

NVS ANNUAL REPORT FOR THE 2008/09 YEAR

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1. Number of new records archived in NVS

A total of 65 new datasets were added electronically to NVS in 2008/09 (year to 30 June 2009; Fig. 1 & Appendix 1) with a total of 1453¹ plots added (Fig. 1). In addition, hardcopies of plot data sheets were archived for 34 datasets (Appendix 1). Major providers of data and types of data are shown over the past five years (Fig. 1). This level of new data archived in NVS is similar to that of recent years. During the 2008/09 year 52% of new data incorporated into NVS were deposited by the Department of Conservation (DOC). It continues to be standard operating procedure in DOC for NVS to be the repository for all standard plot-based vegetation data collected by the Department. The development and use of NVS Lite software is also facilitating the addition of data into NVS.

2. Significant revisions of data

We have continued to identify and correct errors in the recording of tags, species, and tree diameters and to add subplot information to permanent forest plot data. Because the new database system (see section 4) eliminates much of the redundancy present in the old system, extensive data checking was required to allow data to be successfully migrated. This included completing our ongoing effort to rationalise tree tags and species identifications among measurements of individual plots, and to correct inconsistent plot identifiers among measurements. Further, we resolved issues where datasets included measurements over disparate plots/sets in disparate years, ensured that project identifiers for grassland surveys were unique, and that measurement units were consistent across datasets. In addition, we investigated some historical surveys, for which little information has previously been available, in order to construct more complete metadata.

¹ Including data entered using NVS Lite that are currently being validated, see Appendix 1.

