



Release notes

BioNet Web Services 3.1

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1. Background

The BioNet Web Services initiative is a program of work conducted by the New South Wales Office of Environment and Heritage (OEH). It will progressively make the data held in BioNet open and available to developers via open application programming interfaces (APIs). BioNet is the repository of biodiversity data maintained by OEH, and contains species sightings and systematic survey, vegetation classification and threatened biodiversity data used by a wide range of organisations.

BioNet Web Services enable organisations and individuals to directly integrate biodiversity data into their software systems and unlock the innovation potential of this valuable community-owned data asset. By delivering these data via open APIs, we are aiming to improve environmental decision-making by integrating up-to-date, consistent and reliable biodiversity data into planning and assessment systems.

This release fixes a number of issues identified with field naming in release 3.0 as well as updating the fields to align with the BAM (Biodiversity Assessment Methodology) requirements. A minor enhancement has been made across all web services, introducing a new metadata field indicating the date on which the record first became available in BioNet.

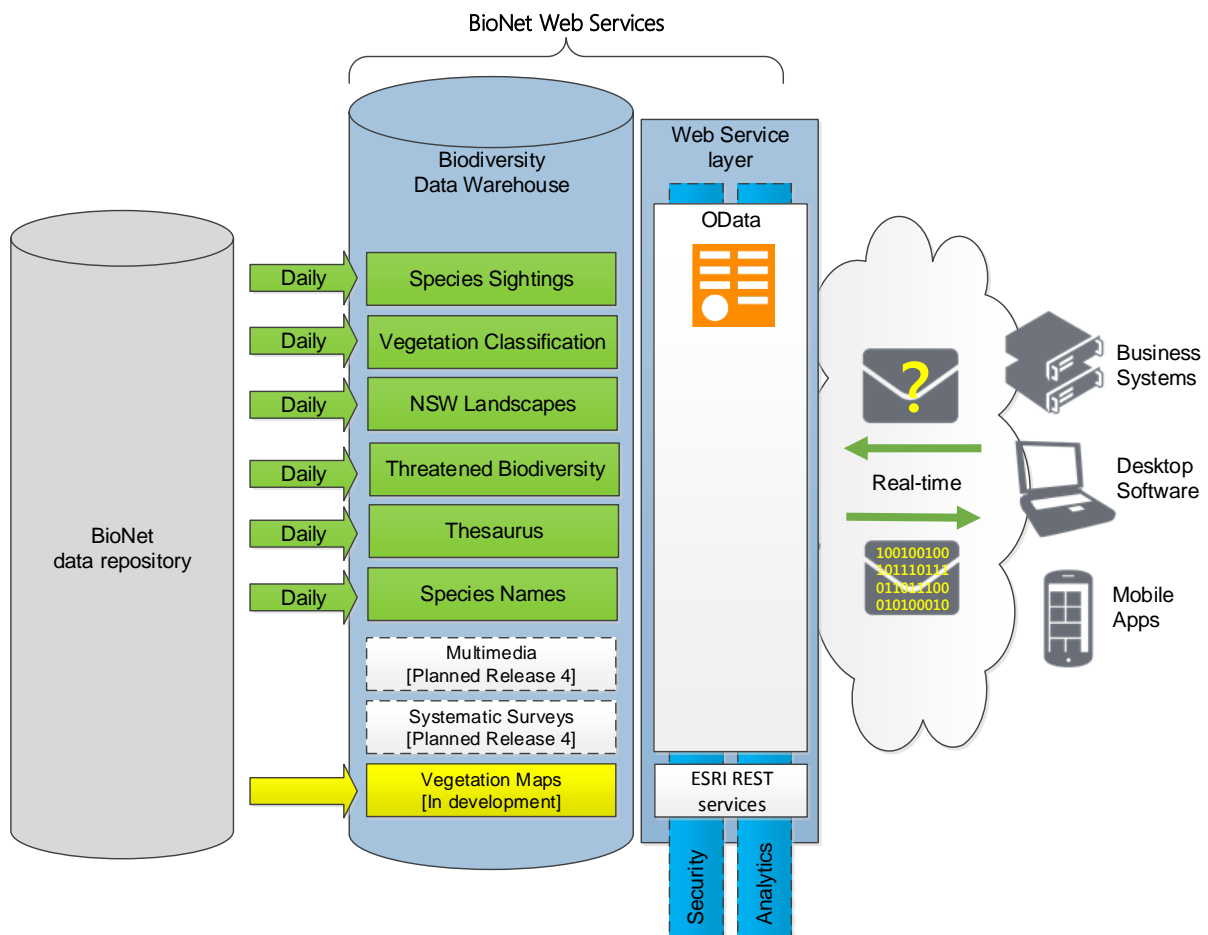


Figure 1 Overview of BioNet Web Services implementation

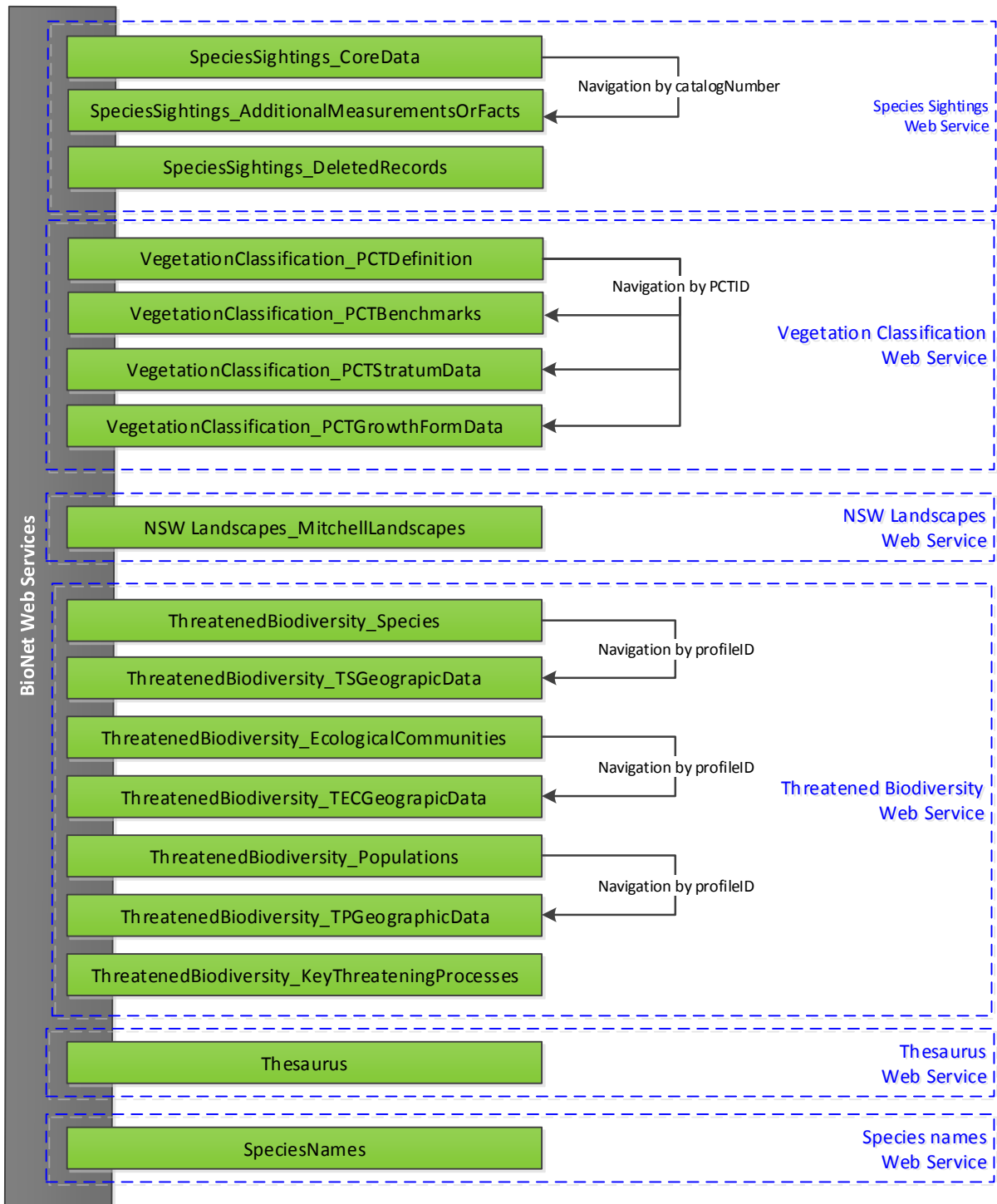


Figure 2 Overview of the existing OData entity sets that comprise Release 3.1, including navigation links between entity sets

2. New features

No new features have been added as part of this release.

3. Enhancements and fixes

