

The Australian Land Use and Management Classification Version 8

Prepared by the Australian Collaborative Land
Use and Management Program Partners

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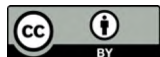
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This version 8 of the Australian Land Use and Management Classification replaces version 7 of the classification in *Guidelines for land use mapping in Australia: principles, procedures and definitions - 4th edition* (ABARES 2011). It reflects current needs and experience in classifying land use of national, state and territory agency partners involved in the Australian Collaborative Land Use and Management Program (ACLUMP). The program is coordinated by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES).

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Basis of the Australian Land Use and Management Classification

A land use nomenclature and classification scheme involves ordering land use in a systematic, logical and consistent way. In 1999, a joint workshop involving national, state and territory authorities agreed to a national land use classification for Australia (Barson 1999), based on a modified version of the scheme developed by Baxter and Russell (1994). The aim was to promote the creation of nationally consistent land use datasets to meet a wide range of user needs, and make the best use of existing data and available resources. The Australian Land Use and Management (ALUM) Classification has since been revised in July 2000 (version 3), October 2000 (version 4), February 2002 (version 5), June 2005 (version 6) and May 2010 (version 7) through consultative review processes.

This document presents the current version of the ALUM Classification (version 8, October 2016), developed by the ALUM Classification Technical Working Group between February 2016 and August 2016. For differences between version 7 and version 8, and for conversion from version 7 to version 8, see the look-up table in Appendix 1.

Principles

The principles that underpin the ALUM Classification and the Baxter–Russell approach include:

- Level of intervention—the classification is based on identification and delineation of types and levels of intervention in the landscape, rather than descriptions of land use based on outputs. It also gives precedence to the modelling capabilities of data over monitoring capabilities and monitoring capabilities over descriptive uses.
- Generality—the classification is designed to cater for users who are interested in processes (e.g. land management practices) and in outputs (e.g. commodities).
- Hierarchical structure—the structure provides for and promotes aggregation or disaggregation of related land uses, the addition of levels or classes, and relevance at a range of scales.
- Prime use and ancillary use—parcels of land may be subject to a number of concurrent land uses. For example, a multiple-use production forest has the main management objective of timber production, although it may also provide conservation, recreation, grazing and water catchment services. Land use class allocations for prime use are based on the primary land management objective of the nominated land manager. Ancillary or secondary uses can also be recorded.

Structure

The ALUM Classification has a three-tiered hierarchical structure. Primary, secondary and tertiary classes are broadly structured by the potential degree of modification and the impact on a putative 'natural state' (essentially, a native land cover).

Primary and secondary classes relate to land use—the main use of the land, defined by the management objectives of the land manager. Tertiary classes can include commodity groups, specific commodities, land management practices or vegetation information. Tertiary-level data are particularly valuable in many natural resource planning and management applications, but are often expensive to collect.

The ALUM Classification version 8 includes fields to collect commodity and land management practice information. These fields allow consistent recording of more detailed information about crops, livestock and management techniques which can be determined at the time of mapping. This information allows further distinction within a land use class such as separating tree fruits into bananas and mangoes. It is also particularly useful in responding to or preparing for biosecurity incidents.

The ALUM Classification includes six primary classes. The five primary classes of land use are distinguished in order of increasing levels of intervention or potential impact on the natural landscape. Water is also included as a sixth primary class.

The primary classes of land use in the ALUM Classification are:
1. Conservation and natural environments —land used primarily for conservation purposes, based on maintaining the essentially natural ecosystems present.
2. Production from relatively natural environments —land used mainly for primary production with limited change to the native vegetation.
3. Production from dryland agriculture and plantations —land used mainly for primary production based on dryland farming systems.
4. Production from irrigated agriculture and plantations —land used mostly for primary production based on irrigated farming.
5. Intensive uses —land subject to extensive modification, generally in association with closer residential settlement, commercial or industrial uses.
6. Water —water features (water is regarded as an essential aspect of the classification, but it is primarily a cover type).

Challenges with assigning land use classes include; areas of multiple use, a rotation system or permanent land use change, conflicting information, uncertainty in class allocation and missing classes. Agreed solutions to these challenges are discussed in the 'Decision rules' section.

Comparison with other classification systems

In addition to the ALUM Classification, other land use classifications used in Australia are the Australian Valuation Property Classification Codes (AVPCC) and the Australian and New Zealand Standard Industrial Classification (ANZSIC). Both the AVPCC and ANZSIC systems are hierarchical, with 10 and 19 primary classes of land use, respectively (Table 1).

Table 1 Primary classes in other Australian land use classification systems

Australian Valuation Property Classification Codes (AVPCC)		Australian and New Zealand Standard Industrial Classification (ANZSIC)	
Class no.	Class name	Class no.	Class name
1	Residential—development land, accommodation	0100	Agriculture, forestry and fishing
2	Commercial—retail, commerce, professional/personal services, commercial residential, accommodation, hospitality, entertainment and tourism facilities	0600	Mining
3	Industrial—manufacturing, storage, wholesale distribution	1100	Manufacturing
4	Extractive industries	2600	Electricity, gas, water and waste services
5	Primary production—agriculture, forestry, aquaculture, animal production	3000	Construction
6	Infrastructure and utilities (industrial)	3300	Wholesale trade
7	Community services	3900	Retail trade
8	Sport, heritage and culture	4400	Accommodation and food services
9	National parks, conservation areas, forest reserves and natural water reserves	4600	Transport, postal and warehousing
10	Non-active assessments and header records	5400	Information media and telecommunications
		6200	Financial and insurance services
		6600	Rental, hiring and real estate services
		6900	Professional, scientific and technical services
		7200	Administrative and support services
		7500	Public administration and safety
		8000	Education and training
		8400	Health care and social assistance
		8900	Arts and recreation services
		9400	Other services

The strength of the AVPCC and ANZSIC classifications is in their ability to discriminate intensive land uses, especially those associated with commercial and industrial uses. In comparison the ALUM Classification enables more discrimination between agricultural production from relatively natural, dryland, irrigated and intensive production systems. The AVPCC and ANZSIC classifications include more than 400 and 800 classes respectively, compared to almost 200 ALUM classes. A number of classes from the AVPCC and ANZSIC have been incorporated in the ALUM Classification. Tables to convert ANZSIC and AVPCC codes to ALUM codes are presented in Appendixes 2 and 3.

Class definitions

The following section describes the primary, secondary and tertiary classes of the Australian Land Use and Management (ALUM) Classification version 8. A list of commodities and management practices with descriptions to be used in conjunction with the ALUM classes can be found at Table 2 and Table 3.

CLASS 1 Conservation and natural environments

This class includes land that has a relatively low level of human intervention. The land may be formally reserved by government for conservation purposes, or conserved through other legal or administrative arrangements. Areas may have multiple uses, but nature conservation is the prime use. Some land may be unused as a result of a deliberate decision of government or landowner, or due to circumstance.

1.1 Nature conservation

Tertiary classes 1.1.1–1.1.6 are based on the Collaborative Australian Protected Areas Database (CAPAD) classification (Cresswell and Thomas 1997). These classes can also be translated from the International Union for Conservation of Nature Guidelines for applying protected area management categories (IUCN 2008) as outlined in the descriptions below.

1.1.1	Strict nature reserve —protected area managed mainly for science. An area of land possessing outstanding or representative ecosystems, geological or physiological features or species, which is available primarily for scientific research and/or environmental monitoring. (IUCN 2008 Category Ia)
1.1.2	Wilderness area —protected area managed mainly for wilderness protection. A large area of unmodified or slightly modified land, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition. (IUCN 2008 Category Ib)
1.1.3	National park —protected area managed mainly for ecosystem conservation and recreation. A natural area of land, designated to: a) protect the ecological integrity of one or more ecosystems for the current and future generations; b) exclude exploitation or occupation detrimental to the purposes of designation of the area; and c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible. (IUCN 2008 Category II)
1.1.4	Natural feature protection —protected area managed for conservation of specific natural features. An area containing one or more specific natural or cultural features that are of outstanding value because of their inherent rarity, representative or aesthetic qualities, or cultural significance. (IUCN 2008 Category III)
1.1.5	Habitat/species management area —protected area managed mainly for conservation through management intervention. An area of land or sea subject to active intervention for management purposes to ensure the maintenance of habitats or to meet the requirements of specific species. This may include areas on private land. (IUCN 2008 Category IV)

1.1.6	Protected landscape —protected area managed mainly for landscape conservation and recreation. An area of land where the interaction of people and nature over time had produced a distinct character with significant aesthetic, cultural or ecological value, and often high biodiversity. (IUCN 2008 Category V)
1.1.7	Other conserved area —land under forms of nature conservation protection that fall outside the scope of the CAPAD classification. This includes heritage agreements, voluntary conservation arrangements, registered property agreements, and recreation areas with primarily native cover (if the recreation area is primarily cleared or non-native cover assign to 5.5.3 'Recreation and culture').

1.2 Managed resource protection

Tertiary classes 1.2.1–1.2.4 are based on the CAPAD classification (IUCN 2008 Category VI). These areas are managed primarily for the sustainable use of natural resources. This includes areas with largely unmodified natural systems that are managed primarily to ensure the long-term protection and maintenance of biological diversity, water supply, aquifers or landscapes, while providing a sustainable flow of natural products and services.

1.2.1	Biodiversity —area managed for biodiversity.
1.2.2	Surface water supply —area managed as a catchment for water supply.
1.2.3	Ground water —area managed for ground water.
1.2.4	Landscape —area managed for landscape integrity.
1.2.5	Traditional Indigenous uses —area managed primarily for traditional Indigenous uses. This class should only be applied where traditional Indigenous uses are the current prime use. If it is not the prime use, the area should be mapped based on the current prime use, with Indigenous uses mentioned in the 'Comments' field.

1.3 Other minimal use

Areas of land that are largely unused (in the context of the prime use) but may have ancillary uses. This may be a deliberate decision by the land manager or the result of other circumstances. The land may be available for use but remain unused for various reasons.

1.3.1	Defence land—natural areas —natural areas allocated to field training, weapons testing and other field defence uses, predominantly in rural areas.
1.3.2	Stock route —stock reserves under intermittent use or unused.
1.3.3	Residual native cover —land under native cover, mainly unused (no prime use) or used for non-production or environmental purposes (e.g. to conserve native vegetation and wildlife, or for natural resources protection). The 'residual native cover' class is only appropriate where there is no applicable prime use or where land use is indeterminate. For example livestock may

	occasionally graze, but where grazing is the intended prime use of the land, it should be classed under 2.1.0 or 3.2.1. Corridors and roadside areas may fit under this class, along with unusable land such as cliffs, rock faces, boulders and tors, provided there are relatively low levels of disturbance. Where there has been significant disturbance to the land (e.g. clearing) the area should be assigned to a non-conservation land use.
1.3.4	Rehabilitation —land under rehabilitation that has been restored to a near natural state. Land that is degraded or undergoing rehabilitation but still substantially modified should be mapped under 3.6.2, 3.6.3, 4.6.2, 4.6.3 or 5.8.4.

CLASS 2 Production from relatively natural environments

This class includes land that is subject to relatively low levels of intervention. The land may not be used more intensively because of its limited capability. The structure of the native vegetation generally remains intact despite deliberate use, although the floristics of the vegetation may have changed markedly. Where the native vegetation structure is, for example, open woodland or grassland, the land may be grazed.

Where native grasses have been deliberately and extensively replaced with improved species, the use should be treated under class 3, 'Production from dryland agriculture and plantations'.

2.1 Grazing native vegetation

Land uses based on grazing by domestic stock on native vegetation where there has been limited or no deliberate attempt at pasture modification. Some change in species composition may have occurred. For ALUM purposes, this class is used when there is greater than 50 per cent dominant native species. Refer to the 'Decision rules' section for guidance.

Australian Collaborative Land Use and Management Program (ACLUMP) partners have agreed to this definition, but note that most jurisdictions have datasets specifically designed to distinguish native from non-native vegetation. These datasets should be used to report on native versus non-native vegetation, as the land use classification maps the actual land use as a priority over land cover. If the type of livestock is known, record this in the commodity field (from Table 2).

2.2 Production native forests

Commercial production from native forests and related activities on public and private land. Environmental and indirect production uses associated with retained native forest (e.g. prevention of land degradation, windbreaks, shade and shelter) are included in class 1, 'Conservation and natural environments'.

2.2.1	Wood production forestry —area managed for sawlogs and pulpwood.
2.2.2	Other forest production —area managed for non-sawlog or non-pulpwood production, including oil, wildflowers, firewood and fence posts.

CLASS 3 Production from dryland agriculture and plantations

This class includes land that is used principally for primary production, based on dryland farming systems. Native vegetation has largely been replaced by introduced species through clearing, the sowing of new species, the application of fertilisers or the dominance of volunteer species. The range of activities in this category includes plantation forests, pasture production for stock, cropping and fodder production, and a wide range of horticultural production. If there is evidence of irrigation infrastructure, land should be mapped under class 4, 'Production from irrigated agriculture and plantations', even if irrigation water has not been applied in the current growing season.

Fallow or ploughed land should be assigned to the most likely land use based on the dominant activity conducted in comparable nearby areas. Fallow or ploughed land should be allocated to the relevant pasture, cropping or horticulture class (rather than using land in transition). Record the fallow or ploughed status in the management field.

3.1 Plantation forests

Land on which plantations of trees or shrubs (native or exotic species) have been established for production, or environmental and resource protection purposes. This includes farm forestry. Where planted trees are grown in conjunction with pasture, fodder or crop production, class allocation should be made on the basis of prime use.

3.1.1	Hardwood plantation forestry —area managed for hardwood sawlogs or pulpwood.
3.1.2	Softwood plantation forestry —area managed for softwood sawlog or pulpwood.
3.1.3	Other forest plantation —area managed for non-sawlog or non-pulpwood production, including oil, wildflowers, firewood and fence posts.
3.1.4	Environmental forest plantation —area managed for environmental and indirect production uses (e.g. prevention of land degradation, windbreaks, shade and shelter). This also includes trees planted for carbon credits.

3.2 Grazing modified pastures

Pasture and forage production, both annual and perennial, based on significant active modification or replacement of the initial vegetation. For ALUM purposes, this class is used when there is greater than 50 per cent dominant exotic species while 2.1, 'Grazing native vegetation', is applied when there is greater than 50 per cent dominant native species.

Most jurisdictions have datasets specifically designed to distinguish native from non-native vegetation. These datasets should be used to report on native versus non-native vegetation, as the ALUM Classification maps the actual land use as a priority over land cover.

Land under pasture at the time of mapping may be in a rotation system, so that at another time the same area may be, for example, under cropping. Land in a rotation system should be classified according to the prime use (if known) or the land use at the time of mapping, with rotation information recorded in the management field (from

Table 3). If the rotation sequence is known record this in the 'Comments' field (Table 4). Effort should be made to distinguish a land use change from a rotation as discussed in the 'Decision rules' section.

If livestock or pasture type is known, record this in the commodity field (from Table 2).

3.2.1	Native/exotic pasture mosaic —pastures in which there is a substantial native species component, despite extensive active modification or replacement of native vegetation. This class may apply where native and exotic pasture is patterned at a relatively fine spatial scale. If there is greater than 50 per cent native pastures then the area should be coded to class 2.1, 'Grazing native vegetation'. If there are no native species present, the area should be classified as one of the other 3.2 'Grazing modified pastures' tertiary classes.
3.2.2	Woody fodder plants —woody plants used primarily for the purpose of providing forage for livestock grazing. Examples include tagasaste, leucaena and saltbush.
3.2.3	Pasture legumes —non-grass pasture plants which may have rounded leaves, pea-like flowers and seeds, and may be nitrogen fixing. Examples include lucerne, clover and medics.
3.2.4	Pasture legume/grass mixtures —these pastures have been sown with both grasses and leguminous pasture species.
3.2.5	Sown grasses —grass pasture species including ryegrass, buffel grass and Bambatsi. This class includes saline pastures.

3.3 Cropping

Land that is under cropping. Land under cropping at the time of mapping may be in a rotation system, so that at another time the same area may be, for example, under pasture. Land in a rotation system should be classified according to the prime use (if known) or the land use at the time of mapping, with rotation information recorded in the management field (from Table 3). If the rotation sequence is known record this in the 'Comments' field (Table 4).

Effort is made to distinguish between actual land use change and a rotation. For example, in Queensland, an area that is usually cropped but is not used for that particular purpose in the year mapped, is still mapped as cropping in an updated dataset and is not mapped as grazing until there is evidence of pasture or vegetation regrowth and/or cropping machinery would not easily pass over the land (see 'Decision rules' for more detail).

Cropping can vary markedly over relatively short distances in response to changes in the nature of the land and the preferences of the land manager. It may also change over time in response to market conditions. Production of fodder, such as lucerne hay, is considered cropping as there is no harvesting by stock. Strip cropping—where multiple commodities are cropped simultaneously—can be assigned to the secondary class 3.3 with multiple commodities recorded using the commodity field, and cropping strip in the management field as shown in the data structure (Table 4). If irrigation infrastructure is present the relevant class should be applied under 4.3, 'Irrigated cropping' regardless of whether the crop was irrigated in the growing season.

If the type of crop type is known, record this in the commodity field using the commodity list in Table 2.

3.3.1	Cereals —broadacre grasses such as wheat, oats, and barley (and some non-leguminous, non-oilseed pseudo-cereal crops such as buckwheat and quinoa) grown primarily for grain for human consumption. This class also includes cereal crops which are cut for straw.
3.3.2	Beverage and spice crops —beverage crops grown to make liquids for human consumption such as tea, coffee and cocoa. Spice crops are seeds, fruit, root, bark, berry, bud or other vegetable substance primarily used for flavouring, colouring or preserving food such as ginger and pepper. Herbs or vegetables are not included in this class and should be mapped as 3.4.7, 3.5.3, 4.4.7 or 4.5.3 depending on whether they are annual or perennial plants and whether irrigation infrastructure is present.
3.3.3	Hay and silage —grass or other forage crops grown to be cut for stored animal fodder. Cereal crops should be mapped as 3.3.1, 'Cereals' if the primary intended purpose was grain production, even if these are cut for hay and silage.
3.3.4	Oilseeds —commodities mainly grown for extraction of oil from the seeds. The oil content of the seeds or grain is greater than other crops, generally above 20 per cent. Australian oilseeds include canola, sunflower, soybean and peanuts. While cottonseed is an oilseed this should be mapped to 3.3.6 or 4.3.6.
3.3.5	Sugar —sugar cane. Other commodities which can be used for sugar production are mapped to vegetables or fruits as appropriate.
3.3.6	Cotton —dryland or unirrigated cotton for lint or seed. Where there is evidence of irrigation infrastructure map as 4.3.6 even if water has not been applied in the current growing season.
3.3.7	Alkaloid poppies —where it is known that poppies are grown for alkaloid (pharmaceutical) purposes, map under this class rather than class 3.3.4.
3.3.8	Pulses —grain legumes which are grown for sale as dried produce. This includes field beans, field peas, chickpeas, lentils and lupins. While peanuts and soybeans are leguminous plants they are traditionally seen as oilseeds and should be classified as 3.3.4 or 4.4.4 if irrigated.

3.4 Perennial horticulture

Crop plants living for more than two years that are intensively cultivated, usually involving a relatively high degree of nutrient, weed and moisture control. If the crop type is known use the commodity list to record this (Table 2). Management practices such as netting to protect these crops from hail or birds can be recorded in the management field (see Table 3). If irrigation infrastructure is present the class 4.4, 'Irrigated perennial horticulture' should be used.

3.4.1	Tree fruits —includes pome fruit such as apples, stone fruit such as apricots, tropical fruit such as mangoes and bananas, and other orchards except olives (3.4.2) and citrus (3.4.8) which have their own classes. Where irrigation infrastructure is in place, map as 4.4.1, 'Irrigated tree fruits'. This class does not include plantation fruit which is not grown on trees such as pineapples (3.4.5 or 4.4.5) or vines such as kiwifruit and passionfruit (3.4.4 or 4.4.4).
3.4.2	Olives —olive trees harvested for fruit or oil.
3.4.3	Tree nuts —includes trees or shrubs grown to produce nuts such as almonds, hazelnuts, macadamias. This class does not include peanuts which are mapped as 3.3.4, 'Oilseeds'.
3.4.4	Vine fruits —fruiting vines which live for more than two years such as kiwifruit and passionfruit. This class excludes grapes (3.4.9) which have their own class. Annual or seasonal vines such as melons are mapped as 3.5.1 or 4.5.1.
3.4.5	Shrub berries and fruits —berries and fruits not grown on trees where the plant lives at least two years. This includes plantation fruit, such as pineapples, and berries, such as blackberries and red currants.
3.4.6	Perennial flowers and bulbs —this class represents cut flowers, flower products, and flower bulbs. Potted plants including flowering plants which are grown to be sold as whole plants are mapped under 5.1.1, 'Production nurseries'.
3.4.7	Perennial vegetables and herbs —vegetables and herbs for human consumption such as asparagus, rhubarb and fennel which live for at least two years.
3.4.8	Citrus —where citrus can be detected, map under this class rather than 3.4.1, 'Tree fruits'.
3.4.9	Grapes —where grapes can be detected, map under this class rather than 3.4.4, 'Vine fruits'.

3.5 Seasonal horticulture

Crop plants living for less than two years that are intensively cultivated, usually involving a relatively high degree of nutrient, weed and moisture control. If the crop type is known the commodity list should be used to record this (Table 2). If irrigation infrastructure is present map as 4.5, 'Irrigated seasonal horticulture'.

3.5.1	Seasonal fruits —includes melons and other fruit harvested from plants (including vines or shrubs) which live for less than two years.
3.5.2	Seasonal flowers and bulbs —this class represents cut flowers, flower products, and bulbs. Potted plants including flowering plants which are grown to be sold as whole plants should be mapped under 5.1.1, 'Production nurseries'. Alkaloid poppies are mapped to 3.3.7.
3.5.3	Seasonal vegetables and herbs —vegetables and herbs for human consumption. This class includes beans and peas grown for sale fresh and frozen. Field peas and field beans grown to be dried are mapped as 3.3.8, 'Pulses'. Plants grown to be sold as seedlings are mapped to 5.1.1, 'Production nurseries'.

3.6 Land in transition

Areas where the land use is unknown and cannot reasonably be inferred from the surrounding land use. This class should be used sparingly. Fallow or ploughed land should be allocated to a relevant pasture, cropping or horticulture class as this is the primary use. Land must previously have been used for agriculture or plantations as it falls under class 3. If evidence of irrigation is present, it should be classed as 4.6, 'Irrigated land in transition'. For abandoned intensive agriculture, classes 5.1.5 or 5.2.8, may be most appropriate.

3.6.1	Degraded land —land that is severely degraded (e.g. from soil erosion, salinity or weed/shrub invasion) and is not under active rehabilitation.
3.6.2	Abandoned land —land where a previous pattern of agriculture may be observed but which is not currently under production.
3.6.3	Land under rehabilitation —land in the process of rehabilitation for agricultural production and not for purposes under class 1, 'Conservation and natural environments' or class 5, 'Intensive uses'. Land that has been rehabilitated to a near natural state should be classed as 1.3.4, 'Rehabilitation', while mining land undergoing rehabilitation should be assigned to 5.8.4, 'Extractive industry not in use'.
3.6.4	No defined use —land cleared of intact native vegetation where the proposed land use is not known.
3.6.5	Abandoned perennial horticulture —land previously used for perennial horticulture which has not been cleared (e.g. an orchard where trees remain but the site has been invaded by woody shrubs, with trees unpruned or dying).

CLASS 4 Production from irrigated agriculture and plantations

This class includes agricultural land uses where water is applied to promote additional growth over normally dry periods, depending on the season, water availability and commodity prices.

This includes land uses that receive only one or two irrigations per year, through to those uses that rely on irrigation for much of the growing season. Baxter and Russell (1994) created this primary class because of the degree of intervention involved in irrigation, and its potential impacts on hydrology and geohydrology.

Irrigation in Australia is in a state of flux and so there is a need to rely more heavily on ancillary data than in the past. These ancillary data sources may include proximity to water sources, information from water entitlements (irrigation licences), field survey and local knowledge. Due to seasonal or market conditions, land that is developed for irrigation might not always be actively irrigated. Land should be mapped according to prime use (if known), or use at the time of mapping, however it is suggested that areas be assigned to the irrigation classes if permanent infrastructure for irrigation is present. Effort should be made to distinguish between actual land use change and a rotation. For example, in Queensland, an area that is usually 4.3, 'Irrigated cropping' but is not used for that particular purpose in the year mapped, is still mapped as 4.3, 'Irrigated cropping' in an updated dataset and is not mapped as 4.2, 'Grazing irrigated modified pastures' until there is evidence of pasture or vegetation regrowth and/or cropping machinery would not easily pass over the land.

