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TASMANIAN VEGETATION MONITORING AND MAPPING PROGRAM
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TASVEG 3.0 MACQUARIE ISLAND – METADATA STATEMENT

Dataset

Unique ID:	
Title:	TASVEG 3.0 Macquarie Island
Custodian:	Department of Primary Industries, Parks, Water and Environment (DPIPWE)
Jurisdiction:	Tasmania
Citation:	Department of Primary Industries, Parks, Water and Environment. *TASVEG 3.0 Macquarie Island*, Released November 2013. Tasmanian Vegetation Monitoring and Mapping Program, Resource Management and Conservation Division.

Description

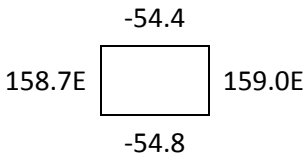
Abstract:	TASVEG Macquarie Island is a vegetation community map for subantarctic Macquarie Island and is produced and maintained by the Tasmanian Vegetation Monitoring and Mapping Program (TVMMP). This dataset is largely based on the original mapping generated during a joint project between P.M Selkirk and D.A Adamson of the School of Biological Sciences, Macquarie University and the Australian Antarctic Division. TASVEG 3.0 Macquarie Island comprises 11 mapping units largely derived from satellite image interpretation and produced at a nominal scale of 1:25,000. TASVEG 3.0 Macquarie Island represents the second major release of this dataset following the release of TASVEG 2.0 Macquarie Island in 2009.
Search Words:	vegetation, flora, TASVEG, Tasmania, Macquarie Island, Antarctica

Reference System

Reference System:	EPSG:32757 (WGS84 / UTM zone 57S)

Geographic Extent

Name: Tasmania
Bounding Box:



Dataset Currency

Beginning Date: 2007-02-19
Ending Date: On next release (date to be advised)

Dataset Status

Progress: Complete for release version 3.0
Maintenance and Update: Continual

Dataset Access

Stored Data Format(s): Digital – ESRI ArcSDE
Available Format Type(s): Digital – ESRI Shapefile
Digital – MapInfo TAB file

Access Constraints: All graphical and digital data produced by the Department of Primary Industries, Parks, Water and Environment is covered by Crown Copyright. Access and usage of the digital TASVEG 3.0 layer are limited to those set out in the Information and Land Services Division - Conditions of Use document. The data may be distributed under a Digital Data Licence Agreement (DDLA), or a Service Level Agreement (SLA) in the case of Tasmanian Government Agencies. These agreements define the terms and conditions under which the data may be used.

Data Quality

Lineage: The original mapping for this dataset was supplied by P.M Selkirk and D.A Adamson of the School of Biological Sciences, Macquarie University and the Australian Antarctic Division. The communities mapped by Selkirk and Adamson were defined structurally with an emphasis on height of vegetation above the ground and density as indicated by the percent of ground surface covered by plants. The majority of this mapping was derived from SPOT satellite imagery captured on 22 December 1994, with additional reference to stereo aerial photography captured 6 and 7

February 1976. Extensive field checking of vegetation boundaries was also undertaken on Macquarie Island.

The Selkirk and Adamson data was released largely unchanged as part of the TASVEG 2.0 release in 2009 with the original vegetation community names retained in addition to newly assigned (interim) TASVEG vegetation community codes. Since that release, the Macquarie Island dataset has been translated into a new TASVEG compliant attribute structure and the vegetation communities have been renamed to better reflect the vegetation captured within each mapping unit.

Additional changes to the TASVEG Macquarie Island dataset since the 2.0 release have included; the correction of topological errors, the recoding and realignment of erroneous vegetation polygons and improved alignment of the coastline. The majority of these changes were derived from Quickbird satellite imagery captured on 15 March 2005.

Positional Accuracy: The positional accuracy of this dataset is unknown; however, the data appears to align well with the orthorectified 2005 Quickbird image which has an estimated horizontal accuracy of around 5 metres.

Attribute Accuracy: The attribution of the TASVEG Macquarie Island polygons was undertaken by vegetation scientists with relevant expert knowledge of the island's land cover. Selkirk and Adamson also undertook extensive field verification as part of the original mapping program but it is unknown which parts of the island were visited. Reliability can be inferred from the mapping source date and type, and from the source interpretability rating scale - where indicated.

Logical Consistency: This dataset has been quality assured for topological correctness including the omission of overlaps. Logical consistency checking of attribute values has been performed to ensure all attributes comply with the valid values set out in the TASVEG editing business rules.

Completeness: This dataset covers the landmass of Macquarie Island including near shore kelp beds. Some of the smaller rocky outcrops surrounding Macquarie Island are not mapped as part of this dataset. This dataset is complete for the purpose of the current TASVEG Macquarie Island dataset release (version 3.0). The data is suited for use as a regional overview, for reporting purposes and for determining the probable location of vegetation communities. Tasks requiring more current or precise vegetation boundaries should seek alternate data sources or undertake field verification.

