



National Formal Rest Areas dataset API User Guide

National Freight Data Hub

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1. Purpose

This document is a guide for users of the National Freight Data Hub's (NFDH) National Formal Rest Areas dataset API. After reading this guide, users should be able to interact with the data and construct queries to return samples of the data to serve their particular use cases.

2. Introduction

The National Formal Rest Areas dataset combines rest area information published by state and territory governments to create a nationally harmonised list of formal rest area locations across Australia.

Regular stops and the opportunity for rest breaks are essential for safe driving, and rest areas are provided to help drivers manage fatigue and comply with driving hours.

Each jurisdiction publishes different sets of attributes about the services provided by the rest areas, such as power, lighting, presence of shelters/showers/toilets, etc. As a result, not all service indicators will be populated for each rest area. A null value indicates that no information was published. Latitude, longitude and point geometry are present for all rest areas.

Data is refreshed on a quarterly basis.

The National Formal Rest Areas data is also visualised in the Rest Areas Location and Facilities interactive on the NFDH website, and can also be downloaded in [csv format](#) from the DITRDCA Data Catalogue.

2.1 Input datasets

Data is sourced from rest area information published as open data by each state and territory. Links to each of these datasets are available through the DITRDCA Data Catalogue: [Rest Areas \(state/territory datasets\)](#)

3. Dataset structure

The API calls the NFDH’s National Formal Rest Areas dataset. The table below describes the structure of this harmonised dataset. Users can consult this table as a reference document to better understand the data returned by the API.

Field name	Field description
id	Unique identifier of the record in the NFDH’s ArcGIS database
radar_id	Unique number generated on load into the Department's enterprise data management platform RADAR - this identifier may not persist across ingests of the data.
state	State/territory that the rest area falls into – this is determined by the state/territory dataset which the record has been sourced from.
type	The type of rest area - 'Formal' for all records in the dataset
provider_id	A unique identifier from the provider's source system - may not remain constant across ingests of the data.
provider_type	The type of rest area, as provided by the source system (e.g. Minor Rest Area, Heavy Vehicle Rest Area etc.). This field is included for the user’s information only and is not harmonised. It is not consistently applied between jurisdictions.
name	The name of the rest area
road_name	The name of the major road where the area is located
reported_location	Descriptive location information, as provided in the source dataset (e.g. 80km north of Armidale)
locality	Locality that rest area falls into, as provided in the source dataset (e.g. Severn)
direction_of_travel	What direction of travel has access to the rest area (e.g. BOTH, EASTBOUND)
heavy_vehicle_area	Can the rest area be used by heavy vehicles? – note that this is derived from provider information.
paved	Is the rest area paved?
toilet	Does the rest area have a toilet?

disabled_toilet	Does the rest area have a disabled toilet?
lighting	Does the rest area have lighting?
shelter	Does the rest area have shelter?
water	Does the rest area have water?
bin	Does the rest area have a bin?
table_or_chair	Does the rest area have a table or chair?
bbq	Does the rest area have a BBQ?
shade	Does the rest area have shade?
power	Does the rest area have power?
off_the_road	Is the rest area off the road? – this field is unpopulated for all records in the dataset as the source APIs do not include this information
waste_water	Does the rest area have waste water? – this field is unpopulated for all records in the dataset as the source APIs do not include this information
comments	Comments
dt_created	Date/time the record was created, in UTC format (milliseconds)
Point	Geospatial location of the rest area – this field returns X and Y coordinates corresponding to longitude and latitude respectively

4. Accessing and querying the dataset

The National Formal Rest Areas dataset can be accessed and queried through the Department's ArcGIS web service using the following URL:
https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?

The data can be queried either by constructing a URL with specified parameters or through the dialog box interface. See section 5 for more detail.

5. Constructing queries

5.1 Base URL

https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?

In order to construct a query URL to return only the records that meet our specified criteria, we can append specific parameters to the base URL. However, in order to do so, we need to understand what each potential parameter in the URL represents and what values it can take.