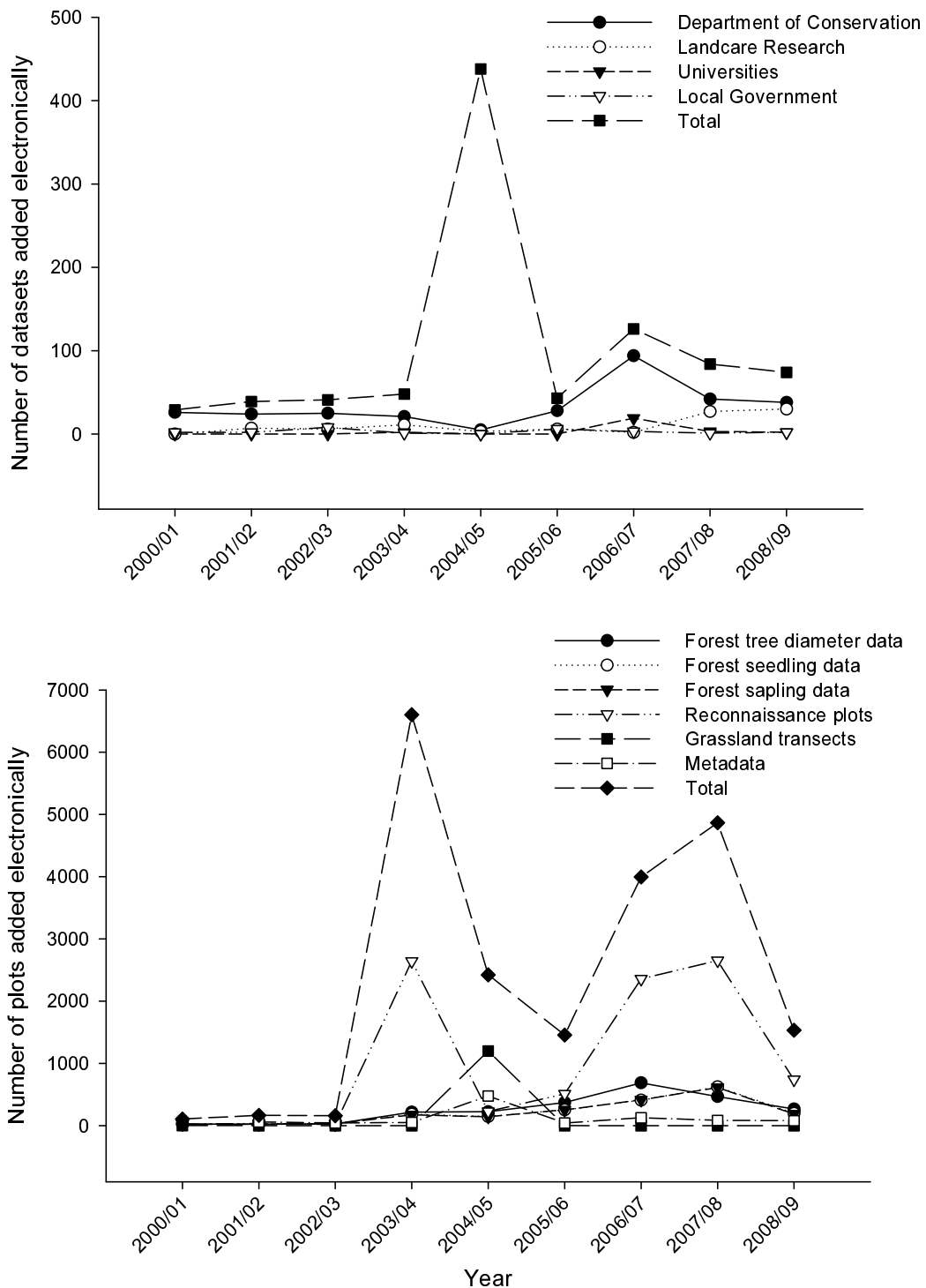


Fig. 1 (Top) Number of datasets included electronically in the National Vegetation Survey Databank per financial year for the past five years; total and from two major data-users. **(Bottom)** Number of vegetation plots included electronically in the National Vegetation Survey Databank per financial year for the past five years; total and of four major data types. Note that this does not include data entered using NVS Lite that are currently being validated.

3. Database development and integration

NVS Lite data-entry software

The NVS Lite software tool we developed to allow entry and validation of locally held datasets is now in common use with strong uptake by DOC staff and private consultants. NVS Lite is a purpose-built program for entering vegetation data compatible with the NVS Databank and the program accepts data collected using the NVS standard forest monitoring (i.e. permanent 20 × 20 m plots) and vegetation inventory (i.e. relevé/Recce plot) methods. The software was released in June 2008. Data captured using the software are uploaded to the NVS Databank via a link on the NVS website. Once uploaded, further validation procedures are run and electronic copies of the data can be requested by the data-owner. Anecdotal feedback from users has complemented support provided by the NVS team and users have been successful in uploading data. As with any new software there have been teething problems around entering some data types and unique datasets. The program is free and can be downloaded from the NVS website (<http://nvs.landcareresearch.co.nz/>). To date, 25 NVS Lite datasets have been uploaded via the website (Appendix 1).

Migration into the new NVS database structure completed

We completed a major technological upgrade this year by the migration of all of the data contained in the NVS Databank into a new database system. In 2001, the NVS Databank was upgraded from a management system optimised for early mainframe computers (i.e. flat files, access via FORTRAN and DOS-based programmes) to a relational database. At that time, however, it was not feasible to remove the extensive redundancy of the original design or to support interoperability with internal systems and external data consumers. To achieve this, we designed and implemented new databases for metadata and plot data that provide robust information organisation and storage. This is achieved through an architecture using Web-service approaches that support interoperability with internal systems and external organisations, such as DOC and regional councils (Milestone 4). Our system conforms to international data model standards, is integrated and interoperable with other strategic information resources within the organisation and elsewhere (e.g. New Zealand Plants Names Database), and implements a business process model that ensures quality, efficiency and security in the management of the physical collections and associated data. To confirm this, the data model that underpins the NVS technology was independently reviewed by the project manager and developer for the US VegBank system, Michael Lee.

New and improved data access tools

Download interfaces to export data from the new database system have been developed and are in use by NVS staff. Thus far, these allow export of data into Excel and text files; these file types are generally appropriate for a wide range of data-users and text files can be readily used in existing vegetation analysis software programs. Export formats for specific software packages are also under development.

Progress on development of a plant traits module

A highly flexible database for plant functional attribute data has now been constructed and we are in the process of refining the user interface. Specifically, NVS staff have begun to enter data to identify improvements that could be made to the data-entry interface for this module. The database can be pre-populated with an up-to-date list of

all taxa from the New Zealand flora and user-defined attributes entered against those taxa. The database can store single values of attributes for a taxon, or multiple values from replicate individuals, or replicates from the same individual. This approach retains the granularity of the data and allows the user to define how summary statistics should be generated. Current priorities are to import existing data on leaf and litter chemistry and seed mass, and to populate a flagship dataset defining the functional traits of the New Zealand flora. This dataset will cover the most frequently requested attributes in vegetation analysis such as plant growth form, plant height, and seed dimensions.

4. Data-sharing agreements and data exchange

International exchange standard for plot-based vegetation data

Development of an international vegetation data exchange schema continues to build momentum and we continue to play a leading role in this project. We delivered a presentation on the draft International Vegetation Exchange Standard (Veg-X) at the TDWG (formerly known as the 'Taxonomic Database Working Group') meeting in Perth in October:

Spencer N, Cáceras M, Kleikamp M, Lee M, Peet R, Wiser SK 2008. An exchange standard for vegetation plot data. Presentation to the Observations & Specimens Interest Group at the Biodiversity Information Standards Group (TDWG) annual conference, Perth, Australia, 19–24 October 2008.

As a result, our proposal to become a TDWG working group under the Observation Specimen Records Interest Group was accepted late in 2008. This now provides us with a structured way to progress the schema through to acceptance as an international standard and will encourage us to make sure we are doing so in conjunction with other efforts in this area, e.g. Darwin Core and the Observations Data Task Group. We now have a new working group Wiki site provided by TDWG (<http://wiki.tdwg.org/twiki/bin/view/Vegetation/WebHome>), through which we can capture ideas and discussion for our schema. The schema draft was posted on the Wiki site in February 2009.

