

Weedy immigrants adorn N.S.

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Wildflowers such as Queen Anne's Lace help to sustain friendly insects. (DAVID PATRIQUIN)

One of the pleasures of summer is to enjoy the sights and smells of dandelions, clovers, daisies and dozens of other species that flower in vacant lots, along the roadside and, although not enjoyed by all, in farm fields and gardens.

Many and often most of the wildflowers we see in these human-disturbed habitats are not native to North America but came from Europe within the last 500 years.

When humans in the Middle East and later Europe began to plow the land 10,000 or so years ago and plant the species they had previously harvested only from the wild, they created habitat ripe for colonization by opportunistic, fast-growing plant species, or "weeds."

Most of these weedy species produce an abundance of flowers, and, in turn, seed, that is spread far and wide by wind, birds and other animals, including humans.

Some, such as plantain, Queen Anne's lace and burdock could be described as stowaways, arriving in North America with early French and English settlers as seed attached to clothing or mixed with grains used for food and to establish crops. These stowaway quickly became "naturalized," meaning that they were able to grow and reproduce in the new land without human assistance.

Others, such as red clover and timothy grass, were species that in Europe prospered in grassland grazed by livestock or from which hay was cut. These species were deliberately introduced to North America to support livestock, but then also escaped and naturalized.

This process is continuing.

Today, the horticultural industry introduces hundreds of exotic species are introduced every year to North America. Most remain confined to gardens, but over time, some escape and become naturalized.

Weedy species native to Africa and Asia have likewise been introduced deliberately or inadvertently and become naturalized in compatible areas of the Americas. There has also been movement of weedy species in the reverse direction, from the New World to the Old. For example, Canada goldenrod, introduced as a garden plant in the United Kingdom, now "seems bent on taking over the British Isles" according to one report.

How significant are these naturalized, exotic species in Nova Scotia? In total, the flora of Nova Scotia (the list of all species growing

the wild) includes close to 2,000 species, of which about one-third are of exotic origin, arriving here in the post-Columbus period.

While the percentage is high, the bulk of our naturalized exotic species do not compete well with native vegetation and tend to be confined to human-disturbed habitats. Take a walk in Point Pleasant Park and you will find most of the exotic wildflowers such as white clover and coltsfoot within a few metres of the roads and paths, while there will be few or none 10 metres into the forest (or recovering forest).

A small fraction of the naturalized exotics, amounting to a dozen or so species in total for Nova Scotia, becomes seriously “invasive,” extending into largely undisturbed natural habitats and displacing native species.

Examples are the bamboo-like Japanese knotweed and the strikingly colourful purple loosestrife that has appeared in many of our wetlands within the last 20 years. If we are vigilant about removing recognized invasive species when the first ones are spotted, they can be controlled with minimal effort.

Are the hundreds of naturalized but largely non-invasive species such as dandelion, St. John’s wort, and wild radish that colonize our human altered habitats OK from an ecological perspective?

The arguments are complex and species-specific in scientific circles and in the public domain — witness the controversies about dandelions when bans on cosmetic pesticides are proposed.

Personally, I view the common, largely non-invasive, weedy exotic wildflowers as out of place when I see them in an otherwise natural habitat such as a bog or a forest, but as natural and desirable in human-disturbed habitats such as roadsides and vacant lots. In the latter situations, they provide important ecological services like soil stabilization, nutrient retention (which reduces pollution of surface waters) and floral diversity in space and time that provides food for wild pollinators, many bird species and for “natural enemies” such as ladybird beetles and syrphids whose larvae feed on aphids. Many are edible (e.g., dandelion and lamb’s quarters make excellent steamed greens) and many are used in herbal medicine.

Our major crops in fact were domesticated from weedy ancestors and their weedy relatives remain an important reservoir of genetic material for those crops. As well, weedy species continue to be domesticated as new food, fibre and medicinal crops.

The widespread use of herbicides on crops and grassy turfs is a threat to weedy wildflower diversity and abundance and detracts from their ecosystem services, notably their role in supporting wild pollinators now that our domestic bees are dying off.

There are alternatives to herbicides. For example, farmers can use crop rotation and mechanical means to set weeds back at critical stages, so they don’t compete with crops but otherwise are retained. On lawns, planting white clover masks weeds without eliminating them and adds nitrogen to the soil. In Nova Scotia, most counties now employ mowing rather than herbicide to control roadside weeds.

Leaving aside all of the logical arguments about why we need weedy wildflowers, I think about the pleasure of a child’s first encounter with dandelions as reason enough to want to keep them around.

Nova Scotia Naturally is submitted monthly by Nick Hill, David Patriquin, Mark Elderkin, Alain Belliveau, Jamie Simpson, Matt Miller, Bob Bancroft and Donna Crossland.

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Origins of some common roadside wildflowers

Camomile – Europe

Canada goldenrod - Native

Coltsfoot – Europe

Common buttercup - Europe

Creeping buttercup - Native

Common St. John's wort - Europe

Dandelion - Eurasia

Devil's Paintbrush - Europe

Fireweed - Native

Foxtail Barley – Eurasia

Knapweed - Europe

Lupin – western North America

Meadowsweet – Native

New York Aster - Native

Ox-eye Daisy - Europe

Queen Anne's Lace - Europe

Red Clover - Eurasia

Tufted Vetch - Eurasia

Yarrow - Europe

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