3.1 dcterms_available

A new field, `dcterms_available`, has been added to provide the date on which the record first became available in BioNet. It is available in the following entity sets:

- `SpeciesSightings_CoreData`
- `VegetationClassification_PCTDefinition`
- `VegetationClassification_PCTBenchmarks`
- `VegetationClassification_PCTStratumData`
- `VegetationClassification_PCTGrowthForm`
- `NSWLandscapes_MitchellLandscapes`
- `ThreatenedBiodiversity_Species`
- `ThreatenedBiodiversity_EcologicalCommunities`
- `ThreatenedBiodiversity_Populations`
- `ThreatenedBiodiversity_KeyThreateningProcesses`
- `ThreatenedBiodiversity_TSGeographicData`
- `ThreatenedBiodiversity_TECGeographicData`
- `ThreatenedBiodiversity_TPGeographicData`
- `SpeciesNames`

The intention of this field is to improve a user's ability to interpret the timeline of a given record across its life cycle. See Table 1 below for an example of how it can be used together with other date fields using the Species Sightings web service as an example.

Table 1: Date fields in the SpeciesSightings_CoreData entity set and how they can be interpreted.

Field	How to interpret
dcterms_available	<p>This is the date that the record first became available in BioNet. Note that in this example (Species Sightings) this date may be a long time after the eventDate when the actual sighting was made as it reflects the date that the data was uploaded or entered into BioNet.</p> <p>The date in this field is a fixed point in time.</p>
dcterms_modified	<p>This is the date that the record was last modified. If the date is the same as the dcterms_available date then no changes have been made since it was first made available.</p> <p>The date in this field will change whenever there is an update to the record (see section 5 for known issues regarding this).</p>