Several members of our working group (including Susan Wiser, Landcare Research) were invited to the first meeting of the Botanical Information and Ecology Network (BIEN) at NCEAS (National Center for Ecological Analysis and Synthesis) in the USA in December 2008. This group seeks to develop an integrated botanical information network to investigate the ecological impacts of global climate change on plant biodiversity. To this end, they are planning to synthesise plant occurrence (from collections data) and vegetation plot data from across the Americas. Representatives of the major herbaria (NY, MO) and some of the major plot data collection efforts (e.g. VegBank, CTFS, RAINFOR, Amazon Tree Diversity Network) attended the workshop. We were invited to represent the efforts being made on the international Vegetation Exchange Schema. Susan Wiser delivered the TDWG presentation to the workshop participants.

Susan Wisser, Nick Spencer, Robert Peet (VegBank) and Miquel De Cáceras (VegAna) are currently preparing a manuscript about the exchange schema for submission later this year.

Facilitating data sharing

In 2008/09 DOC reviewed its protocols surrounding data sharing. Data archived in NVS for which DOC has custodial responsibility can now be accessed by DOC staff (or by other researchers working on DOC-funded projects) without obtaining permission from DOC technical support officers. This has significantly streamlined the process for gaining permission to use DOC datasets.

In 2008/09 we also continued contacting Level 2 dataset owners in order to review survey access constraints. To date 23 surveys have been changed from restricted (Level 2) to public (Level 1) access.

NVS is now routinely meeting requests for data collected under the auspices of the New Zealand Indigenous Carbon Monitoring System (NZICMS). These data are also known as the LUCAS Project natural forest plot data. NVS has an agreement with the Ministry for the Environment to supply these data, which were first archived in NVS as a complete survey in 2007/08 but which have since been updated and migrated into the new NVS database structure. The primary purpose of NZICMS plots is to monitor carbon sequestration rates, but plant biodiversity information is also collected. Permanent plots were established on an 8-km² grid across the areas mapped as indigenous forest (6.25 million hectares) and shrubland (2.65 million hectares) by the 1996/97 version of the Land Cover Database (LCDB1). NVS provides a good conduit for discovery and usage of LUCAS data by a wide range of end-users. In future NZICMS data will also be accessible in formats compatible with NVS-specific analytical software.

5. Remeasurement of critical plot networks

A collaborative effort to maintain existing NVS datasets saw Landcare Research assist DOC in remeasuring 25 permanent forest plots in the Whitcombe River valley, West Coast. These plots, established in 1972 and remeasured each decade, provide an important record of the long-term dynamics of these montane forests. Data will be entered by DOC using the NVS Lite data-entry tool and archived in the NVS Databank. The data will be used for research projects and will also contribute to DOC management and reporting needs.

6. Keeping end-users informed about NVS

Landcare Research staff associated with the NVS Databank delivered several presentations throughout the year to disseminate information to end-users and other government agencies:

Hurst J, Wisser S 2008. NVS Lite: A data entry system for Recce description and permanent 20 × 20 m plot data. Workshop run at New Zealand Ecological Society Conference, Auckland, 29 Sept – 2 Oct 2008.

Vickers S, Hurst J, Broadbent H, Spencer N, Wiser S 2008. NVS Lite: A data entry system for Recce description and permanent 20 × 20 m plot data. Poster presentation at New Zealand Ecological Society Conference, Auckland, 29 Sept – 2 Oct 2008.

Wiser SK 2009. The National Vegetation Survey Databank and its relationship to LUCAS. Data-sharing workshop: LUCAS and New Zealand environmental data sets. Organised by MoRST, 25 March 2009, Wellington.

We also produced a popular article for *Indigena*, the magazine of the indigenous section of the New Zealand Farm Forestry Association (Wiser S 2009. A century of New Zealand native forest surveys. May issue, pp. 13–16). Farm foresters are a group who can benefit from NVS data as these data provide an important source of information about the composition and structure of native forests. This article documented the progress of New Zealand forest inventories from the first broad inventory in the 1920s, to the National Forest Survey (1946–1955, data archived in NVS), to efforts undertaken by the NZ Forest Service through to the late 1980s (data archived in NVS), and to ongoing efforts to understand the current status and trend in composition and structure of our forests.