Contact

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Additional Metadata:	http://www.dpipwe.tas.gov.au/tasveg

Mapping updates since version 2.0

TASVEG_ADMIN_EDITING-DPIPWE-2013

Generic maintenance work carried out on the dataset, including correction of topology errors, correction of spurious VEGCODE tags and improved alignment of the coastline.

TASVEG Macquarie Island 3.0 Attribute Fields

Attribute Changes

The TASVEG Macquarie Island dataset has been migrated to the new TASVEG attribute structure to facilitate the ongoing maintenance and update. The descriptors for the Macquarie Island vegetation communities have also been revised and assigned new vegetation community codes (VEGCODES) identified by a first letter of "Q".

TASVEG 3.0 attributes and their meaning

Attribute Name	Full Name	Description	Type
VEG_GROUP	Vegetation Group Code	The broad vegetation community group to which the polygon belongs. This field can be used for rapid categorisation of the polygons for display.	text(50)
VEGCODE	Vegcode	Three letter code that defines the dominant TASVEG vegetation community present within the polygon.	text(3)
VEGCODE_D	Vegcode Description	The full name of the community described by the VEGCODE attribute.	text(50)
SOURCE_TYP	Source Type	The data type that was used as the primary source for defining the vegetation community boundary.	text(15)
SOURCE_DAT	Source Date	The capture date of the data source listed in the 'SOURCE_TYPE' field.	date
SOURCE_IRS	Source Interpretability Rating Scale	Source Interpretability Rating Scale (SIRS) indicates what type of features where discernable on the source imagery (if imagery was source) ranging from 0-9.	float
PROJECT	Project Code	A three part project identification code used to record the project responsible for mapping the polygon.	text(50)
SHAPE_AREA	Shape Area	The area of the polygon (square metres)	double

Acceptable values for TASVEG attribute fields:

VEG_GRP_CODE

Acceptable values:

Agricultural, urban and exotic vegetation
Macquarie Island vegetation
Other natural environments

VEGCODE (Acceptable values) and **VEGCODE_D** (Definitions)

Detailed descriptions of TASVEG vegetation communities can be found on the TVMMP website and in the TASVEG technical manual – From Forest to Fjaeldmark: Descriptions of Tasmania's Vegetation Edition 2

Agricultural, urban and exotic vegetation

Acceptable values:	Definitions:
FUM	Extra-urban miscellaneous

Macquarie Island vegetation

Acceptable values:	Definitions:
QCS	Coastal slope complex
QCT	Coastal terrace mosaic
QKB	Kelp beds
QAM	Macquarie alpine mosaic
QMI	Mire
QST	Short tussock grassland/rushland with herbs
QTT	Tall tussock grassland with megaherbs

Other natural environments

Acceptable values: Definitions:

ORO	Lichen lithosere
OSM	Sand, mud
OAQ	Water

SOURCE_TYP

Acceptable values: Definitions:

GEarth-XXX... - LCC - SKM - DG - SPT - GE - UNK	Imagery from Google Earth was used for capture and/or interpretation. "XXX..." indicates the credited source of the imagery in the Google Earth browser. Launceston City Council Sinclair Knight Merz Digital Globe corporation SPOT corporation GeoEye corporation Unknown (but was from Google Earth)
SAT-XXX... - RE - SPT - DG - UNK	Imagery acquired by satellite was used for capture and/or interpretation. "XXX..." indicates the sensor (or satellite) that captured the imagery. RapidEye SPOT (can be SPOT1, SPOT2, etc if known) DigitalGlobe Unknown platform (but was extraterrestrial)

SOURCE_IRS

Source Interpretability Rating Scale (SIRS) has been implemented due to the shortcomings of physical image quality measures, such as ground sample distance and signal-to-noise ratio, to adequately convey the interpretability potential of image sources used when editing TASVEG polygons. SIRS has also been chosen due to the inability to assign traditional scale values to digitally acquired imagery. SIRS takes into account the varying quality of aerial photography arising from variables such as film type, atmospheric conditions and scanning resolution/compression (if converted to digital format). SIRS is a unitless scale that can also be applied to any imagery source thus enabling an index of quality to be assigned against sources such as Google Earth, satellite imagery and hand-held photographs.

The SIRS is used to quantify the interpretability or usefulness of imagery and is based on the concept of the National Imagery Interpretability Rating Scale (NIIRS) outlined in Irvine (1997). SIRS defines the level of image interpretability based on the tasks an analyst can perform with

imagery of a given rating level and consists of 10 graduated levels (0 - 9) with several interpretation tasks or *criteria* forming each level. SIRS values are assigned by examining the source imagery and determining which of the criteria listed below could be accomplished on the image if the objects or features were present. The analyst determines the highest level on the scale at which the criteria and all lower rated criteria could be satisfied. Decimal SIRS values are allowed and can be used where the analyst judges that a source image falls somewhere between SIRS levels e.g. 3.7 if an image is significantly better than 3 but not quite 4.

