

Northern Territory Skilled Occupation Priority List

Information Paper

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1. Background

The NTSOPL is an annually produced list of skilled occupations that are in high demand or considered critical by business and industry in the Northern Territory (NT).

It guides:

- Workforce planning and development
- Decision-making for occupational shortages
- Prioritisation of training funding and employer incentives for apprentices and trainees
- Recruitment activities
- Attraction of overseas workers to fill skills gaps through skilled migration programs.
- Skills targeting in the NT's national workforce attraction programs and population growth strategy.

The NTSOPL, which was created and initially released in 2012, serves as an extension and replacement of the Northern Territory Occupation Shortage List (NTOSL). The creation of the NTSOPL was driven by stakeholders' desire for a list that is more future-oriented compared to what the NTOSL provided.

2. Introduction

This document provides a detailed explanation of the methodology that forms the basis for the Northern Territory Skilled Occupation Priority List (NTSOPL).

The methodology of the NTSOPL was initially influenced by the methodology of the 2012 Western Australian State Priority Occupation List.

This paper sets out:

- the method used to define the scope of occupations considered for inclusion on the NTSOPL.
- the statistical method used to determine the rankings of the included occupations.
- the non-statistical method employed in assessing occupations for inclusion on the NTSOPL.
- the amalgamation of both statistical and non-statistical methods to determine the final NTSOPL.

A flowchart of the overall methodology is contained at *Appendix A*.

3. Methodology

The development of the NTSOPL consists of two stages. Namely:

1. **defining** the preliminary list of occupations eligible for NTSOPL consideration
2. **determining** the occupations on the preliminary list to be included on the NTSOPL.

3.1 Stage one: Defining the preliminary list.

Four criteria must be satisfied in order for an occupation to be eligible for inclusion on the NTSOPL. These are:

- **Quality data**

There must be an adequate level of robust information about the occupation in order to assess and validate the occupation. Occupations must be clearly defined. That is, the occupation must have a valid Australian Bureau of Statistics (ABS) Australia and New Zealand Standard Classification of Occupations (ANZSCO) code at the six-digit level.

- **Skill level**

The occupation must have specialised skills that require extended learning and training time. Occupations that do not require post-school qualifications prior to entry will be excluded from the list – for example, labourers, process workers, and kitchen hands.

Occupations identified as ANZSCO skill level 1 through 4 meet this eligibility criterion, while most skill level 5 occupations do not.

- **Clear pathways**

The occupation must have a clear education and/or training pathway, where skills can be matched to the requirements of the occupation. Examples of occupations without pathways and hence excluded from the NTSOPL include Members of Parliament, judges and defence force personnel.

- **Occupational impact**

An occupation will be considered if any disruption in its supply would result in significant impact to the business operation, across the industry sectors or to the Territory's economy, i.e. may lead to higher unemployment and reduced productivity due to unfilled vacancies.

If the occupations have a substantiated need from multiple businesses and employers, i.e. a broad representation of an industry wide need, across both public and private industry sectors, or they may cross over into other industry groups, such as General Practitioners, Physiotherapists, Accountants or similar occupations with broad industry applications, would qualify for a priority listing if there is a proven need.

3.2 Stage two: Determining the NTSOPL

This section reflects the order of activities in developing the NTSOPL. Each section corresponds with the numbered process on the flowchart at [Appendix A](#).

3.2.1 Step 1: Refine list.

The ABS ANZSCO coding structure is used to identify and analyse occupations for inclusion on the NTSOPL. ANZSCO¹ includes 1417 occupational codes at the most disaggregated level (six-digit level). From this list, occupation codes were removed where they:

- were broad 'catch-all' type codes designed for the ABS Census collection, and which do not refer to specific occupations.
- required a lower skill-level (i.e. ANZSCO skill level 5), not requiring sufficient post-school qualifications or experience
- did not have clearly articulated VET or higher education pathways.

834 occupations were identified with sufficient relevance and importance to the NT economy making them eligible for ranking and potential inclusion on the NTSOPL.

3.2.2 Step 2: Quantitative assessment

The 834 occupations are ranked based on the combination of two indexes – a market index and a structural index. Each index score being calculated as the weighted z-score of its component variables.

The market index reflects the current and future balance of the supply and demand of labour and consists of the following component variables:

- Current employment level
- 5-year growth in employment
- Vacancy rate
- Forecasted growth in employment.

