

Lighting Up the Season: Is Your Tree Invasive?

By Annie Collier Rehill— Usually an ornamented tree is associated with a Christian holiday, but it can just as well be a symbol of the Festival of Lights or another celebration—not necessarily even religious. The seasonal use of a tree, or of branches, originated long before Christianity and has more to do with the solstice, the shortest day of the year, December 21–22. The most popular Christmas trees in the United States are Balsam fir, Fraser fir, Noble fir, Scotch pine, Virginia pine, and White pine, but there are also Arizona cypress, Canaan fir, Colorado blue spruce, Eastern red cedar, Eastern white pine, Grand fir, Leland cypress, Norway spruce, White fir, and probably more.¹

After the solstice, the days grow longer, and the planting season is in sight. People have been celebrating the moment for thousands of years. In Egypt, palm rushes placed about the house symbolized life. Romans feasted with their Saturnalia (named for the god of agriculture, Saturn), surrounded by evergreen branches. The Druids adorned places of worship with evergreen boughs, and the Vikings held evergreens as sacred plants.

In the 1500s, Christian Germans starting bringing entire trees into the house—which, with a few detours, brings us to where we are today. American Puritans scorned the tradition as pagan-inspired, but German immigrants eventually won out. Queen Victoria finally and definitely popularized the Christmas tree in 1846.²

But Are They Invasive?

This is a question with no simple answer, or at least no enduring answer. For now, it seems clear that most conifers are not invasive species in the United States. However, they are very much so in other parts of the world, particularly in the Southern Hemisphere. Researchers David M. Richardson and Marcel Rejmánek, who conducted a global survey, clarify

some of the complicating factors: “As more species are planted over larger areas, as environments and biota change, and genetic changes occur (through the evolution of landraces and increased genetic diversity through the introduction of new genotypes), more species will become naturalized and invasive, and some that invade now may become less invasive.”³

Naturalized species are “known to reproduce consistently and sustain populations over several life cycles,” Richardson and Rejmánek specify, whereas invasives “reproduce reproductive offspring, often in large numbers, at considerable distances from parent plants.”⁴

The shifting pattern differs tremendously according to geographical area. For example, the jack pine, *Pinus banksiana*, is invasive in Lithuania and New Zealand, but not in the United States. Here the jack pine is endangered in Illinois, threatened in New Hampshire and Vermont, and rare in Indiana and New York.⁵

Even the classification *invasive* can be tricky. *Pinus clausa*, the sand pine, is listed in Richardson and Rejmánek’s survey as an invasive in Florida, but the U.S. Department of Agriculture describes its invasive process like this:

It will establish in and eventually dominate scrub oak communities. Sand pine will invade longleaf pine (*Pinus palustris*) forests in the absence of fire. Sand pine scrub vegetation, in which sand pine grows in very dense, even-aged stands of 8,000 to 10,000 trees per acre, is considered a fire-climax community.

If fire occurs once every 20 to 60 years in sand pine stands, the vegetation community will not change. In the absence of fire, a xeric hardwood forest of oak and hickory will succeed sand pine. If there is frequent fire, oak scrub or slash pine (*P. ellottii*) will replace sand pine.⁶

In fact, the USDA tells us, the sand pine is dominant naturally but also in

jeopardy, thanks to human intervention. “Natural stands of sand pine are disappearing from Florida. Many former stands have been converted to citrus groves, subdivisions, or recreational vehicle parks. Twenty-one federally endangered or threatened plant and animal species live in sand pine forests.”⁷

The Forest Service is working to protect pines and firs and restore them in many places, as part of its program to rehabilitate degraded areas and prevent invasive species from recolonizing.⁸ And the Choctawhatchee sand pine, with its short, heavily foliated branches and dark green needles, is grown for Christmas trees.

But even the beloved Douglas-fir (*Pseudotsuga menziesii*), Oregon’s state tree topped in heights only by the Coast Redwood, is invasive far from its native lands. Imported to Europe and elsewhere, it must be controlled in Britain, Chile, and New Zealand.