Rating Level 0

Interpretability of the imagery is precluded by obscuration, degradation, or very poor resolution (e.g. cloud cover).

Rating Level 1

Distinguish between major land use classes (e.g. urban, agricultural, forest, water, barren).

Delineate coastal shoreline.

Detect major lines of transportation (e.g. Midlands Highway).

Distinguish between runways and taxiways at a large airfield (e.g. Launceston Airport, Hobart Airport).

Identify large area drainage patterns by type (e.g. dendritic, trellis, radial).

Detect large area (40 ha) timber clearcutting.

Rating Level 2

Identify large (i.e. greater than 40 ha) centre-pivot irrigated fields during the growing season.

Detect windbreaks (i.e. rows of trees) between paddocks.

Detect large buildings (e.g. hospitals, factories).

Detect the location of a large golf course (e.g. Royal Hobart Golf Club).

Detect intermediate (e.g. 800m) horse training/trotting tack with gravel/sand surface.

Delineate the extent of woody vegetation were canopy closure is greater than 20%.

Detect clearings through forested land for utility easements (e.g. high tension power lines, water pipelines).

Detect two lane improved roads (e.g. Channel Highway, Meander Valley Highway).

Rating Level 3

Detect two lane unimproved roads.

Distinguish between natural forest stands and orchards.

Detect forest/fire roads through native forest.

Delineate areas of mature plantation within native forest.

Identify general vegetation cover type (e.g. grass, scrub, wetland, agricultural crop) in non-forested areas.

Distinguish among residential, commercial and industrial areas within an urban area.

Detect large (100m^2) town water storage tanks.

Detect individual fairways within a golf course.

Detect individual houses in residential neighbourhood.

Rating Level 4

Identify farm buildings as sheds, silos, or residences.

Detect basketball court, tennis court, volleyball court in urban areas.

Distinguish between individual rows in a mature vineyard or orchard.

Detect large farm equipment (tractors, combines) in open fields.

Detect vehicle tracks through grassland.

Distinguish boundaries between structurally different TASVEG communities (e.g. dry eucalypt forest and scrub).

Detect fallen trees in inland waterways.

Identify boom for centre pivot irrigated fields.

Detect selective timber harvest operations.

Rating Level 5

Identify tents (larger than 2 person) at established recreational camping areas.

Detect small (less than 1m wide) irrigation drainage ditches.

Detect large domesticated animals (e.g. horses, cattle) in grazing pastures.

Identify individual bales of hay (i.e. large rolls) in open fields.

Distinguish individual trees in a closed canopy native forest.

Identify road markings on paved roads (e.g. turn arrows, give way line, stop line)

Delineate building footprints for residential dwellings.

Rating Level 6

Detect a closed gate across a single lane road.

Distinguish between row (e.g. corn, soybean, poppy) crops and small grain (e.g. wheat, oats) crops.

Identify automobiles as sedans or station wagons.

Count individual ‘stags’ (mature standing deadwood) in a mature native forest.

Identify utility poles in a residential neighbourhood (e.g. telephone/electricity pole).

Count small medium domesticated animals in a flock (e.g. sheep, goats).

Distinguish between sand and pebble/rock beaches.

Detect foot tracks through grasslands.

Rating Level 7

Identify individual railroad sleepers.
Identify above ground utility lines in residential areas (e.g. telephone, electricity).
Detect individual steps on a stairway.
Detect stumps and rocks in forest clearings and meadows.
Identify individual steel fence posts (e.g. star picket).
Detect large raptor (e.g. eagle, osprey) nests.
Identify floating objects as plastic garbage bags.
Detect outside rear-view mirrors on passenger cars.

Rating Level 8

Identify small hand tools (e.g. hammer, carpenters saw, pipe wrench).
Determine the occupancy of large raptor (e.g. eagles, osprey) nests.
Identify grill detailing and/or the license plate on a passenger/truck type vehicle.
Identify a survey benchmark set in a paved surface.
Identify tree leaf size and shape.
Identify individual pine seedlings.
Identify individual water lilies on a pond.
Identify windshield wipers on a vehicle.

Rating Level 9

Identify individual barbs on a barbed wire fence.
Detect individual spikes/clips in railroad sleepers.
Identify individual bunches of pine needles.
Identify individual grain heads on small grain (e.g. wheat, oats, barley).
Identify individual bunches of Eucalyptus fruit.

References

Irvine, J.M. (1997) National Imagery Interpretability Rating Scales (NIIRS): Overview and Methodology *Proceedings of the International Society for Optical Engineering (SPIE)*, 29-30 July, 1997, Volume 3128, pp.93-103.