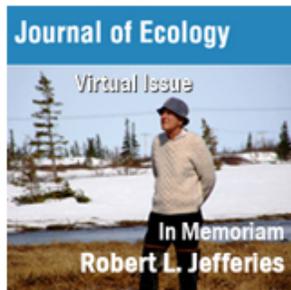


## Robert L Jefferies Virtual Issue



Professor R.L. (Bob) Jefferies was a highly respected, productive and influential ecologist, who published much of his core output in some 29 papers in the *Journal of Ecology*, over a period of 47 years. Nineteen of these papers, spanning his entire career, are assembled in this virtual issue. Bob also served the *Journal* as an energetic Associate Editor from 1988 until his untimely death, at the height of his powers, in 2009.

Although always first and foremost an ecologist, Bob's distinctive approach brought an early, rigorous training in plant physiology and biophysics to bear on field problems at population, ecosystem and, eventually, global scales. His early work on the ionic relations of plants adapted respectively to calcareous and acidic soils has become a now classic study. Later, at the University of East Anglia in Norfolk, UK, he developed his life-long research interest in salt marshes, making important contributions to our understanding of the physiological and population ecology of halophytes.

It was after his move to Toronto in 1974, however, that Bob established the research programme on the coastal marshes of the Hudson Bay lowlands of Northern Canada that would become his leading contribution to science. His initial focus there was the ecology and physiology of coastal halophytes in the arctic, but he quickly demonstrated that interactions between nesting snow geese and the plants were key drivers of the local ecology, unravelling their consequences for nitrogen cycling and primary production. He documented how snow geese fertilized the salt marsh plants that in turn served as forage for their broods. Then, snow goose populations exploded in the 1980s; the unprecedented overgrazing that followed led eventually to denudation and functional collapse of the coastal salt marsh systems. His research showed that the goose populations had increased as a result of changes in agricultural practices and hunting pressure in their wintering grounds in the Gulf states of the USA. Bob's work demonstrated how global change can occur over long distances through a purely biological mechanism – migratory birds. It was this contribution to our understanding of global change effects on arctic ecosystems that led to Bob being invited to serve as one of the Canadian representatives on the IPCC panel which was awarded the Nobel Peace prize in 2007.

Bob Jefferies will be remembered warmly by generations of colleagues and students alike for his inspiration, kindness and courtesy. It is fitting that a graduate scholarship has been established in his memory. More information about this memorial scholarship and how to make a donation are available at the University of Toronto's [dedicated website](#).

**Core publications by Robert L Jefferies in *Journal of Ecology* (1964-2010)**

[Studies on the calcicole-calcifuge habit - II. The influence of calcium on the growth and establishment of four species in soil and sand cultures](#)

R. L. Jefferies, A. J. Willis (1964)

*Journal of Ecology*, 52, 691-707

[The vegetation of salt marshes at some coastal sites in actic North America](#)

R. L. Jefferies (1977)

*Journal of Ecology*, 65, 661-672

[Growth responses of coastal halophytes to inorganic nitrogen](#)

R. L. Jefferies (1977)

*Journal of Ecology*, 65, 847-865

[The effects on the vegetation of the additions of inorganic nutrients to salt marsh soils at Stiffkey, Norfolk](#)

R. L. Jefferies, N. Perkins (1977)

*Journal of Ecology*, 65, 867-882

[Population biology of the salt marsh annual \*Salicornia europaea\* agg.](#)

R. L. Jefferies, A. J. Davy, T. Rudmik (1981)

*Journal of Ecology*, 69, 17-31

[Changes in the composition and standing crop of salt-marsh communities in response to the removal of a grazer](#)

D. R. Bazely, R. L. Jefferies (1986)

*Journal of Ecology*, 74, 693-706

[Lesser snow geese and the nitrogen economy of a grazed salt marsh](#)

D. R. Bazely, R. L. Jefferies (1989)

*Journal of Ecology*, 77, 24-34

[Leaf and shoot demography of an arctic stoloniferous grass, \*Puccinellia phryganodes\*, in response to grazing](#)

D. R. Bazely, R. L. Jefferies (1989)

*Journal of Ecology*, 77, 811-822

[Increases in the net above-ground primary production of a salt-marsh forage grass: a test of the predictions of the herbivore-optimization model](#)

D. S. Hik, R. L. Jefferies (1990)

*Journal of Ecology*, 78, 180-195

[Inverse salinity gradients in coastal marshes and the death of stands of \*Salix\*: the effects of grubbing by geese](#)

A. Iacobelli, R. L. Jefferies (1991)

*Journal of Ecology*, 79, 61-73

**Effects of the timing of multiple grazings by geese on net above-ground primary production of swards of *Puccinellia phryganodes***

D. S. Hik, H. A. Sadul, R. L. Jefferies (1991)

*Journal of Ecology*, 79, 715-730

**A positive feedback: herbivory, plant growth, salinity, and the desertification of an Arctic salt-marsh**

D. S. Srivastava, R. L. Jefferies (1996)

*Journal of Ecology*, 84, 31-42

**Nitrogen mineralization, plant growth and goose herbivory in an Arctic coastal ecosystem**

D. J. Wilson, R. L. Jefferies (1996)

*Journal of Ecology*, 84, 841-851

**The detection of vegetational change by multitemporal analysis of LANDSAT data: the effects of goose foraging**

A. P. Jano, R. L. Jefferies, R. F. Rockwell (1998)

*Journal of Ecology*, 86, 93-99

**Patterns of vegetation change and the recovery potential of degraded areas in a coastal marsh system of the Hudson Bay lowlands**

I. T. Handa, R. Harmsen, R. L. Jefferies (2002)

*Journal of Ecology*, 90, 86-99

**Nutrient limitation of plant growth and forage quality in Arctic coastal marshes**

J. T. Ngai, R. L. Jefferies (2004)

*Journal of Ecology*, 92, 1001-1010

**A biotic agent promotes large-scale catastrophic change in the coastal marshes of Hudson Bay**

R. L. Jefferies, A. P. Jano, K.F. Abraham (2006)

*Journal of Ecology*, 94, 234-242

**Vegetation loss alters soil nitrogen dynamics in an Arctic salt marsh**

K. M. Buckeridge, R. L. Jefferies (2007)

*Journal of Ecology*, 95, 283-293

**Nitrogen uptake by *Carex aquatilis* during the winter–spring transition in a low Arctic wet meadow**

K. A. Edwards, R. L. Jefferies (2010)

*Journal of Ecology*, 98, 737-744