The structural index focuses on institutional and policy factors associated with occupational labour markets and consists of the following component variables:

- Proportion of the workforce with required qualifications
- Migration dependency in the last 5 years
- Lead time required to study for qualification in the occupation.
- Study diversity, the diversity of paths from which people can enter the occupation.
- Industry diversity, the range of industries that people in the occupation work in

A standard statistical score (expressed relative to a known mean and standard deviation) is calculated for each indicator for each occupation. These scores, also known as Z scores, are a commonly used measure of the spread of values in a distribution and refer to the average amount by which observations in a distribution differ from the average.

While there are a variety of methods for standardising data, z scores are preferred for their ability to compare different measures ('000, %, years, etc.) which could otherwise not be directly compared.

¹ <https://www.abs.gov.au/statistics/classifications/anzsco-australian-and-new-zealand-standard-classification-occupations/2022>

In statistics, a standard score (or z-score) indicates by how many standard deviations an observation is above or below the average of a data series. It is a dimensionless quantity derived by subtracting the population mean from an individual raw score and then dividing the difference by the population standard deviation. This can be expressed as the following formula:

$$z = (x - \mu) / \sigma$$

where x is the observation, μ is the mean of the population, and σ is the standard deviation of the population.

The z score for each indicator was weighted and summed to determine an overall score for each occupation. The following weightings have been applied:

Market Index components

- employment level – 20%
- employment growth – 20%
- vacancy rate – 20%
- forecast growth in employment – 40%

Structural Index components

- proportion of the workforce with the required qualification – 20%
- Migration dependency in the last 5 years – 15%
- Lead time to study for qualification in occupation – 15%
- Study diversity – 20%
- Industry diversity – 30%

Each overall score was then adjusted to a T score for pragmatic purposes. This is done using the following formula:

$$T = 10 \times (z \text{ score}) + 50.$$

Occupations were then ranked from 1 to 753 according to their overall scores.

3.2.3 Step 3: Qualitative “on-the-ground” assessment

A qualitative survey involving the Industry Skills Advisory Council NT (ISACNT) is undertaken concurrently with the quantitative assessment.

ISACNT is provided with an eight-question survey to complete for each occupation considered for inclusion on the NTSOPL. The questions require qualitative responses and directly inform an occupation’s priority tier (i.e. high priority, priority, not a priority). ISACNT is required to draw on existing intelligence, networks and research to complete each survey.

ISACNT is not required to have all questions answered for every occupation, only for those considered a high priority or priority. However, explanatory notes and sources supporting all claims are required in order to be accepted.

A copy of the survey is contained at **Appendix B**.

3.2.4 Step 4: Application of business rules

Each occupation identified in survey responses as a “priority”, or “high priority” occupation is assigned a preliminary priority rating based on their quantitative assessment ranking.

Occupations for which an acceptable survey response was returned but ranked relatively low on the quantitative assessment are assigned an “industry priority” rating.

In addition to the outcome of the quantitative and qualitative assessments, other sources of intelligence are also evaluated for a holistic consideration of occupational issues.

These sources include:

- if occupations were included on the previous NTSOPL
- if the National Skills Commission Skills Priority List had identified them as an occupation in demand
- if they were included on the Australian Government’s Consolidated Skilled Occupation List (persons applying for a state sponsored general skilled migration visa must nominate an occupation on this list)

Occupations that are assessed as a “priority” or “high priority” form the draft NTSOPL.

3.2.5 Step 5: List circulated to stakeholders for feedback.

The draft NTSOPL is distributed to industry associations, peak bodies, other government entities and unions for comment. Surveys are provided to these stakeholders to provide additional evidence for occupations that should be included on the NTSOPL.

Occupations, for which an acceptable survey response is returned, subject to the business rules, are assigned a priority rating and added to the draft NTSOPL.

Any occupation that is not identified as a priority is not included for further consideration.

