Additional file 5. Narrative tables summarising included studies.

Table A. Overview of included studies

Article	Location	Vegetation types studied	Study design	Duration of exposure difference (years)	No. of sites or regions	No. of replicates per site/region and treatment	Effect of high vs. low exposure to reindeer herbivory (as presented by study authors) + SIgnificant increase with increasing herbivory – Significant decrease with increasing herbivory NS No significant change with changing herbivory	No. of BA/CI/BACI comparisons extracted	Comments
Northern Fennoscandia (semi-domesticated reindeer, primarily summer or spring/autumn ranges)									
Bråthen & Oksanen 2001	Joahkonjárga (Norway)	Mountain birch forest	BACI, reindeer exclosures	0.17	1 site	16	Preferred forage plants, abundance: – Less preferred forage plants, abundance: NS	25	
Bråthen *et al.* 2007	Finnmark (reindeer herding districts 13, 14, 14A, 16A, 16B, 16C, 20, 21, 24A, 24B, 27, 28, 29, 32, 33, 34, 35A, 35B, 36, 40) (Norway)	All types	CI, regions with different reindeer densities	Decades (assumed to be 25 years)	10 adjacent pairs of districts	35–132	Small dicotyledons, abundance: NS Tall dicotyledons, abundance: NS in rich soil, – in poor soil Grasses, abundance: NS in rich soil, – in poor soil Sedges, abundance: NS *Salix* shrubs and dwarf-shrubs, abundance: NS Vascular cryptogams, abundance: NS (Some data on individual spp. also available)	618 (52–65 per pair of regions)	Raw data supplied by author. Published data (but not extracted data) stratified by soil type (rich/poor).
den Herder *et al.* 2004	Muotkatakkavaara (Finland)	Mountain birch forest, subarctic heath	CI, reindeer exclosures	5	1 site	20	*Salix phylicifolia*, height: – *Salix phylicifolia*, branching: – *Salix phylicifolia*, no of buds/shoot: – *Salix phylicifolia*, no of catkins/ramet: –	1	Year-round herbivory, but vegetation of interest was only browsed in summer. Data on cut shoots not used.
Eriksson *et al.* 2007	Fulufjället, Långfjället, Sonfjället, Ritsem and Tavvavuoma (Sweden)	Many types	BACI, reindeer exclosures	2–5	5 widely spaced sites	3	In general marginal or no effects on the diversity and cover of investigated vegetation types.	714 (102–170 per site)	Raw data supplied by Robert Björk. Puollanvare and Tjuolmajaure data not replicated and therefore not used.
Eskelinen & Oksanen 2006	Saana (Finland)	Low alpine *Dryas* heath, graminoid- and herb-rich meadow	BA, decrease of reindeer density	9 or 11	1 site	24	The decrease of reindeer density was followed by increased abundance of lichens, decreased abundances of graminoids and bryophytes, and increased species richness of bryophytes and total vegetation. (Some data on individual spp. also available)	25	Study also presents CI data, but these were not used since C and I sites had different types of vegetation. BA data only extracted for areas accessible to reindeer.
Gaare *et al.* 2006	Finnmarksvidda (reindeer herding districts 16, 17, 30A, 30B, 30C) (Norway)	Dry ridge tundra	BA, decrease of reindeer density	7	1 region divided into 5 districts	137–147	The decrease of reindeer density was followed by an increase of the lichen cover in 3 districts and non-significant changes in 2 other districts.	2	Effect sizes not calculated due to absence of comparator deviance data.
Gonzalez *et al.* 2010	Finnmark (reindeer herding districts 6, 7, 20, 21, 27, 28) (Norway)	Productive low alpine	CI, regions with different reindeer densities	Decades (assumed to be 25 years)	3 adjacent pairs of districts	9–16	Seed bank, density: –	9 (3 per pair of regions)	
Grellmann 2002	Joatka (Norway)	Mossy dwarf-shrub heath	CI, reindeer or all-mammal exclosures	6	1 site	4	Lichens, abundance: NS Mosses, abundance: NS Vascular plants, abundance: NS Poaceae, abundance: + (Some data on individual spp. also available)	32	Data on fertilisation treatments not used, but fertilised plots nearby may have attracted herbivores also to unfertilised plots. Fig. 2 and associated text difficult to interpret.
Johansen & Karlsen 2005	Finnmarksvidda (Norway)	All types	BA, increase of reindeer density (remote sensing)	27	1 region	Entire region surveyed	Strong decrease of lichen-covered area with increasing reindeer density.	0	Data not extracted due to absence of information on deviances.

