

## Black Locust

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You may not be familiar with the black locust. It doesn't have the notoriety of the maples, oaks, and elms, but it is a tree of many strengths and is the 13<sup>th</sup> most abundant species of street tree in Halifax. Once you familiarize yourself with the tree's look and behaviour, it will be easy to spot. Black locust has a pinnately compound leaf, with around 6 to 18 small leaflets on either side of a central stalk and one smaller leaflet at the tip. It produces striking clusters of white flowers in early summer that resemble pea flowers. In fact, the black locust is in the Fabaceae (i.e., legume) family and is related peas, producing its seeds in a flattened, pea-like pod.



The bark is quite distinctive on mature trees, becoming thick, deeply furrowed, and curled with age to the point where the trunk of a large black locust can almost resemble a massive tangle of mooring rope from a ship. The seaside imagery is arguably suitable for black locust in Nova Scotia. In my experience, black locust is most often spotted planted along streets and growing along forest edges in communities along the South Shore. A stroll in a residential neighbourhood in Lunenburg, Mahone Bay, or Bridgewater will guarantee you sightings of at least a few specimens. In Halifax, there are fewer mature black locusts to be found (with the exception of the old stalwart survivor of Quinpool shown below) – you are more likely to spot younger, cultivated varieties of black locust along the streetside, being recently planted by HRM.





Note that I mentioned you will find black locust either planted in the streets *or* growing along forest edges. I was alluding to the somewhat of a dual life that is led by the black locust. There is the well-behaved black locust planted in the street providing shade and beautiful summer flowers and there is the black locust of ill repute taking over natural woodlands in parks and around the edges of the city.

The urban environment can be a harsh place for trees, with a myriad of stressors like pollution, soil compaction, invasive pests, extreme heat and winds, and even vandalism. These conditions tend to favour a certain type of species: so called ‘pioneer species’ that colonize open sites after a disturbance. They live fast, die young, are prolific breeders, and most importantly, can handle the stressors of the urban landscape. Black locust is one such pioneer species and in fact was often used in ecological

restoration on highly disturbed sites like old mines and quarries where not many other species could survive. While this array of traits makes pioneer species well-suited to urban life, it is also the array of traits that can make a species invasive.

The black locust is native to the eastern United States, being found in the Appalachian Mountains and Ozark Plateau. However, it has a history of being cultivated at nurseries and used in both landscaping and ecological restoration across the world. In the terse vernacular of the US Forest Service, the black locust has “escaped cultivation”. Others, including the International Union for Conservation of Nature, use a more condemning description: invasive species. Indeed, black locust has become naturalized in many parts of Canada (including Nova Scotia) outside of its native range, where it can muscle out native tree species and impact biodiversity.



So why is black locust still planted in the urban forest? This question is not unique to this species. Urban foresters, arborists, and horticulturalists are constantly faced with this trade-off and balance between a tree's ability to survive and thrive in the city versus its likelihood of becoming invasive in surrounding natural ecosystems. As mentioned, these two characteristics can be highly correlated. Importantly, tree nurseries are constantly working to develop new cultivated varieties – called cultivars for short – of popular urban trees. While often cultivars are developed to retain unique genetic traits that are desired, like the colour of flowers or leaves, they are also developed to suppress undesirable genetic traits, like the thorns that are found on hinterland black locust or even seedless varieties that can mitigate the threat of invasiveness. In Halifax, you're likely to encounter the 'Purple Robe' black locust cultivar, which produces striking purple flowers instead of the typical white ones.



In the end, it's critical to weigh risks against benefits in the process of species selection for a given street tree site. Would I plant black locust in a backyard at the edge of Halifax right next to native Acadian forest ecosystems? Probably not. Would I plant black locust on the streetside in the urban core of Halifax where its chances of survival are high and chances of 'escaping cultivation' are low? You bet.

Image sources:

blacklocust.jpg: James Steenberg (the old black locust that is still somehow alive on Quinpool).

blacklocustbark.jpg: The Middlebury Landscape

blacklocustflower.jpg: The Middlebury Landscape

blacklocustseed.jpg: John Fecteau (Blog)

purplerobe.jpg: Natalie Secen