Canada.

When pests of quarantine significance become established, a decision must be made (in consultation with our government partners and stakeholders) about whether there is merit in trying to eradicate or contain the pest.

What is the proposed CFIA plan to control the emerald ash borer?

The CFIA believes there is continued merit in slowing the spread of the emerald ash borer within Canada and protecting this country's vast ash resource. To achieve this, the emphasis is on the following:

- regulating the movement of ash materials and firewood,
- performing enforcement activities,

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(Continued from page 7)

- doing surveillance,
- providing effective communications, and
- supporting continued research.

The CFIA continues to consult with federal, provincial and municipal partners and stakeholders on science-based strategies for detecting and controlling the emerald ash borer. Biological control and natural tree resistance may play increasingly important roles in managing this insect's populations.

Surveillance activities outside the regulated areas include surveying high-risk sites such as campgrounds, nurseries and woodlots. This will help prevent the spread of the pest to areas where the emerald ash borer is not known to occur.

Along with these regulatory and surveillance activities, the CFIA continues its efforts to raise public awareness of the emerald ash borer as part of the slow-the-spread strategy.

Will the CFIA remove trees in infested areas?

No. When the emerald ash borer was first detected in Canada, the CFIA's control measures included cutting down infested trees. Since then, however, the CFIA has determined that removing infested host trees is not an effective tool in managing the emerald ash borer. The CFIA only orders trees to be removed within regulated areas for the purpose of supporting research.

What are regulated areas and how are they established?

The CFIA establishes regulated areas to maintain and enforce restrictions against moving potentially infested wood items from areas where the emerald ash borer (EAB) has been found. This is necessary for the following reasons: to slow the spread of the insect, to protect the health of Canada's trees and forests, and to prevent economic losses to the nursery, lumber and tourism industries and to municipalities.

Generally, restrictions or prohibitions are placed on areas where the pest is present or suspected to occur and where there is merit in trying to slow or prevent the spread of the pest. When EAB is detected in a new area, the CFIA initially establishes a regulated area by issuing a notice of prohibition of movement or notice of quarantine to individual property owners. These notices help to restrict or prohibit the movement of high-risk materials from properties that are confirmed as being infested with EAB or those suspected of being infested.

Historically, a [Ministerial Order \(MO\)](#) was used to regulate a larger area (usually at the county level), but these

same areas are now regulated by a policy directive.

Effective April 26, 2013, EAB was added to Schedule II of the Plant Protection Regulations (PPR). The Ministerial Order was repealed, and the areas regulated for EAB are now officially set out in the CFIA policy directive D-03-08, *Phytosanitary Requirements to prevent the introduction into and spread within Canada of the Emerald Ash Borer*.

The change to defining the regulated areas from MO to the policy directive allows the CFIA to enhance regulatory control, as the CFIA will be able to amend the list of EAB regulated areas in a more timely manner when new EAB infestations are detected. The addition of EAB to Schedule II of the PPR does not add restrictions or regulatory burden. It simply mirrors the restrictions that were contained in the MO in a more permanent and responsive manner.

It is important to officially define the areas of Canada that are infested with EAB, as this allows areas in Canada that are not infested with the insect to continue to export ash nursery stock and forest products to our trading partners.

Any proposed changes to regulated areas are based on surveillance results and recommendations from the science community.

Where are the regulated areas for the emerald ash borer in Canada?

[Areas Regulated for the Emerald Ash Borer](#)

Regulated articles such as ash tree materials and firewood of all species cannot be removed from these areas without prior permission from the CFIA.

What items are restricted from leaving regulated areas?

Regulated articles include the following:

- ash nursery stock
- ash trees
- ash logs
- ash wood
- rough lumber (including pallets and other wood packaging materials containing ash, wood, bark, wood chips or bark chips from ash trees)
- firewood of all tree species

Vehicles that were used to carry any of these items are also regulated.

Moving these materials from regulated areas is permitted only if the following conditions are met:

- the materials have been treated to kill or remove all

(Continued on page 9)



Emerald Ash Borer- Photos—CFIA

life stages of the emerald ash borer, and

- written permission has been obtained from a CFIA inspector.