Please note:

- Parameters can be specified in any order
- Parameters are case sensitive
- Field names (in the dataset) are **not** case sensitive – e.g. the following will all give the same output:
 - *lighting* = 'Y'
 - *Lighting* = 'Y'
 - *LIGHTING* = 'Y'
- Field values **are** case sensitive – e.g.
 - *lighting*= 'Y' will give the correct output, but *lighting*= 'y' will **not**
 - Fields defined by NFDH have tried to retain consistent capitalisation of field names and values for ease of use, and apply regular checks to avoid duplication of similar field values.

5.2 Parameter definitions and example queries

The following parameters can be used to filter the query responses:

where	spatialRel	maxAllowableOffset	returnDistinctValues	outStatistics	returnTrueCurves
objectIds	distance	geometryPrecision	returnIdsOnly	returnZ	returnCentroid
time	units	outSR	returnCountOnly	returnM	sqlFormat
geometry	relationParam	havingClause	returnExtentOnly	multipatchOption	resultType
geometryType	outFields	gdbVersion	orderByFields	resultOffset	datumTransformation
inSR	returnGeometry	historicMoment	groupByFieldsForStatistics	resultRecordCount	f

Use the above links to view parameter definitions and example queries in the below table:

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
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where

A `WHERE` clause for the query filter, can be used on all fields in the dataset. Operations supported:

```
( '<=' | '>=' | '<' | '>' | '=' | '<>' | LIKE )  
(AND | OR)
```

Example:

- `where= lighting = 'Y' AND state = 'NSW'`
- `where= shelter = 'Y' OR shade = 'Y'`

Note that the `Query` will always return date values in UTC. However, if we want to filter on particular date-time fields, we will need to specify them in local time. There are two ways this can be done, by `DATE` and `TIMESTAMP` date functions. Each type of date-time query must include a date-time function to ensure the query is treated properly. The syntax is as follows:

- `<DateField> = DATE 'YYYY-MM-DD'` (this is equivalent to `TIMESTAMP 'YYYY-MM-DD 00:00:00'` – only exact matches will be returned)
- `<DateField> = TIMESTAMP 'YYYY-MM-DD HH:MI:SS'`

Please note when querying `<DateField> = DATE 'YYYY-MM-DD'` this will not necessarily return all records on the specified day. To specify all records on a day (or for another time period) it is recommended to use `'<'` and `'>'` to specify a range.

`dt_created` is the only date-time field in the dataset.

Example queries:

- `where= dt_created >= DATE '2022-08-01'`
- `where= dt_created < DATE '2022-07-06' AND dt_created > DATE '2022-07-04'`

[<Base URL>f=pjson&where=state = 'VIC' AND disabled toilet = 'Y' AND lighting = 'Y' AND table_or_chair = 'Y'&outFields=*](#)

[<Base URL>f=pjson&where=state = 'TAS' and road_name LIKE '%Lyell%'&outFields=*](#)

[<Base URL>f=pjson&where=dt_created >= DATE '2022-08-01'&outFields=*](#)

[<Base URL>returnDistinctValues=true&f=pjson&returnGeometry=false &where=disabled_toilet <> 'null'&outFields=state](#)

[<Base URL>where=dt_created < DATE '2022-07-06' AND dt_created > DATE '2022-07-04'&f=pjson](#)

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
	<p>You can also use <code>CURRENT_DATE</code> and/or <code>CURRENT_TIMESTAMP</code> in your queries:</p> <ul style="list-style-type: none">• <code>where= dt_created <= CURRENT_TIMESTAMP</code>• <code>where= dt_created <= CURRENT_DATE</code> <p>Back to parameter list</p>	