If there is no evidence of irrigation (infrastructure or active irrigation) then the area should be mapped to the appropriate dryland class. Particular crops, such as rice, may always be assumed to be irrigated.

Fallow or ploughed land should be assigned to the most likely land use based on the dominant activity conducted in comparable nearby areas. Fallow or ploughed land should be allocated to the relevant pasture, cropping or horticulture class (rather than using land in transition). Record the fallow or ploughed status in the management field (from Table 3).

4.1 Irrigated plantation forests

Land on which irrigated plantations of trees or shrubs have been established for production or environmental and resource protection purposes. This includes farm forestry.

4.1.1	Irrigated hardwood plantation forestry —area managed for hardwood sawlogs or pulpwood.
4.1.2	Irrigated softwood plantation forestry —area managed for softwood sawlogs or pulpwood.
4.1.3	Irrigated other forest plantation —area managed for non-sawlog or non-pulpwood production, including oil, wildflowers, firewood and fence posts.
4.1.4	Irrigated environmental forest plantation —environmental and indirect production uses (e.g. prevention of land degradation, windbreaks, shade and shelter). This can also include trees planted for carbon credits.

4.2 Grazing irrigated modified pastures

Irrigated pasture production, both annual and perennial, based on a significant degree of modification or replacement of the native vegetation. For ALUM purposes, this class is used when there is greater than 50 per cent dominant exotic species and irrigation infrastructure is in place, even if irrigation water has not been applied to the pasture in the current season. When there is no irrigation infrastructure present use class 3.2, 'Grazing modified pastures' and 2.1, 'Grazing native vegetation' when there is greater than 50 per cent dominant native species. If livestock or pasture type is known, record this in the commodity field using the commodity list in Table 2.

This class may include land in a rotation system that at other times may be under cropping. Land in a rotation system should be classified according to the prime use (if known), or the land use at the time of mapping. Effort should be made to distinguish a land use change from a rotation as discussed in the 'Decision rules' section. Record management practices such as crop pasture rotation or pasture cropping in the management field (from Table 3). If the rotation sequence is known, record this in the 'Comments' field (Table 4).

4.2.1	Irrigated woody fodder plants —irrigated woody plants used primarily to provide forage for livestock grazing. Examples include irrigated tagasaste and leucaena.
4.2.2	Irrigated pasture legumes —non-grass pasture plants which may have rounded leaves, pea like flowers and seeds, and may be nitrogen fixing. Examples include lucerne, clover and medics.
4.2.3	Irrigated legume/grass mixtures —these pastures have been sown with both grasses and leguminous pasture species.
4.2.4	Irrigated sown grasses —grass pasture species including ryegrass, buffel and Bambatsi grasses. This class includes irrigated saline pastures.

4.3 Irrigated cropping

Land under irrigated cropping. If crop type is known, record this in the commodity field using the commodity list in Table 2. This class may include land in a rotation system that at other times may be under pasture. Land in a rotation system should be classified according to the prime use (if known), or the land use at the time of mapping (see 'Decision rules'). Cropping rotation regimes can be recorded using the management field (see Table 3). If the rotation sequence is known record this in the 'Comments' field (Table 4). Where there is no irrigation infrastructure present the appropriate dryland class should be used.

4.3.1	Irrigated cereals —broadacre irrigated grasses such as wheat, oats and barley (and some non-leguminous, non-oilseed pseudo-cereal crops such as buckwheat and quinoa) grown primarily for grain for human consumption. This class also includes irrigated cereal crops which are cut for straw.
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4.3.2	Irrigated beverage and spice crops —irrigated beverage crops grown to make liquids for human consumption such as tea, coffee and cocoa. Irrigated spice crops are seeds, fruit, root, bark, berry, bud or other vegetable substance primarily used for flavouring, colouring or preserving food such as ginger and pepper. Herbs or vegetables are not included in this class and should be mapped as 4.4.7 or 4.5.3.
4.3.3	Irrigated hay and silage —irrigated grass or other forage crops grown to be cut for stored animal fodder. Irrigated cereal crops should be mapped as 4.3.1 if the primary intended purpose was grain production, even if these are cut for hay and silage.
4.3.4	Irrigated oilseeds —irrigated commodities mainly grown for extraction of oil from the seeds. The oil content of the seeds or grain is greater than other crops, generally above 20 per cent. Australian oilseeds include canola, sunflower, soybean, and peanuts. While cottonseed is an oilseed this should be mapped to 4.3.6, 'Irrigated cotton'.
4.3.5	Irrigated sugar —irrigated sugar cane. Other commodities which can be used for sugar production are mapped to vegetables or fruits as appropriate.
4.3.6	Irrigated cotton —irrigated cotton for lint or seed.
4.3.7	Irrigated alkaloid poppies —where it is known that poppies are grown for alkaloid (pharmaceutical) purposes, map under this class rather than class 4.3.4.
4.3.8	Irrigated pulses —irrigated grain legumes which are grown for sale as dried produce. This includes field beans, field peas, chickpeas, lentils and lupins. While peanuts and soybeans are leguminous plants they are traditionally seen as oilseeds and should be classified as 4.3.4.
4.3.9	Irrigated rice —where rice can be detected map under this class rather than 4.3.1.

4.4 Irrigated perennial horticulture

Irrigated crop plants living for more than two years that are intensively cultivated, usually involving a relatively high degree of nutrient, weed and moisture control. If crop type is known, record this in the commodity field (from Table 2). Management practices such as netting to protect these crops from hail or birds can be recorded in the management field (see Table 3).

4.4.1	Irrigated tree fruits —includes pome fruit such as apples, stone fruit such as apricots, tropical fruit such as mangoes and bananas, and other irrigated orchards except olives (4.4.2) and citrus (4.4.8) which have their own classes. This class does not include other plantation fruit not grown on trees such as pineapples (4.4.5) or vines such as kiwifruit and passionfruit (4.4.4).
4.4.2	Irrigated olives —irrigated olive trees harvested for fruit or oil.
4.4.3	Irrigated tree nuts —includes irrigated trees or shrubs grown to produce nuts such as almonds, hazelnuts and macadamias. This class does not include peanuts which are mapped as 4.3.4, 'Irrigated oilseeds'.

4.4.4	Irrigated vine fruits —irrigated fruiting vines which live for more than two years such as kiwifruit and passionfruit. This class excludes grapes (4.4.9) which have their own class. Annual or seasonal vines such as melons are mapped as 4.5.1, 'Irrigated seasonal fruit'.
4.4.5	Irrigated shrub berries and fruits —berries and fruits not grown on trees where the plant lives at least two years. This includes plantation fruit such as pineapples and berries such as blackberries and red currants.
4.4.6	Irrigated perennial flowers and bulbs —this class represents irrigated cut flowers, flower products and bulbs. Potted plants including flowering plants which are grown to be sold as whole plants are mapped under 5.1.1, 'Production nurseries'.
4.4.7	Irrigated perennial vegetables and herbs —irrigated vegetables and herbs for human consumption such as asparagus, rhubarb and fennel which live for at least two years.
4.4.8	Irrigated citrus —where irrigated citrus can be detected, map under this class rather than 4.4.1, 'Irrigated tree fruits'.
4.4.9	Irrigated grapes —where irrigated grapes can be detected, map under this class rather than 4.4.4, 'Irrigated vine fruits'.

4.5 Irrigated seasonal horticulture

Irrigated crop plants living for less than two years that are intensively cultivated, usually involving a relatively high degree of nutrient, weed and moisture control. If crop type is known, record this in the commodity field (from Table 2).

4.5.1	Irrigated seasonal fruits —includes melons and other fruit harvested from plants (including vines or shrubs) and which live for less than two years.
4.5.2	Irrigated seasonal flowers and bulbs —this class represents irrigated cut flowers, flower products and bulbs. Potted plants including flowering plants which are grown to be sold as whole plants are now mapped under 5.1.1, 'Production nurseries'. Irrigated seasonal flowers grown in glasshouses are mapped as 5.1.3, 'Glasshouses' with commodity description of flowers or the type of flowers being grown, if known. Irrigated alkaloid poppies are mapped to 4.3.7.
4.5.3	Irrigated seasonal vegetables and herbs —irrigated vegetables and herbs for human consumption. This class includes beans and peas grown for sale fresh and frozen, however field peas and field beans grown to be dried are mapped as 4.3.8. Plants grown to be sold as seedlings are mapped to 5.1.1, 'Production nurseries'. Irrigated seasonal vegetables and herbs grown in glasshouses are mapped as 5.1.3, 'Glasshouses' with commodity description of vegetables, herbs or the commodity, if known.
4.5.4	Irrigated turf farming —irrigated turf grass species to be harvested as turf mats for use in home and community landscapes.

4.6 Irrigated land in transition

Areas where irrigated production may be carried out but land use is unknown and cannot reasonably be inferred from the surrounding land use. Evidence or knowledge of irrigated use or of existing irrigation infrastructure should be present. This class should be used sparingly. Land must have been used for irrigated agriculture or plantations as it falls under class 4.

4.6.1	Degraded irrigated land —land that is severely degraded (e.g. from soil erosion, salinity or weed/shrub invasion) with evidence of irrigation or irrigation infrastructure. Not under active rehabilitation.
4.6.2	Abandoned irrigated land —land where a previous pattern of irrigated agriculture may be observed but which is not currently under production.
4.6.3	Irrigated land under rehabilitation —land in the process of rehabilitation for irrigated agriculture and not for purposes under class 1, 'Conservation and natural environments' or class 5, 'Intensive uses'. Where there is no evidence of irrigation or irrigation infrastructure land should be classed as 3.6.3, 'Land under rehabilitation'. Land that has been rehabilitated to a near-natural state should be classed as 1.3.4, 'Rehabilitation'. Mining land undergoing rehabilitation should be assigned to 5.8.4, 'Extractive industry not in use'.
4.6.4	No defined use—irrigation —land cleared of intact native vegetation where the proposed land use is not known. Evidence of irrigation or irrigation infrastructure.
4.6.5	Abandoned irrigated perennial horticulture —land previously used for irrigated perennial horticulture which has not been cleared (e.g. an orchard where trees remain but the site has been invaded by woody shrubs, with trees unpruned or dying). Evidence of irrigation or irrigation infrastructure.

CLASS 5 Intensive uses

This class includes land uses that involve high levels of interference with natural processes, generally in association with closer settlement.

The level of intervention may be high enough to completely remodel the natural landscape—the vegetation, surface and groundwater systems, and the land surface. If crop and or animal type is known, record this in the commodity field (from Table 2).

5.1 Intensive horticulture

Intensive forms of plant production often with special purpose improvements used for horticultural production. If crop type is known, record this in the commodity field (from Table 2).

5.1.1	Production nurseries —whole plant or bulb production for sale. Nursery stock are usually grown in containers. This class includes seedlings, plugs and bulbs, potted flowering plants, trees and shrubs, foliage plants, palms, grasses, fruit trees, herbs and aquatic plants. Where the land use is known to be production nurseries, use this class even where there are shade houses or glasshouses present. The management description is used to indicate either open growing, semi protected (covered by shade cloth, hail nets or bird nets) or fully protected (protected by an impermeable barrier such as glass, polycarbonate or plastic).
5.1.2	Shadehouses —land where special purpose shade structure have been built for intensive plant production (including mushrooms). If the land use is known to be production nurseries, use 5.1.1 and the management description 'semi-protected'. If hail or bird nets are temporarily erected for orchards or similar, this does not constitute a land use change, so continue to map to the appropriate perennial, seasonal, or irrigated horticulture class.
5.1.3	Glasshouses —land where special purpose structures have been built for the indoor propagation and growing of plants and plant crops. If the land use is known to be production nurseries, use 5.1.1 and the management description 'fully-protected.'
5.1.4	Glasshouses—hydroponic —land where special purpose hydroponic structures have been built for the indoor propagation and growing of plants and plant crops.
5.1.5	Abandoned intensive horticulture —land previously used for intensive horticulture which has not been converted to another land use. Intensive horticulture infrastructure is still in place (e.g. abandoned glasshouses).

5.2 Intensive animal production

Intensive forms of animal production (excludes associated grazing or pastures), livestock production facilities or animal-holding yards. This secondary class includes emus, alpacas, deer and beekeeping. If the animal type is known, record this in the commodity field (from Table 2). The management field can be used to record practices such as free range or milking system (see Table 3).

5.2.1	Dairy sheds and yards —land including the milking shed, holding yards, and so on of a dairy operation. Dairy pastures should not be mapped under this class, but mapped as 3.2, 'Grazing modified pastures' or 4.2, 'Grazing irrigated modified pastures' or their relevant tertiary classes. Record the livestock type (such as cattle dairy) in the commodity field.
5.2.2	Feedlots —land containing specialist infrastructure used for intensive feeding of stock such as cattle or sheep. The commodity field should be used to record the livestock type.

5.2.3	Poultry farms —land with specialist infrastructure used for egg or broiler production, or where poultry run as free range with special purpose fencing in place. This includes chickens, ducks, ostrich, and so on.
5.2.4	Piggeries —land containing specialist infrastructure for use as a piggery.
5.2.5	Aquaculture —land used for cultivating fish and crustaceans (e.g. lobsters, yabbies) or molluscs (oysters, mussels). This also includes crocodiles.
5.2.6	Horse studs —land with special-purpose buildings and fencing associated with a well-developed commercial horse stud farm or horse training facility. This class should be for intensive horse farming. Agistments should be classed under the relevant grazing class, and pony clubs should go under 5.5.3, 'Recreation and culture'.
5.2.7	Saleyards/stockyards —land designated for selling and yarding stock. This class should be used for holding yards that are not part of the farm enterprise.
5.2.8	Abandoned intensive animal production —land with dairy sheds, feedlots, poultry sheds, piggeries and so on that have been abandoned and not replaced with another land use.

5.3 Manufacturing and industrial

Factories, workshops, foundries, construction sites and so on. In the urban setting, manufacturing and industrial areas should be mapped to this secondary code. In the rural or agricultural setting, the following tertiary classes may be used if desired.

5.3.1	General purpose factory —area used for manufacturing, assembly or repairs. Includes some specialised or purpose-built improvements.
5.3.2	Food processing factory —area where the principle use is food processing. The building most likely to be purpose built and may have extensive plant and equipment included (e.g. cannery, milk production plant).
5.3.3	Major industrial complex —area with large scale industrial use (e.g. car plant, paper mill).
5.3.4	Bulk grain storage —area with silos, special purpose grain storage sheds and so on.
5.3.5	Abattoirs —area with special improvements for the slaughter of stock and preparation of meat for wholesale market.
5.3.6	Oil refinery —land and buildings used in the refinement and storage of petroleum products.
5.3.7	Sawmill —area with special improvements for the milling and curing of timber.
5.3.8	Abandoned manufacturing and industrial —area with factories, silos, tanneries and so on that have been abandoned and not replaced with another land use.

5.4 Residential and farm infrastructure

Land with houses and or other residential infrastructure with or without associated agricultural activity. This class includes urban and remote communities, farm buildings and other farm infrastructure larger than the minimum mapping scale, and land in transition to residential from other land uses. This class also includes holiday shacks.

5.4.1	Urban residential —land with houses, flats, hotels and so on within urban areas. This class may be used for land which is zoned for urban residential development where houses or apartments have not yet been constructed but infrastructure, such as roads and street lights, is in place and it is clear that the intended land use is urban residential.
5.4.2	Rural residential with agriculture —rural allotments with houses built (or being built) and agricultural activity at the sub-commercial and/or hobby scale (excluding backyard/domestic garden areas or livestock as pets). Rural residential generally refers to areas with blocks larger than 0.2ha that are located in a rural setting (away from the main urban setting), with agriculture unlikely to be the main form of income. If agricultural activities are larger than 2ha, they should be mapped separately under the relevant crop or pasture class. When no agricultural activity is present allocate to class 5.4.3, 'Rural residential without agriculture'.
5.4.3	Rural residential without agriculture —rural allotments with no agricultural activity present (may still have backyard or domestic garden areas or livestock as pets). This class refers to residential blocks larger than 0.2ha that are located in a rural setting (away from the main urban setting), with no agricultural activities occurring on the property. A large proportion of the block may be covered by native vegetation.
5.4.4	Remote communities —area with a small, isolated community, generally less than 20 residences or buildings (without the facilities associated with even small towns) that lies within an area defined by the Australian Standard Geographical Classification – Remoteness Areas (ASGC-RA) system as 'remote' or 'very remote' (ABS 2001). In the Northern Territory these are typically (but not always) Indigenous communities or families in homeland areas. Residences may be permanent or semi-permanent.
5.4.5	Farm buildings/infrastructure —area with houses, buildings, sheds and other infrastructure associated with farm enterprises. Actual supply channels or aqueducts should be mapped under 6.4, 'Channel/aqueduct'. If the building or infrastructure is smaller than the minimum mapping unit, it can be incorporated into the surrounding land use.

5.5 Services

Land allocated to providing commercial or public services, resulting in substantial interference to the natural environment. Where services are provided on land that retains natural cover, apply an appropriate classification under class 1, 'Conservation and natural environments' (e.g. 1.1.7, 'Other conserved area' or 1.3, 'Other minimal use').

5.5.1	Commercial services —land with shops, markets, financial services and so on.
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5.5.2	Public services —education, community services, cemeteries and crematoria and so on.
5.5.3	Recreation and culture —parks, sportsgrounds, camping grounds, swimming pools, museums, places of worship, zoos (including butterfly farms) with a primary purpose of recreation and culture, caravan parks, tourist parks, and so on. Recreation areas which have primarily native cover should be assigned to 1.1.7, 'Other conserved area'.
5.5.4	Defence facilities—urban —defence infrastructure, buildings, bases, research and development establishments, and so on. Only defence areas in an urban setting should be mapped to this class unless they are solely infrastructure. Defence lands of significant area retaining natural cover should be mapped under 1.3.1, 'Defence land—natural areas'.
5.5.5	Research facilities —government and non-government research and development areas. This may include zoos with a primary purpose of research.

5.6 Utilities

Land allocated to providing electricity, gas or water.

5.6.1	Fuel powered electricity generation —includes brown coal, black coal, oil and nuclear.
5.6.2	Hydro electricity generation —water or wave power generation.
5.6.3	Wind electricity generation —power generation from wind, including wind farms.
5.6.4	Solar electricity generation —solar panels or other power generation from the sun.
5.6.5	Electricity substations and transmission —facilities associated with electricity supply.
5.6.6	Gas treatment, storage and transmission —facilities associated with gas production and supply. Coal seam gas wells may be assigned to this class, however as they are generally smaller than the minimum mapping unit, they are usually incorporated into the surrounding land use.
5.6.7	Water extraction and transmission —extraction, purification, treatment or supply of fresh water for public, domestic and commercial use. Excludes supply for agricultural uses, this should be mapped under 6.4, 'Channel/aqueduct'.

5.7 Transport and communication

Land allocated to infrastructure used for transportation of goods or people, or navigation and communication equipment.

5.7.1	Airports/aerodromes —locations from which aircraft flight operations take place, including areas used for the accommodation of aircraft and coordination of air cargo or passengers.
5.7.2	Roads —surface prepared for vehicle travel, includes all roads, streets, highways and so on which are larger than the minimum mapping unit. Roadside areas should either be merged with the nearby land use (i.e. road or surrounding land use) or if the area has low levels of disturbance it may be mapped as class 1.3.3, 'Residual native cover'.
5.7.3	Railways —permanent rail transport tracks and associated infrastructure.
5.7.4	Ports and water transport —harbour location where ships dock to transfer people or cargo to or from land.
5.7.5	Navigation and communication —includes radar stations, beacons and so on.

5.8 Mining

Mining and extractive industries. Salt extraction is captured in 6.2.3, 'Evaporation basin'. Record the type of mining, if known from Table 2 in the commodity field (Table 4).

5.8.1	Mines —land from which minerals, precious stones and coal is being extracted. Includes open cut and deep-shaft mines.
5.8.2	Quarries —land from which stone, gravel, clay, slate, sand, soil and rock is being extracted.
5.8.3	Tailings —tailings dumps and dams for storage or treatment of waste mining and quarrying output.
5.8.4	Extractive industry not in use —land formally used for extractive industry but no longer in use and no new use observed. This includes mining sites undergoing rehabilitation. Sites that have been rehabilitated to or near their natural state should be assigned the code 1.3.4, 'Rehabilitation', and sites which have been rehabilitated to a state suitable for agricultural production should be assigned to 3.6.3, 'Land under rehabilitation' or 4.6.3, 'Irrigated land under rehabilitation'.

5.9 Waste treatment and disposal

Waste material and disposal facilities associated with industrial, urban and agricultural activities.

5.9.1	Effluent pond —treatment ponds for lightly contaminated water such as from sewage, dairies, piggeries or meat production. This class also includes wells associated with oil and gas fields.
5.9.2	Landfill —disposal of solid inert wastes.
5.9.3	Solid garbage —disposal of wastes, including waste from processing plants.

5.9.4	Incinerators —area used for waste treatment combustion.
5.9.5	Sewage/sewerage —pipes or other infrastructure conveying and treating waste water and sewage refuse. The individual effluent processes (e.g. pastures, lagoons) can be mapped separately if they meet the appropriate mapping scale. Otherwise they can be grouped together under this class.

CLASS 6 Water

Water features are regarded as essential to the ALUM Classification because of their importance for natural resources management, agricultural production and as points of reference in the landscape. At the secondary level, the classification identifies water features, both natural and artificial. Tertiary classes relate water features to intensity of use and conservation status.

Because water is a land cover rather than a land use, water classes may not be mutually exclusive with other land use classes at particular levels in the classification. Generally, water classes should take precedence so that, for example, a lake in a conservation reserve will be classed as 6.1, 'Lake' or 6.1.1, 'Lake—conservation', rather than as 1.1, 'Nature conservation'. Water features where a conservation tertiary class applies may be attributed using the 'Comments' field.

When mapping seasonal water features it is best to refer to ancillary datasets and, if still unsure map to the land use at the time. Notes about seasonal inundations can be included in the 'Comments' field.

6.1 Lake

A natural or human-made body of mainly static water surrounded by land (Geoscience Australia 2007).

6.1.1	Lake—conservation —water feature relates to uses included in class 1, 'Conservation and natural environments'.
6.1.2	Lake—production —water feature relates to uses included in class 2, 'Production from relatively natural environments'.
6.1.3	Lake—intensive use —water feature relates to uses included in class 5, 'Intensive uses'. This includes human-made lakes in residential areas.
6.1.4	Lake—saline —water feature containing saline water which is not mapped as 6.6, 'Estuary/coastal waters'.

6.2 Reservoir/dam

A body of water collected and stored behind a constructed barrier for some specific use (Geoscience Australia 2007).

6.2.1	Reservoir —water stored for use outside a farm.
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6.2.2	Water storage—intensive use/farm dams —water stored for on-site, immediate use on farm. Feature may relate to uses included in class 5, 'Intensive uses'. This class can also include graded scrapes and plastic sheeting.
6.2.3	Evaporation basin —basin used for evaporation of water from irrigation drainage or salt extraction.

6.3 River

A natural channel along which water may flow from time to time (Geoscience Australia 2007).

6.3.1	River—conservation —water feature relates to uses in class 1, 'Conservation and natural environments'.
6.3.2	River—production —water feature relates to uses in class 2, 'Production from relatively natural environments'.
6.3.3	River—intensive use —water feature relates to uses in class 5, 'Intensive uses'. This includes human-made alterations to rivers for residential canals.

6.4 Channel/aqueduct

An artificial open channel which provides the supply, distribution or removal of water for irrigation purposes, or for a significant infrastructure function (such as salt interception, land reclamation, or drainage between water features for environmental management purposes) (Geoscience Australia 2007).

6.4.1	Supply channel/aqueduct —open water channel delivering water for irrigation or infrastructure.
6.4.2	Drainage channel/aqueduct —open water channel removing water from irrigation or infrastructure.
6.4.3	Stormwater —open water channel removing water from excess rainfall.

6.5 Marsh/wetland

Wetlands are areas of permanent or periodic/intermittent inundation, whether natural or artificial, with water that is static or flowing, fresh, brackish or salt (DERM 2011), excluding estuary and coastal water.

