Effect of repeatedly removing leaves from Tartarian honeysuckle (*Lonicera tatarica*)

Removing the leaves of a shrub, thus depriving it of the ability to photosynthesize leads eventually to death of the plant. As it does not require disturbing the soil by digging the plant out, or the possibly adverse consequences of using a chemical herbicide, it has been suggested as a low risk way of removing unwanted species.

We tested this on 8 sample Tartarian honeysuckle shrubs. The samples were large plants 2 – 3m tall, multi-stemmed, and with stem diameters of from 2 to 10cm.

First treatment: July/Aug (when root carbohydrates are low): plants cut to 1.5m tall and all leaves stripped.

Following this the plants were revisited every 2 – 4 weeks until the end of Sept. and again the following year from June to Sept. and any new growth removed.

Results:

Sample ID	Date of first treatment	Initial number of stems.		Condition of plant after 2yrs
		2-5 cm dia.	5-10 cm dia.	
1	6th Aug 2012	1	3	No sign of re-growth, stems dry and brittle
2	6th Aug 2012	2	1	No sign of re-growth, stems dry and brittle
3	6th Aug 2012	2	1	No sign of re-growth, stems dry and brittle
10	13th Aug 2012	16	10	Lateral shoots up to 0.5m long on many cut stems; suckers up to 0.5m around base
11	13th Aug 2012	15	14	Lateral shoots up to 0.5m long on many cut stems; suckers up to 0.5m around base
12	7th July 2013	0	8	Some lateral shoots <5cm long low down on stems; one large sucker ~1m tall
13	7th July 2013		2	No lateral shoots; some small suckers <5cm tall around base
14	7th July 2013	3	3	No lateral shoots; some small suckers <5cm tall around base

A. Impact on sample plants of two years of of treatment:

Sample 1, 2 and 3: all within 10m of one another in aspen/tall shrub community in the Elbow River floodplain (all responded similarly to treatment)

Sample 3 before treatment in July 2011

Sample 1 showing lateral shoots from cut stem in July 2012; no suckering

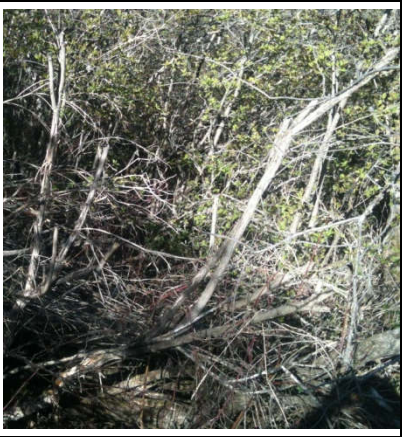
Sample 3 July 2013 no re-growth; stems brittle and appear dead

Sample 10 and 11: ~10m apart at foot of south-facing escarpment, sunny exposure and close to wetlands bordering reservoir; (both samples responded similarly to treatment)

Sample 11 after first treatment in Aug 2011

Sample 11 in July 2012 – masses of re-growth from stems and ground

Sample 11 in July 2013 – relatively few lateral shoots but still many suckers

Sample 12 and 13 – 25m apart in riverine forest by Elbow River (both samples responded in similar way)		
		
Sample 13 after first treatment in July 2013	Sample 13: regrowth before treatment in Aug 2013 (photo from 2014 missing: re-growth as above but most lateral shoots <2cm long)	Sample 13 in May 2015 – no re-growth visible
Sample 14: mid-way down south-facing escarpment among aspen/tall shrub community		
		
Before treatment in July 2013	In 2014 no lateral shoots from cut stems – but small suckers appeared around base	May 2015 – no re-growth apparent

B. Results of continuation of treatment of Sample 10 and 11:

As both these samples had significant re-growth from suckering when visited in July 2013 after two years of treatment, regular removal of leaves and shoots was continued to the end of 2013. In 2014 only two visits were made, one in July and one in Aug.

Sample 10, left, and sample 11, right. Both continued to send up suckers throughout 2013. Photos show plants at fist visit of 2014 in July. Re-growth was removed then and in Aug.

When visited in May 2015 both plants had stopped re-sprouting from stems, but some small suckers were still found round base. Approximately half of the original number of stems of each sample had died and broke off easily when tugged.

Sample 10, May 2015 (left)

Conclusion:

Effectiveness of this treatment on T. honeysuckle varied greatly – some plants being dead after two years of treatment, others still showing life after 4 years (this difference in resilience was also found by Luken and Mattimiro 1991* when studying Tartarian honeysuckle's close relative, Amur honeysuckle.)

The technique may be worth considering in circumstances where other treatment is not advisable (e.g. plants growing on steep, erosion-prone slopes, or plants too large to dig up), especially when plants are stressed in some other way – e.g. growing in low light conditions. However long-term commitment must be assured as stopping treatment too soon can lead to vigorous re-sprouting of the shrub in some cases.

*J.O. Luken and D.T. Mattimiro 1991: Habitat-Specific Resilience of the Invasive Shrub Amur Honeysuckle (*Lonicera Maackii)* During Repeated Clipping: Ecological Applications, Vol. 1, No. 1 (Feb., 1991), pp. 104-109 http://www.jstor.org/stable/1941852 Accessed: 04/12/2013 18:54