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
objectIds	<p>The object IDs of this layer or table to be queried.</p> <p>Syntax: objectIds=<objectId1>, <objectId2></p> <p>Example: objectIds=37, 462</p> <p>Back to parameter list</p>	<p><Base URL>outFields=*&f=pjson&objectIds=37,462</p>
time	<p>The time instant or the time extent to query. Suggest leaving this blank, as the Feature Layer is not time-enabled.</p> <p>Back to parameter list</p>	
geometry	<p>The geometry to apply as the spatial filter. This can be used when users wish to return all records located within an envelope/close to a particular point location etc. and works with the geometryType parameter. The geometry of envelopes and points can be specified with a simple comma-separated syntax.</p> <p>Syntax:</p> <ul style="list-style-type: none"> Envelope simple syntax: geometryType=esriGeometryEnvelope&geometry=<xmin>, <ymin>, <xmax>, <ymax> Point simple syntax: geometryType=esriGeometryPoint&geometry=<x>, <y> <p>Back to parameter list</p>	<p><Base URL>geometry=145.5979, -34.1266, 146.5280, -34.8003&geometryType=esriGeometryEnvelope&outFields=*&f=pjson</p>

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
geometryType	<p>The type of geometry specified by the <code>geometry</code> parameter. The geometry type can be an envelope, a point, a line, or a polygon. The default geometry type is an envelope.</p> <p>Values: <code>esriGeometryPoint</code> <code>esriGeometryMultipoint</code> <code>esriGeometryPolyline</code> <code>esriGeometryPolygon</code> <code>esriGeometryEnvelope</code></p> <p>Back to parameter list</p>	<p><a href="https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?<Base URL>geometry=145.5979,-34.1266,146.5280,-34.8003&geometryType=esriGeometryEnvelope&outFields=*&f=json"><Base URL>geometry=145.5979, -34.1266, 146.5280, -34.8003&geometryType=esriGeometryEnvelope&outFields=*&f=json</p>
inSR	<p>The spatial reference of the input geometry. If the <code>inSR</code> is not specified, the geometry is assumed to be the same as the native layer spatial reference (EPSG4326).</p> <p>Back to parameter list</p>	

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
spatialRel	<p>The spatial relationship to be applied to the input geometry while performing the query. The supported spatial relationships include intersects, contains, envelope intersects, within, and so on. The default spatial relationship is intersects (<code>esriSpatialRelIntersects</code>).</p> <p>Values: <code>esriSpatialRelIntersects</code> <code>esriSpatialRelContains</code> <code>esriSpatialRelCrosses</code> <code>esriSpatialRelEnvelopeIntersects</code> <code>esriSpatialRelIndexIntersects</code> <code>esriSpatialRelOverlaps</code> <code>esriSpatialRelTouches</code> <code>esriSpatialRelWithin</code></p> <p>Back to parameter list</p>	<p><a href="https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?<Base URL>geometry=148.239243,-34.419542&geometryType=esriGeometryPoint&spatialRel=esriSpatialRelIntersects&distance=20&units=esriSRUnit_Kilometer&outputFields=*&f=pjson">https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?<Base URL>geometry=148.239243,-34.419542&geometryType=esriGeometryPoint&spatialRel=esriSpatialRelIntersects&distance=20&units=esriSRUnit_Kilometer&outputFields=*&f=pjson</p>