6.5.1	Marsh/wetland—conservation – water feature relates to uses in class 1, 'Conservation and natural environments'.
6.5.2	Marsh/wetland—production – water feature relates to uses in class 2, 'Production from relatively natural environments'.

6.5.3	Marsh/wetland—intensive use – water feature relates to uses in class 5, 'Intensive uses'.
6.5.4	Marsh/wetland—saline – wetland or marsh containing saline water which is not mapped as 6.6, 'Estuary/coastal waters'.

6.6 Estuary/coastal waters

Estuarine systems include wetlands with oceanic water that is at least occasionally diluted with fresh water runoff from the land.

Coastal waters are below the mean high water (springs high water tidal line in Queensland) tidal line which defines the boundary (coastline) of the land, including areas of marine water the depth of which at low tide does not exceed 6 metres (DERM 2011).

6.6.1	Estuary/coastal waters—conservation —water feature relates to uses in class 1, 'Conservation and natural environments'.
6.6.2	Estuary/coastal waters—production —water feature relates to uses in class 2, 'Production from relatively natural environments'.
6.6.3	Estuary/coastal waters—intensive use —water feature relates to uses in class 5, 'Intensive uses'. This includes estuaries with banks altered for use as residential canals.

A summary of the minimum expected level of attribution relating to land use mapping programs currently coordinated by the Australian Bureau of Agricultural and Resource Economics and Sciences using the ALUM Classification version 8 is shown in Figure 1.

Figure 1 Summary of the Australian Land Use and Management Classification version 8 (revision as at October 2016)

1 Conservation and Natural Environments	2 Production from Relatively Natural Environments	3 Production from Dryland Agriculture and Plantations	4 Production from Irrigated Agriculture and Plantations	5 Intensive Uses	6 Water
1.1.0 Nature conservation 1.1.1 Strict nature reserves 1.1.2 Wilderness area 1.1.3 National park 1.1.4 Natural feature protection 1.1.5 Habitat/species management area 1.1.6 Protected landscape 1.1.7 Other conserved area 1.2.0 Managed resource protection 1.2.1 Biodiversity 1.2.2 Surface water supply 1.2.3 Groundwater 1.2.4 Landscape 1.2.5 Traditional indigenous uses 1.3.0 Other minimal use 1.3.1 Defence land - natural areas 1.3.2 Stock route 1.3.3 Residual native cover 1.3.4 Rehabilitation	2.1.0 Grazing native vegetation 2.2.0 Production native forests 2.2.1 Wood production forestry 2.2.2 Other forest production	3.1.0 Plantation forests 3.1.1 Hardwood plantation forestry 3.1.2 Softwood plantation forestry 3.1.3 Other forest plantation 3.1.4 Environmental forest plantation 3.2.0 Grazing modified pastures 3.2.1 Native/exotic pasture mosaic 3.2.2 Woody fodder plants 3.2.3 Pasture legumes 3.2.4 Pasture legume/grass mixtures 3.2.5 Sown grasses 3.3.0 Cropping 3.3.1 Cereals 3.3.2 Beverage and spice crops 3.3.3 Hay and silage 3.3.4 Oilseeds 3.3.5 Sugar 3.3.6 Cotton 3.3.7 Alkaloid poppies 3.3.8 Pulses 3.4.0 Perennial horticulture 3.4.1 Tree fruits 3.4.2 Olives 3.4.3 Tree nuts 3.4.4 Vine fruits 3.4.5 Shrub berries and fruits 3.4.6 Perennial flowers and bulbs 3.4.7 Perennial vegetables and herbs 3.4.8 Citrus 3.4.9 Grapes 3.5.0 Seasonal horticulture 3.5.1 Seasonal fruits 3.5.2 Seasonal flowers and bulbs 3.5.3 Seasonal vegetables and herbs 3.6.0 Land in transition 3.6.1 Degraded land 3.6.2 Abandoned land 3.6.3 Land under rehabilitation 3.6.4 No defined use 3.6.5 Abandoned perennial horticulture	4.1.0 Irrigated plantation forests 4.1.1 Irrigated hardwood plantation forestry 4.1.2 Irrigated softwood plantation forestry 4.1.3 Irrigated other forest plantation 4.1.4 Irrigated environmental forest plantation 4.2.0 Grazing irrigated modified pastures 4.2.1 Irrigated woody fodder plants 4.2.2 Irrigated pasture legumes 4.2.3 Irrigated legume/grass mixtures 4.2.4 Irrigated sown grasses 4.3.0 Irrigated cropping 4.3.1 Irrigated cereals 4.3.2 Irrigated beverage and spice crops 4.3.3 Irrigated hay and silage 4.3.4 Irrigated oilseeds 4.3.5 Irrigated sugar 4.3.6 Irrigated cotton 4.3.7 Irrigated alkaloid poppies 4.3.8 Irrigated pulses 4.3.9 Irrigated rice 4.4.0 Irrigated perennial horticulture 4.4.1 Irrigated tree fruits 4.4.2 Irrigated olives 4.4.3 Irrigated tree nuts 4.4.4 Irrigated vine fruits 4.4.5 Irrigated shrub berries and fruits 4.4.6 Irrigated perennial flowers and bulbs 4.4.7 Irrigated perennial vegetables and herbs 4.4.8 Irrigated citrus 4.4.9 Irrigated grapes 4.5.0 Irrigated seasonal horticulture 4.5.1 Irrigated seasonal fruits 4.5.2 Irrigated seasonal flowers and bulbs 4.5.3 Irrigated seasonal vegetables and herbs 4.5.4 Irrigated turf farming 4.6.0 Irrigated land in transition 4.6.1 Degraded irrigated land 4.6.2 Abandoned irrigated land 4.6.3 Irrigated land under rehabilitation 4.6.4 No defined use - irrigation 4.6.5 Abandoned irrigated perennial horticulture	5.1.0 Intensive horticulture 5.1.1 Production nurseries 5.1.2 Shadehouses 5.1.3 Glasshouses 5.1.4 Glasshouses - hydroponic 5.1.5 Abandoned intensive horticulture 5.2.0 Intensive animal production 5.2.1 Dairy sheds and yards 5.2.2 Feedlots 5.2.3 Poultry farms 5.2.4 Piggeries 5.2.5 Aquaculture 5.2.6 Horse studs 5.2.7 Sleyards/stockyards 5.2.8 Abandoned intensive animal production 5.3.0 Manufacturing and industrial 5.3.1 General purpose factory 5.3.2 Food processing factory 5.3.3 Major industrial complex 5.3.4 Bulk grain storage 5.3.5 Abattoirs 5.3.6 Oil refinery 5.3.7 Sawmill 5.3.8 Abandoned manufacturing and industrial 5.4.0 Residential and farm infrastructure 5.4.1 Urban residential 5.4.2 Rural residential with agriculture 5.4.3 Rural residential without agriculture 5.4.4 Remote communities 5.4.5 Farm buildings/infrastructure 5.5.0 Services 5.5.1 Commercial services 5.5.2 Public services 5.5.3 Recreation and culture 5.5.4 Defence facilities - urban 5.5.5 Research facilities 5.6.0 Utilities 5.6.1 Fuel powered electricity generation 5.6.2 Hydro electricity generation 5.6.3 Wind electricity generation 5.6.4 Solar electricity generation 5.6.5 Electricity substations and transmission 5.6.6 Gas treatment, storage and transmission 5.6.7 Water extraction and transmission 5.7.0 Transport and communication 5.7.1 Airports/aerodromes 5.7.2 Roads 5.7.3 Railways 5.7.4 Ports and water transport 5.7.5 Navigation and communication 5.8.0 Mining 5.8.1 Mines 5.8.2 Quarries 5.8.3 Tailings 5.8.4 Extractive industry not in use 5.9.0 Waste treatment and disposal 5.9.1 Effluent pond 5.9.2 Landfill 5.9.3 Solid garbage 5.9.4 Incinerators 5.9.5 Sewage/sewerage	6.1.0 Lake 6.1.1 Lake - conservation 6.1.2 Lake - production 6.1.3 Lake - intensive use 6.1.4 Lake - saline 6.2.0 Reservoir/dam 6.2.1 Reservoir 6.2.2 Water storage - intensive use/farm dams 6.2.3 Evaporation basin 6.3.0 River 6.3.1 River - conservation 6.3.2 River - production 6.3.3 River - intensive use 6.4.0 Channel/aqueduct 6.4.1 Supply channel/aqueduct 6.4.2 Drainage channel/aqueduct 6.4.3 Stormwater 6.5.0 Marsh/wetland 6.5.1 Marsh/wetland - conservation 6.5.2 Marsh/wetland - production 6.5.3 Marsh/wetland - intensive use 6.5.4 Marsh/wetland - saline 6.6.0 Estuary/coastal waters 6.6.1 Estuary/coastal waters - conservation 6.6.2 Estuary/coastal waters - production 6.6.3 Estuary/coastal waters - intensive use
Minimum level of attribution					

Decision rules

It is inevitable that there will be areas of uncertainty in applying the Australian Land Use and Management (ALUM) Classification. For example, it may be unclear which land use class applies to a particular activity or an appropriate class may not be available. Alternatively, it may not be possible to confidently determine land use on the basis of available data or from field observation.

The purpose of this section is to identify currently known areas of uncertainty associated with the ALUM Classification and to provide decision rules on how this uncertainty may be handled. In most cases, suggestions are developed from the experience gained in national, state and territory land use mapping programs. These suggestions provide a common basis for handling areas of uncertainty, and for promoting consistency and comparability between different mapping programs.

Class-related decision rules have been incorporated into the classification definitions (in the preceding section). As new classes are added to the classification and new land uses emerge more class allocation issues will be identified. Any questions that arise, and suggestions for handling them, should be forwarded to the Australian Bureau of Agricultural and Resource Economics and Sciences (land_management@agriculture.gov.au).

General issues

Hierarchical ordering

Where a particular land use cannot be allocated to a land use class at a given level in the classification because of ambiguity (e.g. where several classes could apply at a particular level in the classification hierarchy), it should be allocated to the more generalised class at the higher level in the hierarchy. For example, if there is uncertainty over whether a river is used for production (6.3.2) or intensive uses (6.3.3) it should be allocated to the higher level secondary class of 6.3, 'River'.

If the problem is the absence of an appropriate class at a particular level of the classification hierarchy, then it should be assigned to the closest appropriate class (most likely at the secondary level of the classification). This is likely to be the case with less common land uses. For example, there is no class for beekeeping and so the closest appropriate class is 5.2.0, 'Intensive animal production'. A commodity list is provided to complement the ALUM code for land use (Table 2) allowing more detail at the commodity level.

Prime use

The prime land use is determined on the basis of the primary management objective of the land manager. For example, if there is a developed residential area within a national park, that area would be classed as 5.4.1, 'Urban residential', because its prime use is urban residential, not nature conservation.

Handling multiple uses

A number of uses may apply to a particular parcel of land. Common examples include grazing in state forests, opportunity logging in grazed woodlands, rural residential areas on land where nature conservation agreements exist and grazing on land under

rehabilitation. Ancillary or secondary uses of the land can be recorded as a part of the land use mapping process where that information is known (Table 4 'Comments' attribute). The commodity field should be used to record livestock on any land use (from Table 2). The management field is useful for recording details such as strip, row alley cropping and grazing management (from Table 3).

Rotational versus permanent change

The frequency of land use change in human-dominated landscapes varies considerably. Some land uses may be relatively stable, remaining in place over decades or more. In other cases, land use turnover may be extremely rapid—particularly where land use change is geared to seasonal or annual cycles (for example, crop pasture rotations). Where rapid turnover occurs, the temporal mismatch between source data and field verification poses difficulties.

The agreed principles are; to assign land use classes to land parcels, based on prime use, at a particular point in time, and to distinguish between permanent (or long term) land use change and a rotation where possible.

This means, in the case of crop pasture rotations, that the assigned land use will be either a cropping class (3.3) or a modified pasture class (3.2) based on; the purpose for which the land is predominantly used (if known), and what is seen at the time of mapping. For example, an area that is usually cropped, but is not used for that particular purpose in the year of interest, is still mapped as 'Cropping' even though no crop was present in that year. This area may be left to fallow or have livestock grazing stubble. This is not considered a land use change, but rather a rotation, as the primary land use for that field would still be 'Cropping'. A land use change may be assumed once there is evidence of vegetation regrowth and/or machinery associated with cropping would not easily pass over the land.

The management field is to be used to record information about rotations such as fallow, crop pasture rotations (see Table 3). Extra comments should be recorded in the 'Comments' field (Table 4).

Source information

More than one source of information may be available for assigning land use to a particular parcel of land. This information may be conflicting. Generally, the technical specifications and other metadata will indicate which information source should take precedence. However, if this is not self-evident, as a general principle the order of reliance should be:

1. field observation
2. expert knowledge (e.g. agriculture extension officer)
3. ancillary data
4. evidence from adjoining or local areas.

Attaching additional information

A wide range of additional land information—particularly information about commodities or crop type, land cover and land management practices—can enhance the interpretation of land use. Indeed, land management practices information (the 'how' of land use) is

critical for addressing sustainability and other natural resource management issues. Important ancillary information of this kind may be attached to the land use classification framework as supplementary attributes using the commodity and management fields. Additional information can also be incorporated in a 'Comments' field (Table 4).

Managing uncertainty in class allocation

During the mapping process, immediate decisions about class allocation may be difficult (for example, if land use is not clearly identified or several different classes could apply). The use of the 'Comments' field (Table 4) referring to particular uncertainties means that hasty decisions about class allocation can be avoided and, if the fields are retained as a part of the land use dataset, can enable class reallocation in future if necessary. The use of the 'Comments' field is not a basis for avoiding formal class allocation; nor is it a substitute for thorough field checking.

Mapping point features

Point features are not well supported under the mapping procedures as they are generally smaller than the minimum mapping unit and so can be incorporated into the surrounding land use. Other datasets should be sourced for the location of such features (for example infrastructure datasets) rather than the land use datasets.

Commodity list

Agricultural commodities are assigned to ALUM land use classes based on; perceived intervention to the landscape, growing conditions and management, the intended use of the commodity, consistency with national and international reporting frameworks and standards, such as National Plantation Inventory, industry guidelines, Australian Bureau of Statistics, harmonised trade codes and ABARES commodity reports, where possible.

The commodity list forms an essential part of the Australian Land Use and Management (ALUM) Classification version 8. Certain information such as the location of grazing of cattle for milk production is not otherwise captured in the ALUM Classification (ALUM class 5.2.1, 'Dairy sheds and yards' specifically records the intensive infrastructure associated with a dairy enterprise but not the associated pastures) but is critical for reporting on Australia's agricultural industries.

Commodity information is to be selected from an agreed list of commodity names developed by ACLUMP partners. No existing list of commodity codes, or commodity code system, was identified that could meet the needs of the ALUM Classification and so the list presented in Table 2 has been compiled from lists such as the Australian Bureau of Statistics, United Nations harmonised trade codes, Australian Valuation Property Classification Codes (AVPCC), Australia and New Zealand Standard Industrial Classification (ANZSIC), the Food and Agriculture Organisation, and state and territory lists.

The commodity list (Table 2) is to be used to complete the 'Commod_desc' attribute of the data structure in Table 4. The commodity names contained in the list should be used exactly as written to avoid discrepancies of spelling, plurality or capitalisation which can be problematic in data compilation and analysis. The commodity list will be reviewed periodically to ensure it continues to include the spectrum of commodities required and the recommended ALUM classes remain relevant.

A commodity may be applied to one or many land use codes. For example the commodity 'wheat' is applied to class 3.3.1, 'Cropping' or 4.4.1, 'Irrigated cropping', while 'cattle' may be applied to any land use where cattle are observed including 2.1.0 'Grazing native vegetation', 3.2.0 'Grazing modified pastures', 4.2.0 'Grazing irrigated modified pastures', 5.2.2 'Feedlots' etc.

The commodity description is intended to add information to the land use map which is not otherwise recorded in the ALUM Classification. Where there are several suitable commodity descriptions mappers are encouraged to record the most detailed description. For example when cattle breeds are known to be for milk production mappers would apply the commodity description 'cattle dairy' rather than just 'cattle'.

All state land use mapping systems are expected to include the 'Commod_desc' as a mandatory field. In the event that no commodity information can be determined the operator can select the option 'UNKNOWN'. The option 'UNKNOWN' should not be a default option as it is important that operators are alerted when they have not entered a commodity description and a 'Null' value remains, so that information is not lost.

Two (or more) commodity descriptions may be required for a single land use, to record the crop type and the livestock type for example. Depending on the mapping system being used it may be appropriate to include two commodity description fields, or to enable a one-to-many system where one land use can be associated with many commodities.

Table 2 shows the commodity list and how these commodities should be applied to the ALUM Classification. This table provides guidance on which land use classes are most likely to relate to commodities. Table 2 does not include all possible commodity and land use class combinations—commodities may be mapped to land uses other than those suggested in the table based on the observations at the time of mapping and ensuring consistency with the land use class descriptions and decision rules.

Management information is recorded using a separate management field. This is described in the following section with the land management practices listed at Table 3.

Table 2 Commodity list presented by type

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
UNKNOWN	Commodity code to be recorded next to all land use classes. Where the commodity is not able to be determined assign the class as UNKNOWN.			
ANIMALS				
alpacas	Intensive animal production			5.2.0
bees	Intensive animal production			5.2.0
cats	Includes cat breeding, catteries, or areas used for quarantine of cats related to import or export			5.2.0
cattle	Ideally specify whether cattle for 'meat', 'dairy' or 'stud'. Assigned to grazing land uses (based on pasture type and irrigation status) or intensive animal production (5.2.2 Feedlots).	2.1.0, 3.2.0	4.2.0	5.2.2
cattle dairy	Cattle for milk production. Assigned to grazing land uses based on pasture type and irrigation status. Only map dairy sheds and yards to 5.2.1.	2.1.0, 3.2.0	4.2.0	5.2.1
cattle meat	Cattle for meat (beef) production. Assigned to grazing land uses (based on pasture type and irrigation status) or intensive animal production (5.2.2 Feedlots).	2.1.0, 3.2.0	4.2.0	5.2.2
cattle stud	Cattle raised for sale as breeding animals. Assigned to grazing land uses (based on pasture type and irrigation status).	2.1.0, 3.2.0	4.2.0	
chickens	Poultry farms. Where possible specify whether the chickens are for egg or meat production.			5.2.3
chickens eggs	Poultry farms. Production mainly for eggs.			5.2.3
chickens meat	Poultry farms. Production mainly for meat.			5.2.3
crocodiles	Aquaculture			5.2.5
crustaceans	Aquaculture. Includes prawns, freshwater crayfish.			5.2.5
deer	Assigned to grazing land uses (based on pasture type and irrigation status) or intensive animal production (5.2.2 Feedlots).	2.1.0, 3.2.0	4.2.0	5.2.2
dogs	Includes dog breeding, kennels, or areas used for quarantine of dogs related to import or export—map to intensive animal production (5.2.0). Dedicated recreational dog parks, or dog competition or training areas are mapped as recreation and culture (5.5.3).			5.2.0, 5.5.3

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
ducks	Poultry farms			5.2.3
emus	Poultry farms			5.2.3
finfish	Aquaculture. Includes Southern bluefin tuna, Atlantic salmon and ocean trout, freshwater trout, barramundi, silver perch, Murray cod, eels, aquarium fish.			5.2.5
geese	Poultry farms			5.2.3
goats	Ideally specify whether goats for 'meat', 'wool', 'dairy' or 'stud'. Assigned to grazing land uses (based on pasture type and irrigation status) or intensive animal production (5.2.2 Feedlots).	2.1.0, 3.2.0	4.2.0	5.2.2
goats dairy	Goats for milk production. Assigned to grazing land uses based on pasture type and irrigation status. Only map dairy sheds and yards to 5.2.1.	2.1.0, 3.2.0	4.2.0	5.2.1
goats meat	Goats for meat production. Assigned to grazing land uses (based on pasture type and irrigation status) or intensive animal production (5.2.2 Feedlots).	2.1.0, 3.2.0	4.2.0	5.2.2
goats stud	Goats raised for sale as breeding animals. Assigned to grazing land uses (based on pasture type and irrigation status).	2.1.0, 3.2.0	4.2.0	
goats wool	Goats for fibre production. Assigned to grazing land uses (based on pasture type and irrigation status).	2.1.0, 3.2.0	4.2.0	
horses	Depends on pasture type. Horse studs (5.2.6). Pony clubs (5.5.3).	2.1.0, 3.2.0	4.2.0	5.2.6, 5.5.3
molluscs	Aquaculture. Includes pearl oysters, edible oysters, abalone, mussels.			5.2.5
ostriches	Poultry farms			5.2.3
pigs	Piggeries			5.2.4
sheep	Ideally specify whether sheep for 'meat', 'dairy', 'stud' or 'wool'. Assigned to grazing land uses (based on pasture type and irrigation status) or intensive animal production (5.2.2 Feedlots).	2.1.0, 3.2.0	4.2.0	5.2.2
sheep dairy	Sheep for milk production. Assigned to grazing land uses based on pasture type and irrigation status. Only map dairy sheds and yards to 5.2.1.	3.2.0	4.2.0	5.2.1
sheep meat	Sheep for meat production. Assigned to grazing land uses (based on pasture type and irrigation status) or intensive animal production (5.2.2 Feedlots).	2.1.0, 3.2.0	4.2.0	5.2.2

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
sheep stud	Sheep raised for sale as breeding animals. Assigned to grazing land uses (based on pasture type and irrigation status).	2.1.0, 3.2.0	4.2.0	
sheep wool	Sheep for fibre production. Assigned to grazing land uses (based on pasture type and irrigation status).	2.1.0, 3.2.0	4.2.0	5.2.2
turkeys	Poultry farms			5.2.3
CEREALS				
barley	Cereals	3.3.1	4.3.1	
buckwheat	Pseudo cereal related to rhubarb. As it is grown as a grain map to cereals.	3.3.1	4.3.1	
canary seed	Cereals	3.3.1	4.3.1	
maize	Cereals	3.3.1	4.3.1	
millet and panicum	Cereals	3.3.1	4.3.1	
oats	Cereals	3.3.1	4.3.1	
quinoa	Cereals. Although a pseudo cereal (related to beetroot, spinach and tumbleweeds) mapped to cereals as it is grown for grain.	3.3.1	4.3.1	
rice	Assumed to be irrigated.		4.3.9	
rye cereal	Cereals	3.3.1	4.3.1	
sorghum grain	Cereals. Sorghum grown for grain. Excludes forage sorghum.	3.3.1	4.3.1	
triticale	Cereals	3.3.1	4.3.1	
wheat	Cereals	3.3.1	4.3.1	
CROP				
aloe vera	Broadacre cropping	3.3.0	4.3.0	
cocoa	Beverage and spice crops	3.3.2	4.3.2	
coffee	Beverage and spice crops	3.3.2	4.3.2	
cotton	Although an oilseed, cotton is mapped at commodity level and includes the products lint (fibre) and cottonseed (oil and meal) derived from the harvested (raw) cotton.	3.3.6	4.3.6	
cotton seed	Cotton grown for seed production	3.3.6	4.3.6	
essential oil crops	Broadacre cropping. Map eucalyptus oil as other forest plantation.	3.3.0	4.3.0	

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
ginger	Beverage and spice crops	3.3.2	4.3.2	
hops	Beverage and spice crops	3.3.2	4.3.2	
horseradish	Beverage and spice crops	3.3.2	4.3.2	
jute	Broadacre cropping	3.3.0	4.3.0	
oil palms	Cropping	3.3.0	4.3.0	
pepper	Beverage and spice crops	3.3.2	4.3.2	
pharmaceutical and cosmetic plants	Broadacre cropping	3.3.0	4.3.0	
poppies	Oil poppies 3.3.4 or 4.3.4, alkaloid/pharmaceutical poppies 3.3.7 or 4.3.7, poppies for cut flowers 3.5.2 or 4.5.2.	3.3.4, 3.3.7, 3.5.2	4.3.4, 4.3.7, 4.5.2	
pyrethrum	Broadacre cropping. Some states use an AVPCC class to indicate the permit requirement.	3.3.0	4.3.0	
sugar cane	Sugar	3.3.5	4.3.5	
tea	Beverage and spice crops	3.3.2	4.3.2	
tobacco	Broadacre cropping	3.3.0	4.3.0	
wasabi	Beverage and spice crops	3.3.2	4.3.2	
FLOWERS AND BULBS				
australian native flowers	Perennial or seasonal flowers and bulbs when grown for cut flowers and foliage. If the whole plant is the commodity map to production nurseries (5.1.1).	3.4.6, 3.5.2	4.4.6, 4.5.2	5.1.1
bulbs	Perennial or seasonal flowers and bulbs, unless grown in a production nursery (5.1.1) or under shadehouses (5.1.2) or glasshouses (5.1.3). If the type of bulb is known include this as an additional commodity description.	3.4.6, 3.5.2	4.4.6, 4.5.2	5.1.1, 5.1.2, 5.1.3
calendula	Includes marigolds. Perennial flowers and bulbs if grown for cut flowers, production nurseries (5.1.1) if grown for sale as potted plant, perennial vegetables and herbs if grown as a herb, unless grown in glasshouses (5.1.3) or hydroponically (5.1.4).	3.4.6, 3.4.7	4.4.6, 4.4.7	5.1.1, 5.1.3, 5.1.4
carnations	Perennial flowers and bulbs when grown for cut flowers. If the whole plant is the commodity map to production nurseries (5.1.1).	3.4.6	4.4.6	5.1.1

