

Mouse distribution in Northland (1 July 2007)

Title	NATIS1_SDEADMIN_BDIPEST_Mouse_2007
Creator	Department of Conservation
Publisher	Department of Conservation
Description	<p>This dataset represents the terrestrial distribution of Mouse (<i>Mus musculus</i>) in Northland as at 1 July 2007. It represents this species' final layer as part of the Natural Heritage Management Strategy of the Department of Conservation. Spatial and textual data were collected at the Area level by Department of Conservation Area Office and Conservancy Office staff. Polygons representing the distribution were hand-drawn onto LINZ 260 series topo maps at the 1:250,000 scale. Digitisation of the hand-drawn maps was contracted to Geographx (NZ) Limited. Freshwater lakes, ponds and rivers were clipped from the layer to represent species absence. Further digitisation work was carried out by the DOC R&D GIS team in Christchurch to re-define selected polygons by species specific distribution drivers; i.e. altitude and habitat guided by LCBD 2. The attribute table may contain references to quantitative datasets of species abundance (where such datasets exist). For full explanation of data collection methodology see DOCDM-186114.</p>
Source	<p>This dataset represents the species terrestrial distribution in Northland as at 1 July 2007. It represents this species' baseline layer as part of the Natural Heritage Management Strategy of the Department of Conservation. It is envisioned that the distribution changes are captured over time through a regular update process (1-5 year intervals depending on species) lead by the Department of Conservation assisted by various other organisations in New Zealand. The information was collected at the Area level by Department of Conservation Area Office and Conservancy Office staff with reference to current operational activities and to historic species distribution data. Polygons were hand-drawn onto LINZ 260 series topo maps at the 1:250,000 scale. Digitisation of the hand-drawn maps was contracted to Geographx (NZ) Limited. Freshwater lakes, ponds and rivers were clipped from the layer to represent species absence. Further digitisation work was carried out by the DOC R&D GIS team in Christchurch to re-define selected polygons by species specific distribution drivers; i.e. altitude and habitat guided by LCBD 2. The attribute table may contain references to quantitative datasets of species abundance (where such datasets exist). For full explanation of data collection methodology see DOCDM-186114.</p>
Rights	<p>QUALITY RESTRICTIONS: The spatial file depicts a species distribution at a point in time (1 July 2007) as drawn by Department of Conservation staff guided by their knowledge and experience of the terrestrial land of Northland. The information was collected at the Area level by Department of Conservation Area Office and Conservancy Office staff with reference to 2007 operational activities and historic species distribution data. Polygons were hand-drawn onto LINZ 260 series topo maps at the 1:250,000 scale. Users need to be aware that the distribution is expected to change over time and hence need to ensure they obtain the latest version.</p>
Rights	<p>ACCESS RESTRICTIONS: Access to the spatial and textual information is granted to all Department of Conservation staff (electronic and hard-copy format) and to those external organisations whom the Department have a signed Memorandum of Understanding (MOU) with; e.g. those organisations that have agreed to contribute to the maintenance and updates of the species' distribution. Electronic images of the distribution information is made available for the wider community via the world wide web (www.doc.govt.nz).</p>
Rights	<p>USE LIMITATIONS: The Department of Conservation recommends that the user is fully aware of the limitations of the information; 1) the source of data, 2) the scale at which data was collected, 3) the accuracy of data and, 4) the date at which the data was collected.</p>

Rights

DATA CAPTURE METHODOLOGY: For localised species, staff were instructed to identify areas where the species were present and estimate abundance of the species (High, Low or Medium) and provide quantitative abundance data sources for intensely managed areas. Staff were provided with the following guidelines for estimating abundance: High=animal sign is evident, Medium=some effort is required to locate animal sign, Low:considerable effort to is required locate animal sign. A second abundance guideline was provided for ungulates, walabies and legomorphs as an estimate per km square (DOCDM: 179149). Absence for localised species was assumed as an inverted presence distribution. For widespread species staff were instructed to assume presence everywhere and identify areas where the species were absent, including off-shore islands and provide quantitative abundance data sources for intensely managed areas.

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BIODIVERSITY DATA INVENTORY 2007 SPECIES LIST: The Department of Conservation, with assistance of Landcare Research New Zealand Limited - Manaaki Whenua and various Regional Councils, produced national distribution maps of the following key animal pest species: LOCALISED ANIMAL PEST SPECIES LIST: *Bos Taurus* (Feral cattle), *Equus caballus* (Feral horse), *Capra hircus* (Feral goat), *Cervus elaphus nelsoni* (Wapiti), *Cervus elaphus scoticus* (Red deer), *Cervus Nippon* (Sika deer), *Cervus timorensis* (Rusa deer), *Cervus unicolor unicolor* (Sambar deer), *Dama dama dama* (Fallow deer), *Odocoileus virginianus borealis* (White-tailed deer), *Hemitragus jemlahicus* (Himalayan thar), *Macropus eugenii eugenii* (Dama wallaby), *Macropus parma* (Parma wallaby), *Macropus rufogriseus rufogriseus* (Bennett's wallaby), *Ovis aries* (Feral sheep), *Petrogale penicillata* (Brushtailed rock wallaby), *Rupicapra rupicapra* (Chamois), *Sus scrofa* (Feral pig), *Wallabia bicolor* (Swamp wallaby). WIDE SPREAD ANIMAL PEST SPECIES LIST: *Lepus europaeus occidentalis* (Hare), *Oryctolagus cuniculus cuniculus* (Rabbit), *Vespula vulgaris* (Common wasp), *Linepithema humile* (Argentine ant), *Rattus exulans* (Kiore), *Rattus norvegicus* (Norway rat), *Rattus rattus* (Ship rat), *Mustela erminea* (Stoat), *Mustela furo* (Ferret), *Mustela nivalis vulgaris* (Weasel), *Erinaceus europaeus occidentalis* (Hedgehog), *Felis catus* (Cat), *Trichosurus vulpecula* (Possum), *Mus musculus* (Mouse).