Domestic movement requirements for ash products, as well as import conditions, are outlined in the CFIA policy directive [D-03-08: Phytosanitary Requirements to Prevent the Introduction Into and Spread Within Canada of the Emerald Ash Borer, *Agrilus planipennis* \(Fairmaire\)](#).

The directive also provides information on the voluntary Emerald Ash Borer Approved Facility Compliance Program. The program has been developed to mitigate the spread of the emerald ash borer in Canada while facilitating the domestic movement and importation of regulated articles from the continental United States.

Are there fines for moving wood from a regulated area?

Yes, you can be fined for moving wood from a regulated area. Under the authority of the *Plant Protection Act*, restrictions are put in place to prevent movement of materials that may spread federally regulated pests such as the emerald ash borer. The methods used do not necessarily relate to the volume involved.

There are two types of penalties that can be issued for those who violate the *Plant Protection Act*:

- Immediate penalties of up to \$15,000 may be issued. Administrative Monetary Penalties (or AMPs) are basically tickets used to encourage compliance and deter repeated offences. They can be issued to individuals or businesses under the *Agriculture and Agri-Food Administrative Monetary Penalties Act*.

A penalty of up to \$250,000 and/or imprisonment for a term not exceeding two years. This involves a prosecution, where the individual or business is charged with an offence under the Act. Prosecution under the Act is usually used to penalize repeated non-compliance or for serious violations.

What do I do if I suspect my ash tree is infested?

If you are not in one of the areas regulated for the emerald ash borer and you suspect signs of infestation on your ash trees, [contact a local CFIA office](#).

If you are in an area that is regulated for the emerald ash borer and you have recently trimmed or cut down your ash tree, please call your city, your municipality, or the CFIA for directions on disposal.

Will the CFIA remove trees infested with the emerald ash borer and, if so, will compensation be available?

No, the CFIA will not remove infested trees nor provide compensation. The CFIA is now focusing all its efforts related to the emerald ash borer towards surveillance, enforcement, and public awareness to prevent further spread of the pest.

When the emerald ash borer was first detected in Canada, the CFIA included tree removal as one control measure. The CFIA has since decided to eliminate tree removal as a management option for the emerald ash borer because, from a national perspective, ash tree removal is not an effective way to prevent this pest from spreading to non-infested areas. More important issues include;

- the possibility that people may transfer the pest to new areas while moving infested firewood, and;
- the possibility that the emerald ash borer has already been introduced to many areas that do not appear to be infested, but that these infestations have not yet been discovered because infestations are difficult to identify and ash trees take a long time to develop symptoms of infestation.

- The CFIA will issue a Notice to Dispose and order the removal of trees within regulated areas only when required to support research. In all other cases, tree owners are responsible for removing trees that are infested with the emerald ash borer and cover the costs associated with the removal.



Lake Louise Ski Resort Charged with Cutting Endangered Trees

*This story is from the internet.
By John Cotter The Canadian Press*

<https://globalnews.ca/news/3840743/lake-louise-ski-resort-charged-with-cutting-endangered-trees-to-face-trial/>

In case you're not at a computer, here it is

A company accused of cutting down endangered trees at a popular ski resort in Banff National Park has lost its bid to avoid a trial on a charge laid under the federal Species at Risk Act. Lake Louise Ski Area Ltd. was charged in 2015 after national park wardens noticed that 140 mature trees, including endangered white-bark pine, had been cleared from the land near the Ptarmigan Chutes ski run.

Lake Louise pleaded not guilty in 2016 and went to court to seek a judicial stay of the trial, arguing that the case has taken too long to resolve.

Court proceedings have so far included disclosure of expert opinions about the cut trees and DNA tests requested by the company's lawyers. The DNA tests came back positive for whitebark pine.

Provincial court Judge Heather Anne Lamoureux has denied the company's application for a stay.

"The court rules that the defence had sufficient (evidence) disclosure as of December 2015, including an expert opinion report on the species of the trees removed," Lamoureux said in a written ruling. "It is not reasonable to argue that DNA analysis was required."



There are up to 25,000 Bugs in the Average Christmas Tree

But you don't need to worry about them ruining the holiday.