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
chrysanthemums	Perennial flowers and bulbs when grown for cut flowers. If the whole plant is the commodity map to production nurseries (5.1.1).	3.4.6	4.4.6	5.1.1
daffodils	Perennial or seasonal flowers and bulbs (depending on whether regrown or completely harvested each season) when grown for cut flowers. If the whole plant is the commodity map to production nurseries (5.1.1).	3.4.6, 3.5.2	4.4.6, 4.5.2	5.1.1
flowers and foliage	Seasonal or perennial flowers and bulbs unless whole plant is the commodity in which case Production nurseries 5.1.1. Specify flower type if known, such as australian native flowers, carnations, chrysanthemums, gerberas, orchids, proteas, lilies, roses.	3.4.6, 3.5.2	4.4.6, 4.5.2	5.1.1
gerberas	Perennial flowers and bulbs. If the whole plant is the commodity map to production nurseries (5.1.1).	3.4.6	4.4.6	5.1.1
lavender	Perennial flowers and bulbs when grown for cut flowers or harvested for oil. If the whole plant is the commodity map to production nurseries (5.1.1).	3.4.6	4.4.6	5.1.1
lilies	Perennial flowers and bulbs, unless the whole plant is the commodity in which case Production nurseries (5.5.1).	3.4.6	4.4.6	5.1.1
orchids	Perennial flowers and bulbs. If the whole plant is the commodity map to production nurseries (5.1.1),	3.4.6	4.4.6	5.1.1
proteas	Perennial flowers and bulbs when grown for cut flowers and foliage. If the whole plant is the commodity map to production nurseries (5.1.1).	3.4.6	4.4.6	5.1.1
roses	Perennial flowers and bulbs. If the whole plant is the commodity map to production nurseries (5.1.1).	3.4.6	4.4.6	5.1.1
tropical flowers	Perennial or seasonal flowers and bulbs. If the whole plant is the commodity map to production nurseries (5.1.1).	3.4.6, 3.5.2	4.4.6, 4.5.2	5.1.1
tulips	Perennial or seasonal flowers and bulbs (depending on whether regrown or completely harvested each season) when grown for cut flowers. If the whole plant is the commodity map to production nurseries (5.1.1).	3.4.6, 3.5.2	4.4.6, 4.5.2	5.1.1
FOREST				
bamboo	Bamboo grown as a structural product is to be recorded as other forest plantation (3.1.3 or 4.1.3). Here bamboo is grown in a similar way to a forest plantation to a height of more than 1m. Bamboo shoots for food consumption are mapped as cropping (3.3.0 or 4.3.0).	3.1.3, 3.3.0	4.1.3, 4.3.0	
christmas trees	Other forest plantation	3.1.3	4.1.4	

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
eucalyptus oil	Other forest plantation not horticulture. Eucalyptus oil is a reportable forest plantation commodity.	3.1.3	4.1.3	
oil mallee	Other forest plantation	3.1.3	4.1.3	
pulp wood	Plantation forestry primarily intended for use as pulp wood. Hardwood plantation forestry (3.1.1 or 4.1.1) includes species such as <i>Eucalyptus nitens</i> (shining/ribbon gum), <i>Eucalyptus globulus</i> (Tasmanian/southern blue gum). Softwood plantation forestry (3.1.2 or 4.1.2) includes species such as <i>Pinus radiata</i> and <i>Pinus pinaster</i> .	3.1.1	4.1.1	
sandalwood	Other forest plantation (Indian Sandalwood) or Other forest production (Australian sandalwood harvested from mixed production native forests).	2.2.2, 3.1.3	4.1.3	
sawlogs	Plantation forestry primarily producing sawlogs. Hardwood plantation forestry (3.1.1 or 4.1.1) includes species such as <i>Eucalyptus nitens</i> (shining/ribbon gum), <i>Eucalyptus globulus</i> (Tasmanian/southern blue gum), mahogany, teak, Huon pine. Softwood plantation forestry (3.1.2 or 4.1.2) includes species such as <i>Pinus radiata</i> and <i>Pinus pinaster</i> .	3.1.1, 3.1.2	4.1.1, 4.1.2	
tea tree	Other forest plantation. Tea tree plantations primarily for oil production. While plantations may appear similar to horticulture the current international harmonised trade codes for forest products classifies tea tree in forest plantations.	3.1.3	4.1.3	
FRUIT				
apples	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
apricots	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
avocados	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
babacos	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
bananas	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
blackberries	Shrub berries and fruit (3.4.5 or 4.4.5) unless grown in shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.5	4.4.5	5.1.2, 5.1.3

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
blackcurrants	Shrub berries and fruit (3.4.5 or 4.4.5) unless grown in shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.5	4.4.5	5.1.2, 5.1.3
blueberries	Shrub berries and fruit (3.4.5 or 4.4.5) unless grown in shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.5	4.4.5	5.1.2, 5.1.3
boysenberries	Shrub berries and fruit (3.4.5 or 4.4.5) unless grown in shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.5	4.4.5	5.1.2, 5.1.3
carambolas	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
cherries	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
chokos	Perennial vine fruits, unless grown in glasshouses or hydroponically.	3.4.4	4.4.4	5.1.3, 5.1.4
coconut	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
cranberries	Shrub berries and fruit (3.4.5 or 4.4.5) unless grown in shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.5	4.4.5	5.1.2, 5.1.3
custard apples	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
dates	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
dragon fruit	Perennial vine fruits. Pitaya Hylocereus undatus. Vine like crawling cactus with aerial roots.	3.4.4	4.4.4	
feijoa	Also pineapple guava. Map to perennial tree fruits. If the whole plant is grown for sale map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
figs	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
gooseberries	Shrub berries and fruit	3.4.5	4.4.5	
grapefruit	Citrus (even if temporary bird nets are present).	3.4.8	4.4.8	
grapes	Ideally specify whether grapes are 'dried', 'table' or 'wine'.	3.4.9	4.4.9	
grapes dried	Grapes grown for consumption as dried fruit. Includes grape varieties such as Sultana, Raisin, Currant and Sunmuscat.	3.4.9	4.4.9	
grapes table	Grapes grown for consumption as fresh fruit. These grape varieties may be seedless, thinner skinned and less sweet than varieties grown for wine.	3.4.9	4.4.9	

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
grapes wine	Grapes grown for wine production. These grape varieties may be smaller sweeter and contain more seeds than table grapes.	3.4.9	4.4.9	
guavas	Perennial tree fruits (even if temporary bird nets are present). Production nurseries if the whole plant is the commodity.	3.4.1	4.4.1	5.1.1
jackfruit	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
kiwifruit	Perennial vine fruits, unless grown in shadehouses.	3.4.4	4.4.4	5.1.2
kumquat	USA kumquat or Australian cumquat. Citrus (even if under temporary bird nets), or assign to 5.1.2 if grown under established shadehouses.	3.4.8	4.4.8	5.1.2
lemons	Citrus (even if under temporary bird nets), or assign to 5.1.2 if grown under established shadehouses.	3.4.8	4.4.8	5.1.2
limes	Citrus even if under temporary bird nets, or assign to 5.1.2 if grown under established shadehouses.	3.4.8	4.4.8	5.1.2
loganberries	Shrub berries and fruit, unless grown in shadehouses or glasshouses.	3.4.5	4.4.5	5.1.2, 5.1.3
longans	Perennial tree fruits even if temporary bird nets are present, unless fruit trees are the commodity in which case map to 5.1.1 production nurseries.	3.4.1	4.4.1	5.1.1
loquats	Perennial tree fruits even if temporary bird nets are present, unless fruit trees are the commodity in which case map to 5.1.1 production nurseries.	3.4.1	4.4.1	5.1.1
lychees	Perennial tree fruits even if temporary bird nets are present, unless fruit trees are the commodity in which case map to 5.1.1 production nurseries.	3.4.1	4.4.1	5.1.1
mandarins	Citrus even if under temporary bird nets, or assign to 5.1.2 if grown under established shadehouses.	3.4.8	4.4.8	5.1.2
mangoes	Perennial tree fruits even if temporary bird nets are present, unless fruit trees are the commodity in which case map to 5.1.1 production nurseries.	3.4.1	4.4.1	5.1.1
mangosteen	Perennial tree fruits	3.4.1	4.4.1	
melons	Includes rockmelon, cantaloupe, musk and honeydew melon. Map as seasonal fruits unless grown in glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.1	4.5.1	5.1.3, 5.1.4

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
mulberries	Perennial tree fruits even if temporary bird nets are present, unless fruit trees are the commodity in which case map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
nashi pears	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
nectarines	Perennial tree fruits (even if temporary bird nets are present), If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
olives	Olives or irrigated olives.	3.4.2	4.4.2	
oranges	Citrus (even if under temporary bird nets), or assign to 5.1.2 if grown under established shadehouses.	3.4.8	4.4.8	5.1.2
passionfruit	Perennial vine fruits, unless grown in shadehouses.	3.4.4	4.4.4	5.1.2
pawpaws	Also papaya. Map as perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
peacharines	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
peaches	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
pears	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
pepinos	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
persimmons	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
pineapples	Shrub berries and fruit	3.4.5	4.4.5	5.1.2
plums	Includes prunes. Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
pomegranate	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
quinces	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
rambutans	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
raspberries	Shrub berries and fruit, unless grown in shadehouses or glasshouses.	3.4.5	4.4.5	5.1.2, 5.1.3
redcurrants	Shrub berries and fruit, unless grown in shadehouses or glasshouses.	3.4.5	4.4.5	5.1.2, 5.1.3
rosella	Shrub berries and fruit	3.4.5	4.4.5	5.1.2
strawberries	Shrub berries and fruit, unless grown in shadehouses or glasshouses.	3.4.5	4.4.5	5.1.2, 5.1.3
tamarillo	Perennial tree fruits (even if temporary bird nets are present). If fruit trees are the commodity map to production nurseries (5.1.1).	3.4.1	4.4.1	5.1.1
tangelos	Citrus (even if under temporary bird nets), or assign to 5.1.2 if grown under established shadehouses.	3.4.8	4.4.8	5.1.2
watermelons	Also jam, camel melon. Map as seasonal fruits unless grown in glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.1	4.5.1	5.1.3, 5.1.4
HORTICULTURE				
turf	Irrigated turf farming.		4.5.4	
MINES				
alumina	Mines. Alumina is extracted from bauxite, most of which is then used to produce aluminium.			5.8.1
aluminium	Mines. Smelted from alumina.			5.8.1
bauxite	Mines. Naturally-occurring ore from which alumina and aluminium are produced.			5.8.1
coal black	Mines. May be known as coking coal.			5.8.1
coal brown	Mines. Includes lignite.			5.8.1
copper	Mines. Includes mineral ore chalcopyrite.			5.8.1
diamonds rough	Mines.			5.8.1
gold	Mines.			5.8.1
iron ore	Mines. Predominately used to make steel.			5.8.1
lead	Mines.			5.8.1
mineral sands	Mines. Sands containing rutile and ilmenite (titanium bearing), zircon or monazite.			5.8.1
nickel	Mines.			5.8.1
rare earths	Mines.			5.8.1
salt	Mines.			5.8.1, 6.2.3
uranium	Mines.			5.8.1

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
zinc	Mines.			5.8.1
NUTS				
almonds	Perennial tree nuts	3.4.3	4.4.3	
brazil nuts	Perennial tree nuts	3.4.3	4.4.3	
cashews	Perennial tree nuts	3.4.3	4.4.3	
chestnuts	Perennial tree nuts	3.4.3	4.4.3	
hazelnuts	Perennial tree nuts. Includes filberts, cobnuts.	3.4.3	4.4.3	
macadamias	Perennial tree nuts	3.4.3	4.4.3	
pecan nuts	Perennial tree nuts	3.4.3	4.4.3	
pistachios	Perennial tree nuts	3.4.3	4.4.3	
walnuts	Perennial tree nuts	3.4.3	4.4.3	
OILSEEDS				
canola	Also rapeseed. Map to oilseeds.	3.3.4	4.3.4	
chia	Pseudo cereal mapped as a broadacre oilseed crop.	3.3.4	4.3.4	
flaxseed	Also linseed and linola. Map to oilseeds.	3.3.4	4.3.4	
mustard	Oilseeds	3.3.4	4.3.4	
peanuts	Oilseeds	3.3.4	4.3.4	
safflower	Oilseeds	3.3.4	4.3.4	
sesame	Oilseeds	3.3.4	4.3.4	
soybeans	Oilseeds	3.3.4	4.3.4	
sunflower	Oilseeds	3.3.4	4.3.4	
PASTURE				
lucerne	If grazed pasture legumes (3.2.3) or irrigated pasture legumes (4.2.2), otherwise hay or silage (3.3.3) or irrigated hay and silage (4.3.3).	3.2.3, 3.3.3	4.2.2, 4.3.3	
sorghum forage	Sown grasses for grazing or cut for hay or silage.	3.2.5, 3.3.3	4.2.4, 4.3.3	
PULSES				
azuki bean	Pulses. Grain legume grown for sale as dried produce.	3.3.8	4.3.8	

		ALUM code version 8		
Commodity	Comments	Dryland	Irrigated	Intensive
broad beans	Pulses (3.3.8 or 4.3.8) when grown as field beans to be sold as dried produce. Otherwise seasonal vegetables and herbs (3.5.3 or 4.5.3) unless grown in glasshouses (5.1.3) or hydroponically (5.1.4). Also known as faba or fava bean.	3.3.8, 3.5.3	4.3.8, 4.5.3	5.1.3, 5.1.4
chickpeas	Pulses. Broadacre leguminous crops grown for sale as dried beans or peas are mapped as pulses.	3.3.8	4.3.8	
cowpea	Pulses. Broadacre leguminous crops grown for sale as dried beans or peas.	3.3.8	4.3.8	
field beans	Pulses. Grain legume grown for sale as dried produce. See french beans for beans grown for human consumption as fresh or frozen vegetables.	3.3.8, 3.5.4	4.3.8	
field peas	Pulses. Grain legume grown for sale as dried produce. See peas for peas grown for human consumption as fresh or frozen vegetables.	3.3.8	4.3.8	
lentils	Pulses. Grain legume grown for sale as dried produce.	3.3.8	4.3.8	
lupins	Pulses. Grain legume grown for sale as dried produce.	3.3.8	4.3.8	
mung bean	Pulses. Grain legume grown for sale as dried produce.	3.3.8	4.3.8	
navy bean	Pulses. Grain legume grown for sale as dried produce.	3.3.8	4.3.8	
pigeon pea	Pulses. Grain legume grown for sale as dried produce.	3.3.8	4.3.8	
vetches	Pulses. Broadacre leguminous crops grown for sale as dried beans or peas.	3.3.8	4.3.8	
VEGETABLES AND HERBS				
arrowroot	Perennial vegetables and herbs	3.4.7	4.4.7	
artichokes	Perennial vegetables and herbs, unless grown under shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.7	4.4.7	5.1.2, 5.1.3
asparagus	Perennial vegetables and herbs, unless grown under shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.7	4.4.7	5.1.2, 5.1.3
beans	Seasonal vegetables and herbs, unless grown in glasshouses (5.1.3) or hydroponically (5.1.4). Field beans (such as mung beans, faba beans) grown to be sold as dried produce are classified as pulses (3.3.8 or 4.3.8).	3.5.3	4.5.3	5.1.3, 5.1.4
beetroot	Seasonal vegetables and herbs unless grown in glasshouses (5.1.3) or hydroponically (5.1.4). Also silver, spinach, chard and fodder beet.	3.5.3	4.5.3	5.1.3, 5.1.4
bitter melon	Seasonal vegetables and herbs unless grown in glasshouses (5.1.3) or hydroponically (5.1.4). Also gourd.	3.5.3	4.5.3	5.1.3, 5.1.4

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
broccoli	Seasonal vegetables and herbs unless grown in glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.3, 5.1.4
brussels sprouts	Seasonal vegetables and herbs unless grown in glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.3, 5.1.4
burdock	Perennial vegetables and herbs unless grown in glasshouses (5.1.3) or hydroponically (5.1.4).	3.4.7	4.4.7	
cabbages	Seasonal vegetables and herbs unless grown in glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.3, 5.1.4
capsicums	Seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4). Also known as sweet pepper excludes chillies.	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
carrots	Seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
cauliflowers	Seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
celery	Seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
chamomile	Seasonal or perennial vegetables and herbs (depending on variety), unless grown in glasshouses (5.1.3).	3.4.7, 3.5.3	4.4.7, 4.5.3	5.1.3
chervil	Seasonal vegetables and herbs (depending on variety), unless grown in glasshouses (5.1.3).	3.5.3	4.5.3	5.1.3
chicory	Perennial vegetables and herbs unless grown in shadehouses (5.1.2) or in glasshouses (5.1.3)	3.4.7	4.4.7	5.1.2, 5.1.3
chillies	Seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4). Excludes capsicums. (Plants are semi-perennial but grown seasonally)	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
chinese cabbages	Seasonal vegetables and herbs unless grown in glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.3, 5.1.4
chives	Perennial vegetables and herbs unless grown in glasshouses (5.1.3)	3.4.7	4.4.7	5.1.3
coriander	Seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
cucumbers	Seasonal vegetables and herbs (3.5.3 or 4.5.3), unless grown in glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.3, 5.1.4
echinacea	Perennial vegetables and herbs unless grown in glasshouses (5.1.3)	3.4.7	4.4.7	5.1.3

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
eggplants	Also known as aubergine. Map as seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
fennel	Also aniseed, dill. Map to perennial vegetables and herbs, unless grown under shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.7	4.4.7	5.1.2, 5.1.3
french beans	Also snap, kidney, string, haricot, runner, common bean. Seasonal vegetables and herbs unless grown in glasshouses (5.1.3) or hydroponically (5.1.4). See field beans for beans grown to be sold as dried produce (pulses).	3.5.3	4.5.3	5.1.3, 5.1.4
garlic	Perennial or seasonal vegetables and herbs, unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4)	3.4.7, 3.5.3	4.4.7, 4.5.3	5.1.2, 5.1.3, 5.1.4
gherkins	Seasonal vegetables and herbs, unless grown in glasshouses (5.1.3) or hydroponically (5.1.4)	3.5.3	4.5.3	5.1.3, 5.1.4
herbs	Perennial or seasonal vegetables and herbs. Herbs grown for human consumption, where the herb type is not known. If grown undercover map to shadehouses (5.1.2), glasshouses (5.1.3) or hydroponic (5.1.4). If whole seedlings are the commodity map to production nurseries (5.1.1).	3.4.7, 3.5.3	4.4.7, 4.5.3	5.1.1, 5.1.2, 5.1.3, 5.1.4
kumara	Seasonal vegetables and herbs, unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
leeks	Seasonal vegetables and herbs, unless grown in 5.1.2 shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
lemongrass	Perennial vegetables and herbs, unless grown under shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.7	4.4.7	5.1.2, 5.1.3
lettuces	Seasonal vegetables and herbs, unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
marjoram	Perennial vegetables and herbs, unless grown under shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.7	4.4.7	5.1.2, 5.1.3
marrows and squashes	Seasonal vegetables and herbs unless grown in 5.1.2 shadehouses, 5.1.3 glasshouses or 5.1.4 hydroponically	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
mint	Perennial vegetables and herbs, unless grown under shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.7	4.4.7	5.1.2, 5.1.3
mushrooms	Seasonal vegetables and herbs, unless grown under shadehouses.	3.5.3	4.5.3	5.1.2

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
okra	Seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4),	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
onions	Includes spring onions, shallots. Seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
oregano	Perennial vegetables and herbs, unless grown under shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.7	4.4.7	5.1.2, 5.1.3
parsley	Seasonal vegetables and herbs, unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
parsnips	Seasonal vegetables and herbs, unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
peas	Also garden pea. Seasonal vegetables and herbs, unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4). Field peas grown to be dried are mapped as pulses.	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
peppermint	Perennial vegetables and herbs. Herb grown commercially for oil extraction.	3.4.7	4.4.7	
potatoes	Includes sweet potatoes. Seasonal vegetables and herbs, unless grown in shadehouses, glasshouses or hydroponically.	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
pumpkins	Includes squash, cattle pumpkin. Seasonal vegetables and herbs, unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
radishes	Seasonal vegetables and herbs, unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
rhubarb	Perennial vegetables and herbs unless grown in shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.7	4.4.7	5.1.2, 5.1.3
rocket	Seasonal vegetables and herbs, unless grown under shadehouses (5.1.2) or glasshouses (5.1.3).	3.5.3	4.5.3	5.1.2, 5.1.3
rosemary	Perennial vegetables and herbs, unless grown under shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.7	4.4.7	5.1.2, 5.1.3
sage	Perennial vegetables and herbs, unless grown under shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.7	4.4.7	5.1.2, 5.1.3
silverbeet and spinach	Seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4

Commodity	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
snowpeas	Seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
spring onions and shallots	Seasonal vegetables and herbs, unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
sprouts	Shadehouses, glasshouses or glasshouses (hydroponic).			5.1.2, 5.1.3, 5.1.4
sugar beet	Seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
swedes	Includes turnips. Seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
sweet corn	Seasonal vegetables and herbs. Note maize grown for grain is mapped as cereals.	3.5.3	4.5.3	
sweet potatoes	Seasonal vegetables and herbs unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
tarragon	Perennial vegetables and herbs, unless grown under shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.7	4.4.7	5.1.2, 5.1.3
thyme	Perennial vegetables and herbs, unless grown under shadehouses (5.1.2) or glasshouses (5.1.3).	3.4.7	4.4.7	5.1.2, 5.1.3
tomatoes	Seasonal vegetables and herbs, unless grown in 5.1.2 shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
truffles	Seasonal vegetables and herbs, unless grown intensively and under shadehouses.	3.5.3	4.5.3	5.1.2
turnips	Seasonal vegetables and herbs, unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4).	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
vegetable seeds	Seasonal vegetables and herbs, unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4). Grown for seed production.	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4
vegetables	Use when the vegetable type is not known. Perennial or seasonal vegetables and herbs (outdoors). Intensive production (often under cover) assigned to production nurseries (seedlings), shadehouses, glasshouses or hydroponic.	3.4.7, 3.5.3	4.4.7, 4.5.3	5.1.1, 5.1.2, 5.1.3, 5.1.4
zucchini	Also known as courgette, <i>Cucurbita pepo</i> . Seasonal vegetables and herbs, unless grown in shadehouses (5.1.2), glasshouses (5.1.3) or hydroponically (5.1.4)	3.5.3	4.5.3	5.1.2, 5.1.3, 5.1.4

Management list

Capturing land management practices is an optional addition to the Australian Land Use and Management Classification version 8. Certain information such as free range stock, or crop pasture rotations, are not otherwise captured in the ALUM Classification but add great value, for example in preparing for, or responding to, biosecurity issues.

Land management practices are to be selected from an agreed list of management names developed by ACLUMP partners so that the practices are recorded in a consistent way. No existing list of management codes was identified that could meet the needs of the ALUM Classification and so the list presented in Table 3 has been compiled from sources such as the Australian Bureau of Statistics, Meat and Livestock Australia, Horticulture Innovation Australia, Grains Research and Development Corporation, and state and territory lists. This list is not comprehensive and is expected to be expanded in future versions of ALUM Classification.

The management list (Table 3) is to be used to complete the 'Manage_desc' attribute of the data structure in Table 4.