7. Outcomes

Conservation outcomes

Research programmes funded by DOC over the 2008/09 year continue to make strong use of data archived in NVS:

- A collaborative project between DOC (Dr Elaine Wright and Richard Earl) and Landcare Research (Drs Susan Wiser & Anna Marburg) accessed vegetation data from NVS in order to begin mapping New Zealand's forest and shrubland vegetation classes. This project uses both recent (e.g. NZICMS) and historical data (e.g. The National Forest Survey of 1946–55 and Recce (relevé) plots in selected areas of the county) and is an ongoing project building on a classification of New Zealand forest and shrublands undertaken in the 2007/08 year.
- Recent work by Landcare Research scientists as part of the Ecosystem Processes Outcome Based Investment (IO1/2; including Drs Peter Bellingham, Norm Mason, Anna Marburg and Rob Allen), which contributes to DOC's Natural Heritage Management Strategy (NHMS), has proposed a set of indicators to monitor vegetation trends in the non-woody ecosystems (e.g. grasslands, dunes, alpine communities) of the public conservation estate. In consultation with DOC scientists, a common sampling framework on an 8 × 8 km grid was proposed across all land administered by the Department. Standard methods were proposed that are typical of NVS data, such as the commonly used Recce and 20 × 20 m permanent plot methods. The design and field methods have been trialled over the past field-season and, should the programme be adopted, it will significantly increase the data available in NVS from non-woody ecosystems.

International reporting

The Montréal Process is the Working Group on Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests. It was formed in Geneva, Switzerland, in June 1994 to develop and implement internationally agreed criteria and indicators for the conservation and sustainable

management of temperate and boreal forests. Membership in the Working Group is voluntary and currently includes countries from both hemispheres, encompassing a wide range in natural and social conditions. The member countries represent about 90% of the world's temperate and boreal forests in the northern and southern hemispheres. This amounts to 60% of all of the forests of the world.

For New Zealand's reporting requirements, the NVS Databank is included as a data source for Indicator 7.4a: 'Availability of data', which describes the availability and extent of up-to-date data, statistics and other information important to measuring/describing indicators associated with Criteria 1–7.

Capacity building of future ecologists

Drs Sabrina Russo and Richard Rebarber (University of Nebraska) have been co-teaching a 'capstone' undergraduate class in mathematics and biology; one of the goals of the course is to develop a mathematical model for a particular ecological system. Their model made use of permanent plot data from NVS to improve neighbourhood models of tree growth. The undergrads progressed well and have developed a model that will in all likelihood be publishable as a paper in an undergraduate research journal and presented at an undergraduate symposium at the Society for Mathematics and Biology (SMB) and possibly at ESA as a poster.

8. Web statistics

In the 2008/09 year we undertook a revision of the NVS website (<http://nvs.landcareresearch.co.nz>) with the addition of the NVS Lite program documentation and several minor updates throughout the year. Website activity is now monitored using Google Analytics, which ensures we can more accurately account for website traffic. Note that incomplete statistics can result from web-users deleting or blocking 'cookies', resulting in the loss of data pertaining to those visits.

Over recent years an increasing number of organisations are providing links to the NVS website as a resource for vegetation data, as a provider of information on vegetation monitoring, and as a New Zealand Government conservation resource. On average 32% of page views were the result of referrals from other sites, whereas access via search engines remains the most frequent pathway to the NVS website (47%). The remainder (20%) was direct traffic, indicating that frequent users bookmark the website.

From 1 July 2008 to 30 June 2009, the NVS website was hit 19 299² times, which represents a 311% increase since 2005/06, and a 120% increase over the 2007/08 year. There were 2755³ unique visitors to the site, 58% of whom were new visitors to the website. Of the current year's hits that could be traced to origin, the majority of visits were from New Zealand (78%), followed by the USA/Canada (6%), UK (3%) and Australia (2%). Unsurprisingly the index page to the site was viewed frequently (22% of all page visits). Detail about field techniques, manuals, and field forms were also popular (23% of page visits). Pages to facilitate data requests from NVS

² 550 167 times when measured using FunnelWeb, as done over previous years.

³ 7587 times when measured using FunnelWeb.

constituted 10% of visits (note that frequent users of NVS usually contact the database administrator directly), while 31% of page hits related to metadata records for individual surveys. Various documents are available to download from the NVS website and during 2008/09, 1472⁴ documents were downloaded, the most popular of which are listed in Table 1.

Table 1 Number of document downloads from the NVS website during 2008/09 (compiled using FunnelWeb and Google Analytics). FunnelWeb download figures from 2007/08 are given in parentheses.

Document	Number of downloads (FunnelWeb)	Number of downloads (Google Analytics)
Reconnaissance plot manual*	3845 (3679)	220
Forest permanent plot manual*	4336 (3505)	204
NVS Lite manual	611 (NA)	139
FBI manual, plot-sheets and foliar cover scale	627 (NA)	98
Reconnaissance plot – pro forma data sheet	905 (356)	94
Field guide to use of GPS	803 (926)	92
Forest tree diameter – plot pro forma data sheet	297 (195)	70
Forest seedling plot – pro forma data sheet	316 (279)	69
Grassland survey manual	3279 (3484)	38
NVS Lite Program installation [#]	117 (NA)	10

* Combined totals for previous and updated (2007) manuals.

[#]Note that for DOC staff the NVS Lite program is installed directly by DOC's computer support provider.

⁴ 19 993 times when measured using FunnelWeb.