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
distance	<p>The buffer distance for the input geometries. The distance unit is specified by <code>units</code>. For example, if the distance is 100, the query geometry is a point, <code>units</code> is set to <code>meters</code>, and all points within 100 meters of the point are returned. The geodesic buffer is created based on the datum of the output spatial reference if it exists. If there is no output spatial reference, the input geometry spatial reference is used. Otherwise, the native layer spatial reference is used to generate the geometry buffer used in the query. This is not recommended as the native spatial reference system (WGS84) uses decimal degrees as the unit (not metres) which may return unexpected results.</p> <p>Back to parameter list</p>	<p><a href="https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?<Base URL>geometry=148.239243,-34.419542&geometryType=esriGeometryPoint&spatialRel=esriSpatialRelIntersects&distance=20&units=esriSRUnit_Kilometer&outputFields=*&f=pjson"> <Base URL>geometry=148.239243, -34.419542&geometryType=esriGeometryPoint&spatialRel=esriSpatialRelIntersects&distance=20&units=esriSRUnit_Kilometer&outputFields=*&f=pjson </p>
units	<p>The unit for calculating the buffer distance. If <code>unit</code> is not specified, the default will be <code>esriSRUnit_Foot</code></p> <p>Values: <code>esriSRUnit_Meter</code> <code>esriSRUnit_StatuteMile</code> <code>esriSRUnit_Foot</code> <code>esriSRUnit_Kilometer</code> <code>esriSRUnit_NauticalMile</code> <code>esriSRUnit_USNauticalMile</code></p> <p>Back to parameter list</p>	<p><a href="https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?<Base URL>geometry=148.239243,-34.419542&geometryType=esriGeometryPoint&spatialRel=esriSpatialRelIntersects&distance=20&units=esriSRUnit_Kilometer&outputFields=*&f=pjson"> <Base URL>geometry=148.239243, -34.419542&geometryType=esriGeometryPoint&spatialRel=esriSpatialRelIntersects&distance=20&units=esriSRUnit_Kilometer&outputFields=*&f=pjson </p>

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
relationParam	<p>The spatial relate function that can be applied while performing the query operation. An example for this spatial relate function is "FFFTTT***". For more information on this spatial relate function, see the documentation for the spatial relate function.</p> <p>Back to parameter list</p>	
outFields	<p>The list of fields to be included in the returned result set. This list is a comma delimited list of field names. You can also specify the wildcard "*" as the value of this parameter. In this case, the query results include all the field values.</p> <p>Back to parameter list</p>	<p><Base URL>geometry=148.239243, -34.419542&geometryType=esriGeometryPoint&spatialRel=esriSpatialRelIntersects&distance=20&units=esriSRUnit_Kilometer&outFields=state, name, road_name&f=pjson</p>
returnGeometry	<p>If <code>true</code>, the result includes the geometry associated with each feature returned. The default is <code>true</code>.</p> <p>Values: <code>true</code> <code>false</code></p> <p>Back to parameter list</p>	<p><Base URL>geometry=148.239243, -34.419542&geometryType=esriGeometryPoint&spatialRel=esriSpatialRelIntersects&distance=20&units=esriSRUnit_Kilometer&outFields=state, name, road_name&f=pjson&returnGeometry=false</p>

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
maxAllowableOffset	<p>This option can be used to specify the <code>maxAllowableOffset</code> to be used for generalizing geometries returned by the query operation. The <code>maxAllowableOffset</code> is in the units of <code>outSR</code>. If <code>outSR</code> is not specified, <code>maxAllowableOffset</code> is assumed to be in the unit of the spatial reference of the map (EPSG4326).</p> <p>Back to parameter list</p>	<p><Base URL>geometry=148.239243,-34.419542&geometryType=esriGeometryPoint&spatialRel=esriSpatialRelIntersects&distance=20&units=esriSRUnit_Kilometer&maxAllowableOffset=0.0005&outFields=state,name,road_name&f=pjson</p> <p><Base URL>geometry=148.239243,-34.419542&geometryType=esriGeometryPoint&spatialRel=esriSpatialRelIntersects&distance=20&units=esriSRUnit_Kilometer&maxAllowableOffset=0.05&outFields=state,name,road_name&f=pjson</p>
geometryPrecision	<p>This option can be used to specify the number of decimal places in the response geometries returned by the Query operation. This applies to X and Y values only (not m or z-values).</p> <p>Back to parameter list</p>	<p><Base URL>geometryPrecision=3&where=state = 'NT'&f=pjson</p>
outSR	<p>The spatial reference of the returned geometry. If the <code>outSR</code> is not specified, the geometry is assumed to be the same as the native layer spatial reference (EPSG4326).</p> <p>Back to parameter list</p>	