Table 3 Management practices presented by type

Management	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
UNKNOWN	Optional management code can be used for all land use classes.			
ANIMAL				
barn laid	Poultry for egg production which are free to roam within a shed which may have more than one level			5.2.3
caged	Poultry housed in cages in sheds for egg or meat production			5.2.3
free range	Generally applied to poultry production though can be applied to other livestock such as pigs. Poultry housed in sheds with regular access to an outdoor area. Pigs are outdoors with rooting areas, wallows and kennel/huts for shelter.	2.1.0, 3.2.0	4.2.0	5.2.3, 5.2.4
milking hand	Dairy operation where milking is not mechanised and is completed by hand			5.2.1
milking herringbone	Swingover or double up herringbone. Animals (generally cows) enter in single file and line up almost perpendicular on both sides of the central milking aisle.			5.2.1
milking rotary	Turntable with individual stalls for animals (generally cows) around the outer edge			5.2.1
milking walk through	Animals (generally cows) enter individual milking stalls and leave by a common exitway.			5.2.1
CROP				
contour banks	Conservation earthworks of broad-based banks that intercept runoff to prevent significant soil movement	3.2.0, 3.3.0	4.2.0, 4.3.0	
controlled traffic farming	Farming system built on permanent wheel tracks to separate crop and traffic lanes	3.3.0	4.3.0	
cropping continuous	Same crop planted and harvested repeatedly	3.3.0, 3.4.0, 3.5.0	4.3.0, 4.4.0, 4.5.0	

Management	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
cropping cover	Cover cropping, also under sowing. The broadcasting or sowing of pastures at the same time as sowing a crop. The deliberate sowing of plants between perennial crop rows. The planting of crops to cover the soil surface and that are not usually harvested.	3.3.0, 3.4.0	4.3.0, 4.4.0	
cropping multiple	Multiple cropping includes relay cropping. Growing more than one crop on the same area within a year. Relay cropping is where a second crop is started amidst the first crop before first has been harvested.	3.3.0, 3.5.0	3.3.0, 4.5.0	
cropping opportunistic	Opportunistic cropping. Irregular crop planting due to water availability or other limitation.	3.3.0	4.3.0	
cropping rotational	Different crops grown in regular succession	3.3.0, 3.4.0, 3.5.0	4.3.0, 4.4.0, 4.5.0	
cropping row alley	Crops are growing between rows of trees	3.3.0	4.3.0	
cropping strip	Crops are alternated on strips of ground usually following the contour of the land often on steep land or to minimize erosion.	3.3.0	4.3.0	
fallow chemical	Soil treated with herbicide and left bare	3.3.0	4.3.0	
fallow mechanical	Soil ploughed or turned and left bare	3.3.0	4.3.0	
residues baled	Crop stubble or residues baled and removed	3.3.0	4.3.0	
residues burnt	Crop stubble or residues removed by hot or cool burn	3.3.0	4.3.0	
residues heavily grazed	Crop stubble or residues removed by heavy grazing	3.3.0	4.3.0	
residues incorporated	Crop stubble or residues ploughed into the soil	3.3.0	4.3.0	
residues intact	Crop stubble or residues retained standing	3.3.0	4.3.0	
residues mulched	Crop stubble or residues mulched and left on the surface	3.3.0	4.3.0	
tillage conservation	Conservation tillage encompasses zero tillage (at sowing <10% soil disturbance, e.g. disc planters), no tillage (at sowing <30% soil disturbance, e.g. knife points), reduced tillage (one cultivation before sowing but less soil disturbance than conventional at sowing) and minimum tillage (one or two cultivations prior to sowing);	3.3.0	4.3.0	
tillage conventional	Conventional tillage. More than two cultivations prior to sowing.	3.3.0	4.3.0	

Management	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
CROP/PASTURE				
biodynamic	Certified or registered biodynamic farming methods used. Agricultural practices based on the work of Dr Rudolf Steiner (1861 – 1925). The entire farm exists as a single entity without the need for outside inputs. Similar to organic farming in that no pesticides, herbicides or genetically modified organisms (GMOs) are used in production.	3.2.0, 3.3.0, 3.4.0, 3.5.0	4.2.0, 4.3.0, 4.4.0, 4.5.0	5.1.0, 5.2.0
crop pasture rotation	Regular rotations of cropping and pasture which do not constitute a land use change. Specify the crop pasture rotation regime under 'Comments', if known.	3.2.0, 3.3.0	4.2.0, 4.3.0	
organic	Certified organic farming practices. Produce is not contaminated by synthetic chemicals, genetically engineered material, been fumigated or irradiated. Animals are free-range.	3.2.0, 3.3.0, 3.4.0, 3.5.0	4.2.0, 4.3.0, 4.4.0, 4.5.0	
pasture cropping	Sowing of annual crops into perennial native pastures	2.1.0, 3.3.0		
precision agriculture	Generally applied to field crop production but also applicable to dairy herd management and horticulture. Resource application and practices match the variation in soil and crop requirements within a field using global navigation satellite systems, crop and soil testing, and variable rate applications.	3.3.0, 3.4.0, 3.5.0	4.2.0, 4.3.0, 4.4.0, 4.5.0	
GRAZING				
grazing rotational	Also cell grazing. Moving livestock between paddocks in regular sequence to permit the recovery and growth of the pasture plants after grazing. Stocking rates per paddock are higher than under set stocking.	3.2.0	4.2.0	
grazing set stocking	Grazing livestock in a particular paddock continuously over time with no, or only infrequent, spells from grazing.	3.2.0	4.2.0	
grazing tactical	A range of grazing methods are used, including set stocking and rotational grazing, throughout a single year or series of years, to meet different animal and pasture objectives at various times. Requires the infrastructure associated with rotational grazing (fencing and water supplies).	3.2.0	4.2.0	

Management	Comments	ALUM code version 8		
		Dryland	Irrigated	Intensive
HORTICULTURE				
free standing	Trees are spaced such that they don't touch in any direction	3.4.0	4.4.0	
fully protected	Production nurseries with complete impermeable barrier for example glass, polycarbonate, plastic. Aside from production nurseries most fully protected growing is classed as glasshouses (5.1.3) however there may be circumstances where temporary full protection is applied to other horticulture or intensive production.			5.1.1
hedgerow	Trees touch each other within but not across the row	3.4.0	4.4.0	
mulching/matting	Practice to maintain ground cover between horticultural crop plantings	3.4.0, 3.5.0	4.4.0, 4.5.0	
open growing	No barrier to weather. Includes container and in-ground nursery production. Applicable to other production such as horticulture where no shade cloth or netting is used for protection.	3.4.0, 3.5.0	4.4.0, 4.5.0	5.1.1
semi-protected	Production is semi-protected using shade cloth/hail/bird/bat net roof irrespective of side wall material.	3.4.0, 3.5.0	4.4.0, 4.5.0	5.1.1
trellis/espalier	Horticultural crops and trees trained to grow up against an object, such as a wall or fence.	3.4.0	4.4.0	
IRRIGATION				
irrigation drip	Also trickle irrigation. Irrigation system that applies water to the soil very slowly through tubes/tapes either above or below the soil surface.		4.1.0, 4.2.0, 4.3.0, 4.4.0, 4.5.0	
irrigation spray	Irrigation system that sprays water into the air allowing it to fall on the plants and soil much like natural rainfall. Uses sprinklers including set systems, permanent (solid set/fixed), continuous/travelling systems and micro-sprinklers.		4.1.0, 4.2.0, 4.3.0, 4.4.0, 4.5.0	
irrigation surface	Also flood/furrow irrigation. Water is applied to the land by allowing it to flow by simple gravity before infiltrating. Under furrow irrigation, small parallel channels carry water to irrigate the crop with the crop usually grown on the ridges between the furrows.		4.1.0, 4.2.0, 4.3.0, 4.4.0, 4.5.0	

Data structure

The recommended data structure for land use data provides for the attribution of land use polygons with information about:

- prime land use (represented by the Australian Land Use and Management [ALUM] code and associated descriptor)
- commodity type (specify commodity descriptor based on Table 2 with an optional commodity code based on jurisdictional or other codes)
- management practice (optional, specify management practice descriptor based on Table 3 and a management code based on jurisdictional or other codes)
- primary information source (scale, date, data type and confidence), and
- other comments (multiple uses, uncertainties, reason for classification decisions).

Table 4 outlines the recommended data structure. Note these attributes are the minimum requirements and other attributes may be added as desired.

Table 4 Data structure

Attribute	Format ^a	Description	Example
<i>Lu_coden</i>	I 5 5	Numerical ALUM land use code	331
<i>Lu_code</i>	C 8 8	ALUM land use code	3.3.1
<i>Lu_description</i>	C 45 45	Description of land use	Cereals
<i>Commod_code</i> (optional)	C 8 8	Commodity code (no standardised list currently available – jurisdictions could use own codes that align with the commodity description)	
<i>Commod_desc</i>	C 50 50	Commodity description (see Table 2)	wheat
<i>Commod_code2</i> (optional)	C 8 8	Commodity code 2 (no standardised list currently available – jurisdictions could use own codes that align with the commodity description)	
<i>Commod_desc2</i>	C 50 50	Commodity description 2 (see Table 2)	sheep meat
<i>Manage_code</i> (optional)	C 8 8	Management code (no standardised list currently available – jurisdictions could use own codes that align with the management description)	
<i>Manage_desc</i> (optional)	C 50 50	Management description (see Table 3)	cropping rotational
<i>Manage_code2</i> (optional)	C 8 8	Management code (no standardised list currently available – jurisdictions could use own codes that align with the management description)	

<i>Manage_desc2</i> (optional)	C 50 50	Management description (see Table 3)	residues heavily grazed
<i>Comments</i>	C 100 100	Any other comments on land use (can include multiple use uncertainties, classification decisions)	Dorper sheep grazing wheat stubble
<i>Source_scale</i>	C 8 8	Scale of source data	1:100 000
<i>Source_date</i>	D 8 10	Date of spatial feature (e.g. image date, air photo date, ancillary data date)	01/01/2011 (day/month/year)
<i>Source_data</i>	C 50 50	Source data (e.g. field mapping, local knowledge, ancillary dataset, air photo, imagery)	SPOT 5 imagery
<i>Confidence</i>	B 4 5	Confidence in classification of attribute	1 = Very confident 2 = Confident 3 = Reasonably confident 4 = Not very confident
<i>Luc_date</i>	D 8 10	Date of land use code	01/01/2011 (day/month/year)
[xxxxxx]	[xxxxx]	[Other attributes as required]	

ALUM = Australian Land Use and Management
a Item definition

Appendix 1 Conversion from Australian Land Use and Management (ALUM) Classification version 7 to ALUM Classification version 8

Lu_code version 7	Lu_description version 7	Lu_code version 8	Lu_description version 8	Action	Modification
1 Conservation and natural environments					
1.1.0	Nature conservation	1.1.0	Nature conservation	-	-
1.1.1	Strict nature reserves	1.1.1	Strict nature reserves	-	-
1.1.2	Wilderness area	1.1.2	Wilderness area	-	-
1.1.3	National park	1.1.3	National park	-	-
1.1.4	Natural feature protection	1.1.4	Natural feature protection	-	-
1.1.5	Habitat/species management area	1.1.5	Habitat/species management area	-	-
1.1.6	Protected landscape	1.1.6	Protected landscape	-	-
1.1.7	Other conserved area	1.1.7	Other conserved area	-	-
1.2.0	Managed resource protection	1.2.0	Managed resource protection	-	-
1.2.1	Biodiversity	1.2.1	Biodiversity	-	-
1.2.2	Surface water supply	1.2.2	Surface water supply	-	-
1.2.3	Groundwater	1.2.3	Groundwater	-	-
1.2.4	Landscape	1.2.4	Landscape	-	-
1.2.5	Traditional Indigenous uses	1.2.5	Traditional Indigenous uses	-	-
1.3.0	Other minimal use	1.3.0	Other minimal use	-	-
1.3.1	Defence land – natural areas	1.3.1	Defence land – natural areas	-	-
1.3.2	Stock route	1.3.2	Stock route	-	-
1.3.3	Residual native cover	1.3.3	Residual native cover	-	-

Lu_code version 7	Lu_description version 7	Lu_code version 8	Lu_description version 8	Action	Modification
1.3.4	Rehabilitation	1.3.4	Rehabilitation	-	-
2 Production from relatively natural environments					
2.0.0	Production from relatively natural environments	2.0.0	Production from relatively natural environments	-	-
2.1.0	Grazing native vegetation	2.1.0	Grazing native vegetation	-	-
2.2.0	Production forestry	2.2.0	Production native forests	Name change	Forestry to native forests
2.2.1	Wood production	2.2.1	Wood production forestry	Name change	Add forestry
2.2.2	Other forest production	2.2.2	Other forest production	-	-
3 Production from dryland agriculture and plantations					
3.0.0	Production from dryland agriculture and plantations	3.0.0	Production from dryland agriculture and plantations	-	-
3.1.0	Plantation forestry	3.1.0	Plantation forests	Name change	Forestry to forests-
3.1.1	Hardwood production	3.1.1	Hardwood plantation forestry	Name change	Production to plantation forestry
3.1.2	Softwood production	3.1.2	Softwood plantation forestry	Name change	Production to plantation forestry
3.1.3	Other forest plantation	3.1.3	Other forest plantation	-	-
3.1.4	Environmental forest plantation	3.1.4	Environmental forest plantation	-	-
3.2.0	Grazing modified pastures	3.2.0	Grazing modified pastures	-	-
3.2.1	Native/exotic pasture mosaic	3.2.1	Native/exotic pasture mosaic	-	-
3.2.2	Woody fodder plants	3.2.2	Woody fodder plants	-	-
3.2.3	Pasture legumes	3.2.3	Pasture legumes	-	-
3.2.4	Pasture legume/grass mixtures	3.2.4	Pasture legume/grass mixtures	-	-
3.2.5	Sown grasses	3.2.5	Sown grasses	-	-
3.3.0	Cropping	3.3.0	Cropping	-	-

Lu_code version 7	Lu_description version 7	Lu_code version 8	Lu_description version 8	Action	Modification
3.3.1	Cereals	3.3.1	Cereals	-	-
3.3.2	Beverage and spice crops	3.3.2	Beverage and spice crops	-	-
3.3.3	Hay and silage	3.3.3	Hay and silage	-	-
3.3.4	Oil seeds	3.3.4	Oilseeds	Name change	Space removed between oil and seeds
3.3.5	Sugar	3.3.5	Sugar	-	-
3.3.6	Cotton	3.3.6	Cotton	-	-
3.3.7	Alkaloid poppies	3.3.7	Alkaloid poppies	-	-
3.3.8	Pulses	3.3.8	Pulses	-	-
3.4.0	Perennial horticulture	3.4.0	Perennial horticulture	-	-
3.4.1	Tree fruits	3.4.1	Tree fruits	-	-
3.4.2	Oleaginous fruits	3.4.2	Olives	Name change	Oleaginous fruits to Olives
3.4.3	Tree nuts	3.4.3	Tree nuts	-	-
3.4.4	Vine fruits	3.4.4	Vine fruits	-	-
3.4.5	Shrub nuts fruits and berries	3.4.5	Shrub berries and fruits	Name change	Shrub nuts fruits and berries to Shrub berries and fruits
3.4.6	Perennial flowers and bulbs	3.4.6	Perennial flowers and bulbs	-	-
3.4.7	Perennial vegetables and herbs	3.4.7	Perennial vegetables and herbs	-	-
3.4.8	Citrus	3.4.8	Citrus	-	-
3.4.9	Grapes	3.4.9	Grapes	-	-
3.5.0	Seasonal horticulture	3.5.0	Seasonal horticulture	-	-
3.5.1	Seasonal fruits	3.5.1	Seasonal fruits	-	-
3.5.2	Seasonal nuts	-	-	Removal of class	Seasonal nuts removed
3.5.3	Seasonal flowers and bulbs	3.5.2	Seasonal flowers and bulbs	Code change	3.5.3 to 3.5.2

Lu_code version 7	Lu_description version 7	Lu_code version 8	Lu_description version 8	Action	Modification
3.5.4	Seasonal vegetables and herbs	3.5.3	Seasonal vegetables and herbs	Code change	3.5.4 to 3.5.3
3.6.0	Land in transition	3.6.0	Land in transition	-	-
3.6.1	Degraded land	3.6.1	Degraded land	-	-
3.6.2	Abandoned land	3.6.2	Abandoned land	-	-
3.6.3	Land under rehabilitation	3.6.3	Land under rehabilitation	-	-
3.6.4	No defined use	3.6.4	No defined use	-	-
3.6.5	Abandoned perennial horticulture	3.6.5	Abandoned perennial horticulture	-	-
4 Production from irrigated agriculture and plantations					
4.0.0	Production from irrigated agriculture and plantations	4.0.0	Production from irrigated agriculture and plantations	-	-
4.1.0	Irrigated plantation forestry	4.1.0	Irrigated plantation forests	Name change	Forestry to forests-
4.1.1	Irrigated hardwood production	4.1.1	Irrigated hardwood plantation forestry	Name change	Production to plantation forestry
4.1.2	Irrigated softwood production	4.1.2	Irrigated softwood plantation forestry	Name change	Production to plantation forestry
4.1.3	Irrigated other forest plantation	4.1.3	Irrigated other forest plantation	-	-
4.1.4	Irrigated environmental forest plantation	4.1.4	Irrigated environmental forest plantation	-	-
4.2.0	Grazing irrigated modified pastures	4.2.0	Grazing irrigated modified pastures	-	-
4.2.1	Irrigated woody fodder plants	4.2.1	Irrigated woody fodder plants	-	-
4.2.2	Irrigated pasture legumes	4.2.2	Irrigated pasture legumes	-	-
4.2.3	Irrigated legume/grass mixtures	4.2.3	Irrigated legume/grass mixtures	-	-
4.2.4	Irrigated sown grasses	4.2.4	Irrigated sown grasses	-	-
4.3.0	Irrigated cropping	4.3.0	Irrigated cropping	-	-
4.3.1	Irrigated cereals	4.3.1	Irrigated cereals	-	-

Lu_code version 7	Lu_description version 7	Lu_code version 8	Lu_description version 8	Action	Modification
4.3.2	Irrigated beverage and spice crops	4.3.2	Irrigated beverage and spice crops	-	-
4.3.3	Irrigated hay and silage	4.3.3	Irrigated hay and silage	-	-
4.3.4	Irrigated oil seeds	4.3.4	Irrigated oilseeds	Name change	Space removed between oil and seeds
4.3.5	Irrigated sugar	4.3.5	Irrigated sugar	-	-
4.3.6	Irrigated cotton	4.3.6	Irrigated cotton	-	-
4.3.7	Irrigated alkaloid poppies	4.3.7	Irrigated alkaloid poppies	-	-
4.3.8	Irrigated pulses	4.3.8	Irrigated pulses	-	-
4.3.9	Irrigated rice	4.3.9	Irrigated rice	-	-
4.4.0	Irrigated perennial horticulture	4.4.0	Irrigated perennial horticulture	-	-
4.4.1	Irrigated tree fruits	4.4.1	Irrigated tree fruits	-	-
4.4.2	Irrigated oleaginous fruits	4.4.2	Irrigated olives	Name change	Irrigated oleaginous fruits to Irrigated olives
4.4.3	Irrigated tree nuts	4.4.3	Irrigated tree nuts	-	-
4.4.4	Irrigated vine fruits	4.4.4	Irrigated vine fruits	-	-
4.4.5	Irrigated shrub nuts fruits and berries	4.4.5	Irrigated shrub berries and fruits	Name change	Irrigated shrub nuts fruits and berries to Irrigated shrub berries and fruits
4.4.6	Irrigated perennial flowers and bulbs	4.4.6	Irrigated perennial flowers and bulbs	-	-
4.4.7	Irrigated perennial vegetables and herbs	4.4.7	Irrigated perennial vegetables and herbs	-	-
4.4.8	Irrigated citrus	4.4.8	Irrigated citrus	-	-
4.4.9	Irrigated grapes	4.4.9	Irrigated grapes	-	-
4.5.0	Irrigated seasonal horticulture	4.5.0	Irrigated seasonal horticulture	-	-
4.5.1	Irrigated seasonal fruits	4.5.1	Irrigated seasonal fruits	-	-

Lu_code version 7	Lu_description version 7	Lu_code version 8	Lu_description version 8	Action	Modification
4.5.2	Irrigated seasonal nuts	-	-	Removal of class	Irrigated seasonal nuts removed
4.5.3	Irrigated seasonal flowers and bulbs	4.5.2	Irrigated seasonal flowers and bulbs	Code change	4.5.3 to 4.5.2
4.5.4	Irrigated seasonal vegetables and herbs	4.5.3	Irrigated seasonal vegetables and herbs	Code change	4.5.4 to 4.5.3
4.5.5	Irrigated turf farming	4.5.4	Irrigated turf farming	Code change	4.5.5 to 4.5.4
4.6.0	Irrigated land in transition	4.6.0	Irrigated land in transition	-	-
4.6.1	Degraded irrigated land	4.6.1	Degraded irrigated land	-	-
4.6.2	Abandoned irrigated land	4.6.2	Abandoned irrigated land	-	-
4.6.3	Irrigated land under rehabilitation	4.6.3	Irrigated land under rehabilitation	-	-
4.6.4	No defined use (irrigation)	4.6.4	No defined use — irrigation	Name change	() to —
4.6.5	Abandoned irrigated perennial horticulture	4.6.5	Abandoned irrigated perennial horticulture	-	-
5 Intensive uses					
5.0.0	Intensive uses	5.0.0	Intensive uses	-	-
5.1.0	Intensive horticulture	5.1.0	Intensive horticulture	-	-
-	-	5.1.1	Production nurseries	Addition of class	5.1.1 Production nurseries
5.1.1	Shadehouses	5.1.2	Shadehouses	Code change	5.1.1 to 5.1.2
5.1.2	Glasshouses	5.1.3	Glasshouses	Code change	5.1.2 to 5.1.3
5.1.3	Glasshouses (hydroponic)	5.1.4	Glasshouses — hydroponic	Code and name change	5.1.3 () to 5.1.4 —
5.1.4	Abandoned intensive horticulture	5.1.5	Abandoned intensive horticulture	Code change	5.1.4 to 5.1.5
5.2.0	Intensive animal husbandry	5.2.0	Intensive animal production	Name change	Intensive animal husbandry to Intensive animal production

Lu_code version 7	Lu_description version 7	Lu_code version 8	Lu_description version 8	Action	Modification
5.2.1	Dairy sheds and yards	5.2.1	Dairy sheds and yards	-	-
5.2.2	Cattle feedlots	5.2.2	Feedlots	Name change	Cattle feedlots to Feedlots
5.2.3	Sheep feedlots	-	-	Removal of class	Livestock recorded as commodity
5.2.4	Poultry farms	5.2.3	Poultry farms	Code change	5.2.3 from 5.2.4
5.2.5	Piggeries	5.2.4	Piggeries	Code change	5.2.4 from 5.2.5
5.2.6	Aquaculture	5.2.5	Aquaculture	Code change	5.2.5 from 5.2.6
5.2.7	Horse studs	5.2.6	Horse studs	Code change	5.2.6 from 5.2.7
5.2.8	Stockyards/saleyards	5.2.7	Saleyards/stockyards	Name change, code change	5.2.7 Saleyards/stockyards from 5.2.8 Stockyards/saleyards
5.2.9	Abandoned intensive animal husbandry	5.2.8	Abandoned intensive animal production	Name change, code change	5.2.8 Abandoned intensive animal production from 5.2.9 Abandoned intensive animal husbandry
5.3.0	Manufacturing and industrial	5.3.0	Manufacturing and industrial	-	-
5.3.1	General purpose factory	5.3.1	General purpose factory	-	-
5.3.2	Food processing factory	5.3.2	Food processing factory	-	-
5.3.3	Major industrial complex	5.3.3	Major industrial complex	-	-
5.3.4	Bulk grain storage	5.3.4	Bulk grain storage	-	-
5.3.5	Abattoirs	5.3.5	Abattoirs	-	-
5.3.6	Oil refinery	5.3.6	Oil refinery	-	-
5.3.7	Sawmill	5.3.7	Sawmill	-	-
5.3.8	Abandoned manufacturing and industrial	5.3.8	Abandoned manufacturing and industrial	-	-
5.4.0	Residential and farm infrastructure	5.4.0	Residential and farm infrastructure	-	-