Article	Location	Vegetation types studied	Study design	Duration of exposure difference (years)	No. of sites or regions	No. of replicates per site/region and treatment	Effect of high vs. low exposure to reindeer herbivory (as presented by study authors) + SIgnificant increase with increasing herbivory – Significant decrease with increasing herbivory NS No significant change with changing herbivory	No. of BA/CI/BACI comparisons extracted	Comments
Kitti *et al.* 2009	Jávrresduottar (Norway/Finland)	Wetland on alpine tundra	CI, reindeer exclosures	4	1 site	12	Vascular plants, species richness: NS *Salix*, height: – (marginally significant)	4	Data from Norwegian side of the border not used due to different seasonality of grazing (winter) and absence of exclosures.
Lehtonen & Heikkinen 1995	Utsjoki (Finland)	Mountain birch forest	CI, reindeer exclosures	20	8 sites	8	*Betula pubescens*, no. of seedlings: – *Betula pubescens*, no. of sprouts per tree: NS	2	All sites recovering from damage to mountain birch by *Epirrita autumnata*.
Moen *et al.* 2009	Handölsdalen (Sweden)	Dry heath, grass heath	CI, areas with different reindeer densities	> 7	1 district	4–5	Total vegetation, species richness: NS Relative abundances of species affected by grazing in dry heath but not in grass heath.	89	Raw data supplied by author.
Olofsson & Strengbom 2000	Lagisduoddar (Norway)	*Salix* thickets	CI, summer and spring/autumn ranges divided by fence	30–40	1 site	8	*Salix lanata*, no. of leaves/shoot: NS *Salix lanata*, shoot length: –	7	
Olofsson *et al.* 2001	Lagisduoddar, Raisduoddar and Čearro (Norway), Siččajávri (Norway/Finland)	*Empetrum*/*Dicranum* / lichen heath, *Betula nana*/*Cladina* heath	CI, areas with different reindeer densities (close to and further from fence)	30–40	4 widely spaced sites	4–7	Graminoids had increased and dwarf shrubs decreased in heavily grazed areas close to the fence. This heavy grazing had also increased productivity and nutrient cycling.	60 (13–21 per site)	Data in Fig. 1 supplied in digital format by author. Some data in other figures not clearly visible and therefore not extracted. Only summer-range data used (no clear gradients of grazing pressure on winter and spring/autumn ranges).
Olofsson *et al.* 2004	Abisko and Vássijávri (Sweden), Joatka and Seiland (Norway)	Mountain birch forest, heathland	BACI, reindeer or all-mammal exclosures	4	4 widely spaced sites	NA	Small mammals had a much larger effect on the vegetation than reindeer.	16	Effect sizes not calculated due to insufficient data on replication. Article does not report in detail on non-significant effects.
Olofsson & Oksanen 2005	Boazuvárri, Geadgečorro and Vággečohkka (Sweden), Pikku-Malla, Iso-Malla and Saana (Finland), Jávrioaivit and Jeahkkir (Norway)	*Dryas* heath, low-herb meadow	CI, areas with different reindeer densities	Long	8 widely spaced sites	1 (4 grids, 20 plots)	*Regression slopes in relation to reindeer population index:* Vascular plants, species richness: NS Vascular plants, Shannon diversity (N'): NS Vascular plants, evenness index: NS Ca-favoured vascular plants, species richness: + Arctic-alpine vascular plants, species richness: NS Vascular plants red-listed in Finland (near threatened or worse), species richness: NS Vascular plants red-listed in Finland (vulnerable or worse), species richness: +	0	Results based on regressions of vascular plant diversity indices vs. reindeer density index at different sites. 20 plots sampled at each site, but data reported at site level only, with no deviance.
Olofsson 2006	Lagisduoddar and Raisduoddar (Norway)	*Empetrum*/*Dicranum* / lichen heath	CI, areas with different reindeer densities (close to and further from fence)	30-40	2 sites	5	Vascular plants, biomass: NS Vascular plants, species richness: NS Mosses, cover: NS Lichens, cover: NS	8 (4 per site)	Data on transplantation experiments and comparisons between summer and winter ranges not used
Olofsson *et al.* 2009	Abisko and Vássijávri (Sweden), Joatka and Seiland (Norway)	Mountain birch forest, heathland	CI, reindeer or all-mammal exclosures	10	4 widely spaced sites	9	Shrubs, abundance: – Lichens, cover: – in 1 out of 2 areas (Some data on individual spp. also available)	154 (22–44 per site)	
Olofsson *et al.* 2013	Abisko (Sweden)	Mountain birch forest, heathland	CI, reindeer or all-mammal exclosures	14	1 site	9	*Betula nana*, biomass: – *Cladina mitis*, biomass: NS *Empetrum hermaphroditum*, biomass: NS *Vaccinium myrtillus*, biomass: NS *Vaccinium vitis-idaea*, biomass: NS	4	Data on groups and species also covered by Olofsson et al. 2009 not included, nor are data on diseased vegetation. Article does not report in detail on non-significant effects.