dcterms_bibliographicCitation	<p>This includes the date that the data in the web service was refreshed from the source databases (this normally happens on a daily basis). Users can use this data in two ways.</p> <ol style="list-style-type: none"> 1. For real time connections to the web service it tells you how up-to-date the data being served from the web service is. 2. For data that has been locally saved from the web service, it indicates how long it has been since you last updated your local copy of the data. <p>The date in this field will change on a daily basis.</p>
eventDate	<p>For species sightings this tells you when the species was sighted.</p> <p>The date in this field is a fixed point in time.</p>

3.2 SpeciesSightings_CoreData

The following changes have been applied to the SpeciesSightings_CoreData entity set.

Fields changed:

- **sensitivityClass** – spelling corrected.

3.3 SpeciesSightings_AdditionalMeasurementOrFacts

The following changes have been applied to the SpeciesSightings_AdditionalMeasurementOrFacts entity set.

Fields added:

- **datasetID** – a unique ID for the dataset.
- **measurementID** – a unique ID for the measurement.

3.4 VegetationClassification_PCTDefinition

The following changes have been applied to the VegetationClassification_PCTDefinition entity set.

Fields added:

- **PCTPercentClearedSource** – the source of the value for the PCT percent cleared value.
- **landscapeName** - the name of the Mitchell Landscape.
- **county** – the full unabbreviated name of the next smaller region than the state province. In the context of NSW, that is the Local Government Area (LGA).