9. NVS data requests

A total of 72 requests for NVS data and metadata were made during 2008/09 and a total of 1768 datasets were supplied (Fig. 2) – a 10% increase over 2007/08. The principal agencies from which there were requests for data and number of datasets supplied are shown over the past five years (Fig. 2). The major agencies requesting data (DOC, Landcare Research, and university staff and students) have made similar numbers of requests over recent years, but the number of datasets requested has been gradually increasing because it is common for a large number of datasets to be requested at one time for synthetic studies. Indeed, bulk data requests continue to be a feature of NVS data use, with eight requests over the 2008/09 year comprising >100 datasets per request.

Large data requests over the last year included permanent forest plot and Recce (relevé) data requested by (a) staff of Landcare Research to support ongoing aspects of DOC's 'Inventory and Monitoring' project and Cross Department Research Pool (CDRP) Terrestrial Ecosystem Project 3 'How do trends in ecosystem composition along environmental and disturbance history gradients reflect change to whole ecosystems?'; (b) an international university student in the UK to examine tree growth rates; and (c) DOC staff to examine national distributions of exotic plant species. The Ministry for the Environment continues to request permanent forest plot data to support the national Carbon Monitoring System as part of the LUCAS programme.

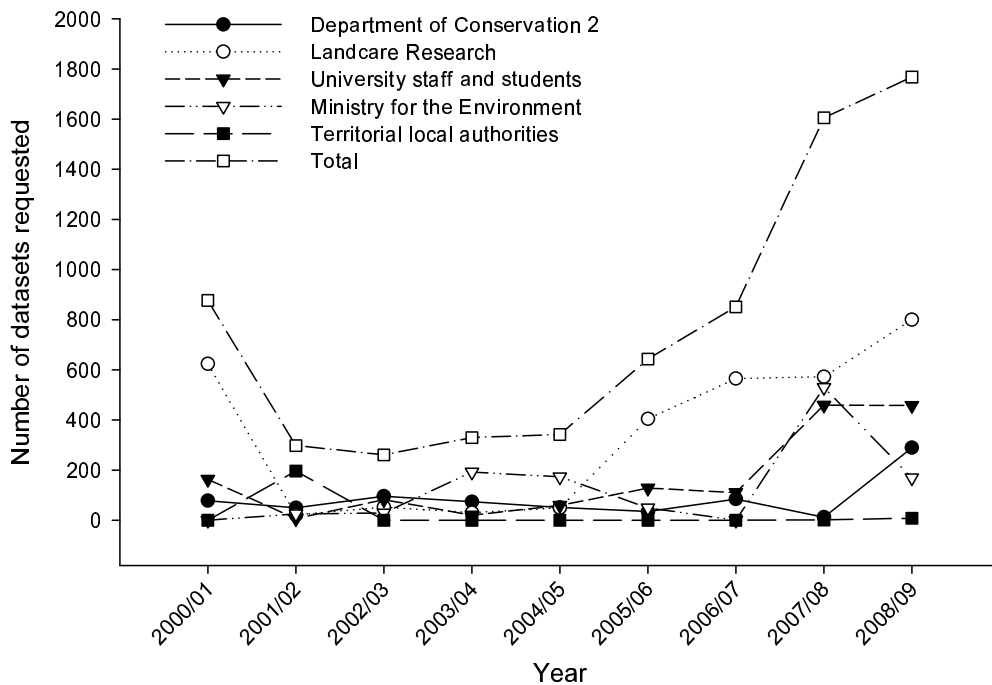
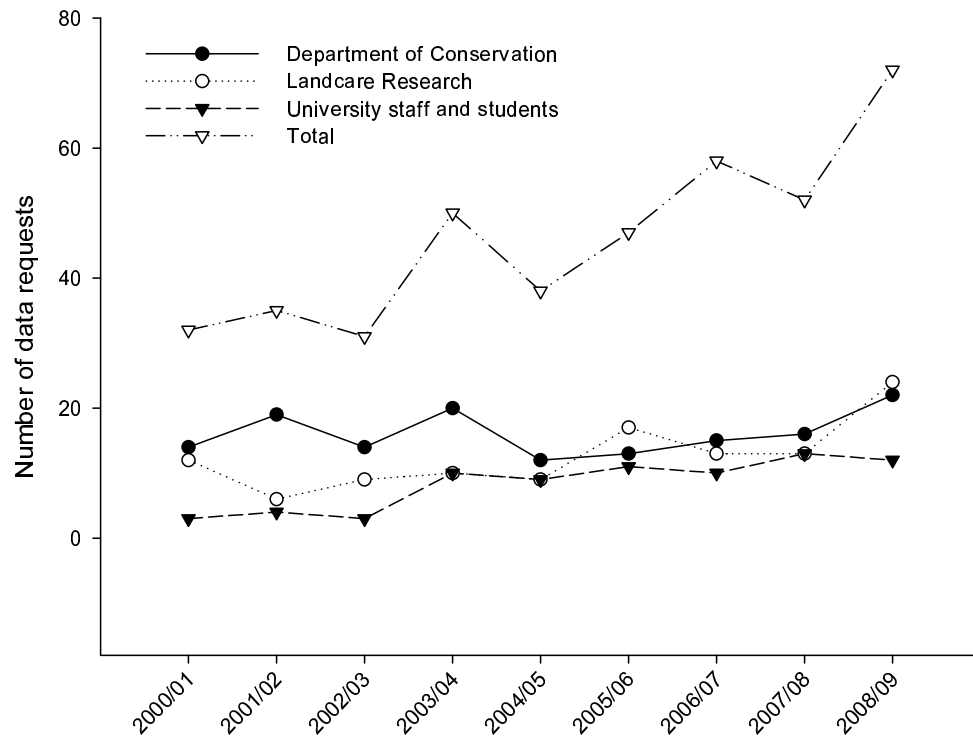