Article	Location	Vegetation types studied	Study design	Duration of exposure difference (years)	No. of sites or regions	No. of replicates per site/region and treatment	Effect of high vs. low exposure to reindeer herbivory (as presented by study authors) + SIgnificant increase with increasing herbivory – Significant decrease with increasing herbivory NS No significant change with changing herbivory	No. of BA/CI/BACI comparisons extracted	Comments
Ravolainen *et al.* 2010	Finnmark (reindeer herding districts 6, 7, 20, 21, 27, 28) (Norway)	Productive low alpine	CI, regions with different reindeer densities	Decades (assumed to be 25 years)	3 adjacent pairs of districts	5–16	Weak scale-dependency of reindeer-grazing effects on plant diversity. High reindeer densities cause some homogenisation of the vegetation.	138 (44–48 per region pair)	Raw data supplied by author.
Ravolainen *et al.* 2011	Komagelva and Vestre Jakobselv (Norway)	Riparian herb field	CI, reindeer or all-mammal exclosures	2	2 sites	3	Total vegetation, biomass: – at 1 site, NS at 1 site Forbs, biomass: – at 1 site, NS at 1 site Vascular cryptogams, biomass: – at 1 site, NS at 1 site Deciduous shrubs, biomass: NS at both sites Grasses, biomass: NS at 1 site Sedges, biomass: NS at 1 site Mosses, cover: NS at both sites *These data refer to reindeer exclosures only.*	40 (20 per site)	Raw data supplied by author.
Tømmervik *et al.* 2009	Finnmarksvidda (reindeer herding districts 16, 17, 30A, 30B, 30C) (Norway)	All types	BA, increase of reindeer density (remote sensing)	49	1 region	Entire region surveyed	Lichens, biomass: negatively correlated with reindeer density Tree layer, biomass: positively correlated with reindeer density	0	Data not extracted due to absence of information on deviances.
Tømmervik *et al.* 2012	Finnmarksvidda (reindeer herding districts 16, 17, 30A, 30B, 30C) (Norway)	Dry ridge tundra	BACI, reindeer exclosures, with decreasing reindeer density outside exclosures	7	1 region	50	Lichens recovered rapidly both outside and inside reindeer exclosures, especially on leeward ridges. The cover of vascular plants, mainly dwarf shrubs, also increased significantly.	4	Data on lichen thickness and biomass not used due to insufficient information about replication.
Russia (semi-domesticated reindeer, summer ranges)									
Pajunen 2009	Yamal Peninsula (Russia)	Shrub tundra heath	CI, areas with different reindeer densities	Unknown	13 sites along transect	1–3	*Salix* (*glauca* and *lanata*), height of ramets: – at deep-thaw sites, + at sites with less deep thaw *Salix,* shoot length: – at sites of both kinds *Salix,* shoot diameter: – at sites of both kinds	0	Results based on regressions of *Salix* dimensions vs. reindeer pellet counts at different sites.
South Norway (wild reindeer, winter ranges)									
Nellemann *et al.* 2000	Rondane (Norway)	Dwarf-shrub/ lichen heath	CI, areas with different reindeer densities (close to and further from infrastructure)	Not stated	1 region	27?	Lichens, cover: – on ridges, NS on slopes Graminoids, cover: NS on ridges, + on slopes (Some data on individual spp. also available)	21	Effect sizes not calculated due to insufficient data on replication.