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Host ed/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
havingClause	<p>This option is a condition used with <code>outStatistics</code> that limits the query result to groups which satisfy the aggregation function used. The <code>havingClause</code> parameter is used with the <code>groupBy</code> and <code>outStatistics</code> parameters and allows you to filter results from <code>outStatistics</code>.</p> <p>Values: AVG COUNT SUM STDDEV MIN MAX VAR</p> <p>Back to parameter list</p>	
gdbVersion	<p>The geodatabase version to query. Suggest leaving this blank to query the most recent version of the database.</p> <p>Back to parameter list</p>	
historicMoment	<p>This is the historic moment to query. Suggest leaving this blank to query the most recent version of the database.</p> <p>Back to parameter list</p>	

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
returnDistinctValues	<p>If <code>true</code>, it returns distinct values based on the fields specified in <code>outFields</code>. In other words, this removes duplicate values.</p> <p>Users should be aware that the geometry field is considered, so set <code>returnGeometry</code> to <code>false</code> when <code>returnDistinctValues</code> is <code>true</code> to ensure reliable results are returned, unless you also want to query for distinct locations.</p> <p>Values: <code>true false</code></p> <p>Back to parameter list</p>	<p><Base URL>returnDistinctValues=true&where=1=1&outFields=state,provider_type&f=pjson&returnGeometry=false</p>
returnIdsOnly	<p>If <code>true</code>, the response only includes an array of object IDs. Otherwise, the response is a feature set. The default is <code>false</code>.</p> <p>While there is a limit to the number of features included in the feature set response, there is no limit to the number of object IDs returned in the ID array response. Clients can exploit this to get all the query conforming object IDs by specifying <code>returnIdsOnly=true</code> and subsequently requesting feature sets for subsets of object IDs.</p> <p>Values: <code>true false</code></p> <p>Back to parameter list</p>	<p><Base URL>returnIdsOnly=true&where=state = 'NT'&f=pjson</p>

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
returnCountOnly	<p>If <code>true</code>, the response only includes the count (number of features/records) that would be returned by a query. Otherwise, the response is a feature set. The default is <code>false</code>. This option supersedes the <code>returnIdsOnly</code> parameter.</p> <p>If <code>returnCountOnly = true</code>, the response will return both the count and the extent. This parameter can be used with <code>returnDistinctValues</code> to return the count of distinct values of subfields.</p> <p>Values: <code>true</code> <code>false</code></p> <p>Back to parameter list</p>	<p><Base URL>returnCountOnly=true&where=state = 'NT'&f=pjson</p>
returnExtentOnly	<p>If <code>true</code>, the response only includes the extent of the features that would be returned by the query.</p> <p>If <code>returnCountOnly=true</code>, the response will return both the count and the extent. The default is <code>false</code>.</p> <p>Values: <code>true</code> <code>false</code></p> <p>Back to parameter list</p>	<p><Base URL>returnCountOnly=true&returnExtentOnly=true&where=state = 'NT'&f=pjson</p>

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
orderByFields	<p>One or more field names on which the features/records need to be ordered. Use <code>ASC</code> or <code>DESC</code> for ascending or descending, respectively, following every field to control the ordering. <code>orderByFields</code> defaults to <code>ASC</code> (ascending order) if <code><ORDER></code> is unspecified.</p> <p>Back to parameter list</p>	<p><Base URL>f=pjson&where=state='TAS'&outFields=*&orderByFields=provider_type&resultRecordCount=50</p>
groupByFieldsForStatistics	<p>One or more field names on which the values need to be grouped for calculating the statistics. <code>groupByFieldsForStatistics</code> is valid only when the <code>outStatistics</code> parameter is used.</p> <p>Syntax:</p> <p><code>groupByFieldsForStatistics= type, category</code></p> <p>Back to parameter list</p>	<p><Base URL>groupByFieldsForStatistics=state,provider_type&outStatistics=%5B{"statisticType":"count","onStatisticField":"provider_type","outStatisticFieldName":"numberTotalRecords"},{"statisticType":"min","onStatisticField":"dt_created","outStatisticFieldName":"dateEarliestRecordCaptured"}%5D&f=pjson&outFields=provider_type,state,dt_created&orderByFields=state,numberTotalRecords,provider_type</p>

outStatistics

The definitions for one or more field-based statistics to be calculated. When using `outStatistics`, the only other parameters that can be used are `groupByFieldsForStatistics`, `orderByFields`, `time`, and `where`.