Lu_code version 7	Lu_description version 7	Lu_code version 8	Lu_description version 8	Action	Modification
5.4.1	Urban residential	5.4.1	Urban residential	-	-
5.4.2	Rural residential with agriculture	5.4.2	Rural residential with agriculture	-	-
5.4.3	Rural residential without agriculture	5.4.3	5.4.3 Rural residential without agriculture	-	-
5.4.4	Remote communities	5.4.4	Remote communities	-	-
5.4.5	Farm buildings/infrastructure	5.4.5	Farm buildings/infrastructure		
5.5.0	Services	5.5.0	Services	-	-
5.5.1	Commercial services	5.5.1	Commercial services	-	-
5.5.2	Public services	5.5.2	Public services	-	-
5.5.3	Recreation and culture	5.5.3	Recreation and culture	-	-
5.5.4	Defence facilities — urban	5.5.4	Defence facilities — urban	-	-
5.5.5	Research facilities	5.5.5	Research facilities	-	-
5.6.0	Utilities	5.6.0	Utilities	-	-
5.6.1	Fuel powered electricity generation	5.6.1	Fuel powered electricity generation	-	-
5.6.2	Hydro electricity generation	5.6.2	Hydro electricity generation	-	-
5.6.3	Wind farm electricity generation	5.6.3	Wind electricity generation	Name change	Removal of farm from name
-	-	5.6.4	Solar electricity generation	Addition of class	5.6.4 Solar electricity generation
5.6.4	Electricity substations and transmission	5.6.5	Electricity substations and transmission	Code change	5.6.5 from 5.6.4
5.6.5	Gas treatment, storage and transmission	5.6.6	Gas treatment, storage and transmission	Code change	5.6.6 from 5.6.5
5.6.6	Water extraction and transmission	5.6.7	Water extraction and transmission	Code change	5.6.7 from 5.6.6
5.7.0	Transport and communication	5.7.0	Transport and communication	-	-
5.7.1	Airports/aerodromes	5.7.1	Airports/aerodromes	-	-

Lu_code version 7	Lu_description version 7	Lu_code version 8	Lu_description version 8	Action	Modification
5.7.2	Roads	5.7.2	Roads	-	-
5.7.3	Railways	5.7.3	Railways	-	-
5.7.4	Ports and water transport	5.7.4	Ports and water transport	-	-
5.7.5	Navigation and communication	5.7.5	Navigation and communication	-	-
5.8.0	Mining	5.8.0	Mining	-	-
5.8.1	Mines	5.8.1	Mines	-	-
5.8.2	Quarries	5.8.2	Quarries	-	-
5.8.3	Tailings	5.8.3	Tailings	-	-
5.8.4	Extractive industry not in use	5.8.4	Extractive industry not in use	-	-
5.9.0	Waste treatment and disposal	5.9.0	Waste treatment and disposal	-	-
5.9.1	Effluent pond	5.9.1	Effluent pond	-	-
5.9.2	Landfill	5.9.2	Landfill	-	-
5.9.3	Solid garbage	5.9.3	Solid garbage	-	-
5.9.4	Incinerators	5.9.4	Incinerators	-	-
5.9.5	Sewage/sewerage	5.9.5	Sewage/sewerage	-	-
6 Water					
6.0.0	Water	6.0.0	Water	-	-
6.1.0	Lake	6.1.0	Lake	-	-
6.1.1	Lake — conservation	6.1.1	Lake — conservation	-	-
6.1.2	Lake — production	6.1.2	Lake — production	-	-
6.1.3	Lake — intensive use	6.1.3	Lake — intensive use	-	-
6.1.4	Lake — saline	6.1.4	Lake — saline	-	-
6.2.0	Reservoir/dam	6.2.0	Reservoir/dam	-	-
6.2.1	Reservoir	6.2.1	Reservoir	-	-

Lu_code version 7	Lu_description version 7	Lu_code version 8	Lu_description version 8	Action	Modification
6.2.2	Water storage — intensive use/farm dams	6.2.2	Water storage — intensive use/farm dams	-	-
6.2.3	Evaporation basin	6.2.3	Evaporation basin	-	-
6.3.0	River	6.3.0	River	-	-
6.3.1	River — conservation	6.3.1	River — conservation	-	-
6.3.2	River — production	6.3.2	River — production	-	-
6.3.3	River — intensive use	6.3.3	River — intensive use	-	-
6.4.0	Channel/aqueduct	6.4.0	Channel/aqueduct	-	-
6.4.1	Supply channel/aqueduct	6.4.1	Supply channel/aqueduct	-	-
6.4.2	Drainage channel/aqueduct	6.4.2	Drainage channel/aqueduct	-	-
6.4.3	Stormwater	6.4.3	Stormwater	-	-
6.5.0	Marsh/wetland	6.5.0	Marsh/wetland	-	-
6.5.1	Marsh/wetland — conservation	6.5.1	Marsh/wetland — conservation	-	-
6.5.2	Marsh/wetland — production	6.5.2	Marsh/wetland — production	-	-
6.5.3	Marsh/wetland — intensive use	6.5.3	Marsh/wetland — intensive use	-	-
6.5.4	Marsh/wetland — saline	6.5.4	Marsh/wetland — saline	-	-
6.6.0	Estuary/coastal waters	6.6.0	Estuary/coastal waters	-	-
6.6.1	Estuary/coastal waters — conservation	6.6.1	Estuary/coastal waters — conservation	-	-
6.6.2	Estuary/coastal waters — production	6.6.2	Estuary/coastal waters — production	-	-
6.6.3	Estuary/coastal waters — intensive use	6.6.3	Estuary/coastal waters — intensive use	-	-

`-` indicates that either the class does not exist in that version, or that no action or modification was taken.

Appendix 2 Conversion of ANZSIC codes 2013 to ALUM Classification version 8

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
A Agriculture, Forestry and Fishing					
Agriculture - 01	Nursery and Floriculture Production	011			
	Nursery Production (Under Cover)	0111			5.1.1
	Nursery Production (Outdoors)	0112			5.1.1
	Turf Growing	0113		4.5.4	
	Floriculture Production (Under Cover)	0114			5.1.1, 5.1.2, 5.1.3
	Floriculture Production (Outdoors)	0115	3.4.6, 3.5.2	4.4.6, 4.5.2	
	Mushroom and Vegetable Growing	012			
	Mushroom Growing	0121			5.1.2
	Vegetable Growing (Under Cover)	0122			5.1.2, 5.1.3, 5.1.4
	Vegetable Growing (Outdoors)	0123	3.4.7, 3.5.3	4.4.7, 4.5.3	
	Fruit and Tree Nut Growing	013			
	Grape Growing	0131	3.4.9	4.4.9	
	Kiwifruit Growing	0132	3.4.4	4.4.4	
	Berry Fruit Growing	0133	3.4.5	4.4.5	
	Apple and Pear Growing	0134	3.4.1	4.4.1	
	Stone Fruit Growing	0135	3.4.1	4.4.1	
	Citrus Fruit Growing	0136	3.4.8	4.4.8	
	Olive Growing	0137	3.4.2	4.4.2	
	Other Fruit and Tree Nut Growing	0139	3.4.0, 3.5.0	4.4.0, 4.5.0	
	Sheep, Beef Cattle and Grain Farming	014			
	Sheep Farming (Specialised)	0141	2.1.0, 3.2.0	4.2.0	
	Beef Cattle Farming (Specialised)	0142	2.1.0, 3.2.0	4.2.0	
	Beef Cattle Feedlots (Specialised)	0143			5.2.2

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Sheep-Beef Cattle Farming	0144	2.1.0, 3.2.0	4.2.0	
	Grain-Sheep or Grain-Beef Cattle Farming	0145	2.1.0, 3.2.0, 3.3.1	4.2.0, 4.3.1	
	Rice Growing	0146		4.3.9	
	Other Grain Growing	0149	3.3.1	4.3.1	
	Other Crop Growing	015			
	Sugar Cane Growing	0151	3.3.5	4.3.5	
	Cotton Growing	0152	3.3.6	4.3.6	
	Other Crop Growing n.e.c.	0159	3.3.0	4.3.0	
	Dairy Cattle Farming	016			
	Dairy Cattle Farming	0160	3.2.0	4.2.0	
	Poultry Farming	017			
	Poultry Farming (Meat)	0171			5.2.3
	Poultry Farming (Eggs)	0172			5.2.3
	Deer Farming	018			
	Deer Farming	0180	2.1.0, 3.2.0,	4.2.0,	5.2.2
	Other Livestock Farming	019			
	Horse Farming	0191	2.1.0, 3.2.0,	4.2.0,	5.2.6
	Pig Farming	0192			5.2.4
	Beekeeping	0193			5.2.0
	Other Livestock Farming n.e.c.	0199	2.1.0, 3.2.0,	4.2.0,	5.2.0
Aquaculture – 02	Aquaculture	020			
	Offshore Longline and Rack Aquaculture	0201			5.2.5, 6.6.2
	Offshore Caged Aquaculture	0202			5.2.5, 6.6.2
	Onshore Aquaculture	0203			5.2.5
Forestry and Logging – 03	Forestry and Logging	030			
	Forestry	0301	2.2.0, 3.1.0	4.1.0	
	Logging	0302	2.2.0, 3.1.0	4.1.0	5.3.7
Fishing, Hunting and Trapping - 04	Fishing	041			
	Rock Lobster and Crab Potting	0411			6.6.2

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Prawn Fishing	0412			6.6.2
	Line Fishing	0413			6.6.2
	Fish Trawling, Seining and Netting	0414			6.6.2
	Other Fishing	0419			6.1.2, 6.3.2, 6.6.2
	Hunting and Trapping	042			
	Hunting and Trapping	0420	1.3.0		1.1.7, 1.3.0, 5.5.3
Agriculture, Forestry and Fishing Support Services - 05	Forestry Support Services	051			
	Forestry Support Services	0510			5.5.1
	Agriculture and Fishing Support Services	052			
	Cotton Ginning	0521			5.5.1
	Shearing Services	0522			5.5.1
	Other Agriculture and Fishing Support Services	0529			5.5.1
B Mining					
Coal Mining - 06	Coal Mining	060			
	Coal Mining	0600			5.8.1
Oil and Gas Extraction - 07	Oil and Gas Extraction	070			
	Oil and Gas Extraction	0700			5.3.6, 5.6.6
Metal Ore Mining – 08	Metal Ore Mining	080			
	Iron Ore Mining	0801			5.8.1
	Bauxite Mining	0802			5.8.1
	Copper Ore Mining	0803			5.8.1
	Gold Ore Mining	0804			5.8.1
	Mineral Sand Mining	0805			5.8.1
	Nickel Ore Mining	0806			5.8.1
	Silver-Lead-Zinc Ore Mining	0807			5.8.1
	Other Metal Ore Mining	0809			5.8.1
Non-Metallic Mineral Mining and Quarrying - 09	Construction Material Mining	091			

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Gravel and Sand Quarrying	0911			5.8.2
	Other Construction Material Mining	0919			5.8.0
	Other Non-Metallic Mineral Mining and Quarrying	099			
	Other Non-Metallic Mineral Mining and Quarrying	0990			5.8.0
Exploration and Other Mining Support Services - 10	Exploration	101			
	Petroleum Exploration	1011			5.8.0
	Mineral Exploration	1012			5.8.0
	Other Mining Support Services	109			
	Other Mining Support Services	1090			5.8.0
C Manufacturing					
Food Product Manufacturing - 11	Meat and Meat Product Manufacturing	111			
	Meat Processing	1111			5.3.2
	Poultry Processing	1112			5.3.2
	Cured Meat and Smallgoods Manufacturing	1113			5.3.2
	Seafood Processing	112			
	Seafood Processing	1120			5.3.2
	Dairy Product Manufacturing	113			
	Milk and Cream Processing	1131			5.3.2
	Ice Cream Manufacturing	1132			5.3.2
	Cheese and Other Dairy Product Manufacturing	1133			5.3.2
	Fruit and Vegetable Processing	114			
	Fruit and Vegetable Processing	1140			5.3.2
	Oil and Fat Manufacturing	115			
	Oil and Fat Manufacturing	1150			5.3.2
	Grain Mill and Cereal Product Manufacturing	116			
	Grain Mill Product Manufacturing	1161			5.3.2, 5.3.4
	Cereal, Pasta and Baking Mix Manufacturing	1162			5.3.2

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Bakery Product Manufacturing	117			
	Bread Manufacturing (Factory based)	1171			5.3.2
	Cake and Pastry Manufacturing (Factory based)	1172			5.3.2
	Biscuit Manufacturing (Factory based)	1173			5.3.2
	Bakery Product Manufacturing (Non-factory based)	1174			5.3.2
	Sugar and Confectionery Manufacturing	118			
	Sugar Manufacturing	1181			5.3.2
	Confectionery Manufacturing	1182			5.3.2
	Other Food Product Manufacturing	119			
	Potato, Corn and Other Crisp Manufacturing	1191			5.3.2
	Prepared Animal and Bird Feed Manufacturing	1192			5.3.2
	Other Food Product Manufacturing n.e.c.	1199			5.3.2
Beverage and Tobacco Product Manufacturing - 12	Beverage Manufacturing	121			
	Soft Drink, Cordial and Syrup Manufacturing	1211			5.3.2
	Beer Manufacturing	1212			5.3.2
	Spirit Manufacturing	1213			5.3.2
	Wine and Other Alcoholic Beverage Manufacturing	1214			5.3.2
	Cigarette and Tobacco Product Manufacturing	122			
	Cigarette and Tobacco Product Manufacturing	1220			5.3.2
Textile, Leather, Clothing and Footwear Manufacturing - 13	Textile Manufacturing	131			
	Wool Scouring	1311			5.3.1
	Natural Textile Manufacturing	1312			5.3.1
	Synthetic Textile Manufacturing	1313			5.3.1

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Leather Tanning, Fur Dressing and Leather Product Manufacturing	132			
	Leather Tanning, Fur Dressing and Leather Product Manufacturing	1320			5.3.1
	Textile Product Manufacturing	133			
	Textile Floor Covering Manufacturing	1331			5.3.1
	Rope, Cordage and Twine Manufacturing	1332			5.3.1
	Cut and Sewn Textile Product Manufacturing	1333			5.3.1
	Textile Finishing and Other Textile Product Manufacturing	1334			5.3.1
	Knitted Product Manufacturing	134			
	Knitted Product Manufacturing	1340			5.3.1
	Clothing and Footwear Manufacturing	135			
	Clothing Manufacturing	1351			5.3.1
	Footwear Manufacturing	1352			5.3.1
Wood Products Manufacturing – 14	Log Sawmilling and Timber Dressing	141			
	Log Sawmilling	1411			5.3.7
	Wood Chipping	1412			5.3.7
	Timber Resawing and Dressing	1413			5.3.7
	Other Wood Product Manufacturing	149			
	Prefabricated Wooden Building Manufacturing	1491			5.3.1
	Wooden Structural Fitting and Component Manufacturing	1492			5.3.1
	Veneer and Plywood Manufacturing	1493			5.3.1
	Reconstituted Wood Product Manufacturing	1494			5.3.1
	Other Wood Product Manufacturing n.e.c.	1499			5.3.1
Pulp, Paper and Converted Paper Product Manufacturing - 15	Pulp, Paper and Paperboard Manufacturing	151			

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Pulp, Paper and Paperboard Manufacturing	1510			5.3.1
	Converted Paper Product Manufacturing	152			
	Corrugated Paperboard and Paperboard Container Manufacturing	1521			5.3.1
	Paper Bag Manufacturing	1522			5.3.1
	Paper Stationery Manufacturing	1523			5.3.1
	Sanitary Paper Product Manufacturing	1524			5.3.1
	Other Converted Paper Product Manufacturing	1529			5.3.1
Printing (Including the Reproduction of Recorded Media) – 16	Printing and Printing Support Services	161			
	Printing	1611			5.3.1
	Printing Support Services	1612			5.3.1
	Reproduction of Recorded Media	162			
	Reproduction of Recorded Media	1620			5.3.1
Petroleum and Coal Product Manufacturing - 17	Petroleum and Coal Product Manufacturing	170			
	Petroleum Refining and Petroleum Fuel Manufacturing	1701			5.3.6
	Other Petroleum and Coal Product Manufacturing	1709			5.3.6
Basic Chemical and Chemical Product Manufacturing - 18	Basic Chemical Manufacturing	181			
	Industrial Gas Manufacturing	1811			5.3.1
	Basic Organic Chemical Manufacturing	1812			5.3.1
	Basic Inorganic Chemical Manufacturing	1813			5.3.1
	Basic Polymer Manufacturing	182			
	Synthetic Resin and Synthetic Rubber Manufacturing	1821			5.3.1
	Other Basic Polymer Manufacturing	1829			5.3.1

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Fertiliser and Pesticide Manufacturing	183			
	Fertiliser Manufacturing	1831			5.3.1
	Pesticide Manufacturing	1832			5.3.1
	Pharmaceutical and Medicinal Product Manufacturing	184			
	Human Pharmaceutical and Medicinal Product Manufacturing	1841			5.3.1
	Veterinary Pharmaceutical and Medicinal Product Manufacturing	1842			5.3.1
	Cleaning Compound and Toiletry Preparation Manufacturing	185			
	Cleaning Compound Manufacturing	1851			5.3.1
	Cosmetic and Toiletry Preparation Manufacturing	1852			5.3.1
	Other Basic Chemical Product Manufacturing	189			
	Photographic Chemical Product Manufacturing	1891			5.3.1
	Explosive Manufacturing	1892			5.3.1
	Other Basic Chemical Product Manufacturing n.e.c.	1899			5.3.1
Polymer Product and Rubber Product Manufacturing – 19	Polymer Product and Manufacturing	191			
	Polymer Film and Sheet Packaging Material Manufacturing	1911			5.3.1
	Rigid and Semi-Rigid Polymer Product Manufacturing	1912			5.3.1
	Polymer Foam Product Manufacturing	1913			5.3.1
	Tyre Manufacturing	1914			5.3.1
	Adhesive Manufacturing	1915			5.3.1
	Paint and Coatings Manufacturing	1916			5.3.1
	Other Polymer Product Manufacturing	1919			5.3.1
	Natural Rubber Product Manufacturing	192			

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Natural Rubber Product Manufacturing	1920			5.3.1
Non-Metallic Mineral Product Manufacturing - 20	Glass and Glass Product Manufacturing	201			
	Glass and Glass Product Manufacturing	2010			5.3.1
	Ceramic Product Manufacturing	202			
	Clay Brick Manufacturing	2021			5.3.1
	Other Ceramic Product Manufacturing	2029			5.3.1
	Cement, Lime, Plaster and Concrete Product Manufacturing	203			
	Cement and Lime Manufacturing	2031			5.3.1
	Plaster Product Manufacturing	2032			5.3.1
	Ready-Mixed Concrete Manufacturing	2033			5.3.1
	Concrete Product Manufacturing	2034			5.3.1
	Other Non-Metallic Mineral Product Manufacturing	209			
	Other Non-Metallic Mineral Product Manufacturing	2090			5.3.1
Primary Metal and Metal Product Manufacturing - 21	Basic Ferrous Metal Manufacturing	211			
	Iron Smelting and Steel Manufacturing	2110			5.3.1
	Basic Ferrous Metal Product Manufacturing	212			
	Iron and Steel Casting	2121			5.3.1
	Steel Pipe and Tube Manufacturing	2122			5.3.1
	Basic Non-Ferrous Metal Manufacturing	213			
	Alumina Production	2131			5.3.1
	Aluminium Smelting	2132			5.3.1
	Copper, Silver, Lead and Zinc Smelting and Refining	2133			5.3.1
	Other Basic Non-Ferrous Metal Manufacturing	2139			5.3.1

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Description		Code	Dryland	Irrigated	Other
	Basic Non-Ferrous Metal Product Manufacturing	214			
	Non-Ferrous Metal Casting	2141			5.3.1
	Aluminium Rolling, Drawing, Extruding	2142			5.3.1
	Other Basic Non-Ferrous Metal Product Manufacturing	2149			5.3.1
Fabricated Metal Product Manufacturing - 22	Iron and Steel Forging	221			
	Iron and Steel Forging	2210			5.3.1
	Structural Metal Product Manufacturing	222			
	Structural Steel Fabricating	2221			5.3.1
	Prefabricated Metal Building Manufacturing	2222			5.3.1
	Architectural Aluminium Product Manufacturing	2223			5.3.1
	Metal Roof and Guttering Manufacturing (except Aluminium)	2224			5.3.1
	Other Structural Metal Product Manufacturing	2229			5.3.1
	Metal Container Manufacturing	223			
	Boiler, Tank and Other Heavy Gauge Metal Container Manufacturing	2231			5.3.1
	Other Metal Container Manufacturing	2239			5.3.1
	Sheet Metal Product Manufacturing (except Metal Structural and Container Products)	224			
	Sheet Metal Product Manufacturing (except Metal Structural and Container Products)	2240			5.3.1
	Other Fabricated Metal Product Manufacturing	229			
	Spring and Wire Product Manufacturing	2291			5.3.1
	Nut, Bolt, Screw and Rivet Manufacturing	2292			5.3.1
	Metal Coating and Finishing	2293			5.3.1

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Description		Code	Dryland	Irrigated	Other
	Other Fabricated Metal Product Manufacturing n.e.c.	2299			5.3.1
Transport Equipment Manufacturing - 23	Motor Vehicle and Motor Vehicle Part Manufacturing	231			
	Motor Vehicle Manufacturing	2311			5.3.1
	Motor Vehicle Body and Trailer Manufacturing	2312			5.3.1
	Automotive Electrical Component Manufacturing	2313			5.3.1
	Other Motor Vehicle Parts Manufacturing	2319			5.3.1
	Other Transport Equipment Manufacturing	239			
	Shipbuilding and Repair Services	2391			5.3.1
	Boatbuilding and Repair Services	2392			5.3.1
	Railway Rolling Stock Manufacturing and Repair Services	2393			5.3.1
	Aircraft Manufacturing and Repair Services	2394			5.3.1
	Other Transport Equipment Manufacturing n.e.c.	2399			5.3.1
Machinery and Equipment Manufacturing - 24	Professional and Scientific Equipment Manufacturing	241			
	Photographic, Optical and Ophthalmic Equipment Manufacturing	2411			5.3.1
	Medical and Surgical Equipment Manufacturing	2412			5.3.1
	Other Professional and Scientific Equipment Manufacturing	2419			5.3.1
	Computer and Electronic Equipment Manufacturing	242			
	Computer and Electronic Office Equipment Manufacturing	2421			5.3.1
	Communication Equipment Manufacturing	2422			5.3.1
	Other Electronic Equipment Manufacturing	2429			5.3.1
	Electrical Equipment Manufacturing	243			

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Electric Cable and Wire Manufacturing	2431			5.3.1
	Electric Lighting Equipment Manufacturing	2432			5.3.1
	Other Electrical Equipment Manufacturing	2439			5.3.1
	Domestic Appliance Manufacturing	244			
	Whiteware Appliance Manufacturing	2441			5.3.1
	Other Domestic Appliance Manufacturing	2449			5.3.1
	Pump, Compressor, Heating and Ventilation Equipment Manufacturing	245			
	Pump and Compressor Manufacturing	2451			5.3.1
	Fixed Space Heating, Cooling and Ventilation Equipment Manufacturing	2452			5.3.1
	Specialised Machinery and Equipment Manufacturing	246			
	Agricultural Machinery and Equipment Manufacturing	2461			5.3.1
	Mining and Construction Machinery Manufacturing	2462			5.3.1
	Machine Tool and Parts Manufacturing	2463			5.3.1
	Other Specialised Machinery and Equipment Manufacturing	2469			5.3.1
	Other Machinery and Equipment Manufacturing	249			
	Lifting and Material Handling Equipment Manufacturing	2491			5.3.1
	Other Machinery and Equipment Manufacturing n.e.c.	2499			5.3.1
Furniture and Other Manufacturing - 25	Furniture Manufacturing	251			
	Wooden Furniture and Upholstered Seat Manufacturing	2511			5.3.1
	Metal Furniture Manufacturing	2512			5.3.1
	Mattress Manufacturing	2513			5.3.1
	Other Furniture Manufacturing	2519			5.3.1

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Other Manufacturing	259			
	Jewellery and Silverware Manufacturing	2591			5.3.1
	Toy, Sporting and Recreational Product Manufacturing	2592			5.3.1
	Other Manufacturing n.e.c.	2599			5.3.1
D Electricity, Gas, Water and Waste Services					
Electricity Supply - 26	Electricity Generation	261			
	Fossil Fuel Electricity Generation	2611			5.6.1
	Hydro-Electricity Generation	2612			5.6.2
	Other Electricity Generation	2619			5.6.0
	Electricity Transmission	262			
	Electricity Transmission	2620			5.6.5
	Electricity Distribution	263			
	Electricity Distribution	2630			5.6.5
	On Selling Electricity and Electricity Market Operation	264			
	On Selling Electricity and Electricity Market Operation	2640			5.5.1
Gas Supply - 27	Gas Supply	270			
	Gas Supply	2700			5.6.6
Water Supply, Sewerage and Drainage Services - 28	Water Supply, Sewerage and Drainage Services	281			
	Water Supply	2811			5.6.7
	Sewerage and Drainage Services	2812			5.9.5
Waste Collection, Treatment and Disposal Services - 29	Waste Collection Services	291			
	Solid Waste Collection Services	2911			5.9.3
	Other Waste Collection Services	2919			5.9.0
	Waste Treatment, Disposal and Remediation Services	292			
	Waste Treatment and Disposal Services	2921			5.9.0