Nellemann *et al.* 2001	Nordfjella (Norway)	Lichen heath	CI, areas with different reindeer densities (close to and further from infrastructure)	Not stated	1 region	6–25	Lichens, cover: – Lichens, biomass: – Graminoids, cover: + (Some data on individual spp. also available)	9	
Vistnes *et al.* 2004	Rondane, Snøhetta and Nord-Ottadalen (Norway)	Dwarf-shrub/ lichen heath	CI, areas with different reindeer densities (close to and further from infrastructure)	Decades (assumed to be 30 years)	3 adjacent regions	7	Lichens, biomass: – in 2 regions, NS in 1 region (Some data on individual spp. also available)	15 (5 per region)	

Article	Location	Vegetation types studied	Study design	Duration of exposure difference (years)	No. of sites or regions	No. of replicates per site/region and treatment	Effect of high vs. low exposure to reindeer herbivory (as presented by study authors) + SIgnificant increase with increasing herbivory – Significant decrease with increasing herbivory NS No significant change with changing herbivory	No. of BA/CI/BACI comparisons extracted	Comments
Svalbard (wild Svalbard reindeer)									
Dormann & Skarpe 2002	Semmeldalen (Svalbard)	Dry or graminoid heath	BACI, reindeer exclosures	3	1 site	3–6	*Salix polaris*, annual shoot growth: –	4	Effect sizes not calculated due to insufficient data on deviances.
Hansen *et al.* 2007	Brøggerhalvøya (Svalbard)	Dwarf-shrub/ lichen heath	BA, increase of reindeer density	9	1 region	680–688	Lichens, cover: – Mosses, cover: – Vascular plants, cover: –	3	Data collected after 1990 not used since rapid fluctuations of reindeer density make them difficult to interpret.
van der Wal *et al.* 2001	Spitsbergen (Svalbard)	High-arctic valley vegetation	CI, regions with different reindeer densities	Long	14 sites	18–60	Fruticose lichens, cover: – Crustose lichens, cover: NS Foliose lichens, cover: NS (Some data on individual spp. also available)	0	Results based on regressions of lichen cover vs. reindeer pellet counts at different sites.
van der Wal & Brooker 2004	Semmeldalen (Svalbard)	*Luzula* heath, grass-rich meadow	CI, reindeer exclosures	4	1 site	20	Mosses, height: –	1	Result averaged over different vegetation types.
	Spitsbergen (Svalbard)	High-arctic valley vegetation	CI, regions with different reindeer densities	Long	14 sites	18–60	Vascular plants, cover: NS Grasses, cover: +	0	Results based on regressions of vegetation cover vs. reindeer pellet counts at different sites.
Alaska, Canada, Greenland (wild caribou)									
Cahoon *et al.* 2012	Kangerlussuaq (Greenland)	Low shrub tundra	CI, large-mammal exclosures (muskoxen also present)	7	1 site	3	Leaf area index: –	1	Data on warming treatment not used.
Gough *et al.* 2008	Toolik Lake (Alaska, USA)	Dry heath	CI, reindeer or all-mammal exclosures	10 or 17	1 site	2–3	Total vegetation, biomass: NS after 10 years, – after 17 years *Cladonia,* biomass: – *These data refer to reindeer exclosures only.*	12	Data on fertilisation treatments not used. Article does not report non-significant effects in detail.
Jandt *et al.* 2003	Buckland Valley (Alaska, USA)	Tussock tundra, alpine tundra, tall shrub tundra	BA, increase of reindeer density	14	18 sites	18	Lichens, cover: – Graminoids, cover: + Forbs, cover: NS Shrubs, cover: + (Some data on individual spp. also available)	27	
Manseau *et al.* 1996	Rivière George (Canada)	Shrub tundra, dwarf birch stands	CI, areas with different reindeer densities	Unknown	12 sites	4–8	Lichens, cover: – on shrub tundra, NS in dwarf birch stands Lichens, biomass: – on shrub tundra Mosses, cover: + on shrub tundra, NS in dwarf birch stands Shrubs, biomass: NS on shrub tundra (Some data on individual spp. also available)	66	Inconsistent data in Tables 4 and 5 not used.
Pedersen & Post 2008	Kangerlussuaq (Greenland)	Low shrub tundra	CI, large-mammal exclosures (muskoxen also present)	4	1 site	NA	Graminoids, biomass: NS (but significant interaction with year) Forbs, biomass: NS (but significant interaction with year)	8	Data on warming treatments not used. Effect sizes not calculated due to unclear nested design.

Article	Location	Vegetation types studied	Study design	Duration of exposure difference (years)	No. of sites or regions	No. of replicates per site/region and treatment	Effect of high vs. low exposure to reindeer herbivory (as presented by study authors) + SIgnificant increase with increasing herbivory – Significant decrease with increasing herbivory NS No significant change with changing herbivory	No. of BA/CI/BACI comparisons extracted	Comments
Post & Pedersen 2008	Kangerlussuaq (Greenland)	Low shrub tundra	CI, large-mammal exclosures (muskoxen also present)	5	1 site	6	*Betula nana*, cover: – *Salix,* cover: NS Graminoids, cover: + Forbs, cover: + Mosses, cover: NS	6	Data on warming treatments not used. Effect sizes not calculated due to unclear nested design.