Field names corrected:

- **ClassificationType** - changed to classificationType
- **IBRASubRegion** - changed to IBRASubregion
- **IBRASubRegionID** – changed to IBRASubregionID
- **PreEuropeanExtent** – changed to preEuropeanExtent
- **PreEuropeanAccuracy** – changed to preEuropeanAccuracy
- **PreEuropeanQualifiers** – changed to preEuropeanQualifiers
- **CurrentExtent** – changed to currentExtent
- **CurrentAccuracy** – changed to currentAccuracy
- **CurrentQualifiers** - changed to currentQualifiers
- **CurrentAreaComments** – changed to currentComments
- **Authority** – changed to authority

Fields moved from **VegetationClassification_PCT Benchmarks** entity set:

- **threatenedSpeciesProfileID** name has been changed to **TSPProfileID**
- **stateTECProfileID**
- **stateTECDegreeOfFit**
- **countryTECProfileID**
- **countryTECDegreeOfFit**

3.5 **VegetationClassification_PCTStratumData**

The following changes have been applied to the **VegetationClassification_PCTStratumData** entity set.

Fields changed:

- **UpperStratumSpeciesList** - changed to **upperStratumSpeciesList**

3.6 **VegetationClassification_PCTBenchmarks**

This entity set was previously referred to as **VegetationClassification_PCTAssessmentData** in version 2 of the BioNet Web Services.

The following changes have been applied to the **VegetationClassification_PCTBenchmarks** entity set.

Fields changed:

- **treeRichness** data type has been changed to **Int**
- **shrubRichness** data type has been changed to **Int**
- **grassAndGrassLikeRichness** data type has been changed to **Int**
- **forbRichness** data type has been changed to **Int**
- **fernRichness** data type has been changed to **Int**
- **otherRichness** data type has been changed to **Int**
- **largeTreeThresholdSize** data type has been changed to **Int**
- **totalLengthFallenLogs** data type has been changed to **Int**
- **litterCover** data type has been changed to **Decimal**

Fields moved to **VegetationClassification_PCTDefinition**:

- **ThreatenedSpeciesProfileID**
- **stateTECProfileID**
- **stateTECDegreeOfFit**
- **countyTECProfileID**
- **countyTECDegreeOfFit**

Fields deleted:

- **PCTEstimatePercentRemaining**
- **preEuroExtent**
- **currentExtent**

3.7 ThreatenedBiodiversity_EcologicalCommunities

The following changes have been applied to the ThreatenedBiodiversity_EcologicalCommunities entity set.

Fields changed:

- **SAIThresholdCondition** data type has been changed to **String**

Fields added:

- **geographicDistribution** - Identifies the number of known locations of the species in NSW.
- **rateOfDecline** - Identifies the rate of decline of the species within NSW.
- **populationSize** - Identifies number of individuals (taken as the total number of known mature individuals) in NSW.
- **sensitivityToLoss** - An assessment of the vulnerability of the species to the Biodiversity Offsets Scheme.
- **sensitivityToLossJustification** - Provides the justification for the category of sensitivityToLoss assigned to the species.

Fields removed:

- SAAllThresholdType
- biodiversityRiskWeighting
- offsetMultiplier
- levelOfBiodiversityConcern
- patchSize
- unitOfMeasure

3.8 ThreatenedBiodiversity_Species

The following changes have been applied to the ThreatenedBiodiversity_Species entity set.

Fields changed:

- dependentOnNonRespondingAttributes has been changed to **depend**OnNonRespondingAttributes
- speciesDependOnhabitatAttribute has been changed to speciesDependOn**Habitat**Attribute
- speciesDependOnhabitatAttributeBreeding has been changed to speciesDependOn**Habitat**AttributeBreeding
- speciesDependOnhabitatAttributeForaging has been changed to speciesDependOn**Habitat**AttributeForaging

3.9 ThreatenedBiodiversity_Populations

The following changes have been applied to the ThreatenedBiodiversity_Populations entity set.