This story is from the internet.

By Noel Kirkpatrick

November 28, 2017, 3:49 p.m.

<https://www.mnn.com/your-home/at-home/stories/25000-bugs-christmas-tree>

In case you're not at a computer, here it is

Don't let a fear of bugs stop you from enjoying a fresh Christmas tree this holiday season.

It turns out that Santa Claus, the Elf on the Shelf and the [Reindeer in Here](#) aren't the only ones who see you when you're sleeping and know when you're awake.

Also monitoring your activity from the safety of your freshly cut Christmas tree: several thousand bugs.

[According to Safer Brand](#), an organic gardening and pest control company, there could be up to 25,000 insects and arachnids crawling around that Christmas tree. Aphids, spiders, mites, bark beetles and even praying mantises all could be your new (unwelcome) holiday guests. How festive!

Creepy crawl Christmas

While this may sound alarming on many levels, there's no reason to fear these insects.

Most of them are microscopic, so you're unlikely to notice them in the first place, [according to Pennsylvania State University's Department of Entomology's Cooperative Extension](#), and most of them are likely to stay on the tree anyway.

Most of them.

"Although many will stay on the tree, a few may be attracted to sources of light, including windows. But, because they are associated with field-grown conifers, none of these accidental introductions are a threat to your home, its contents or occupants," write Rayanne Lehman and James Stimmel, on behalf of the extension.

And they're not a threat to your homes because the bugs rely on the tree to sur-

vive.

But so you know who you unintentionally invited over the holidays, here are seven possible insects that might appear in your Christmas tree.

1. Aphids. These insects are tiny, and while some species of aphids resemble small spiders and ticks, they have only six legs. Most of the aphids are inactive, and they survive only by feasting on certain parts of the tree. This means any other plants in the house are safe.

Bark beetles may come in on your Christmas tree, but they're not interested in your furniture. (Photo: Henrik Larsson/Shutterstock)

2. Bark beetles. Despite their intimidating-sounding name, bark beetles are small insects that bore holes into trees. They may create small piles of sawdust. But if you're worried about your furniture, don't be. Your furniture is too dry for the bark beetles to survive inside of them.

3. Mites. Predatory mites stick to trees, eating other insects and eggs. While they're related to chiggers, adult mites aren't a threat to humans or pets. Mites are likely in the tree as a result of birds nesting in the tree at one point. So while a nest may seem decorative, remove it from your tree to ensure no mites end up in your home.

4. Praying mantids. These are predatory insects, so they're likely controlling whatever pest population is in the tree. If eggs have been laid in the tree, and they hatch, your tree will soon be overrun with baby mantids. But fear not. The little bugs will eventually eat one another if they run out of food. If you'd rather not have an insect cannibal Christmas, check the tree for walnut-sized egg masses before taking it indoors. Cut off the branch the mass is attached to and place it in an evergreen shrub or tree so it can hatch in the spring.

5. Psocids. Colored brown or gray, psocids munch on mold, pollen, fungus, and other insects. You don't need to worry about these pests, though. They will likely die due to the warm conditions in your home.

6. Scale insects. If you notice tiny and moving red specks, these are scale insects. They can be shaken out of or knocked away from the tree very easily.

7. Spiders. These are probably the least-welcomed guests, but any spiders you find in your tree are aiming to nibble on insects, not on you. Like the psocids, these spiders are likely to die soon, due to the conditions in your home.

Keeping the bugs out

As the [North Carolina Christmas Tree Association notes](#), it's extremely unlikely that a tree will have insects in numbers that you will notice, and the Christmas Tree Promotion Board concurs, pointing out that other experts feel that Safe Brand's concerns are "[overblown](#)."

If you'd rather be safe than sorry, though, there are a few steps you can take to minimize the risk of bringing bugs home for the holidays.

1. Shaking your tree. Mechanical tree shakers are available at some farms and lots. They just vibrate the bugs right out of your perfect tree. Alternatively, you can just shake the tree yourself, perhaps as a [Festivus](#) feat of strength.

2. Treat with insect sprays or powders. Before bringing the tree indoors and dressing it, you can use organic insect

control.

