

Cross Vermont Trail Weedy Plants, management.

scratch notes. This draft 2015-06-21.

2 types of situation.

- a "plantation" of invasive plants, where the job is to comprehensively clear all the plants from the managed property.
- simple trail clearing; just keeping plants from interfering with the trail function, but not addressing the management of the full property.

The comprehensive approach is needed when:

- managing the big picture on site is the only way to address the needs of the trail (i.e., just clipping back the knotweed is pointless, need to tackle the whole patch)
- when CVTA has responsibility, or at least ability to help with, the ecological function of the corridor in addition to the simple trail function (which benefits the trail indirectly by: less bank erosion, less ticks, less clearing and brushing along trail edge, and better trail experience as a 'nature trail').

The simple approach is needed when there is no larger issue that can be realistically addressed by CVTA, but there are still weedy plants causing trouble along trail, so need to have in mind specific plan to address them. The plan is usually consists of not much more than cutting back fast growing plants on a rigorous schedule.

Interesting philosophical discussion – what is a weed. Ultimately, a plant that is unwanted, but which volunteers prolifically. Some plants can be weeds in one context and not in others. For example, alfalfa is desired in hay fields, but is considered a weed in a nature reserve, and so on. For trail management, weeds are plants that (first) interfere with trail function and (second) interfere with ecological function of the greenway.

The reasons they are weeds:

- fast growing, block the trail; physically interfere with function (in the way and regrow fast, so need to cut all the way back, no point in just trimming; have thick stalks or thorns, etc, and so interfere with function even if mowed (doesn't mow smooth);
- sometimes dangerous to people (skin reactions; tick habitat).
- adverse impact on habitat value and promote erosion, negative impact on natural function of the land.

Skin reactions:

- Oil (poison ivy) spread by simply touching the plant
- Sap (hogweed et al) spread by cutting the plant

Impacts on ecology:

- out compete and replace native vegetation; "most plant diversity is at the ground level" but they are excluded by invasives; also, when the mature trees die no succession except to invasives;
- shade out undergrowth with tight growth, which created bare soil beneath the plants, which leads to soil erosion in the winter especially along river banks, and in forests thickets of invasives create gully erosion;

- for wildlife, survey of general information suggest that in general invasives berries are attractive but not nutritious and so the animals spread the seeds but are not nourished by them; and also that nesting habitat is worse in invasives because predators can more easily get to nests when they are built on invasives;
- studies, by various State land management entities, posted online, show incidence of disease carrying ticks is many times greater in thickets of invasives, especially barberry.

To eradicate, exhaust the roots and exhaust the seed bank. This means repeated control for many years. If you only cut once then wait until it looks like there are a lot again to cut again, you wasted your time.

- ones that resprout from roots, will resprout over and over, need to return often enough that the roots don't get a chance to 'recharge' from a season of having foliage – in a concentrated area, these plants can be greatly diminished;
- ones that sprout from seed, new ones will come up as seeds deposited in previous years happen to hit upon favorable circumstances for sprouting – it may be never ending, as the seed bank may be essentially unlimited, however control measures can keep the invasives minimized to some degree.

When clearing, especially if disturbing the ground (like when pulling roots), cover the bare ground with leaf litter, etc, so that the disturbed ground does not simple provide a convenient place for immediate recolonization by other weeds.

Root sprouters, can be attacked by:

- for smaller plants, dig up entire root. Dispose of root so that it does simply resprout in a new location (hang in the air, put on pavement, bag it, etc)
- for larger plant, cannot get entire root. Sometimes OK to get part of the root, but for some (Knotweed) important to not dig up any roots, they will just resprout wherever you dispose of them.
- cutting and recutting until roots are exhausted
- herbicide applied to foliage, which is drawn to roots
- herbicide applied to cut stem, which is drawn to roots
- Cutting, or burning, to reduce size of plant, then when resprouts, apply herbicide (this is a way of using less total herbicide)
- Timing: Cutting, repeatedly during each year. Herbicide, seems to recommend generally during the Fall when resources are being drawn to the roots.

Seed reproducers: simply cut early in the year before they set seed, return every year. Or herbicide same as for root spreaders.

Another form of spreading is by "layering" – when branches lean over and root into ground. This doesn't have bearing on the control method. But it is another reason the plants are weeds, as it results in dense thickets that colonize into the trailway aggressively.

Note, no information found suggests any of the common invasives along Cross Vermont route will sprout from "stem cuttings". So care is taken to not spread the plants by spreading the cut roots or the seeds, but the simple cut stems can be left on the ground to rot. (Though in some cases, certainly in the case of Chervil, the immature seeds will continue to ripen to completion even on a cut stem, so cut stems with unripe seeds on them need to be disposed of as seeds.)

Herbicide:

On private property, non commercial use, homeowner can apply over the counter products.

On public land, must have approval from the State Dept of Ag, and also Dept Water Quality if near water. And must be licensed by Dept of Ag (there is a test and a certificate).

(In any case CVTA itself may not apply herbicides. But if landowner wishes to do so as a part of management of trail corridor or larger property, we can coordinate with them.)

Glyphosate is Roundup. Broad range (kills all plants) so be careful to apply just to the target plants. Using more is not better, just get it on the target, doesn't need to be dripping with it. Do not apply in rain or if plants are wet, or if it will rain within 6 hours. Milder mixtures are available over the counter. Stronger mixtures are available to licensed applicators.

Tryclopir aka Garlon is specific to broad leafed plants, so allows other types of plants to reveg the site. Only for sale to licensed applicators.

Along the trail:

Barberry: pull individuals by the roots, need to make a plan for the larger patches

Poison Ivy: we need to learn how to manage this, an issue at some particular sites

Burdock: cut aggressively, this will be a never ending job, just need to keep ahead of them each year

honeysuckle: currently, cutting back aggressively from the edge of trail, in future could do more comprehensive eradication in the corridor

Buckthorn: no immediate impact on the trail, though the long term contribution to gully erosion is obviously making a lot of work for us

Hogweed relatives: looks like only the milder forms of this are along the trail. But still cause skin reaction, and are very large and in the way. Cut back from just the trail

Knotweed: stomp and exhaust select plantations, where they are crowding the trail itself

Goutweed: no direct impact on trail, but interesting if in future any sort of eco restoration for a property

Chervil: spreading rapidly now, seems inevitable; at the least though, when found along the trail, be mindful to not cut as going to seed and thus spreading it even more