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Habitat Restoration Expands in Purgatory Park

By Janet Larson, Natural Resources Restoration Specialist, City of Minnetonka

Once again, Purgatory Park is a-buzz with chainsaws and wood-chipper activity. Restoration began at Purgatory Park in a brome grass meadow in 1998; the meadow is now a prairie. The first large buckthorn clearing took place in late 2001. The second big invasive species cut started recently in December 2007; and it will continue throughout much of the winter. New areas under chainsaw attack are all over the park. Buckthorn of various sizes are being removed along the main trails, into adjacent woods and prairie. Non-native honeysuckle (1) is being removed, too. The largest concentration of this second-most-invasive woody species is in a brushland area northwest of the central wetland.

Oak ridge is a special place

The first big buckthorn cut in Purgatory Park was on the oak ridge, in 2001. The mesic oak woods(2) features large old oaks, ironwood, black cherry, hackberry, and more. The ridge is located in the south half of the park and stretches from the east park boundary at Stodola Rd. to the west boundary at 58th St. West. Since the first cut, many people have lamented, "It has come back worse than ever." This second generation of buckthorn that we've seen the past few years germinated from the extensive seed bank in the soil. Mature buckthorn trees have been dropping black fruits with seed for decades; so when stands are cut, new seedling growth can be tremendous. The dense brush that has re-grown on Purgatory's oak ridge holds 4 to 6-year-old saplings and some stump re-sprouts. They seem formidable, but they are "under control." How can this be?

Control vs. eradication

"Control" of invasive species is the prevention of their spread by seed or other means. Young re-growth of buckthorn is not producing seed, so it is temporarily under control; in fact, new seedling germination is "using up" the seed bank. Literature says buckthorn seed is viable for about six years. If we can keep the larger plants under control, we will eventually reduce the seed bank. Eradication means killing all target plants. Eradication of buckthorn in Minnetonka is not possible, but control *is* possible.

Control techniques

Prairie Restorations, Inc. is doing the current work in Purgatory Park. They are using three techniques that vary depending on the habitat features that need protection or improvement. Each technique has its advantages; for example, many of the female buckthorn branches with black fruit are dragged to **burn piles** where viable seed is destroyed. Buckthorn without berries is being **chipped on site**(3) and blown uniformly into the woods. Wood chips along the trails are aesthetic, conserve soil moisture, and break down faster than slash. Further from the trails, the **cut-slash** method is used, where brush is cut into smaller pieces and dropped low to the ground. Brush with soil contact decomposes faster than brush in piles. It also helps reduce soil erosion on slopes and provides habitat for amphibians, reptiles, and small mammals.

Micro-management techniques will restore remnant native plants
Areas with remnant native trees and shrubs have been marked with yellow or white ribbon-flagging. Work crews have been instructed to avoid these areas. Our goal is to hand remove all invasive species that are inter-mingled with the natives. While this is a tall order that may take years to achieve, some of this work has begun with small groups of volunteers under the direction of natural resources staff. Most volunteers enjoy restoration work, because we are identifying native plants up-close and can immediately see the results of our efforts.

The bird thicket
South of the main parking lot and main trail is a special area being restored to a songbird thicket. City staff started to control poison ivy here in early fall 2007. Volunteers flagged native nannyberry, choke cherry, black cherry, gray dogwood and prickley ash being squeezed out by non-native buckthorn. Each of these native species create wonderful songbird habitat, provide flowers for pollinators, and fruit for birds and wildlife. Prairie Restorations cut the woody invasives and treated stumps in December 2007. Wood chips were blown back into the natural area for mulch. A good start has been made to restore the bird thicket. The hard work is completed. Future tasks will be to spread the woodchips thinly so wildflowers and sedges can push through; hand-pull young buckthorn, garlic mustard and weeds; and cut stump re-sprouts. We are grateful for all volunteers who have helped us reach this point.

To assist with these or other park restoration projects call the Minnetonka Natural Resources Division at 952.988.8400. Guided spring plant walks will be held in three parks in 2008. See the Minnetonka website in April for more information.

Footnotes:
1. You may be surprised to learn that most honeysuckles are invasive and are still available at nurseries. Please refrain from planting non-native honeysuckles near Minnetonka natural areas.
2. “Mesic Oak Forest” is a Minnesota Land Cover Classification System (MLCCS) natural community type; mesic means moist soil.
3. Use of wood chips can prevent the emergence of wildflowers if the chips are too deep. On the other hand, a heavy layer of wood chips can prevent the new germination of garlic mustard, another invasive plant. Site evaluation is needed to determine whether spreading wood chips is appropriate.

Photo Caption:
Prairie Restorations crew chips buckthorn back in to the woods along a Purgatory Park trail