

# Soil nutrient budgets of Australian natural resource management regions

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The amounts of N, P, K and S applied as fertilisers and removed as agricultural commodities were calculated using ABS data for 2007-8 and 2009-10 for all Australian NRM regions.

The mass of P in commodities was 43% and 50% of mass applied in 2007-8 and 2009-10 (net input of 190 kt P and 170 kt P) nationally. Regions with (commodity P)/(fertiliser P) < 0.3 and > 10 kt P net input in both years were Murray, Murrumbidgee, Lachlan, and Glenelg Hopkins.

Nationally, the mass of K in commodities was 2.5 and 3.1 times mass applied in 2007-8 and 2009-10 (net export of 196 kt P and 256 kt P). Regions with > 10 kt K net export and (commodity K)/(fertiliser K) >10 in both years were Wimmera, and Northern and Yorke.

The mass of S removed in commodities was 49% and 62% of the mass applied in 2007-8 and 2009-10 (net export of 91 kt S and 62 kt S) nationally. Strong net addition of S in both survey years occurred in South-East (SA), South-West (WA) and Glenelg Hopkins.

Nitrogen balance depends on the method used to calculate biological nitrogen fixation. Simply using fertiliser amounts, regions with strong net input of N were Port Phillip and Westernport, West Gippsland, Hawkesbury-Nepean, Wet Tropics, and Condamine.

These balances will be contrasted with land management practices and soil test values, as well as the 1992-1997 Land and Water Audit. Implications for nutrient management research and policy will be discussed.