Post 2013	Kangerlussuaq (Greenland)	Low shrub tundra	CI, large-mammal exclosures (muskoxen also present)	9	1 site	NA	No data on significance of relevant outcomes found in the article.	1	Data on warming treatments not used.
Zamin & Grogan 2012	Daring Lake (Canada)	Mesic birch hummock tundra	CI, reindeer exclosures	6	1 site	5	*Betula glandulosa,* apical stem biomass: NS *Betula glandulosa,* no. of new apical shoots: NS *Betula glandulosa,* no. of flowers: NS	3	Data on warming, snowfence and fertilisation treatments not used.
Zamin & Grogan 2013	Daring Lake (Canada)	Mesic birch hummock tundra	CI, reindeer exclosures	5	1 site	5	Shrubs, leaf biomass: NS Vascular plants, diversity: + Lichens, diversity: NS	14	

Table B. Sites and regions where included studies were carried out

Site/region	Country	Articles with data	Latitude	Longitude	Elevation (m)	Annual mean temp. (°C)—	Seasonality of reindeer herbivory	Mean reindeer density (over entire range or district) (no./km^2)	Source of reindeer data	Comments on reindeer data
Sites in Fennoscandia (with semi-domesticated reindeer)										
Čearro, Finnmark	Norway	Olofsson *et al.* 2001	69° 40' N	24° 40' E	250	–3.7	Summer			Regional reindeer data not relevant since vegetation data were sampled near fences.
Jávrioaivit, Troms	Norway	Olofsson & Oksanen 2005	69° 31' N	21° 15' E	860	–4.1	Summer			
Jeahkkir, Finnmark	Norway	Olofsson & Oksanen 2005	70° 27' N	23° 47' E	200	–1.8	Summer			
Joahkonjárga, Finnmark	Norway	Bråthen & Oksanen 2001	70° 10' N	22° 30' E		–3.5	Summer	13.6	Bråthen & Oksanen 2001	Regional data for Joahkonjárga (district 27) in 1996.
Joatka, Finnmark	Norway	Grellmann 2002, Olofsson *et al.* 2004, 2009	69° 46' N	23° 58' E	520	–4.3	Spring/autumn	8.0	Tømmervik & Riseth NINA rapport 2011	Regional data for Kautokeino (districts 30A–C).
Komagelva, Finnmark	Norway	Ravolainen *et al.* 2011	70° 20' N	30° 00' E	110–290	0.7	Summer	2.5	http://www.reindrift.no	Regional means for Várjatnnjárga (district 6) in 1980–2003.
Lagisduoddar, Finnmark	Norway	Olofsson & Strengbom 2000, Olofsson *et al.* 2001, Olofsson 2006	70° 30' N	27° 30' E	200–300	–1.4	Summer and spring/autumn			Regional reindeer data not relevant since vegetation data were sampled near fences.
Raisduoddar, Troms	Norway	Olofsson *et al.* 2001, Olofsson 2006	69° 33' N	20° 57' E	600–700	–1.4	Summer			Regional reindeer data not relevant since vegetation data were sampled near fences.
Seiland, Finnmark	Norway	Olofsson *et al.* 2004, 2009	70° 30' N	23° 32' E	100	–2.2	Summer	8.0	http://www.reindrift.no	Regional means for Nuorta–Sievju (district 24B) in 1980–2003.
Vestre Jakobselv, Finnmark	Norway	Ravolainen *et al.* 2011	70° 20' N	29° 15' E	110–290	0.3	Summer	2.5	http://www.reindrift.no	Regional means for Várjatnnjárga (district 6) in 1980–2003.
Jávrresduottar	Norway/ Finland	Kitti *et al.* 2009	68° 47' N	23° 50' E	450–510	–3.3	Summer	10-12	Kitti *et al.* 2009	Data refer to Finnish side of border.
Siččajávri	Norway/ Finland	Olofsson *et al.* 2001	68° 50' N	23° 50' E	550	–3.7	Summer			Regional reindeer data not relevant since vegetation data were sampled near fences.
Iso-Malla, Kilpisjärvi	Finland	Olofsson & Oksanen 2005	69° 05' N	20° 40' E	700	–2.4	Summer			
Muotkatakkavaara, Kilpisjärvi	Finland	den Herder *et al.* 2004	68° 55' N	20° 59' E		–2.4	Year round	2-3	den Herder *et al.* 2004	Local estimate.