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Waste Remediation and Materials Recovery Services	2922			5.9.0
E Construction					
Building Construction - 30	Residential Building Construction	301			
	House Construction	3011			5.4.1
	Other Residential Building Construction	3019			5.4.0
	Non-Residential Building Construction	302			
	Non-Residential Building Construction	3020			5.5.0
Heavy and Civil Engineering Construction - 31	Heavy and Civil Engineering Construction	310			
	Road and Bridge Construction	3101			5.7.2
	Other Heavy and Civil Engineering Construction	3109			5.3.0
Construction Services - 32	Land Development and Site Preparation Services	321			
	Land Development and Subdivision	3211			5.4.0
	Site Preparation Services	3212			5.5.1
	Building Structure Services	322			
	Concreting Services	3221			5.5.1
	Bricklaying Services	3222			5.5.1
	Roofing Services	3223			5.5.1
	Structural Steel Erection Services	3221			5.5.1
	Building Installation Services	323			
	Plumbing Services	3231			5.5.1
	Electrical Services	3232			5.5.1
	Air Conditioning and Heating Services	3233			5.5.1
	Fire and Security Alarm Installation Services	3234			5.5.1
	Other Building Installation Services	3239			5.5.1
	Building Completion Services	324			
	Plastering and Ceiling Services	3241			5.5.1
	Carpentry Services	3242			5.5.1

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Tiling and Carpeting Services	3243			5.5.1
	Painting and Decorating Services	3244			5.5.1
	Glazing Services	3245			5.5.1
	Other Construction Services	329			
	Landscape Construction Services	3291			5.5.1
	Hire of Construction Machinery with Operator	3292			5.5.1
	Other Construction Services n.e.c.	3299			5.5.1
F Wholesale Trade					
Basic Material Wholesaling - 33	Agricultural Product Wholesaling	331			
	Wool Wholesaling	3311			5.5.1
	Cereal Grain Wholesaling	3312			5.5.1
	Other Agricultural Product Wholesaling	3319			5.5.1
	Mineral, Metal and Chemical Wholesaling	332			
	Petroleum Product Wholesaling	3321			5.5.1
	Metal and Mineral Wholesaling	3322			5.5.1
	Industrial and Agricultural Chemical Product Wholesaling	3323			5.5.1
	Timber and Hardware Goods Wholesaling	333			
	Timber Wholesaling	3331			5.5.1
	Plumbing Goods Wholesaling	3332			5.5.1
	Other Hardware Goods Wholesaling	3339			5.5.1
Machinery and Equipment Wholesaling - 34	Specialised Industrial Machinery and Equipment Wholesaling	341			
	Agricultural and Construction Machinery Wholesaling	3411			5.5.1
	Other Specialised Industrial Machinery and Equipment Wholesaling	3419			5.5.1
	Other Machinery and Equipment Wholesaling	349			
	Professional and Scientific Goods Wholesaling	3491			5.5.1

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Computer and Computer Peripheral Wholesaling	3492			5.5.1
	Telecommunication Goods Wholesaling	3493			5.5.1
	Other Electrical and Electronic Goods Wholesaling	3494			5.5.1
	Other Machinery and Equipment Wholesaling n.e.c.	3499			5.5.1
Motor Vehicle and Motor Vehicle Parts Wholesaling - 35	Motor Vehicle and Motor Vehicle Parts Wholesaling	350			
	Car Wholesaling	3501			5.5.1
	Commercial Vehicle Wholesaling	3502			5.5.1
	Trailer and Other Motor Vehicle Wholesaling	3503			5.5.1
	Motor Vehicle New Parts Wholesaling	3504			5.5.1
	Motor Vehicle Dismantling and Used Parts Wholesaling	3505			5.5.1
Grocery, Liquor and Tobacco Product Wholesaling - 36	Grocery, Liquor and Tobacco Product Wholesaling	360			
	General Line Grocery Wholesaling	3601			5.5.1
	Meat, Poultry and Smallgoods Wholesaling	3602			5.5.1
	Dairy Produce Wholesaling	3603			5.5.1
	Fish and Seafood Wholesaling	3604			5.5.1
	Fruit and Vegetable Wholesaling	3605			5.5.1
	Liquor and Tobacco Product Wholesaling	3606			5.5.1
	Other Grocery Wholesaling	3609			5.5.1
Other Goods Wholesaling - 37	Textile, Clothing and Footwear Wholesaling	371			
	Textile Product Wholesaling	3711			5.5.1
	Clothing and Footwear Wholesaling	3712			5.5.1
	Pharmaceutical and Toiletry Goods Wholesaling	372			
	Pharmaceutical and Toiletry Goods Wholesaling	3720			5.5.1

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Description		Code	Dryland	Irrigated	Other
	Furniture, Floor Covering and Other Goods Wholesaling	373			
	Furniture and Floor Covering Wholesaling	3731			5.5.1
	Jewellery and Watch Wholesaling	3732			5.5.1
	Kitchen and Diningware Wholesaling	3733			5.5.1
	Toy and Sporting Goods Wholesaling	3734			5.5.1
	Book and Magazine Wholesaling	3735			5.5.1
	Paper Product Wholesaling	3736			5.5.1
	Other Goods Wholesaling n.e.c.	3739			5.5.1
Commission-Based Wholesaling - 38	Commission-Based Wholesaling	380			
	Commission-Based Wholesaling	3800			5.5.1
G Retail Trade					
Motor Vehicle and Motor Vehicle Parts Retailing - 39	Motor Vehicle Retailing	391			
	Car Retailing	3911			5.5.1
	Motor Cycle Retailing	3912			5.5.1
	Trailer and Other Motor Vehicle Retailing	3913			5.5.1
	Motor Vehicle Parts and Tyre Retailing	392			
	Motor Vehicle Parts Retailing	3921			5.5.1
	Tyre Retailing	3922			5.5.1
Fuel Retailing - 40	Fuel Retailing	400			
	Fuel Retailing	4000			5.5.1
Food Retailing - 41	Supermarket and Grocery Stores	411			
	Supermarket and Grocery Stores	4110			5.5.1
	Specialised Food Retailing	412			
	Fresh Meat, Fish and Poultry Retailing	4121			5.5.1
	Fruit and Vegetable Retailing	4122			5.5.1
	Liquor Retailing	4123			5.5.1

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Other Specialised Food Retailing	4129			5.5.1
Other Store-Based Retailing - 42	Furniture, Floor Coverings, Houseware and Textile Goods Retailing	421			
	Furniture Retailing	4211			5.5.1
	Floor Coverings Retailing	4212			5.5.1
	Houseware Retailing	4213			5.5.1
	Manchester and Other Textile Goods Retailing	4214			5.5.1
	Electrical and Electronic Goods Retailing	422			
	Electrical, Electronic and Gas Appliance Retailing	4221			5.5.1
	Computer and Computer Peripheral Retailing	4222			5.5.1
	Other Electrical and Electronic Goods Retailing	4229			5.5.1
	Hardware, Building and Garden Supplies Retailing	423			
	Hardware and Building Supplies Retailing	4231			5.5.1
	Garden Supplies Retailing	4232			5.5.1
	Recreational Goods Retailing	424			
	Sport and Camping Equipment Retailing	4241			5.5.1
	Entertainment Media Retailing	4242			5.5.1
	Toy and Game Retailing	4243			5.5.1
	Newspaper and Book Retailing	4244			5.5.1
	Marine Equipment Retailing	4245			5.5.1
	Clothing, Footwear and Personal Accessory Retailing	425			
	Clothing Retailing	4251			5.5.1
	Footwear Retailing	4252			5.5.1
	Watch and Jewellery Retailing	4253			5.5.1
	Other Personal Accessory Retailing	4259			5.5.1
	Department Stores	426			
	Department Stores	4260			5.5.1
	Pharmaceutical and Other Store-Based Retailing	427			

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Description		Code	Dryland	Irrigated	Other
	Pharmaceutical, Cosmetic and Toiletry Goods Retailing	4271			5.5.1
	Stationery Goods Retailing	4272			5.5.1
	Antique and Used Goods Retailing	4273			5.5.1
	Flower Retailing	4274			5.5.1
	Other Store-Based Retailing n.e.c	4279			5.5.1
Non-Store Retailing and Retail Commission Based Buying and/or Selling - 43	Non-Store Retailing	431			
	Non-Store Retailing	4310			5.5.1
	Retail Commission-Based Buying and/or Selling	432			
	Retail Commission-Based Buying and/or Selling	4320			5.5.1
H Accommodation and Food Services					
Accommodation - 44	Accommodation	440			
	Accommodation	4400			5.4.0
Food and Beverage Services - 45	Cafes, Restaurants and Takeaway Food Services	451			
	Cafes and Restaurants	4511			5.5.1
	Takeaway Food Services	4512			5.5.1
	Catering Services	4513			5.5.1
	Pubs, Taverns and Bars	452			
	Pubs, Taverns and Bars	4520			5.5.1
	Clubs (Hospitality)	453			
	Clubs (Hospitality)	4530			5.5.1
I Transport, Postal and Warehousing					
Road Transport - 46	Road Freight Transport	461			
	Road Freight Transport	4610			5.5.1
	Road Passenger Transport	462			
	Interurban and Rural Bus Transport	4621			5.5.1
	Urban Bus Transport (Including Tramway)	4622			5.5.1
	Taxi and Other Road Transport	4623			5.5.1

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Description		Code	Dryland	Irrigated	Other
Rail Transport - 47	Rail Freight Transport	471			
	Rail Freight Transport	4710			5.7.3
	Rail Passenger Transport	472			
	Rail Passenger Transport	4720			5.7.3
Water Transport - 48	Water Freight Transport	481			
	Water Freight Transport	4810			5.7.4
	Water Passenger Transport	482			
	Water Passenger Transport	4820			5.7.4
Air and Space Transport - 49	Air and Space Transport	490			
	Air and Space Transport	4900			5.7.1
Other Transport - 50	Scenic and Sightseeing Transport	501			
	Scenic and Sightseeing Transport	5010			5.5.1
	Pipeline and Other Transport	502			
	Pipeline Transport	5021			5.6.0
	Other Transport n.e.c.	5029			5.7.0
Postal and Courier Pick-up and Delivery Services - 51	Postal and Courier Pick-up and Delivery Services	510			
	Postal Services	5101			5.5.1
	Courier Pick-up and Delivery Services	5102			5.5.1
Transport Support Services - 52	Water Transport Support Services	521			
	Stevedoring Services	5211			5.5.1
	Port and Water Transport Terminal Operations	5212			5.5.1
	Other Water Transport Support Services	5219			5.5.1
	Airport Operations and Other Air Transport Support Services	522			
	Airport Operations and Other Air Transport Support Services	5220			5.5.1
	Other Transport Support Services	529			
	Customs Agency Services	5291			5.5.1
	Freight Forwarding Services	5292			5.5.1

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Description		Code	Dryland	Irrigated	Other
	Other Transport Support Services n.e.c.	5299			5.5.1
Warehousing and Storage Services - 53	Warehousing and Storage Services	530			
	Grain Storage Services	5301			5.5.1
	Other Warehousing and Storage Services	5309			5.5.1
J Information Media and Telecommunications					
Publishing (except Internet and Music Publishing) - 54	Newspaper, Periodical, Book and Directory Publishing	541			
	Newspaper Publishing	5411			5.5.1
	Magazine and Other Periodical Publishing	5412			5.5.1
	Book Publishing	5413			5.5.1
	Directory and Mailing List Publishing	5414			5.5.1
	Other Publishing (except Software, Music and Internet)	5419			5.5.1
	Software Publishing	542			
	Software Publishing	5420			5.5.1
Motion Picture and Sound Recording Activities - 55	Motion Picture and Video Activities	551			
	Motion Picture and Video Production	5511			5.5.1
	Motion Picture and Video Distribution	5512			5.5.1
	Motion Picture Exhibition	5513			5.5.1
	Post-production Services and Other Motion Picture and Video Activities	5514			5.5.1
	Sound Recording and Music Publishing	552			
	Music Publishing	5521			5.5.1
	Music and Other Sound Recording Activities	5522			5.5.1
Broadcasting (except Internet) - 56	Radio Broadcasting	561			
	Radio Broadcasting	5610			5.5.1
	Television Broadcasting	562			

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Description		Code	Dryland	Irrigated	Other
	Free-to-Air Television Broadcasting	5621			5.5.1
	Cable and Other Subscription Broadcasting	5622			5.5.1
Internet Publishing and Broadcasting - 57	Internet Publishing and Broadcasting	57			
	Internet Publishing and Broadcasting	5700			5.5.1
Telecommunications Services - 58	Telecommunications Services	580			
	Wired Telecommunications Network Operation	5801			5.7.5
	Other Telecommunications Network Operation	5802			5.7.5
	Other Telecommunications Services	5809			5.7.5
Internet Service Providers, Web Search Portals and Data Processing Services - 59	Internet Service Providers and Web Search Portals	591			
	Internet Service Providers and Web Search Portals	5910			5.5.1
	Data Processing, Web Hosting and Electronic Information Storage Services	592			
	Data Processing and Web Hosting Services	5921			5.5.1
	Electronic Information Storage Services	5922			5.5.1
Library and Other Information Services - 60	Libraries and Archives	601			
	Libraries and Archives	6010			5.5.1, 5.5.2
	Other Information Services	602			
	Other Information Services	6020			5.5.1
K Financial and Insurance Services					
Finance - 62	Central Banking	621			
	Central Banking	6210			5.5.1
	Depository Financial Intermediation	622			
	Banking	6221			5.5.1
	Building Society Operation	6222			5.5.1

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Description		Code	Dryland	Irrigated	Other
	Credit Union Operation	6223			5.5.1
	Other Depository Financial Intermediation	6229			5.5.1
	Non-Depository Financing	623			
	Non-Depository Financing	6230			5.5.1
	Financial Asset Investing	624			
	Financial Asset Investing	6240			5.5.1
Insurance and Superannuation Funds - 63	Life Insurance	631			
	Life Insurance	6310			5.5.1
	Health and General Insurance	632			
	Health Insurance	6321			5.5.1
	General Insurance	6322			5.5.1
	Superannuation Funds	633			
	Superannuation Funds	6330			5.5.1
Auxiliary Finance and Insurance Services - 64	Auxiliary Finance and Insurance Services	641			
	Financial Asset Broking Services	6411			5.5.1
	Other Auxiliary Finance and Investment Services	6419			5.5.1
	Auxiliary Insurance Services	642			
	Auxiliary Insurance Services	6420			5.5.1
L Rental, Hiring and Real Estate Services					
Rental, Hiring and Real Estate Services - 66	Motor Vehicle and Transport Equipment Rental and Hiring	661			
	Passenger Car Rental and Hiring	6611			5.5.1
	Other Motor Vehicle and Transport Equipment Rental and Hiring	6619			5.5.1
	Farm Animal and Bloodstock Leasing	662			
	Farm Animal and Bloodstock Leasing	6620			5.5.1
	Other Goods and Equipment Rental and Hiring	663			
	Heavy Machinery and Scaffolding Rental and Hiring	6631			5.5.1

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Description		Code	Dryland	Irrigated	Other
	Video and Other Electronic Media Rental and Hiring	6632			5.5.1
	Other Goods and Equipment Rental and Hiring n.e.c.	6639			5.5.1
	Non-Financial Intangible Assets (Except Copyrights) Leasing	664			
	Non-Financial Intangible Assets (Except Copyrights) Leasing	6640			5.5.1
Property Operators and Real Estate Services - 67	Property Operators	671			
	Residential Property Operators	6711			5.5.1
	Non-Residential Property Operators	6712			5.5.1
	Real Estate Services	672			
	Real Estate Services	6720			5.5.1
M Professional, Scientific and Technical Services					
Professional, Scientific and Technical Services (Except Computer System Design and Related Services - 69	Scientific Research Services	691			
	Scientific Research Services	6910			5.5.5
	Architectural, Engineering and Technical Services	692			
	Architectural Services	6921			5.5.1
	Surveying and Mapping Services	6922			5.5.1
	Engineering Design and Engineering Consulting Services	6923			5.5.1
	Other Specialised Design Services	6924			5.5.1
	Scientific Testing and Analysis Services	6925			5.5.1
	Legal and Accounting Services	693			
	Legal Services	6931			5.5.1
	Accounting Services	6932			5.5.1
	Advertising Services	694			
	Advertising Services	6940			5.5.1

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Market Research and Statistical Services	695			
	Market Research and Statistical Services	6950			5.5.1
	Management and Related Consulting Services	696			
	Corporate Head Office Management Services	6961			5.5.1
	Management Advice and Related Consulting Services	6962			5.5.1
	Veterinary Services	697			
	Veterinary Services	6970			5.5.1
	Other Professional, Scientific and Technical Services	699			
	Professional Photographic Services	6991			5.5.1
	Other Professional, Scientific and Technical Services n.e.c.	6999			5.5.1
Computer System Design and Related Services - 70	Computer System Design and Related Services	700			
	Computer System Design and Related Services	7000			5.5.1
N Administrative and Support Services					
Administrative Services - 72	Employment Services	721			
	Employment Placement and Recruitment Services	7211			5.5.1
	Labour Supply Services	7212			5.5.1
	Travel Agency and Tour Arrangement Services	722			
	Travel Agency and Tour Arrangement Services	7220			5.5.1
	Other Administrative Services	729			
	Office Administrative Services	7291			5.5.1
	Document Preparation Services	7292			5.5.1
	Credit Reporting and Debt Collection Services	7293			5.5.1
	Call Centre Operation	7294			5.5.1
	Other Administrative Services n.e.c.	7299			5.5.1

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
Building Cleaning, Pest Control and Other Support Services - 73	Building Cleaning, Pest Control and Gardening Services	731			
	Building and Other Industrial Cleaning Services	7311			5.5.1
	Building Pest Control Services	7312			5.5.1
	Gardening Services	7313			5.5.1
	Packaging Services	732			
	Packaging Services	7320			5.5.1
O Public Administration and Safety					
Public Administration - 75	Central Government Administration	751			
	Central Government Administration	7510			5.5.2
	State Government Administration	752			
	State Government Administration	7520			5.5.2
	Local Government Administration	753			
	Local Government Administration	7530			5.5.2
	Justice	754			
	Justice	7540			5.5.2
	Government Representation	755			
	Domestic Government Representation	7551			5.5.2
	Foreign Government Representation	7552			5.5.2
Defence - 76	Defence	760			
	Defence	7600			5.5.4 or 1.3.1
Public Order, Safety and Regulatory Services - 77	Public Order and Safety Services	771			
	Police Services	7711			5.5.2
	Investigation and Security Services	7712			5.5.2
	Fire Protection and Other Emergency Services	7713			5.5.2

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Correctional and Detention Services	7714			5.5.2
	Other Public Order and Safety Services	7719			5.5.2
	Regulatory Services	772			
	Regulatory Services	7720			5.5.2
P Education and Training					
Preschool and School Education – 80	Preschool Education	801			
	Preschool Education	8010			5.5.2
	School Education	802			
	Primary Education	8021			5.5.2
	Secondary Education	8022			5.5.2
	Combined Primary and Secondary Education	8023			5.5.2
	Special School Education	8024			5.5.2
Tertiary Education – 81	Tertiary Education	810			
	Technical and Vocational Education and Training	8101			5.5.2
	Higher Education	8102			5.5.2
Adult, Community and Other Education – 82	Adult, Community and Other Education	821			
	Sports and Physical Recreation Instruction	8211			5.5.2
	Arts Education	8212			5.5.2
	Adult, Community and Other Education n.e.c.	8219			5.5.2
	Educational Support Services	822			
	Educational Support Services	8220			5.5.2
Q Health Care and Social Assistance					
Hospitals – 84	Hospitals	840			
	Hospitals (Except Psychiatric Hospitals)	8401			5.5.2
	Psychiatric Hospitals	8402			5.5.2
Medical and Other Health Care Services – 85	Medical Services	851			
	General Practice Medical Services	8511			5.5.1

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Specialist Medical Services	8512			5.5.1
	Pathology and Diagnostic Imaging Services	852			
	Pathology and Diagnostic Imaging Services	8520			5.5.1
	Allied Health Services	853			
	Dental Services	8531			5.5.1
	Optometry and Optical Dispensing	8532			5.5.1
	Physiotherapy Services	8533			5.5.1
	Chiropractic and Osteopathic Services	8534			5.5.1
	Other Allied Health Services	8539			5.5.1
	Other Health Care Services	859			
	Ambulance Services	8591			5.5.1
	Other Health Care Services n.e.c.	8599			5.5.1
Residential Care Services - 86	Residential Care Services	860			
	Aged Care Residential Services	8601			5.4.1
	Other Residential Care Services	8609			5.4.1
Social Assistance Services - 87	Child Care Services	871			
	Child Care Services	8710			5.5.1
	Other Social Assistance Services	879			5.5.1
	Other Social Assistance Services	8790			5.5.1
R Arts and Recreation Services					
Heritage Activities - 89	Museum Operation	891			
	Museum Operation	8910			5.5.3
	Parks and Gardens Operations	892			
	Zoological and Botanical Gardens Operation	8921			5.5.3
	Nature Reserves and Conservation Parks Operation	8922			5.5.3
Creative and Performing Arts Activities - 90	Creative and Performing Arts Activities	900			
	Performing Arts Operation	9001			5.5.3

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Creative Artists, Musicians, Writers and Performers	9002			5.5.3
	Performing Arts Venue Operation	9003			5.5.3
Sports and Recreation Activities - 91	Sports and Physical Recreation Activities	911			
	Health and Fitness Centres and Gymnasia Operation	9111			5.5.3
	Sports and Physical Recreation Clubs and Sports Professionals	9112			5.5.3
	Sports and Physical Recreation Venues, Grounds and Facilities Operation	9113			5.5.3
	Sports and Physical Recreation Administrative Service	9114			5.5.3
	Horse and Dog Racing Activities	912			
	Horse and Dog Racing Administration and Track Operation	9121			5.5.3
	Other Horse and Dog Racing Activities	9129			5.5.3
	Amusement and Other Recreation Activities	913			
	Amusement Parks and Centres Operation	9131			5.5.3
	Amusement and Other Recreational Activities n.e.c.	9139			5.5.3
Gambling Activities - 92	Gambling Activities	920			
	Casino Operation	9201			5.5.3
	Lottery Operation	9202			5.5.3
	Other Gambling Activities	9209			5.5.3
S Other Services					
Repair and Maintenance - 94	Automotive Repair and Maintenance	941			
	Automotive Electrical Services	9411			5.5.1
	Automotive Body, Paint and Interior Repair	9412			5.5.1
	Other Automotive Repair and Maintenance	9419			5.5.1

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
	Machinery and Equipment Repair and Maintenance	942			
	Domestic Appliance Repair and Maintenance	9421			5.5.1
	Electronic (except Domestic Appliance) and Precision Equipment Repair and Maintenance	9422			5.5.1
	Other Machinery and Equipment Repair and Maintenance	9429			5.5.1
	Other Repair and Maintenance	949			
	Clothing and Footwear Repair	9491			5.5.1
	Other Repair and Maintenance n.e.c.	9199			5.5.1
Personal and Other Services - 95	Personal Care Services	951			
	Hairdressing and Beauty Services	9511			5.5.1
	Diet and Weight Reduction Centre Operation	9512			5.5.1
	Funeral, Crematorium and Cemetery Services	952			
	Funeral, Crematorium and Cemetery Services	9520			5.5.1
	Other Personal Services	953			
	Laundry and Dry-Cleaning Services	9531			5.5.1
	Photographic Film Processing	9532			5.5.1
	Parking Services	9533			5.5.1
	Brothel Keeping and Prostitution Services	9534			5.5.1
	Other Personal Services n.e.c.	9539			5.5.1
	Religious Services	954			
	Religious Services	9540			5.5.1
	Civic, Professional and Other Interest Group Services	955			
	Business and Professional Association Services	9551			5.5.1
	Labour Association Services	9552			5.5.1
	Other Interest Group Services n.e.c.	9559			5.5.1

