



## CARBON SINK RESEARCH

# Greenhouse gas emission reductions Destocking and public land opportunities

FEBRUARY 2018

### CONTRIBUTORS

**Paul Hughes**  
Consultant

Telephone: +64 274925399  
E-mail: [info@opengeo.co.nz](mailto:info@opengeo.co.nz)

### DESTOCKING BENEFITS

The benefits of destocking are immediate and sustained greenhouse gas emission reductions, arising from stopping the emission of methane and nitrous oxides.

In Australia, [a modelled pathway to a low carbon future](#) required a reduction in cattle grazing of 40%, showing that destocking is a key component of a low carbon future. Landcare considers that New Zealand grazing accounts for 33% of NZ methane emissions.

The reductions will depend on the type of grazing stock, intensity of grazing and nitrous fertiliser application. Generally the emission levels decrease from dairy to cattle to sheep. Any determination of greenhouse gas emission reductions from destocking will need to account for these variables and their spatial distribution.

Any areas destocked may have significant social, economic and ecological benefits when native afforested/vegetated as carbon sinks - providing triple benefits of greenhouse gas reduction, carbon sink and social/economic/ecological benefits identified using OpenGeo [Smart Afforestation Planning](#) (SAP).

### PUBLIC LAND DESTOCKING OPPORTUNITIES

There are many areas of public land that are grazed and generating significant greenhouse gas emissions. Some are immediately available for destocking and native afforestation/revegetation, and as carbon sinks.

LINZ owns 1.4 million ha. of high country pastoral grazing most of which is leased/licenced, where the licenced areas are available for destocking when they expire whereas the leases are not. It also owns about 30,000 ha. of general land that is pasture and should be available for destocking.

DOC grazes about 90,000 ha, in National Parks, Conservation Areas, Marginal Strips and Reserves, plus most of the 180,000 ha. Molesworth Station. Many of these areas are nationally threatened environments, wetlands, river banks and beds, Ecological Areas, Ramsar sites, World Heritage Areas etc.

Defence have extensive grazing at operational sites such as Waiouru.

NZTA own much surplus land along transport corridors with active or proposed improvements in locations such as Waikanae, Otaki and Paekakariki.

Majority owned Meridian Energy runs extensive grazing at some of its windfarm sites in Makara, Te Apiti etc. and on several proposed windfarm sites.

University of Canterbury owns about 30,000 ha. of high country pastoral grazing which is leased and not presently available, comprising Flock Hill, Craigeburn and Glenthorne Stations. Likewise University of Otago with about 22,000 ha.

Regional Councils own extensive grazing areas along most floodplains, and in Regional Parks that are mainly in Auckland and Wellington.

City/District Councils own many grazed areas in open space parks, and unformed legal roads and reserves along river banks.