Another invasive consideration is piggybacking. Firs can carry species such as pitch canker disease. “Like stealthy predators,” warns Stephanie Klunk of the University of California’s Statewide Integrated Pest Management Program, “Douglas-fir trees can harbor the pathogen responsible for pitch canker disease for a year without showing any symptoms and pass it off to other susceptible species.”⁹

Researcher Tom Gordon studies this problem and how to control it in Christmas tree farms and other managed areas. As Gordon explains, the fungus *Fusarium circinatum*, which causes pitch canker, is usually “so limited that no visible damage results, and in that sense, there is no disease.” But while it colonizes the Douglas-fir, the fungus produces spores that the wind or insects transport who knows where—including to other plants that suffer damage.¹⁰

Unknown until about 60 years ago, pitch canker has rapidly spread in California. Monterey pines are particularly susceptible, but most pines native to the

state are at risk (except, so far, in the Sierra Nevada). While scientists continue their research, Douglas-firs and other hosts are closely monitored to protect uninfested areas.¹¹

To help you find out if a particular farm uses responsible practices, the National Christmas Tree Association is a good starting place: <http://www.christmastree.org/home.cfm>. The association joined with Earth 911 in 2000 and is committed to promoting recycling.

You can also contact local and state agencies for agricultural or invasive information. Contacts and resources are listed at USDA’s site <http://www.invasivespeciesinfo.gov/resources/orgstatemulti.shtml>. And, as always, talk to people. Health-food stores and coops may be repositories of abundant local information.

A Few Resources and a Touch of Personal Encouragement

Tips on having a greener festival abound. The Sierra Club offers excellent suggestions at <http://www.sierraclub.org/holidays/>. Regarding the question of whether to buy a live tree, the Club comments: “Ninety-eight percent of Christmas trees were grown on farms, not in forests, so at least it’s not as if you’re cutting down an ancient tree.”

But if you don’t like to use a real tree, you can decorate with branches and lights. Or go the fake route, which the National Christmas Tree Association advises against: “You have two choices: First, you can use a renewable, recyclable natural product grown on farms throughout North America; or, you can use a non-renewable, non-biodegradable, plastic and metal product made in a Chinese factory. You pick. It is much better environmentally to use a natural, organic crop and recycle it after the Holidays.”¹²

Actually, you have far more than two choices. You can also buy trees in

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pots, alive, and replant to keep them that way. Some people decorate their homes while dropping the greenery concept altogether. Make your own ornaments, or support worthy organizations by buying theirs. For luminosity, light-emitting diodes (LEDs) are now easily available. They cost more, but they also use less power and last longer.

Last year, *Time* magazine ran a feature about how to enjoy a greener season, pointing the reader to LivingChristmasTrees.org; Friends of the Urban Forest of San Francisco (Fuf.net), which rents nontraditional trees and then plants them on city streets; Freshchristmastree.com, for those who prefer cut trees (grown using sustainable methods); and Earth911.org.¹³

A list of Maryland Christmas tree farms is at <http://www.christmas-tree.com/real/md/>. Note that it may not be comprehensive, so check your Yellow Pages, too. A phone call can yield a lot of information. Ask if the farming techniques used are at least partly organic (and if so, in what way). Do they use integrated pest-management (IPM) techniques? I figure the worst that can happen is, as once happened to me when I asked a supermarket butcher if he knew how a particular company treated the animals, you get a disdainful snort in reply. (He was an exception in my experience, by the way; most butchers have seemed pleased to share whatever information they had.)

Alternative Celebrations

Many find the season depressing, or simply hate it. If this means you, maybe you get through it with the help of like-minded friends, or perhaps by going away on a *not*-Christmas adventure of your own. If you feel you have no one to celebrate with, perhaps you'd enjoy volunteering at a soup kitchen or attending a church service. With a little open-mindedness, even atheists can find here a

few moments of joy and beauty. Note: For the best singing (which is good for both spirit and body), Protestant churches often do a better job. Speaking as someone who was raised Irish Catholic (now agnostic), this is not an easy thing to recommend. At one time it could have sent us straight to Hell, but today Catholics are permitted to range freely.

Or head for the outdoors! Check the upcoming Sierra outings (see schedule in this issue of *Chesapeake*), or participate in the Audubon Christmas Bird Count. You'll learn more about our world as well as getting exercise and air; perhaps you'll even meet a few new friends.

Those who do enjoy the season often cite simply the atmosphere of exuberance. It's a time to give thanks for the good things of life. Even Scrooge was eventually infected with the season's buoyant spirit. And, of course, to enhance it there are those decorated, lighted, fragrant trees. ■

(Endnotes)

¹ National Christmas Tree Association, "Christmas Tree Types," <http://www.christmastree.org/types.cfm>. Accessed 5 October 2007.

² The History Channel, "Christmas Trees: How It All Got Started," http://www.history.com/minisite.do?content_type=Minisite_Generic&content_type_id=1284&display_order=4&mini_id=1290. Accessed 30 September 2007.

