

The Washington Post

Growers harness flames to prepare meadows for wildflowers

By Adrian Higgins
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Monday, April 19, 2010; A04

Two-stroke gas falls in little blazing globs from the drip torch of forester Bryant Bays. Moving through a four-acre wildflower meadow on the banks of the Potomac River, he draws a curtain of fire and smoke over the sloping field.

For the meadow's owner, the American Horticultural Society, the controlled burn is the first for a native plant ecosystem that has been six years in the making at the society's River Farm off the George Washington Parkway between Alexandria and Mount Vernon.

The late-afternoon spectacle earlier this month sounded a primal echo of what was once commonplace across the continent as American Indians burned prairie meadows to keep the forest at bay.

Once again, fire has become a vital tool in the life of an indigenous landscape -- it kills unwanted plants and invigorates others. The flames, however, are another reminder that the creation and maintenance of something as supposedly natural and wild as a little prairie requires artful intervention by humans.

Once established, the ornamental

meadow becomes a jewel in the intersecting worlds of the gardener and the ecologist. At River Farm, the wildflower field buffers the Potomac against stormwater runoff; eliminates the need for lawn fertilizers, pesticides and mowing; and provides a rich world of shelter and food for everything from hover flies to foxes.

"It's created a giant wildlife habitat," said David Ellis, the society's spokesman. "We have seen the diversity of wildlife increase on the whole property. It has been exponential since the meadow was started." Goldfinches, eagles, bobwhites and wild turkeys have been drawn to the meadow and the food chain it supports.

Through fire management, Indians vastly expanded the range of the prairie, said Neil Diboll, a prairie-restoration expert in

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Westfield, Wis. Fire prevents saplings from growing into shrubs and trees, returns nutrients to the soil, and triggers the germination of many grass and wildflower seeds.

Diboll attributes the decline of the prairie to the invention of the steel plow in the 1830s, which succeeded the feebler wooden and iron plows and became the tool for converting prairie to farmland.

The challenges for the prairie maker are vastly greater now. A spring burn can achieve what mere mowing cannot, but controlled fires are anything but casual affairs. The River Farm burn needed a permit from Fairfax County and the expert guidance of Bay and a colleague at the Virginia Department of Forestry, Jim McGlone. Together, they manage just a handful of burns a year in Northern Virginia.

Burning does a better job of killing honeysuckles and other nonnative weedy vines than cutting. A well-timed burn will kill cool-season exotics such as blue grass, quack grass and fescues, which emerge sooner in the year than the native warm-season grasses and wildflowers found in indigenous prairies, Diboll said. And the black soot from the fire also absorbs the sun's rays, which helps herbaceous plants grow back after the winter. Diboll measured soil temperatures four days after a fire and found burned

areas 18 degrees warmer than nearby soil untouched by the flames. "It changes the balance from cool season to warm season," he said. "That's a huge reason why burning is so effective."

Before a meadow reaches burning age, it first must establish itself in ground that has been contaminated by hidden weed seeds. Even the pros are sometimes thwarted. At River Farm, the initial attempt at converting a turfed field into a wildflower meadow ended with the mass appearance of pokeweed, a thuggish plant that quickly overtook and smothered the wildflowers. "That was the ill-fated first attempt," said Ellis, "and it took close to 20 years before we had a better vision of how it could be accomplished."

Diboll says that old fields with heavy weed growth need one to two years of weed-killing before wildflower seeds can

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be sown. His prescription: Mow the field in July, and spray the regrowth with an herbicide two months later. The following year, spray the weeds in spring, midsummer and late summer, before seeding the wildflowers and grasses. Avoid widespread cultivation of the soil, which would bring up more weed seeds.

The meadow should be burned in the third year, once the wildflowers are established.

The River Farm meadow was designed and supplied by society board member Kurt Bluemel, a nurseryman in Baldwin, Md., who has spent more than 40 years fostering interest in ornamental grasses.

His weed-beating strategy included using young plants in conelike soil cells, called plugs, in addition to seeds. The gardeners hand-planted 100,000 plugs in the meadow over several phased expansions. Wildflowers dominate over grasses, to present a more ornamental effect, and the plant list reads like a paradise not just for nature lovers but also for insects, birds and mammals. The four areas of the meadow, divided by mowed paths, are rich in native grasses and perennials, including butterflyweeds, asters, yarrows, lupines, black-eyed Susans, gayfeathers, mountain mint, blanketflower and partridge pea.

The meadow, which gets more interesting

through the growing season, is open to the public.

After planting, the recurrent weeds were hand-pulled by gardeners who knew the difference between a weed species and keeper.

"Soil is where the war is won," said Diboll. Soil seared by flame, that is.

For McGlone, a controlled burn is just as much an art form as the resulting meadow. You need fuel in enough dead vegetation, but not too much; you need a breeze in the right direction, but no gusty wind.

At River Farm, he had to wait for a day when the smoke could rise to at least 3,000 feet to mix with the atmosphere, with winds from the southwest between 3 and 7 mph, and relative humidity between 30 to 50 percent. "The art is to

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start a fire in a way that it will burn, but not so hard that you can't control it," he said.

The fire was so unusual in Northern Virginia that power boats raced to view it, a military helicopter swooped overhead to check it out, and the wailing sirens of the Fairfax County Fire Department grew ever louder as McGlone turned to a society official. "You did get that permit, right?"

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