Note:

If `outStatisticFieldName` is empty or missing, the map server assigns a field name to the returned statistic field. A valid field name can only contain alphanumeric characters and an underscore. If the `outStatisticFieldName` is a reserved keyword of the underlying DBMS, the operation can fail. Try specifying an alternative `outStatisticFieldName`.

Syntax:

```
[
  {
    "statisticType": "<count | sum | min | max | avg | stddev |
var>",
    "onStatisticField": "Field1",
    "outStatisticFieldName": "Out_Field_Name1"
  },
  {
    "statisticType": "<count | sum | min | max | avg | stddev |
var>",
    "onStatisticField": "Field2",
    "outStatisticFieldName": "Out_Field_Name2"
  }
]
```

Example syntax to obtain the total number of records and the date of the earliest record captured for each reported provider type in the dataset:

<Base URL>groupByFieldsForStatistics=state,provider_type&outStatistics=%5B{"statisticType":"count","onStatisticField":"provider_type","outStatisticFieldName":"numberTotalRecords"},{"statisticType":"min","onStatisticField":"dt_created","outStatisticFieldName":"dateEarliestRecordCaptured"}%5D&f=json&outFields=provider_type,state,dt_created&orderByFields=state,numberTotalRecords,provider_type

NOTE: The square brackets '[' and ']' need to be changed to '%5B' and '%5D' in the URL query.

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
	<pre>[{"statisticType":"count","onStatisticField":"provider_type","outStatisticFieldName":"numberTotalRecords"}, {"statisticType":"min","onStatisticField":"dt_created","outStatisticFieldName":"dateEarliestRecordCaptured"}]</pre> <p>Back to parameter list</p>	

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
returnZ	<p>If <code>true</code>, Z values are included in the results if the features have Z values. Otherwise, Z values are not returned. The default is <code>false</code>. This parameter only applies if <code>returnGeometry</code> is <code>true</code>, and the layer's <code>hasZ</code> property is <code>true</code>.</p> <p>Back to parameter list</p>	
returnM	<p>If <code>true</code>, M values are included in the results if the features have M values. Otherwise, M values are not returned. The default is <code>false</code>. This parameter only applies if <code>returnGeometry</code> is <code>true</code>, and the layer's <code>hasM</code> property is <code>true</code>.</p> <p>Back to parameter list</p>	
multipatchOption	<p>This option dictates how the geometry of a multipatch feature will be returned. This parameter only applies if the layer's <code>geometryType</code> property is <code>esriGeometryMultiPatch</code>. The default is <code>xyFootprint</code>. You do not need to specify this parameter.</p> <p>Values: <code>xyFootprint</code> <code>stripMaterials</code> <code>embedMaterials</code> <code>externalizeTextures</code></p> <p>Back to parameter list</p>	