Pikku-Malla, Kilpisjärvi	Finland	Olofsson & Oksanen 2005	69° 05' N	20° 45' E	640	–2.2	Summer			
Saana, Kilpisjärvi	Finland	Eskelinen & Oksanen 2006, Olofsson & Oksanen 2005	69° 03' N	20° 50' E	700–850	–4.1	Summer	3.2/1.8	Paliskuntain yhdistys	Regional means for Käsivarsi in 1981–90 and 1991–2001, respectively (the latter relevant for Olofsson & Oksanen 2005, both for Eskelinen & Oksanen 2006).
Abisko, Norrbotten	Sweden	Olofsson *et al.* 2004, 2009, 2013	68° 19' N	18° 52' E	550	–1.2	Mainly spring/autumn	4.9	Svensk-norska renbetes-kommissionen 2001	Regional data for summer range of Gabna herding district.
Boazuvárri, Norrbotten	Sweden	Olofsson & Oksanen 2005	68° 16' N	18° 32' E	780	–1.0	Summer			
Fulufjället, Dalarna	Sweden	Eriksson *et al.* 2007	61° 30' N	12° 45' E	860–930	–0.1		0		Almost no reindeer.
Geadgečorro, Norrbotten	Sweden	Olofsson & Oksanen 2005	68° 24' N	18° 20' E	700	–2.7	Summer			
Långfjället, Dalarna	Sweden	Eriksson *et al.* 2007	62° 05' N	12° 25' E	800–1010	–0.3	Summer	17.9	Svensk-norska renbetes-kommissionen 2001	Regional data for summer range of Idre herding district.
Ritsem, Norrbotten	Sweden	Eriksson *et al.* 2007	67° 45' N	17° 40' E	820–840	–2.8	Summer	3.6	Svensk-norska renbetes-kommissionen 2001	Regional data for summer range of Sörkaitum/ Mellanbyn (Unna tjerusj/Báste) herding district.
Sonfjället, Jämtland	Sweden	Eriksson *et al.* 2007	62° 20' N	13° 55' E	910–940	2.2	Summer	8.7	Svensk-norska renbetes-kommissionen 2001	Regional data for summer range of Mittådalen herding district.
Tavvavuoma, Norrbotten	Sweden	Eriksson *et al.* 2007	68° 20' N	21° 15' E	520	–2.6	Summer	6.4	Svensk-norska renbetes-kommissionen 2001	Regional data for summer range of Lainiovuoma herding district.
Vággečohkka, Norrbotten	Sweden	Olofsson & Oksanen 2005	68° 24' N	19° 05' E	760	–0.3	Summer			
Vássijávri, Norrbotten	Sweden	Olofsson *et al.* 2004, 2009	68° 26' N	18° 16' E		–0.3	Mainly winter	3.5	Svensk-norska renbetes-kommissionen 2001	Regional data for summer range of Talma herding district.

Site/region	Country	Articles with data	Latitude	Longitude	Elevation (m)	Annual mean temp. (°C)	Seasonality of reindeer herbivory	Mean reindeer density (over entire range or district) (no./km^2)	Source of reindeer data	Comments on reindeer data
Herding districts in northern Fennoscandia and Russia (with semi-domesticated reindeer) Numbers in first column refer to Norwegian reindeer-herding districts										
Várjatnnjárga (6)	Norway	González *et al.* 2010, Ravolainen *et al.* 2010	70° 16' N	29° 46' E	114–261	–0.5	Summer	2.5	Gonzalez *et al* . 2010	Regional mean for 1980–2003.
Rággonjárga (7)	Norway	González *et al.* 2010, Ravolainen *et al.* 2010	70° 41' N	28° 53' E	141–297	–0.4	Summer	1.7	Gonzalez *et al* . 2010	Regional mean for 1980–2003.
Siskkit Čorgaš ja Lágesduottar (13)	Norway	Bråthen *et al.* 2007	70° 33' N	27° 33' E	27–685	–1.4	Summer	7.2	http://www.reindrift.no	Regional mean for 1980–2003.
Spierttanjárga (14)	Norway	Bråthen *et al.* 2007	70° 43' N	26° 20' E	9–476	–3.0	Summer	3.9	http://www.reindrift.no	Regional mean for 1980–2003.
Spierttagáisá (14A)	Norway	Bråthen *et al.* 2007	70° 01' N	25° 30' E	187–656	–3.7	Summer	4.6	http://www.reindrift.no	Regional mean for 1980–2003.