Fig. 2 (Top) Number of requests for data from the National Vegetation Survey Databank per year for the past five years; total and from three major data-users. **(Bottom)** Number of datasets requested from the National Vegetation Survey Databank per year for the past five years; total and from five major data-users.

10. Publications directly associated with the NVS Databank

The following publications during 2008/09 used data derived from the NVS Databank.

Refereed publications

- Bee JN, Tanentzap AJ, Lee WG, Lavers RB, Mark AF, Mills JA, Coomes DA 2009. The benefits of being in a bad neighbourhood: plant community composition influences red deer foraging decisions. *Oikos* 118: 18–24.
- Bellingham PJ, Sparrow AD 2009. Multi-stemmed trees in montane rain forests: their frequency and demography in relation to elevation, soil nutrients, and disturbance. *Journal of Ecology* 97: 472–483.
- Coomes DA, Allen RB 2009. Testing the metabolic scaling theory of tree growth. *Journal of Ecology*: in press.
- Dickie IA, Richardson SJ, Wisser SK 2009. Ectomycorrhizal fungal communities and soil chemistry in harvested and unharvested temperate *Nothofagus* rainforests. *Canadian Journal of Forest Research* 39: 1069–1079.
- Forsyth DM, Wilmshurst JM, Allen RB, Coomes DA 2009. Have deer replaced moa? A review of the impacts of introduced deer on New Zealand ecosystems. *New Zealand Journal of Ecology* 33: in press.
- Huberli D, Lutz B, Voss B, Calver M, Ormsby M, Garbelotto M 2008. Susceptibility of New Zealand flora to *Phytophthora ramorum* and pathogen sporulation potential: an approach based on the precautionary principle. *Australasian Plant Pathology* 37: 615–625.
- Kunstler G, Coomes DA, Canham C 2009. Size-dependence of growth and mortality influence the shade tolerance of trees in a lowland temperate rainforest. *Journal of Ecology* 97: 685–695.
- Lusk CH, Duncan RP, Bellingham PJ 2009. Light environments occupied by conifer and angiosperm seedlings in a New Zealand broadleaf–podocarp forest. *New Zealand Journal of Ecology* 33: 83–89
- Richardson SJ, Smale MC, Hurst JM, Fitzgerald NB, Peltzer DA, Allen RB, Bellingham PJ, McKelvey PJ 2009. Long-term large tree growth and mortality rates in central North Island forests. *New Zealand Journal of Ecology* 33: in press.
- Tanentzap AJ, Bee JN, Lee WG, Lavers RB, Mills JA, Mark AF, Coomes DA 2009. The reliability of palatability estimates obtained from rumen contents analysis and a field-based index of diet selection. *Journal of Zoology* 278: 243–248.
- Tanentzap AJ, Burrows LE, Lee WG, Nugent G, Maxwell JM, Coomes DA 2009. Landscape-level vegetation recovery from herbivory: progress after four decades of invasive red deer control. *Journal of Applied Ecology*: in press.
- Walker S, Cieraad E, Monks A, Burrows L, Wood J, Price R, Rogers G, Lee B 2009. Long-term dynamics and rehabilitation of woody ecosystems in dryland South Island, New Zealand. In: Hobbs RJ, Suding KN eds *New models for ecosystem dynamics and restoration*. Washington DC, Island Press. Pp. 99–111.
- Wisser S 2009. A century of New Zealand native forest surveys. *Indigena* (May issue): 13–16.
- Wisser SK, Buxton RP 2009. Montane outcrop vegetation of Banks Peninsula, South Island, New Zealand. *New Zealand Journal of Ecology* 33: in press.

The following list of reports and conference papers may not be exhaustive, but is based on responses from users of NVS data.

