



One example of this effect can be seen in the plight of the Oregon silverspot butterfly (*Speyeria zerene hippolyta*). Its historic coastal range extends from northern California to southern Washington state. The adult butterfly drinks nectar from a variety of flowers, however the caterpillars' diet is limited to the leaves of the early blue violet (*Viola adunca*). This limited diet is quite common among herbivorous insects, which cannot just instantly adapt to the chemical makeup of unrelated plants.

Wide swaths of invasive European and Atlantic beach grass overtook most of the violet's meadow habitat, and combined with fire suppression the grass helped shore pine forests to advance where coastal meadows once stood. Today the Oregon silverspot can be found in only a handful of tiny locations in Oregon and California, and many meadow plants like the early blue violet are at risk, as are the various species dependent on them.

You might be wondering why the loss of one butterfly species is cause for such alarm. Well, fewer butterflies lead to fewer pollinators, which lead to fewer plants, resulting in less food for herbivores and, by extension, the carnivores that eat them, which lowers the overall biodiversity in our region over time.

Moreover, many bird species rely on invertebrates for protein and other nutrients, and caterpillars are among their best sources. In fact, the diet of many young songbird species consists of up to 75% insects, and without them these baby birds die of malnutrition. With the loss of silverspot caterpillars, the songbirds now have one less source of protein, which decreases overall population numbers. So while one butterfly's extinction may seem small, an ecosystem's connections mean that similar local and total extinctions can result in a chain reaction.

So how did beach grass and other invasive plants get here? Some were brought by early settlers who carried them on their journey for their edible or medicinal qualities. These included dandelions, garlic mustard, broadleaf and ribwort plantain. Other non-native species arrived as seeds or sprouts in shipments of hay and other agricultural supplies. More recently, the gardening industry has deliberately introduced thousands of non-native ornamental species, some of which have managed to escape their pots and wreak havoc on neighboring natural areas.

In my next column, I'll profile some of the more pernicious invasive plants found in the Columbia-Pacific Region, and how they can be managed.

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Photos by Rebecca Lexa

CLOCKWISE FROM TOP: Scotch broom plants are endemic throughout western Oregon. As the name suggests, common ivy is seen often around the Columbia-Pacific region. Gorse is an invasive bush seen throughout western Oregon.