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
resultOffset	<p>This option can be used for fetching query results by skipping the specified number of records and starting from the next record (that is, <code>resultOffset + 1</code>th). The default is 0. You can use this option to fetch records that are beyond <code>maxRecordCount</code>.</p> <p>Back to parameter list</p>	<p><Base URL>f=pjson&where=1=1&outFields=*&resultOffset=2000</p>
resultRecordCount	<p>This option can be used for fetching query results up to the <code>resultRecordCount</code> specified. When <code>resultOffset</code> is specified but this parameter is not, the map service defaults it to <code>maxRecordCount</code> (2000). The maximum value for this parameter is the value of the layer's <code>maxRecordCount</code> property. The minimum value entered for this parameter cannot be below 1.</p> <p>Back to parameter list</p>	<p><Base URL>f=pjson&where=state = 'TAS'&outFields=*&orderByFields=provider_type&resultRecordCount=50</p>
returnTrueCurves	<p>When set to <code>true</code>, returns true curves in output geometries. When set to <code>false</code>, curves are converted to densified polylines or polygons. The default is <code>false</code>.</p> <p>Values: <code>true</code> <code>false</code></p> <p>Back to parameter list</p>	

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
returnCentroid	<p>Used to return the geometry centroid associated with each feature returned. If <code>true</code>, the result includes the geometry centroid. The default is <code>false</code>. Currently, this parameter is not supported for polygon data and is ignored for <code>count</code> and <code>objectID</code> queries. This parameter is only supported on layer-level queries.</p> <p>Values: <code>true</code> <code>false</code></p> <p>Back to parameter list</p>	
sqlFormat	<p>The <code>sqlFormat</code> parameter can be either standard SQL92 standard or it can use the native SQL of the underlying data store native. This parameter should always be set to <code>None</code>. You can leave this blank.</p> <p>Values: <code>none</code> <code>standard</code> <code>native</code></p> <p>Back to parameter list</p>	

resultType

The `resultType` parameter can be used to control the number of features returned by the query operation. The `tile` value is used when the client is using a virtual tiling scheme when querying features, which works similarly to tiles in a tiled map service layer. The `standard` value is used with a non-tiled query where the client will send only one query for the full extent.

Pagination queries also support `resultType` query parameter. If the `resultType` is specified and the `resultRecordCount` is not specified with the `resultOffset`, the server will determine the `maxRecordCount` relevant to the `resultType` query parameter. The client can supply the `resultRecordCount` parameter in the request. This cannot be greater than the `standard/tile maxRecordCount` value if `resultType` is used.

The limits are as follows:

- when `resultType = none`, the maximum number of results that can be returned is 2,000
- when `resultType = standard`, the maximum number of results that can be returned is 16,000 (Note: Since there are only 4,993 records in the dataset, this option can be used to return all results)
- when `resultType = tile`, the maximum number of results that can be returned is 4,000

Values: `none` | `standard` | `tile`

[Back to parameter list](#)

<Base URL>f=pjson&where=1=1&outFields=*&resultType=tile

<Base URL>f=pjson&where=1=1&outFields=*&resultType=standard

Parameter	Details	Example query URLs (where <Base URL> = https://spatial.infrastructure.gov.au/server/rest/services/Hosted/RADAR_Curated_Prod_restareas/FeatureServer/1/query?)
datumTransformation	This parameter applies a datum transformation while projecting geometries in the results when <code>outSR</code> is different than the layer's spatial reference. You can leave this blank.	
	Back to parameter list	
f	The response format. The default response format is <code>html</code> . Values: <code>html json geojson pbf</code>	<Base URL>returnCountOnly=true&returnExtentOnly=true&where=state = 'NT'&f=json
	Back to parameter list	

6. Limitations

6.1 Record count

Only the first 2,000 results are returned when running a default query. The actual number of total records which match the query parameters may be more than 2,000.

To display more than 2,000 records we can specify the resultType parameter:

- When resultType = standard, this will return all 4,993 records in the dataset
- When resultType = none, this will return the [MaxRecordCount](#) of 2,000 records
- When resultType = tile, this will return 4,000 records

It should be noted that specifying resultType = standard can return a maximum of 16,000 records. Therefore, if over time the dataset grows to exceed 16,000 records, users will need to make use of the resultOffset parameter in order to obtain all results. This is not an issue at present.

6.2 Output formats

ArcGIS REST API only supports the following formats for the National Formal Rest Areas dataset:

- HTML
- PBF
- JSON
- GeoJSON