Reports

- Buxton RP 2009. Monitoring the impact of grazing animals on DOC grazing leases in South Westland. Prepared for: Susan Timmins, DOC Research Development and Improvement. June 2009 3 p.
- Buxton RP, Peltzer D, Burrows LE, Timmins SM, Wardle P 2008. Impact of domestic stock on vegetation in South Westland, 1989–2004. DOC Research and Development Series 294. Wellington, Department of Conservation. 45 p.
- Christensen BR 2005. Monitoring sites. Unpublished map. Rotorua, Bay of Plenty Conservancy, Department of Conservation. (Updated 2008).
- Christensen BR 2009. Monitoring, survey, & inventory in the Rotorua Lakes Area I: Summary. Unpublished report. Rotorua, Bay of Plenty Conservancy, Department of Conservation.
- Christensen BR, Husheer S 2009. Prioritisation of biodiversity management projects: at a Conservancy and Area Office level. DOC Research & Development Series. Wellington, Department of Conservation. (In press).
- Cieraad E 2008a. How much indigenous biodiversity remains on ‘land under indigenous vegetation’? A pilot study based on existing data. Landcare Research Contract Report LC0708/058.
- Cieraad E 2008b. How much indigenous biodiversity remains on ‘land under indigenous vegetation’? A report on Milestone 3. Landcare Research Milestone Report LC0708/121.
- Husheer S 2008. Vegetation monitoring and grazing on Molesworth Station 1989–2008. Unpublished Department of Conservation Report. 41 p.
- Kunstler G, Allen RB, Coomes DA, Canham C, Wright E 2007. Long-term harvesting of podocarps. Landcare Research Contract Report LC0607/188.
- Monks A 2008. Does ‘environmental representation’ indicate species security? A report on Milestone 4. Landcare Research Milestone Report LC0708/074.
- Richardson SJ, Allen RB, Peltzer DA, Clinton PW, Bellingham PJ, Hurst JM, Carswell FE, Wiser SK 2008. Establishment of deadwood management benchmarks. Final report. Landcare Research Contract Report LC0809/034.
- Solid Energy New Zealand Limited 2009. BBOP Pilot Project case study. Strongman Mine. Christchurch, Solid Energy. www.forest-trends.org/biodiversityoffsetprogram/guidelines/senz-case-study.pdf.
- Wiser SK, Hurst JM 2008. Classification of New Zealand forest and shrubland communities based on national plot sampling on an 8-km grid. Landcare Research Contract Report LC0809/007.
- Wiser SK, Richardson SJ, Baker G, Benecke U, Dickie I, Brignall-Theyer M 2008. Factors influencing hard beech regeneration following low-impact harvest. Landcare Research Contract Report LC0809/023 prepared for MAF.

Conference papers

- Easdale TA, Peltzer DA, Allen RB, Hurst JM 2008. Silver beech diameter growth in relation to tree size, neighbourhood competition, and site conditions in the South Island of New Zealand. New Zealand Institute of Forestry Conference, Palmerston North, 15–18 May 2008.
- Spence LA, Allen RB, Coomes DA 2008. Natural disturbance dynamics influence the spread of an invasive understorey herb in New Zealand *Nothofagus solandri*

- forest. British Ecological Society Annual Meeting, Imperial College, London, UK, 3–5 September 2008.
- Spencer N, Cáceras M, Kleikamp M, Lee M, Peet RK, Wiser SK 2008a. An exchange standard for vegetation plot data. Presentation to the Botanical Information and Ecology Network (BIEN) at NCEAS (National Center for Ecological Analysis and Synthesis), Santa Barbara, California, USA, December 2008.
- Spencer N, Cáceras M, Kleikamp M, Lee M, Peet RK, Wiser SK 2008b. An exchange standard for vegetation plot data. Presentation to the Observations & Specimens Interest Group at Biodiversity Information Standards Group (TDWG) annual conference, Perth, Australia, 19–24 October.
- Wiser SK 2009. Improving understanding of historically rare ecosystems. Proceedings, New Zealand Plant Conservation Network Conference: Celebrating our native plant life. Te Papa Tongarewa, Wellington, 8–10 August 2008. Pp. 31–34.
- Wright DM, Duncan RP, Coomes DA 2008. Impact of deer invasion on New Zealand forests. British Ecological Society Annual Meeting, Imperial College, London, UK, 3–5 September 2008.

Appendix 1 New electronic data sets in NVS 2008/09

Listing of new *electronic datasets* incorporated into NVS, July 2008 – June 2009.