3.3 Skill Level 5 Occupations

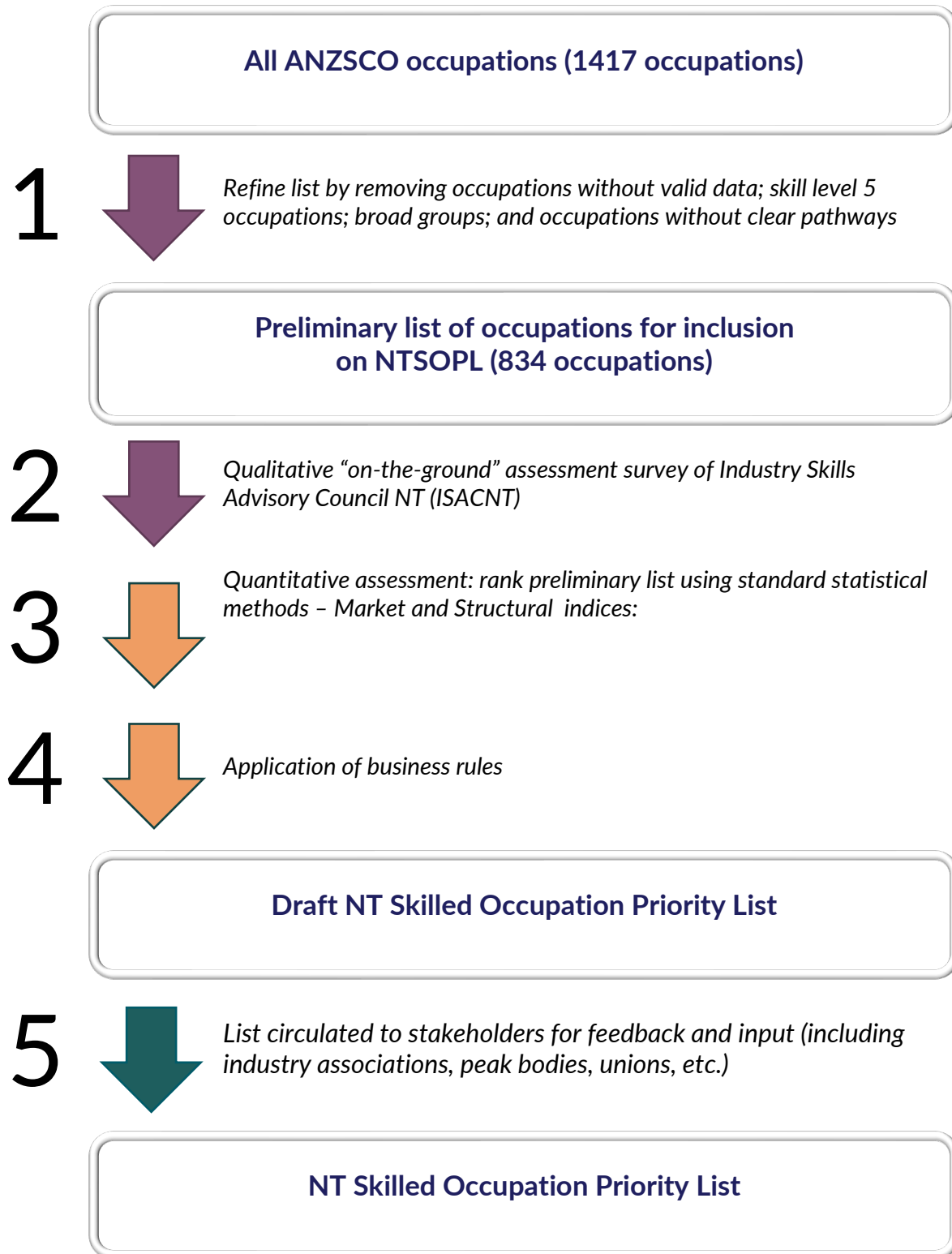
Skill level 5 occupations are generally excluded from inclusion on the NTSOPL; however, may be considered for inclusion on a case-by-case basis. To be included on the NTSOPL, a skill level 5 occupation must still satisfy the criteria of data quality, a clear training pathway, and evidence of material occupational impact.

4. NT Skilled Occupation Priority List

All occupations identified by the ISACNT, and other stakeholders are organised according to their priority ratings (high priority, priority, industry priority) and form the NTSOPL.

The NTSOPL is published annually in the first half of the year.

5. Appendix A NT Skilled Occupation Priority List Development Process



[View detailed description of development process.](#)

6. Appendix B

NT Skilled Occupation Priority List Survey

Occupation:

ANZSCO Code:

Key VET qualification code:

Key VET qualification name:

Question 1: In the previous 12 months, has the occupation been in shortage or experienced recruitment difficulties?

