



Fig. A1 Effect of N addition rate on electrical conductivity (EC) of soil. Data are mean \pm SE (n=8). * and ** respectively indicate significant difference between control (no N added) and N-added plots at $P < 0.05$ and $P < 0.01$.

Table A1 Pear correlation coefficients (r) between ion concentrations and N addition rate and soil pH ($r>0$ indicates positive correlations, $r<0$ indicates negative correlations,). *, ** and *** indicate the correlation is significant at $P<0.05$, $P<0.01$, and $P<0.001$.

Variables	Forb biomass			Forb richness			Grass biomass			Grass richness		
	r	F	P	r	F	P	r	F	P	r	F	P
Inorganic-N	-0.486	14.203	0.000	-0.521	17.147	0.000	0.066	0.204	0.654	-0.276	3.798	0.057
Olsen-P	-0.435	10.756	0.002	-0.338	5.916	0.019	-0.151	1.066	0.307	-0.261	3.362	0.073
Soil pH	0.437	10.885	0.002	0.699	43.875	0.000	0.078	0.278	0.600	0.415	9.556	0.003

Table A2 Linear regression between inorganic-N, Soil pH and Olsen-P with forb biomass, forb richness, graminoid biomass and graminoid richness. Pear correlation coefficient (r), F -value and P -values are given. $r>0$ indicates positive correlations, $r<0$ indicates negative correlations.

Dependent Variables	Inorganic-N	Olsen-P	Ca ²⁺	Mg ²⁺	K ⁺	Fe ³⁺	Mn ²⁺	Cu ²⁺	Zn ²⁺	Al ³⁺
N addition	0.86***	0.69***	-0.46**	-0.31*	-0.11	0.92***	0.94***	0.90***	0.06	0.74***
Soil pH	-0.77***	-0.61***	0.46***	0.35*	0.06	-0.85***	-0.92***	-0.85***	-0.03	-0.73***

Table A3. A list of the species in the study area.

	Species	Family	Class
Grasses	<i>Stipa krylovii</i>	gramineae	monocot
	<i>Cleistogenes squarrosa</i>	gramineae	monocot
	<i>Leymus chinensis</i>	gramineae	monocot
	<i>Carex korshinskyi</i>	cyperaceae	monocot
	<i>Agropyron cristatum</i>	gramineae	monocot
	<i>Poa pratensis</i>	gramineae	monocot
	<i>Koeleria cristata</i>	gramineae	monocot
Forbs	<i>Artemisia frigida</i>	compositae	dicot
	<i>Potentilla acaulis</i>	rosaceae	dicot
	<i>Potentilla tanacetifolia</i>	rosaceae	dicot
	<i>Dianthus chinensis</i>	caryophyllaceae	dicot
	<i>Heteropappus altaicus</i>	asteraceae	dicot
	<i>Allium bidentatum</i>	liliaceae	monocot
	<i>Melilotoides ruthenica</i>	leguminosae	dicot
	<i>Potentilla bifurca</i>	rosaceae	dicot
<i>Allium tenuissimum</i>	liliaceae	monocot	