Kárášjoga oarjjabealli (Karasjok vestre distrikt) (16A)	Norway	Bråthen *et al.* 2007	70° 46' N	24° 46' E	110–413	–2.0	Summer	10.5	http://www.reindrift.no	Regional mean for 1980–2003.
Kárášjoga oarjjabealli (Karasjok vestre distrikt) (16B)	Norway	Bråthen *et al.* 2007	70° 46' N	25° 14' E	11–412	–2.2	Summer	5.6	http://www.reindrift.no	Regional mean for 1980–2003.
Kárášjoga oarjjabealli (Karasjok vestre distrikt) (16C)	Norway	Bråthen *et al.* 2007	70° 04' N	24° 37' E	270–581	–3.4	Summer	7.3	http://www.reindrift.no	Regional mean for 1980–2003.
Finnmarksvidda (16, 17, 30A, 30B, 30C)	Norway	Johansen & Karlsen 2005, Gaare *et al.* 2006, Tømmervik *et al* . 2009, 2012	69° 30' N	24° E	100–500	–3.4		7.6/6.9	Tømmervik *et al.* 2009	Regional means for 1992–98 and 1999–2005, respectively (relevant for Gaare et al. 2006 and Tømmervik et al. 2012).
Fálá (Kvaløy) (20)	Norway	Bråthen *et al.* 2007, González *et al.* 2010, Ravolainen *et al.* 2010	70° 36' N	23° 53' E	32–459	–3.8	Summer	7.0	Gonzalez *et al* . 2010	Regional mean for 1980–2003.
Gearretnjárga (21)	Norway	Bråthen *et al.* 2007, González *et al.* 2010, Ravolainen *et al.* 2010	70° 35' N	24° 24' E	118–500	–4.3	Summer	4.7	Gonzalez *et al* . 2010	Regional mean for 1980–2003.
Oarje-Sievju (Seiland Vest) (24A)	Norway	Bråthen *et al.* 2007	70° 25' N	23° 02' E	187–794	–3.7	Summer	4.8	http://www.reindrift.no	Regional mean for 1980–2003.
Nuorta-Sievju (Seiland Øst) (24B)	Norway	Bråthen *et al.* 2007	70° 25' N	23° 21' E	120–584	–4.9	Summer	8.0	http://www.reindrift.no	Regional mean for 1980–2003.
Joahkonjárga (27)	Norway	Bråthen *et al.* 2007, González *et al.* 2010, Ravolainen *et al.* 2010	70° 09' N	22° 37' E	159–732	–1.9	Summer	12.1	Gonzalez *et al* . 2010	Regional mean for 1980–2003.
Cuokcavuotna (Bergsfjord) (28)	Norway	Bråthen *et al.* 2007, González *et al.* 2010, Ravolainen *et al.* 2010	70° 13' N	22° 07' E	51–417	–1.0	Summer	3.2	Gonzalez *et al* . 2010	Regional mean for 1980–2003.
Seakkesnjárga ja Sildá (Frakfjord med Silda) (29)	Norway	Bråthen *et al.* 2007	70° 19' N	21° 45' E	73–453	–0.5	Summer	6.5	http://www.reindrift.no	Regional mean for 1980–2003.
Silvvetnjárga (32)	Norway	Bråthen *et al.* 2007	70° 06' N	21° 41' E	92–797	–3.9	Summer	3.7	http://www.reindrift.no	Regional mean for 1980–2003.
Spalca (33)	Norway	Bråthen *et al.* 2007	69° 52' N	22° 05' E	384–695	–3.9	Summer	10.1	http://www.reindrift.no	Regional mean for 1980–2003.
Ábborašša (34)	Norway	Bråthen *et al.* 2007	69° 43' N	22° 22' E	423–671	–3.6	Summer	7.7	http://www.reindrift.no	Regional mean for 1980–2003.
Fávrrosorda (35A)	Norway	Bråthen *et al.* 2007	69° 52' N	21° 37' E	310–675	–2.5	Summer	8.8	http://www.reindrift.no	Regional mean for 1980–2003.
Beahcegealli (35B)	Norway	Bråthen *et al.* 2007	69° 35' N	22° 04' E	611–735	–5.1	Summer	2.0	http://www.reindrift.no	Regional mean for 1980–2003.
Cohkolat (36)	Norway	Bråthen *et al.* 2007	69° 43' N	21° 00' E	306–706	–2.3	Summer	6.7	http://www.reindrift.no	Regional mean for 1980–2003.