Question 2: Is the occupation expected to be in shortage or experience recruitment difficulties in the next 12 months?

If the answer is 'no' to both **Question 1** and **2**, go to **Question 5**.

Question 3: In terms of overall priority within your industry area, would you say the occupation is of the highest priority (i.e. no other occupations are more critical), a priority (i.e. other occupations may be more critical), or not a priority (i.e. issues are being resolved)?

Question 3a: Why? (Please provide evidence if occupation is identified as a high priority or a priority)

Question 3b: Number of businesses/employers with identified issues.

Question 4: Are the issues affecting this occupation considered to be short term (1-2 years), medium term (3-5 years) or long term (5+ years)?

Question 4a: Why?

Question 5: Total number of employees that are on temporary visa with business's that have responded or contacted?

Question 5a: Count of Temporary Work (Skilled) Visa

Question 6: *Number of businesses that made up question 5?*

Question 7: Are you aware of any specific issues relating to this occupation in particular sub-Territory regions? Including, but not limited to, Greater Darwin, Central Australia, Katherine, Barkly, Arnhem

Question 8: Do you have any further comments about the occupation?

7. Notes

The Australian and New Zealand Standard Classification of Occupations (ANZSCO) is produced and managed by the Australian Bureau of Statistics (ABS) and has been used in censuses and surveys where occupation data are collected from 2016.

ANZSCO provides an integrated framework for the standardised collection, analysis and dissemination of occupation data for Australia and New Zealand.

The classification definitions are based on the skill level and specialisation usually necessary to perform the tasks of the specific occupation, or of most occupations in the group.

The ANZSCO structure includes five hierarchical levels: major group, sub-major group, minor group, unit group and occupation. The categories at the most detailed level of the classification are termed 'occupations'. These are grouped together to form 'unit groups', which in turn are grouped into 'minor groups'. Minor groups are aggregated to form 'sub-major groups' which in turn are aggregated at the highest level to form 'major groups'.

One, two, three, four and six-digit codes are assigned to the major, sub-major, minor and unit groups, and occupations respectively. At the six-digit level there are 1352 occupation codes.

ANZSCO also categorises occupations by five-tier skill level. These are defined in terms of formal education and training, previous experience and on-the-job training. The determination of boundaries between skill levels is based on the following definitions.

Skill level 1: a level of skill commensurate with a bachelor's degree or higher qualification. At least five years of relevant experience may substitute for the formal qualification.

Skill level 2: a level of skill commensurate with AQF associate degree, Advanced Diploma or Diploma. At least three years of relevant experience may substitute for the formal qualifications listed above.

Skill level 3: a level of skill commensurate with AQF Certificate IV or AQF Certificate III including at least two years of on-the job training. At least three years of relevant experience may substitute for the formal qualifications listed above.

Skill level 4: a level of skill commensurate with AQF Certificate II or III. At least one year of relevant experience may substitute for the formal qualifications listed above.

Skill level 5: a level of skill commensurate with AQF Certificate I or compulsory secondary education. For some occupations a short period of on-the-job training may be required in addition to or instead of the formal qualification. In some instances, no formal qualification or on-the-job training may be required.

For more information see: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/1220.0>

8. NT Skilled Occupation Priority List Development Process

All ANZSCO occupations (1,417 occupations)

- 1 Refine list by removing: occupations without valid data; broad occupation groupings; occupations without clear pathways and majority of skill level 5 occupations (note a number of skill level 5 occupations included based on qualitative evidence provided).

Preliminary list of occupations for inclusion on NTSOPL (834 occupations)

- 2 Qualitative 'on-the-ground' assessment: survey of Industry Skills Advisory Council NT.
- 3 Quantitative assessments: rank preliminary list using standard statistical methods for four weighted indicators:
 - (a) Employment levels (ABS)
 - (b) Forecast employment growth (Victoria University)
 - (c) Replacement rate (Victoria University)
 - (d) Skill level (ABS).
- 4 Application of business rules: including if they were included on the National Skills Commission Skills Priority List, and the Australian Government's Consolidated Skilled Occupation List (persons applying for a state sponsored general skilled migration visa must nominate an occupation on this list).

Draft NT Skilled Occupation Priority List

- 5 List circulated to stakeholders for feedback and input (including industry associations, peak bodies, unions, etc.)

NT Skilled Occupation Priority List

[Return to flowchart](#)