AKATARAWA 2008
AORANGI–STONEWALL EXCL 1985
AORANGI–TAUANUI EXCL 1983
AORANGI–TURANGANUI EXCL 1987
AORANGI–WAIHORA EXCL 1984
AORANGI–WASHPOOL EXCL 1986
AORANGI–WASHPOOL EXCL 1997
ATUANUI ECOMONITORING 2002–2003
AVOCA KANUKA 2008
CRAIGIEBURN TIMBERLINE TRANSECTS 1990
CRAIGIEBURN TIMBERLINE TRANSECTS 2002
EBEX AUDIT–KURINUI 2006
FYFFE, MOUNT 2007–2008
HAUHUNGATAHI 2008
HAUHUNGATAHI POSSUM BROWSE MONITORING 1996–99
HURUNUI MAINLAND ISLAND 1998–2002
KAIMANAWA, NORTH 1997–98
LUGGATE LONG–TERM EXPERIMENT 1988–ONGOING
MAORI SADDLE TIMBERLINE TRANSECTS 1991
MAORI SADDLE TIMBERLINE TRANSECTS 2003
MARLBOROUGH EXCLOSURES 2008
MT BARKER WILDING PINES 2008
MT FAUST TIMBERLINE TRANSECTS 1991
MT FAUST TIMBERLINE TRANSECTS 2002
MT HAAST TIMBERLINE TRANSECTS 1991
MT HAAST TIMBERLINE TRANSECTS 2002
NARDOO/GLENROY–MURCHISON PLOTS 1984
OPEPE SCENIC RESERVE POSSUM BROWSE MONITORING 1997
OPEPE SCENIC RESERVE POSSUM BROWSE MONITORING 1998
OPEPE SCENIC RESERVE POSSUM BROWSE MONITORING 1999
PALMERSTON NORTH CITY COUNCIL EXCLOSURES 2005
R&LMP VEGETATION SURVEY 1990–91
R&LMP VEGETATION SURVEY 1991–92
R&LMP VEGETATION SURVEY 1992–93
R&LMP VEGETATION SURVEY 1993–94
R&LMP VEGETATION SURVEY 1994–95
RAOUL ISLAND PERMANENT PLOT SUMMARY 2005
TAKAHE VALLEY TIMBERLINE TRANSECTS 1993
TAKAHE VALLEY TIMBERLINE TRANSECTS 2004
TONGARIRO EX KAIMANAWA 2000

In addition, the following datasets have been entered using *NVS Lite*, uploaded via the website and incorporated into the NVS Databank.

* indicates the data are undergoing final validation procedures.

ALDERMAN ISLANDS 2008
BIRCHWOOD WETLAND 2009
BREAMHEAD RESERVE 2008
CRAIGIEBURN WILDING PINES 2007
*DOC RD&I SHRUBLAND REMEASURE 2008
*DOC WACEM C AND HERBIVORES 2 2009
FAREWELL SPIT 2008
HAKARIMATA SCENIC RESERVE 2006
I AND M PILOT 2008 –2009
KNOBS FLAT 2008
MANGATU BLOCKS ECOLOGICAL SURVEY 2008
*MOKIHINUI CARBON MONITORING 2008
*PAPAROA GOAT OUTCOME MONITORING 2007
*PAPAROA NATIONAL PARK EXCLOSURES 2008
PIRONGIA 2008
*RETIRED LANDS SURVEYS 2008
REWANUI–MONTFORD TRIMBLE FOUNDATION 2009
STEWART ISLAND EAST BENCH IS 2008
*STEWART ISLAND EAST CHEW TOBACCO BAY 2008
STEWART ISLAND EAST PORT ADVENTURE 2008
*STEWART ISLAND NORTH PORT PEGASUS 2008
TITIROA GRANITE FELLFIELDS 2009
ULVA ISLAND 2008
WAITUTU EXCLOSURES 2008
WHAREORINO PERMANENT PLOTS 2008

Plotsheets or other ancillary data were provided for the following datasets.

Indicates that electronic data for the survey was already in NVS.

EASTERN RUAHINE EXCLOSURES 1981
EASTERN RUAHINE EXCLOSURES 1996–97
EASTERN RUAHINE EXCLOSURES 1999
FIORDLAND NTH 2008 FOREST
FIORDLAND NTH 2008 GRASSLAND
GLENDDHU 1994
KAIMANAWA MTN BEECH EXCLOSURES 1999
KAIMANAWA, NORTH 1987–88 #
KARANGARUA EXCLOSURES 1973
KARANGARUA EXCLOSURES 1977
KARANGARUA EXCLOSURES 1981
KARANGARUA EXCLOSURES 1990
KARIOI 2007–2008
LAKE ROTOMAHANA MANAGEMENT AREA (PATITI ID) 2004
MANGATEPOPO HARE EXCLOSURE 1991
MANGATEPOPO HARE EXCLOSURE 2001

MAPARA 1979–80 #
MOKI EXCLOSURES–MANGAPAPA RD 2009
MT MISERY 1970s
MT STOKES 1997
NELSON–HOWARD EXCL 1971–75
NGAUMU–REWA BUSH 1988
PAHOKA BUSH EXCLOSURE 1991
PAHOKA BUSH EXCLOSURE 1986
PAHOKA BUSH EXCLOSURE 2001
PUKETOI GRASSLAND 1988
ROTOEHU 1979–80 #
ROTORUA LAKES 2001 SITE VISIT INFORMATION
RUAHINE EXCLOSURES–MAROPEA FORKS EXCLOSURES 2009
RUAHINE EXCLOSURES–WATERFALL HUT EXCLOSURES 2008
RUAHINE GRASSLAND SURVEY 2007
STEWART ISLAND COASTAL DIEBACK 1981–85
TE UREWERA NP EXCLOSURE: WAI AU 2005
TONGARIRO EX TONGARIRO 1996–97
WHAREORINO PERMANENT PLOT SURVEY 2007/08