Orda (40)	Norway	Bråthen *et al* . 2007	69° 57' N	22° 14' E	422–826	–3.8	Summer	17.5	http://www.reindrift.no	Regional mean for 1980–2003.
Utsjoki	Finland	Lehtonen & Heikkinen 1995	69° 40' N	27° E	225–295	–1.3	Summer	2.9	Paliskuntain yhdistys	Regional mean for Paistunturi/Kaldoaivi in 1970–1991.
Handölsdalen, Jämtland	Sweden	Moen *et al.* 2009	63° 10' N	12° 32' E		–1.2	Summer	6.5	Svensk-norska renbetes-kommissionen 2001	Regional mean for Handölsdalen herding district in 1994–2005.
Yamal Peninsula	Russia	Pajunen 2009	68° 50' N	69° 12' E		–8.1	Summer			

Site/region	Country	Articles with data	Latitude	Longitude	Elevation (m)	Annual mean temp. (°C)	Seasonality of reindeer herbivory	Mean reindeer density (over entire range or district) (no./km^2)	Source of reindeer data	Comments on reindeer data
Regions in south Norway (with wild reindeer)										
Nordfjella, Sogn og Fjordane	Norway	Nellemann *et al.* 2001	60° 50' N	7° 40' E	1000–2000	–2.9	Winter	3.6/0.1	Nellemann *et al.* 2001	Data refer to high- and low-exposure areas, respectively.
Nord-Ottadalen, Oppland	Norway	Vistnes *et al.* 2004	62° 00' N	8° 57' E	1000–1500	–0.6	Winter	5.0/0.9	Vistnes *et al.* 2004	Data refer to high- and low-exposure areas, respectively.
Rondane, Oppland	Norway	Nellemann *et al.* 2000, Vistnes *et al.* 2004	62° 02' N	9° 35' E	1000–1500	–2.0	Winter	> 5/0 (Nellemann 2000); 8.2/2.3 (Vistnes 2004)	Nellemann *et al.* 2000, Vistnes *et al.* 2004	Data refer to high- and low-exposure areas, respectively.
Snøhetta, Oppland	Norway	Vistnes *et al.* 2004	62° 13' N	8° 50' E	1000–1500	0.6	Winter	1.9/0.4	Vistnes *et al.* 2004	Data refer to high- and low-exposure areas, respectively.
Sites and regions on Svalbard (with wild Svalbard reindeer)										
Brøggerhalvøya, Spitsbergen	Svalbard	Hansen *et al.* 2007	78° 54' N	11° 42' E	< 200	–6.8	Year round	0.1/0.9	Hansen *et al.* 2007	Reindeer reintroduced in 1978. Data refer to 1979 and 1989, respectively.
Semmeldalen, Spitsbergen	Svalbard	Dormann & Skarpe 2002, van der Wal & Brooker 2004	77° 58' N	15° 25' E	30–100	–5.6	Year round	1.7	Jacobsen *et al.* , *Rangifer* **18** (2): 81-84	Regional data for Semmeldalen + Reindalen in 1994.
Spitsbergen	Svalbard	van der Wal *et al.* 2001, van der Wal & Brooker 2004	78° 30' N	15° 20' E		–5.9	Year round			
Sites and regions in North America (with wild caribou)										
Kangerlussuaq	Greenland	Cahoon *et al.* 2012, Pedersen & Post 2008, Post & Pedersen 2008, Post 2013	67° 07' N	50° 20' W	280	–5.3	Summer	1.2-7	Greenland Institute of Natural Resources, Technical Report 78	Data refer to Kangerlussuaq–Sisimiut caribou herd in 2001–2010.
Daring Lake, NW Territories	Canada	Zamin & Grogan 2012, 2013	64° 52' N	111° 34' W	420	–11.1	Summer	0.25-1.3	Zamin & Grogan 2012, 2013	Data refer to Rivière George caribou herd in 2004–2009.
Rivière George, Quebec	Canada	Manseau *et al.* 1996	58° N	65° W		–6.3	Summer	2.5	www.caff.is	Data refer to Rivière George caribou herd.
Buckland Valley, Alaska	USA	Jandt *et al.* 2003	66° N	160° W	90–600	–6.7	Winter	0.39/1.24	Jandt *et al.* 2003	Data refer to Western Arctic caribou herd in 1981 and 1993, respectively.
Toolik Lake, Alaska	USA	Gough *et al.* 2008	68° 38' N	149° 36' W	760	–11.3	Winter	0.29	www.caff.is, http://www.fws.gov/alaska/nwr/arctic/pdf/cah.pdf	Data refer to Central Arctic caribou herd.

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