3. Vacuum. Your vacuum has a hose attachment, yes? Take it to your tree and just suck up the insects.

4. Just let your tree (and the insects) be. Leaving the insects alone will result in them dying anyway. As Lehman and Stimmel write, "Warm temperatures, low humidities and lack of appropriate food conditions typical of most homes will usually kill these invaders in a short time."

So rest easy about insects crashing your holidays and enjoy your tree.



How Iceland is Regrowing Forests Destroyed by the Vikings

*This story is from the internet.
By Russell McLendon
October 27, 2017*

<https://www.mnn.com/earth-matters/wilderness-resources/blogs/how-iceland->

[regrowing-forests-destroyed-vikings](#)

In case you're not at a computer, here it is.

How do you find your way out of a forest in Iceland? Stand up.

That's an old Icelandic joke about the country's meager woodlands, and like most jokes, it contains a kernel of truth. Iceland is a famously beautiful place, yet forests only cover about 2 percent of its land area, and they tend to be relatively small.

This hasn't always been the case, however. When the first Vikings arrived in Iceland more than a millennium ago, they found an uninhabited landscape with plentiful birch forests and other woodlands — spanning anywhere from [25 to 40 percent](#) of the island. According to one early [saga](#), "At that time, Iceland was covered with woods, between the mountains and the shore."

(Continued on page 12)



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So what happened? The Vikings began chopping down and burning Iceland's forests for timber, and to clear space for farmland and grazing pastures. "They removed the pillar out of the ecosystem," Gudmundur Halldorsson, research coordinator for the Soil Conservation Service of Iceland, [recently told the New York Times](#).

They also brought sheep, whose appetites for saplings made it difficult for Iceland's forests to recover. "Sheep grazing prevented regeneration of the birchwoods after cutting and the area of woodland continued to decline," [explains the Iceland Forest Service](#). "A cooling climate (the little ice age) is sometimes cited as a possible cause for woodland decline, as are volcanic eruptions and other types of disturbance, but on closer inspection they can not explain the overall deforestation that took place."

Iceland is working to fix this, however, and [regain the lost benefits of its ancient forests](#). Restoring the island's native tree cover could make a big difference in its soil-erosion problem, for example, reducing dust storms and boosting agriculture. It could also improve water quality and help reduce Iceland's carbon footprint.

Yet it's easier to save old-growth forests than it is to re-

place them, especially in a cold place like Iceland. The country has been working on reforestation for more than 100 years, planting millions of non-native spruce, pine and larch trees as well as native birch. Iceland added hundreds of thousands of seedlings per year throughout much of the 20th century, reaching 4 million annually in the 1990s and up to 6 million per year in the early 2000s. Forestry funding was cut sharply after the 2008-2009 financial crisis, but Iceland has continued adding as many as 3 million new trees annually in recent years.

This effort has helped save some of Iceland's last natural forests, and even added to them, but it's a slow comeback. The island's forest cover likely fell below 1 percent in the mid-20th century, and birch forests now cover 1.5 percent of Iceland, while cultivated forests cover another 0.4 percent. By 2100, the country aims to increase its forest cover from 2 percent to 12 percent.

Ironically, a warming climate might make reforestation easier in Iceland. It has already raised the maximum elevation for Icelandic forestry by about 100 meters since the 1980s, the Forest Service notes, "creating the potential for afforestation of large areas on mountain-

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(Continued from page 12)

sides and the periphery of the central highlands." Of course, it adds, "conditions for forestry are more complex than simply looking at annual or growing-season temperatures." And, as in most places, human-induced climate change also poses big environmental threats for Iceland, like melting its glaciers or making its native ecosystems more hospitable to invasive pests.

Iceland is wisely working to reduce its contributions to climate change — Reykjavik has set a target of becoming [carbon-neutral by 2040](#), for example, while the country as a whole aims to reduce its carbon dioxide emissions 40 percent from 1990 levels by 2030. Adding trees is a big part of those plans, on top of the more direct benefits they offer for Iceland's soil, water and human health.