³ David M. Richardson and Marcel Rejmánek, "Conifers As Invasive Aliens: A Global Survey and Predictive Framework," *Diversity and Distributions* 10, no. 5–6 (September 2004): 321–31. Many thanks to Joyce Bolton of the National Invasive Species Information Center, National Agricultural Library, Beltsville, MD, for providing information and leads (jbolton@nal.usda.gov. See also <http://www.invasivespeciesinfo.gov/>).

⁴ Richardson and Rejmánek, "Conifers As Invasive Aliens," 328.

⁵ USDA Natural Resources Conservation Service, Plants Profile, *Pinus banksiana*, jack pine, <http://plants.usda.gov/java/profile?symbol=PIBA2>.

⁶ Jennifer H. Carey, "Pinus clausa," in Fire Effects Information System, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer), <http://www.fs.fed.us/database/feis/plants/tree/pincla/all.html>. USDA Natural Resources Conservation Service, Plants Profile, *Pinus clausa*, sand pine, <http://plants.usda.gov/java/nameSearch>. Both accessed 17 October 2007.

⁷ Carey, "Pinus clausa," USDA.

⁸ USDA Forest Service, Invasive Species Program, "Restoration and Rehabilitation," <http://www.fs.fed.us/invasivespecies/restoration.shtml>. Accessed 30 September 2007.

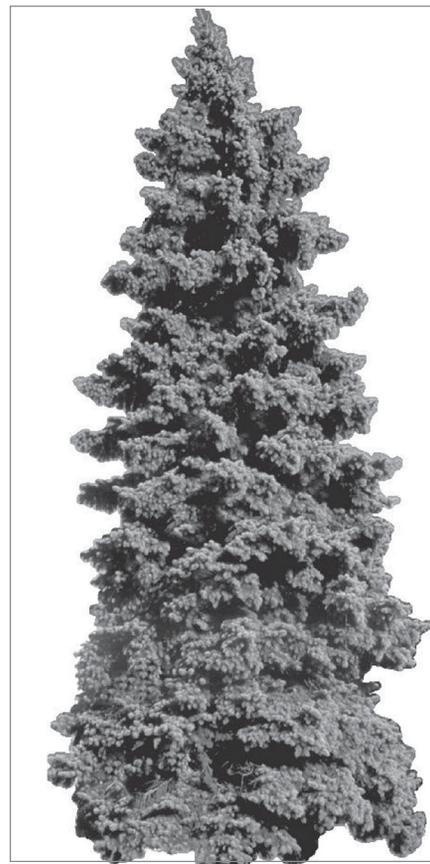
⁹ Stephanie Klunk, "Douglas-Fir Trees Are Cunning Carriers of Pitch Canker Disease," University of California, Agriculture and Natural Resources, News and Information Outreach, Governmental and External Relations, 1 May 2007, <http://news.ucanr.org/newsstorymain.cfm?story=965> or http://www.ipm.ucdavis.edu/NEWS/pitch_canker_news.html.

¹⁰ Ibid. The University of California Exotic/Invasive Pests and Diseases Research Program funded this research. For more information about pitch canker, visit UC IPM Online, the University of California's Statewide Integrated Pest Management Program: www.ipm.ucdavis.edu. Tom Gordon can be reached at trgordon@ucdavis.edu.

¹¹ Klunk, "Douglas-Fir Trees Are Cunning Carriers of Pitch Canker Disease."

¹² National Christmas Tree Association, Frequently Asked Questions, "Isn't it bad for the environment to cut down a tree and use it for Christmas?" <http://www.christmastree.org/faqs.cfm>. Accessed 5 October 2007.

¹³ MaryAnne Murray Buechner, "How to Have a Green Christmas," *Time*, 11 December 2006, <http://www.time.com/time/business/article/0,8599,1568660,00.html>.



Christmas Tree Trivia

- The trees mature in 6–8 years in 50 states, including Hawaii and Alaska. California, Oregon, Michigan, Washington, Wisconsin, Pennsylvania, and North Carolina produce the most trees.
- More than 1,000,000 acres are used, and 77 million trees are planted annually (at an average of more than 2,000 per acre).
- 34 to 36 million are grown annually. Of those, 95 percent are sold from Christmas tree farms.
- 100,000 people work in the industry.
- In the past, cherry and hawthorns have also been used as Christmas trees.
- Hopefully unnecessary reminder: Never burn your Christmas tree in the fireplace!

Source: The History Channel, "Tree Trivia," http://www.history.com/minisite.do?content_type=Minisite_Generic&content_type_id=1289&display_order=4&sub_display_order=16&mini_id=1290. Accessed 30 September 2007.