Fields changed:

- speciesDependOnhabitatAttribute has been changed to speciesDependOn**Habitat**Attribute
- speciesDependOnhabitatAttributeBreeding has been changed to speciesDependOn**Habitat**AttributeBreeding
- speciesDependOnhabitatAttributeForaging has been changed to speciesDependOn**Habitat**AttributeForaging

3.10 Threatened Biodiversity Geographic Data entity sets

The following changes have been applied to the ThreatenedBiodiversity_TSGeographicData, ThreatenedBiodiversityTECGeographicData, ThretenedBiodiversity_TPGeographicData entity sets.

Fields changed:

- **IBRASubregionID** has been changed from an internal code to the Nationally recognised interim biogeographic regionalisation of Australia (IBRA) code e.g. SYB02 for Hunter IBRA subregion.

3.11 NSWLandscapes_MitchellLandscapes

The following changes have been applied to the NSWLandscapes_MitchellLandscapes entity set.

Fields added:

- **landscapelD** – provides a unique ID for the landscape.

3.12 SpeciesNames

The following changes have been applied to the SpeciesNames entity set.

Fields added:

- **primaryGrowthForm** – the primary growth form for the species.
- **primaryGrowthFormGroup** – the growth form group corresponding to the primary growth form.
- **secondaryGrowthForms** – the secondary growth forms for the species.
- **secondaryGrowthFormGroups** – The growth form groups corresponding to the secondary growth form.

Fields changed:

- **scientificName** has been changed to **scientificName** (spelling).
- **currentScientificNameCode** - code now given instead of full name.

Fields removed:

- **growthForm** – see above additions, this field was removed to give more accurate and granular information via the four new fields added above.

3.13 Authentication

Align web service licence validation to BioNet Atlas:

Some users reported issues where they could access data via the BioNet Atlas User Interface, but when they tried to access the same data via the BioNet Web Service they were given an authentication error. An analysis indicated that validation by the web service against the license state of the user was inconsistent with the same check being made by the BioNet Atlas User Interface. This has been fixed and the web service brought into line with Atlas as follows.

The following licence statuses are now implemented in the web service:

- Current (no change)
- Application Pending (not for new licences)
- Renewal Reminder Sent
- Sent Out
- Awaiting OEH Signature.

4. Documentation

Documentation for BioNet Web Services, including a standards guide and developer guide, is available on the BioNet website.

The following documents will be updated because of changes implemented in Release 3.1:

- BioNet Web Services Species Sightings Web Service Data Standard will be Version 6.1.
- BioNet Web Services Vegetation Classification Web Service Data Standard will be Version 2.1.
- BioNet Web Services Threatened Biodiversity Web Service Data Standard will be Version 1.1.
- BioNet Web Services Species Names Web Service Data Standard will be Version 1.1.
- BioNet Web Services NSW Landscapes Web Service Data Standard will be Version 1.1.

5. Warnings and known limitations

5.1 SpeciesSightings_CoreData

dcterms_modified

The date in dcterms_modified will not be updated when data in the following fields change during the daily delta updates from BioNet Atlas of NSW Wildlife:

- County (LGA)
- mapSheetNumber
- dynamicProperties; botanicalDivision
- dynamicProperties; CMA
- dynamicProperties; CMASubregion
- dynamicProperties; floraReserve
- dynamicProperties; IBRA
- dynamicProperties; reserve
- dynamicProperties; stateForest.

5.2 ThreatenedBiodiversity_EcologicalCommunities

geographicDistribution

The controlled vocabulary for this field has not been updated to be specific to ecological communities. It currently uses the controlled vocabulary from the ThreatenedBiodiversity_Species entity set.

populationSize

The controlled vocabulary for this field has not been updated to be specific to ecological communities. It currently uses the controlled vocabulary from the ThreatenedBiodiversity_Species entity set.

rateOfDecline

The controlled vocabulary for this field has not been updated to be specific to ecological communities. It currently uses the controlled vocabulary from the ThreatenedBiodiversity_Species entity set.