

Supplementary information

Table S1. Protected Natural Areas Programme survey reports used in this analysis, which can be sourced at <https://www.doc.govt.nz/about-us/science-publications/>. PNAP survey numbers (No.) are provided where available.

| Title | No. | Publication year | Author(s) | Field survey date(s) |
|---|-----|------------------|--|----------------------|
| Dansey Ecological District: survey report for the Protected Natural Areas Programme | 23 | 1992 | Comrie J | 1989–1990 |
| Eastern Hawke's Bay Ecological District: survey report for the Protected Natural Areas Programme | 28 | 1993 | Adams J, Walls G | 1992 |
| Eastern Wairarapa Ecological District: survey report for the Protected Natural Areas Programme | – | 2004 | Beadel SM, Bibby CJ, Perfect AJ, Rebergen A, Sawyer J | 1998 |
| Hawkdun Ecological District: survey report for the Protected Natural Areas Programme | 25 | 1994 | Grove P | 1990–1992 |
| Heretaunga Ecological District: survey report for the Protected Natural Areas Programme | 29 | 1994 | Lee A | After October 1993 |
| Heron Ecological Region: survey report for the New Zealand Protected Natural Areas Programme | 4 | 1986 | Harrington WMA, Cooper PJ, Davis CM, Higham TD, Mason CR | 1984–1985 |
| Lindis, Pisa and Dunstan Ecological District: a survey report for the Protected Natural Areas Programme | 36 | 1994 | Ward CM, Bruce DL, Rance BL, Roozen DA, (Grove P editor) | 1984–1985 |
| Mackenzie Ecological Region: New Zealand Protected Natural Areas Programme | 1 | 1984 | Espie PR, Hunt JE, Butts CA, Cooper PJ, Harrington WMA | 1983–1984 |
| Macraes Ecological District: survey report for the Protected Natural Areas Programme | – | 1997 | Bibby CJ | 1994–1995 |
| Manawatu Plains Ecological District: survey report for the Protected Natural Areas Programme | 33 | 1995 | Ravine DA | 1993–1994 |
| Māniototo Ecological District: a survey report for the Protected Natural Areas Programme | 30 | 1994 | Grove P | No field work |
| Manorburn Ecological District: survey report for the Protected Natural Areas Programme | 22 | 1992 | Fagan B, Pillai D | 1988–1989 |
| Maungaharuru Ecological District: survey report for the Protected Natural Areas Programme | 35 | 1996 | Townsend AJ | After 1990 |
| Rangitikei Ecological Region: survey report for the Protected Natural Areas Programme | 32 | 1995 | Lake CM, Whaley KJ | 1993–1994 |
| Tiniroto, Waihua, Māhia and Mātāwai Ecological Districts: survey report for the Protected Natural Areas Programme | – | 2001 | Whaley KJ, Clarkson BD, Emmett DK, Innes JG, Leathwick JR, Smale MC, Whaley PT | 1995–1997 |
| Waiapu Ecological District: survey report for the Protected Natural Areas Programme | 31 | 1995 | Leathwick JR, Clarkson BD, Burns BR, Innes JG, Smale MC | Before 1995 |
| Waipori Ecological District: survey report for the Protected Natural Areas Programme | 24 | 1994 | Carter J | 1990–1992 |
| Wairarapa Plains Ecological District: survey report for the Protected Natural Areas Programme | – | 2000 | Beadel S, Perfect A, Rebergen A, Sawyer J | 1998–1999 |
| Wairau Ecological Region – Blenheim, Grassmere, Flaxbourne, Wither Hills and Hillersden Ecological Districts: survey report for the Protected Natural Areas Programme | – | 2004 | North M | 2001–2002 |

Table S2. Reclassified vegetation classes and the LCDB4 classes merged to construct them.

| LCDB4 class | LCDB4 class name | Vegetation class (this study) |
|-------------|--|-------------------------------|
| 1 | Built-up area (settlement) | Other |
| 2 | Urban parkland / open space | Other |
| 5 | Transport infrastructure | Other |
| 6 | Surface mines and dumps | Other |
| 10 | Coastal sand and gravel | Other |
| 12 | Landslide | Other |
| 14 | Permanent snow and ice | Other |
| 15 | Alpine grass / herbfield | Native non-woody |
| 16 | Gravel and rock | Other |
| 20 | Lake and pond | Other |
| 21 | River | Other |
| 22 | Estuarine open water | Other |
| 30 | Short-rotation cropland | Other |
| 33 | Orchard vineyard and other perennial crops | Other |
| 40 | High producing grassland | Other |
| 41 | Low producing grassland | Other |
| 43 | Tall-tussock grassland | Native non-woody |
| 44 | Depleted grassland | Native non-woody |
| 45 | Herbaceous freshwater vegetation | Native non-woody |
| 46 | Herbaceous saline Vegetation | Other |
| 47 | Flaxland | Native shrubland |
| 50 | Fernland | Native shrubland |
| 51 | Gorse and/or broom | Other |
| 52 | Mānuka and/or kānuka | Native shrubland |
| 54 | Broadleaved indigenous hardwoods | Native forest |
| 55 | Sub alpine shrubland | Native shrubland |
| 56 | Mixed exotic shrubland | Other |
| 58 | Matagouri or grey scrub | Native shrubland |
| 64 | Forest – harvested | Other |
| 68 | Deciduous hardwoods | Other |
| 69 | Indigenous forest | Native forest |
| 70 | Mangrove | Other |
| 71 | Exotic Forest | Other |