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ATTRIBUTE FIELD EXPLANATION: Abundance reliability indicates the confidence level that staff had regarding the abundance of the species. The four levels of confidence that are used are: (1) Best guess, (2) Expert opinion, (3) Qualitative data, (4) Quantitative data.

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MODELLING AND CLIPPING PROCEDURES APPLIED TO THE DATASET Objective: Incorporate staff directives through a modelling process for areas of absence/presence that proved to difficult to draw on paper. Step 1) LCDB2 layers were dissolved: Permanent Snow and Ice, Alpine Gravel and Rock, Lake and Pond, River, Estuarine Open Water. Step 2) Altitude generated from si_dem (25m resolution): Franz Josef-1000m, South Westland-1200m. Polygons of Area Offices were set as mask and raster was exported, A query was run in raster calculator to extract areas above specified altitude. These areas were converted to polygons (simplified to remove polygon blocky boundaries). Result was specified as non-habitat. Step 3) Merged Altitude and LCDB2 layers. Step 4) Union-ed the result (set as Non-Habitat) with the Mouse distribution. Step 5) Edge anomalies eliminated (due to BDI/Topovector/LCDB coastline disparities). 1.) Erased unioned shapefile from the topo260 coastline: this results in a file containing coastal slivers from the topo260 coastline that lie outside the unioned distributions coastline, 2.) Ran multipart to singlepart on file created in step 1, 3.) Added the text field "JoinID" to the shapefile created in step 2 and populated it with an identifier so it could be recognized later on e.g. "_1", 4.) Deleted all other fields, 5.) Clipped unioned shapefile with the topo260 coastline: this creates a file that cuts any overlap in the unioned shapefile to the same extent as the topo260 coastline where it extends further than it, 6.) Selected features from shapefile created in step 5 with no JoinID (these represent mostly estuarine areas), 7.) Copied selected features to a new shapefile and converted from multipart to singlepart, 8.) Deleted the selected features from the shapefile in step 6, 9.) Merged files created in steps 7 and 8 together (features created in step 7 can be identified by having no JoinID (JoinID = ' '), 10.) Selected by attribute on the file created in step 9 features with no JoinID (JoinID = ' ') then eliminated these against the neighbour they share the largest boundary with, 11.) Merged file created in step 4 with file created in step 10, 12.) Selected by attribute features with a JoinID that equals ' ' or '_1' (or whatever identifier was used in step 3) and eliminated against the neighbour they share the largest boundary with, 13.) Selected by attribute features with a JoinID that equals ' ' and eliminated against the neighbour they share the largest boundary with (this cleans up the last remaining features), 14.) Selected by attribute features with a JoinID that equals

"JoinID" = '_1' (or whatever identifier was used in step 3) and deleted them (these will be islands that are present in the topo260 layer but not in the original shapefile and are unable to be assigned a JoinID). Step 6) Further Edge anomalies eliminated associated with Estuarine Open Water class. a) Ran Multipart to singlepart on fixed coastline file, b) Identified with the LCDB2 Estuarine Open Water class (identified all polygons that came from this class in the layer), c) Calculated area of all polygons in layer, d) Selected polygons that are from the LCDB2 Estuarine Open Water class AND less than 4.5 ha ~OR~ any polygons that are less than 0.1ha (this seemed to be around the transition from artefacts (slivers and misc triangles) produced from various clipping processes and valid polygons, around 120 polygons from the lakes and ponds class were under this area and will have been removed from the distribution though), e) Eliminated selected features against polygon which it shares the largest edge length with, f) Dissolved on fields to bring the file back to what it originally was like, g) Ran Multipart to singlepart on dissolved file created in step f, h) Calculated area of all polygons in layer, i) Selected polygons that are less than 0.1ha (this picks up any sliver polygons and small triangles that were produced during step b), j) Eliminated selected features against polygon which it shares the largest edge length with, k) Dissolved on fields to bring the file back to what it originally was like. END

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TOPOLOGY OF DATA LAYERS To ensure topological integrity, the BDI shapefiles were imported into File Geodatabases (one each for Mainland and Chathams), and topologies were created for each species layer. Topological rules enforced were: Must Not Have Gaps and Must Not Overlap, which were enforced with a cluster tolerance of 0.01 metres (i.e. 1 cm) considering the spatial scale of data collection (i.e. 1:250,000). Upon validation of topologies, polygon gap and overlap errors identified were edited and repaired, with polyline gap errors being accepted as a result of the multipart nature of the polygons.

Coverage

-47.412807 166.259159 -34.003013 179.484386

Format

Shapefile

Identifier

<http://koordinates.com/layer/1607/>

Identifier

<http://www.doc.govt.nz>

Language

eng

Subject

Biodiversity Data Inventory distribution

Subject

biota

Subject

environment