Iceland may never be a wooded wonderland, but by investing in trees, the island's leaders are restoring crucial pillars of their island's ancient ecosystem — and making sure their once-forsaken forests are no longer a joke.

Picture below is from the internet. 

Source: [typical-icelandic-birch-trees-close-up-www-panoramio-com-josh-von-staudach](#)

How trees scrub more pollution

Deciduous vegetation absorbs — through stomata pores on leaves — one-third more volatile organic pollution than previously believed.

1 Sun

2 Smog: Volatile organic compounds combine with nitrogen oxide and sunlight to form ozone, commonly known as smog.

3 Deciduous vegetation absorbs pollutants through stomata — microscopic pores — in leaves and uses enzymes to convert them to less harmful compounds.

4 Pollutants emitted by vehicles, lawnmowers, factories and other sources contribute to the toxic brown cloud hanging over metropolitan Denver.

List of tree leaves that absorb smog:

- Ash
- Apple
- Birch
- Hawthorn
- Hackberry
- Maple
- Pear
- Peach

Stomata pores

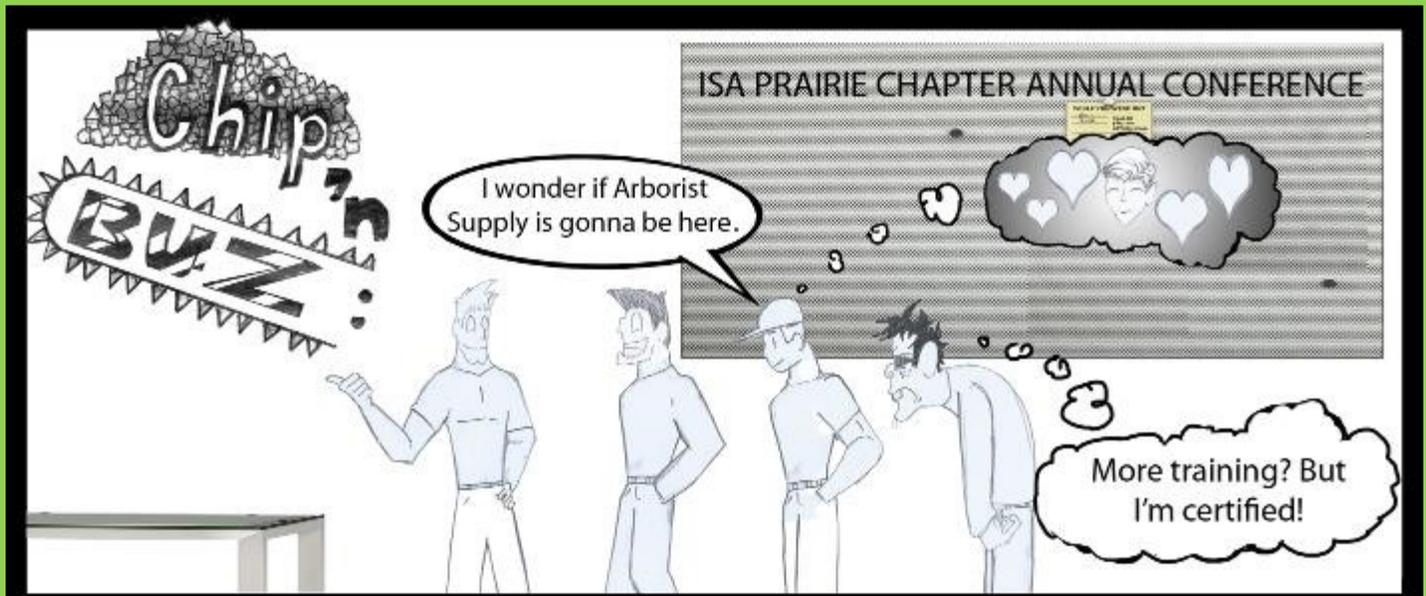
Cross section of stomata pore

Width of human hair

Source: National Center for Atmospheric Research

Severiano Galván, The Denver Post





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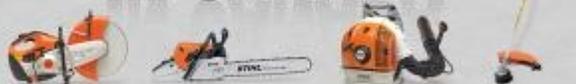
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