ANZSIC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
Private Households Employing Staff and Undifferentiated Goods- and Service-Producing Activities of Households for Own Use - 96	Private Households Employing Staff and Undifferentiated Goods- and Service-Producing Activities of Households for Own Use	960			
	Private Households Employing Staff	9601			5.5.1
	Undifferentiated Goods-Producing Activities of Private Households for Own Use	9602			5.5.1
	Undifferentiated Service-Producing Activities of Private Households for Own Use	9603			5.5.1

ALUM = Australian Land Use and Management, ANZSIC = Australian and New Zealand Standard Industrial Classification 2006 codes (revision 2 2013)

Appendix 3 Conversion of AVPCC codes 2014 to ALUM Classification version 8

AVPCC			ALUM code version 8		
Description		Code	Dryland	Irrigated	Other
1 Residential (Accommodation – primarily owner/occupied)					
Residential Use Development Land - 10	Vacant Residential Dwelling Site/Surveyed Lot	100			5.4.0
	Residential Development Site	101			5.4.1
	Vacant In globo Residential Subdivisional Land	102			5.4.0
	Vacant Residential Rural/Rural Lifestyle	103			5.4.3
	Residential Airspace	109			5.4.0
Single Residential Accommodation - 11	Detached Dwelling	110			5.4.1
	Separate Dwelling and Curtilage	111			5.4.1
	Semi-Detached/Terrace/Row House	112			5.4.1
	Granny Flat/Studio	113			5.4.1
	Dwelling and Dependant Unit	114			5.4.1
	Shack/Hut/Donga	115			5.4.0
	Cabin/Accommodation (rental/leased individual residential site)	116			5.4.1
	Residential Rural/Rural Lifestyle	117			5.4.2, 5.4.3
	Residential Land (with buildings which add no value)	118			5.4.0
Multiple Occupation (within residential development) - 12	Single Strata Unit/Villa Unit/Townhouse	120			5.4.1
	Conjoined Strata Unit/Townhouse	121			5.4.1
	Residential Company Share Unit (ground level)	123			5.4.1
	Residential Company Share Unit (within multi-storey development)	124			5.4.1
	Strata unit or flat	125			5.4.1
	Individual Car Park	126			5.4.1

	Individual Berth	127			5.4.1
	Individual Flat	128			5.4.1
	Common Land associated with residential unit development	129			5.4.1
Investment Residential - 13	Boarding House	130			5.4.1
	Residential Investment Flats	131			5.4.1
	Individual Flat	132			5.4.1
	Short Term Holiday Accommodation	133			5.4.1
	Dormitory Accommodation/University Residential College	135			5.4.1
Retirement/Aged Care Accommodation/Special Accommodation - 14	Retirement Village Unit	140			5.4.1
	Retirement Village Complex	141			5.4.1
	Aged Care Complex	142			5.4.1
	Special Accommodation	143			5.4.1
	Disability Housing	144			5.4.1
Ancillary Buildings - 15	Miscellaneous Improvements on Residential Land	150			5.4.1
	Miscellaneous Improvements on Residential Rural Land	151			5.4.2, 5.4.3, 5.4.5
2 Commercial					
Commercial Use Development Land - 20	Commercial Development Site	200			5.5.1
	Vacant In globo Commercial Land	201			5.5.1
	Commercial Land (with buildings which add no value)	202			5.5.1
	Commercial Airspace	209			5.5.1
Retail - 21	Retail Premises (single occupancy)	210			5.5.1
	Retail Premises (multiple occupancies)	211			5.5.1
	Mixed Use Occupation	212			5.5.1
	Shopping Centre	213			5.5.1
	National Company Retail	214			5.5.1
	Fuel Outlet/Garage/Service Station	215			5.5.1

	Multi-Purpose Fuel Outlet (fuel/food/groceries)	216			5.5.1
	Bottle Shop/Licensed Liquor Outlet	217			5.5.1
	Licensed Retail Premises	218			5.5.1
	Market Stall	219			5.5.1
Office - 22	Office Premises	220			5.5.1
	Low Rise Office Building	221			5.5.1
	Multi-Level Office Building	222			5.5.1
	Special Purpose (built-in technology)	223			5.5.1
Short-Term Business and Tourist Accommodation - 23	Residential Hotel/Motel/Apartment Hotel Complex	230			5.4.1
	Residential Hotel/Motel/Apartment Hotel Units	231			5.4.1
	Service Apartments/Holiday Units	232			5.4.1
	Bed and Breakfast	233			5.4.1
	Tourist Park/Caravan Park/Camping Ground	234			5.5.3
	Guest Lodge/Back Packers/Bunkhouse/Youth Hostel	235			5.4.1
	Ski lodge/ Member facility	236			5.4.1
	Recreation camp	237			5.4.1
Hospitality - 24	Pub/Tavern/Hotel/Licensed Club/Restaurant/Licensed Restaurant/Nightclub	240			5.5.1
	Hotel-Gaming	241			5.5.1
	Club-Gaming-stand alone	242			5.5.1
	Member Club Facility	243			5.5.1
	Casino	244			5.5.1
	National Company Restaurant	245			5.5.1
	Kiosk	246			5.5.1
	Conference/Convention centre	247			5.5.1
Entertainment – Cinema, Live Theatre and Amusements (non-sporting) - 25	Live Entertainment – Major Multi-Purpose Complex	250			5.5.3
	Cinema Complex	251			5.5.3

	Playhouse/Traditional Theatre	252			5.5.3
	Drive Ins	253			5.5.3
Tourism Facilities/Infrastructure - 26	Large Theme Attraction/Park (includes heritage villages)	260			5.5.3
	Amusement Park	261			5.5.3
	Major Infrastructure Attractions (often associated with a major historic or feature natural location)	262			5.5.3
	Tourism Infrastructure – Local Attractions	263			5.5.3
Personal Services - 27	Health Surgery	270			5.5.1
	Health Clinic	271			5.5.1
	Brothel	272			5.5.1
	Crematorium/Funeral Services	273			5.5.1
	Automatic Teller Machine	274			5.5.1
	Veterinary Clinic	275			5.5.1
Vehicle Car Parking, Washing and Sales - 28	Ground Level Parking	280			5.5.1
	Multi-Storey Car Park	281			5.5.1
	Individual Car Park Site	282			5.5.1
	Car Wash	283			5.5.1
	Vehicle Sales Centre	284			5.5.1
	Vehicle Rental Centre	285			5.5.1
Advertising or Public Information Screens - 29	Advertising Sign	290			5.5.1
	Electronic Stadium/Street TV Relay Screen/Scoreboard	293			5.5.1
3 Industrial					
Industrial Use Development Land - 30	Industrial Development Site	300			5.3.0
	Vacant Industrial In globo Land	301			5.3.0, 5.3.8
	Industrial Airspace	302			5.3.0
	Industrial Land (with buildings which add no value)	303			5.3.0, 5.3.8
Manufacturing - 31	General Purpose Factory	310			5.3.1
	Food Processing Factory	311			5.3.2

	Major Industrial Complex – Special Purpose Improvements	312			5.3.3
Warehouse/Distribution/Storage - 32	General Purpose Warehouse	320			5.3.1
	Open Area Storage	321			5.3.0
	Bulk Grain Storage (structures)	322			5.3.4
	Bulk Grain Storage (earthen walls and flooring – pit bunker)	323			5.3.4
	Bulk Liquid Storage Fuel Depot/Tank Farm	324			5.3.0
	Coolstore/Coldstore	325			5.3.0
	Works Depot	326			5.3.0
Noxious/Offensive/Dangerous Industry - 33	Tannery/Skins Depot & Drying	330			5.3.0
	Abattoirs	331			5.3.5
	Stock Sales Yards	332			5.2.7
	Rendering Plant	333			5.3.0
	Oil Refinery	334			5.3.6
	Petro Chemical Manufacturing	335			5.3.1, 5.3.6
	Sawmill	336			5.3.7
4 Extractive Industries					
Extractive Industry Site with Permit or Reserve Not in Use - 40	Sand	400			5.8.4
	Gravel/Stone	401			5.8.4
	Manufacturing Materials	402			5.8.4
	Soil	403			5.8.4
	Coal	404			5.8.4
	Minerals/Ores	405			5.8.4
	Precious Metals	406			5.8.4
	Uranium	407			5.8.4
	Quarry/Mine (open cut) – Exhausted (dry)	408			5.8.4
	Quarry/Mine (open cut) – Exhausted (wet)	409			5.8.4
Quarry (in use) - 41	Sand	410			5.8.2
	Gravel/Stone	411			5.8.2
	Manufacturing materials	412			5.8.2

	Soil	413			5.8.2
Mine (open cut) - 42	Black or brown coal	420			5.8.1
	Iron Ore	421			5.8.1
	Bauxite	422			5.8.1
	Gold	423			5.8.1
	Metals (other than gold)	424			5.8.1
	Precious Stones	425			5.8.1
	Uranium	426			5.8.1
	Non Metals (other than Uranium)	427			5.8.1
Mine (deep shaft) - 43	Non-metals	430			5.8.1
	Black Coal	431			5.8.1
	Precious Stones	432			5.8.1
	Gold	433			5.8.1
	Metals (other than gold)	434			5.8.1
	Closed Mine Shaft	439			5.8.4
Tailings Dumps - 44	Tailing Dump (minerals)	440			5.8.3
	Tailing Dump (non-minerals)	441			5.8.3
Well/Bore - 45	Oil	450			5.6.0
	Gas	451			5.6.6
	Water (mineral)	452			5.6.7
	Water (stock and domestic)	453			6.4.0
	Water (irrigation)	454			6.4.0
	Disused Bore/Well	459			5.8.4, 6.4.0
Salt Pan (evaporative) - 46	Lake – Salt Extraction	460			6.2.3
	Man-Made Evaporative Basin	461			6.2.3
Dredging Operations - 47	Dredging (minerals)	470			5.8.0
	Dredging (non-minerals)	471			5.8.0
Other unspecified - 48	Extractive less than 2 Metres	480			5.8.0
	Operating mine unspecified	481			5.8.1
	Vacant Land mining unspecified	482			5.8.4
5 Primary Production					
Native vegetation - 50	Vacant Land – Native vegetation/Bushland	500			1.3.3

	Vacant Land – Native Vegetation/Bushland with Covenant/Agreement	501			1.1.7
Agriculture Cropping - 51	General Cropping	510	3.3.0	4.3.0	
	Specialised Cropping	511	3.3.0	4.3.0	
Livestock Grazing - 52	Domestic Livestock Grazing	520	2.1.0, 3.2.0	4.2.0	
	Non-Native Animals	521	2.1.0, 3.2.0	4.2.0	5.2.0
	Native Animals	522	2.1.0, 3.2.0	4.2.0	5.2.0
	Livestock Production - Sheep	523	2.1.0, 3.2.0	4.2.0	5.2.2
	Livestock Production – Beef Cattle	534	2.1.0, 3.2.0	4.2.0	5.2.2
	Livestock Production – Dairy cattle	525	2.1.0, 3.2.0	4.2.0	5.2.1
Mixed Farming and Grazing - 53	Mixed farming and grazing	530	2.1.0, 3.2.0, 3.3.0	4.2.0, 4.3.0	
Livestock -Special Purpose Fencing, Pens, Cages, Yards or Shedding, Stables - 54	Cattle Feed Lot	540			5.2.2
	Poultry – Open Range	541			5.2.3
	Poultry (egg production)	542			5.2.3
	Poultry (broiler production)	543			5.2.3
	Horse Stud/Training Facilities/Stables	544			5.2.6, 5.5.3
	Piggery	545			5.2.4
	Kennel/Cattery	546			5.2.0, 5.5.1
Horticulture Fruit and Vegetable Crops - 55	Market Garden – Vegetables	550	3.4.7, 3.5.3	4.4.7, 4.5.3	
	Orchards, Groves, Plantations	551	3.4.0	4.4.0	
Horticulture – Special Purpose Structural Improvements - 56	Vineyard	561	3.4.9	4.4.9	
	Plant/Tree Nursery	562			5.1.1
	Commercial Flower and Plant Growing – (outdoor)	563	3.4.6, 3.5.2	4.4.6, 4.5.2	5.1.1
	Glasshouse Plant/Vegetable Production	564			5.1.3, 5.1.4

Forestry – Commercial Timber Production - 57	Softwood Plantation	570	3.1.2	4.1.2	
	Hardwood Plantation	571	3.1.1	4.1.1	
	Native Hardwood (standing timber)	572	2.2.1		
Aquaculture - 58	Oyster Beds	580			5.2.5
	Fish Farming – Sea Water Based	581			5.2.5
	Yabby Farming	582			5.2.5
	Aquaculture Breeding/Research Facilities/Fish Hatchery	583			5.2.5
6 Infrastructure and Utilities					
Vacant - 60	Vacant Land	600			5.3.0, 5.3.8
	Unspecified – Transport, Storage, Utilities and Communication	601			5.7.0
Gas or Fuel - 61	Wells	610			5.6.6
	Production/Refinery	611			5.6.6
	Storage	612			5.6.6
	Transmission Pipeline (through easements, freehold and public land)	613			5.6.6
	Distribution/Reticulation Pipelines (through easements, freehold and public land)	614			5.6.6
Electricity - 62	Electricity Power Generators – Fuel Powered (includes brown coal, natural steam, gas, oil and nuclear)	620			5.6.1
	Hydro Electricity Generation	621			5.6.2
	Wind Farm Electricity Generation	622			5.6.3
	Electricity Substation/Terminal	623			5.6.5
	Electricity Transmission Lines (through easements, freehold and public land)	624			5.6.5
	Electricity Distribution/Reticulation Lines (through easements, freehold and public land)	625			5.6.5
	Solar Electricity Generation	626			5.6.4
Waste Disposal, Treatment and Recycling - 63	Refuse Incinerator	630			5.9.4

	Refuse Transfer Station	631			5.9.2
	Sanitary Land Fill	632			5.9.2
	Refuse Recycling	633			5.9.3
	Hazardous Materials/Toxic Storage Centre	634			5.9.0
	Toxic By-product Storage and Decontamination Site	635			5.9.0
	Sewerage/Stormwater Treatment Plant Site	636			5.9.5
	Sewerage/Stormwater Pump Stations	637			5.9.5
	Sewerage/Stormwater Pipelines (through easements, freehold and public land)	638			5.9.5 or 6.4.3
Water Supply - 64	Water Catchment Area	640			1.2.2
	Water Catchment Dam/Reservoir	641			6.2.1
	Water Storage Dam/Reservoir (Non-Catchment)	642			6.2.1
	Water Treatment Plant	643			5.6.7, 5.9.0
	Water Storage Tanks, Pressure Control Towers and Pumping Stations	644			5.6.7
	Major Water Conduits	645			6.4.0
	Water – Urban Distribution Network (through easements, freehold and public land)	646			5.6.7, 6.4.0
Transport – Road Systems - 65	Freeways	650			5.7.2
	Main Highways (including national routes)	651			5.7.2
	Secondary Roads	652			5.7.2
	Suburban and Rural Roads	653			5.7.2
	Closed Roads	654			5.7.2
	Reserved Roads/Unused Roads	655			5.7.2
	Bus Maintenance Depot	656			5.7.0
	Bus Interchange Centre/Bus Terminal	657			5.7.0
	Designated Bus/Taxi Stops/Stands/Shelters	658			5.7.0
	Weighbridge	659			5.7.0
Transport – Rail and Tramway Systems - 66	Railway Line in Use	660			5.7.3

	Railway Switching and Marshalling Yards	661			5.7.3
	Railway Maintenance Facility	662			5.7.3
	Railway Passenger Terminal Facilities (including stations)	663			5.7.3
	Railway Freight Terminal Facilities	664			5.7.3
	Tramway/Light Rail Right of Way and Associated Track Infrastructure	665			5.7.3
	Tramway Maintenance/Terminal Storage	666			5.7.3
	Tram Stopping Facilities	667			5.7.3
	Railway/Tramway Line Closed/Unused	668			5.7.3
Transport – Air - 67	Airfield (includes associated open space)	670			5.7.1
	Airstrip	671			5.7.1
	Airport Traffic Control Centre	672			5.7.1
	Airport Hangar Building	673			5.7.1
	Airport Terminal Building - Passengers	674			5.7.1
	Airport Terminal Building - Freight	675			5.7.1
	Heliport	676			5.7.1
Transport – Marine - 68	Port Channel	680			5.7.4
	Port Dock/Berth	681			5.7.4
	Port Wharf/Pier and Apron - Cargo	682			5.7.4
	Wharf – Storage Sheds	683			5.7.4
	Wharf – Passenger Terminal and Ferry Pier Facilities	684			5.7.4
	Piers, Storages and Slipways	685			5.7.4
	Ramps and Jetties	686			5.5.1
	Marinas and Yacht Clubs	687			5.5.1
	Dockyard, Dry Dock and/or Ship Building Facility	688			5.5.1
	Lighthouse and Navigation Aids	689			5.7.5
Communications, including Print, Post, Telecommunications and Airwave Facilities - 69	Post Offices	690			5.5.2

	Postal Exchange/Mail Sorting Centres	691			5.5.2
	Post Boxes	692			5.5.2
	Telecommunication Buildings/Maintenance Depots	693			5.6.0
	Telecommunication Towers and Aerials	694			5.7.5
	Cable Lines, Conduits and Special Purpose Below Street Level Communication Line Tunnels – not being sewers (through easements, freehold and public land)	695			5.7.5
	Television/Radio Station – Purpose Built	696			5.5.1
	Printing Works/Press	697			5.5.1
	Telephone Exchange – Purpose Built	698			5.7.5
7 Community Services					
Vacant or Disused Community Services Site - 70	Vacant Health Services Development Site	700			5.5.2
	Vacant Education and Research Development Site	701			5.5.2
	Vacant Justice and Community Protection Development Site	702			5.5.2
	Vacant Religious Purposes Development Site	703			5.5.2
	Vacant Community Services Development Site	704			5.5.2
	Vacant Government Administration Development Site	705			5.5.2
	Vacant Defence Services Development	706			5.5.2
	Cemetery	707			5.5.2
Health - 71	Public Hospital	710			5.5.2
	Private Hospital	711			5.5.1
	Welfare Centre	712			5.5.2
	Community Health Centre	713			5.5.2
	Centre for the Mentally Ill	714			5.5.2
	Day Care Centre for Children	715			5.5.1
Education and Research - 72	Early Childhood Development Centre - Kindergarten	720			5.5.2
	Government School	721			5.5.2
	School Camps				

	Non-Government School	723			5.5.2
	Special Needs School	724			5.5.2
	University	725			5.5.2
	Technical and Further Education	726			5.5.2
	Research Institute - Public	727			5.5.5
	Observatory	728			5.5.5
	Residential College/Quarters – Defence forces	729			5.4.1
Justice and Community Protection - 73	Police Facility	730			5.5.2
	Court Facility	731			5.5.2
	Prison/ Detention Centre/ Gaol Complex/ Corrective Institution	732			5.5.2
	Fire Station Facility	733			5.5.2
	Ambulance Station Facility	734			5.5.2
	Emergency Services Complex	735			5.5.2
	Community Protection and Services Training Facility	736			5.5.2
Religious - 74	Place of Worship	740			5.5.3
	Religious Hall	741			5.5.3
	Religious Residence	742			5.5.3
	Religious Study Centre	743			5.5.3
Community Service and Sporting Clubrooms and Halls - 75	Halls and Service Clubrooms	750			5.5.3
	Rural and Community Groups	751			5.5.3
	Community Facility	752			5.5.3
Government Administration - 76	Parliament House	760			5.5.2
	Government House	761			5.5.2
	Local Government	762			5.5.2
	Civic Buildings	763			5.5.2
Defence Services/ Military Base - 77	Army Barracks/Administration Base	770			5.5.4
	Army Maintenance Depots	771			5.5.4
	Army Field Camps and Firing Ranges	772			1.3.1
	Naval Base/Administration Base	773			5.5.4

	Naval Specialised Facilities – Ground Based	774			5.5.4
	Naval Specialised Facilities – Water Based	775			5.5.4
	Air Force Base/Administration	776			5.5.4
	Airstrip and Specialised Facilities	777			5.5.4
	Munitions Storage Facility	778			5.5.4
Other Community service facilities – 78	Public Conveniences	780			5.5.2
	Unspecified – Public, Education and Health Improved	781			5.5.2
	Unspecified – Public, Education and Health vacant	782			5.5.2
	Animal shelter	783			5.2.0, 5.5.2
8 Sport, Heritage and Culture					
Vacant Land - 80	Vacant Site – Sporting Use	800			5.5.3
	Vacant Site – Heritage Application	801			5.5.3
	Vacant Site Cultural Use	802			5.5.3
State/Regional Sports Complex - 81	Major Sports Complex	810			5.5.3
	Major Indoor Sports Complex	811			5.5.3
	Outdoor/Indoor Sports Complex – non major	812			5.5.3
	Outdoor Sports – Extended Areas/Cross Country	813			5.5.3
	Aquatic Complex	814			5.5.3
	Water Sports – Outdoor	815			5.5.3
	Motor Racing Tracks/Speedways	816			5.5.3
	Racecourse/Tracks	817			5.5.3
	Ski Fields	818			5.5.3
Local Sporting Facilities - 82	Indoor Sports Centre	820			5.5.3
	Outdoor Sports Grounds town or suburban facilities	821			5.5.3
	Outdoor Sports – Extended Areas/Cross Country	822			5.5.3
	Swimming Pools/Aquatic Centres	823			5.5.3
	Water Sports – Outdoor	824			5.5.3

	Motor Race Tracks/Speedways	825			5.5.3
	Aero Club Facility	826			5.5.3
	Ski Fields	827			5.5.3
	Equestrian Centre	828			5.5.3
	Bike Track/Walking Trails	829			5.5.3
National/ State Cultural Heritage Centres - 83	Library/Archives	830			5.5.3
	Museum/Art Gallery	831			5.5.3
	Cultural Heritage Centre	832			5.5.3
	Wildlife Zoo	833			5.5.3
	Aquarium	834			5.5.3
	Botanical Gardens	835			5.5.3
	Monument/Memorial	836			5.5.3
	Culture, recreation and sport	837			5.5.3
Local Cultural Heritage Sites, Memorials and Monuments - 84	Library/Archives	840			5.5.3
	Museum/Art Gallery	841			5.5.3
	Cultural Heritage Centre	842			5.5.3
	Wildlife Zoo/Park/Aquarium	843			5.5.3
	Parks and Gardens	844			5.5.3
	Monument/Memorial	845			5.5.3
Local recreation – Other - 85	Bathing Boxes	850			5.5.3
	Boat Sheds	851			5.5.3
9 National Parks, Conservation Areas, Forest Reserves and Natural Water Reserves					
Reserved Land - 90	Vacant Land	900			1.1.7
Nature Reserve - 91	Nature Reserve	910			1.1.1
Wilderness Area - 92	World Heritage Area	920			1.1.2
	Local Wilderness Area	921			1.1.2
National Park (Land and Marine) - 93	National Park - Land	930			1.1.3
	National Park - Marine	931			6.6.1
Natural Monument/ Feature - 94	Natural Monument - Land	940			1.1.4

	Natural Monument - Marine	941			1.1.4, 6.6.1
Natural Forests and Forest Reserves - 95	Forest Reserves - Public	950			1.1.1
	Forest Reserves - Private	951			1.1.1
Conservation Area - 96	Conservation Area - Public	960			1.1.7
	Conservation Area - Private	961			1.1.7
Protected Landscape/ Seascape - 97	Protected Landscape - Public	970			1.1.6
	Protected Landscape - Private	971			1.1.6
	Protected Seascape - Public	972			6.6.1
	Protected Seascape - Private	973			6.6.1
Wetlands - 98	River Reserve (fresh water)	980			6.3.1
	Creek Reserve (fresh water)	981			6.3.1
	River Reserve (salt water)	982			6.3.1
	Creek Reserve (salt water)	983			6.3.1
	Floodway Reserve	984			6.5.1
	Fresh Water Lake Reserve	985			6.1.1
	Salt Water Lake Reserve	986			6.1.4
	Inland Low Lying Tidal Estuary Wetlands Reserve	987			6.6.1
	Seabed - Open Sea/Ocean/Bays	988			6.6.0
Game/Fauna Reserves - 99	Game Reserve - Public	990			1.1.5
	Game Reserve - Private	991			1.1.5

ALUM = Australian Land Use and Management, AVPCC = Australian Valuation Property
Classification Codes

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