

Title	Assessment of Rainforest TECS on NSW Crown Forest Estate
Alternative title(s)	Lowland Rainforest and Lowland Rainforest on Floodplain: Survey, Classification and Mapping Completed for the NSW Environment Protection Authority
Abstract	<p>Operational map for Lowland Rainforest:</p> <p>The operational map for Lowland Rainforest (LORF) was constructed to resolve long-standing issues surrounding its identification, location and extent within the NSW State Forest estate covered by the coastal Integrated Forestry Operation Agreements. The project's Threatened Ecological Community (TEC) Reference Panel (the Panel) preceded the assessment process by reviewing the determination for LORF. The Panel found that the determination for LORF relies almost exclusively on a rainforest classification system described by Floyd (1990) where several rainforest 'suballiances' make up the LORF assemblage. Floyd's suballiance classifications presented a challenge to our project as they were largely subjective and were not compatible with quantitative analysis, meaning that it was difficult to distinguish between the LORF TEC and other rainforest vegetation using statistically sound methods. To overcome some of these problems we revisited a set of reference sites that were assigned by Floyd to the suballiances cited in the LORF determination and in other rainforest TEC determinations, and collected new floristic data using standard flora survey methods. We also targeted a range of localities on State Forest that we considered likely to include LORF and other rainforest TECs based on the suballiance descriptions, cited localities in Floyd (1990), and preliminary distribution models. Over 300 new rainforest plots were combined with a large pool of existing data covering eastern NSW to construct a provisional revised rainforest classification. We used the rainforest groups derived from this analysis to compare the species composition of Floyd's suballiances, determination assemblage lists and recent rainforest classifications included in regional classifications. Rainforest groups (and the plots that defined them) were assigned to the Floyd suballiance with the highest degree of floristic similarity. We conferred with the Panel to resolve any inconsistencies between the results of our analyses and statements relating to the distribution and composition of individual suballiances in Floyd (1990) and the determinations. We then used plot data and a selection of environmental and remote-sensing variables to develop a Random Forest (RF) model of the probability of occurrence of LORF. We assessed the location of plots assigned to LORF against the distribution of the RF model on and adjoining State Forests. We then completed detailed aerial photograph interpretation (API) using a prescribed set of mapping classes to delineate rainforest areas for a range of canopy cover thresholds. We constructed an operational map of LORF by assigning our API polygons as being LORF based on the modelled probabilities and plot data underlying the polygon. Our mapping identified a total of approximately 14,036 hectares of LORF, the vast majority of which was located in the north coast region. We mapped 13,209 hectares of LORF on the north coast, with the largest areas found in Ewingar and Unumgar State Forests. Only 827 hectares of LORF were mapped on the south coast, with the largest areas found in Yadboro and Currowan State Forests.</p> <p>Operational map for Lowland Rainforest on Floodplains:</p> <p>The operational map for Lowland Rainforest on Floodplains (LRFP) was constructed to resolve long-standing issues surrounding its identification, location and extent within the NSW State Forest estate covered by the coastal Integrated Forestry Operation Agreements. The project's Threatened Ecological Community (TEC) Reference Panel (the Panel) preceded the assessment process by reviewing the determination for LRFP. The Panel found that the determination for LRFP relies mainly on a rainforest classification system described by Floyd (1990) where several rainforest 'suballiances' make up the LRFP assemblage. The determination also identifies a range of floodplain and alluvial descriptors. Floyd's suballiance classifications presented a challenge to our project as they were largely subjective and were not compatible with quantitative analysis, meaning that it was difficult to distinguish between the LRFP TEC and other rainforest vegetation using statistically sound methods. To overcome some of these problems we revisited a set of reference sites that were assigned by Floyd to the suballiances cited in the LRFP determination and other rainforest TEC determinations, and collected new floristic data using standard flora survey methods. We also targeted a range of localities on State Forest that we considered likely to include LRFP and other rainforest TECs based on the suballiance descriptions, cited localities in Floyd (1990), and preliminary distribution models. Over 300 new rainforest plots were combined with a large pool of existing data covering eastern NSW to construct a provisional revised rainforest classification. We used the rainforest groups derived from this analysis to compare the species composition of Floyd suballiances, determination assemblage lists and recent rainforest classifications included in regional classifications. Rainforest groups, (and the plots that defined them), were assigned to the Floyd suballiance with the highest degree of floristic similarity. We conferred with the TEC Project Reference Panel (the Panel) to resolve inconsistencies between the results of our analyses and statements relating to the distribution and composition of individual suballiances in Floyd (1990), and the determinations. We attempted to use plot data and a selection of</p>

environmental and remote-sensing variable to develop Random Forest models of the probability of occurrence of LRFP, but we were unable to assign any of our rainforest groups to the assemblage lists or the primary suballiances cited in the LRFP determination. We overcame this problem by constructing a fine scale digital elevation model (DEM) of landscape elements that we considered were likely to be associated with the range of floodplain and alluvial descriptors identified in the determination for LRFP. We then mapped our rainforest groups onto the DEM and assigned any rainforest assemblage that overlapped with our alluvial and floodplain DEM map as LRFP TEC. Using this method we constructed an operational map of LRFP in State Forests on the NSW coast. Our mapped identified a total of 680 hectares of LRFP, all of which was located in the north coast region.

Operational TEC Mapping have been derived by API at a viewing scale between 1-4000 using ADS40 50 cm pixel imagery and 1 m derived LIDAR DEM grids for floodplain EECs.

Resource locator

[Data Quality Statement](#)

Name: Data Quality Statement

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

NSW Government standards direct that data should be made available with a statement regarding its quality, a so-called "Data Quality statement (DQS)", to enable potential users to determine whether the data is suitable for their requirements.

Function: download

[Assessment of Rainforest TECS on NSW Crown Forest Estate](#)

Name: Assessment of Rainforest TECS on NSW Crown Forest Estate

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Report on the Assessment of Rainforest TECS on NSW Crown Forest Estate

Function: download

[Operational Map for Lowland Rainforest on Floodplain Threatened Ecological Community on NSW Crown Forest Estate](#)

Name: Operational Map for Lowland Rainforest on Floodplain Threatened Ecological Community on NSW Crown Forest Estate

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Shapefile - Operational map (Lowland Rainforest on Floodplain) for the Assessment of Rainforest TECS on NSW Crown Forest Estate

Function: download

[Operational Map for Lowland Rainforest Threatened Ecological Community on NSW Crown Forest Estate](#)

Name: Operational Map for Lowland Rainforest Threatened Ecological Community on NSW Crown Forest Estate

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Shapefile - Operational map (Lowland Rainforest) for the Assessment of Rainforest TECS on NSW Crown Forest Estate

Function: download

[Operational and Indicative Maps for the Assessment of Threatened Ecological Communities on NSW Crown Forest Estate](#)

Name: Operational and Indicative Maps for the Assessment of Threatened Ecological Communities on NSW Crown Forest Estate

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

ESRI ArcGIS Layer File - Operational and Indicative Maps for the Assessment of Threatened Ecological Communities on NSW Crown Forest Estate

Function: download

[Native Forestry](#)

Name: Native Forestry Map Viewer

Description:

The EPA Native Forestry Map Viewer enables users to view our Koala and Threatened Ecological Community mapping without the need to access a GIS system. The map viewer allows users to perform searches to locate areas of interest and export resulting map views into various image file formats.

Function: download

Unique resource identifier

Code 9ce4c195-a122-4850-812e-4df498ed71ed

Presentation form Map digital

Edition Version 1

Dataset language English

Metadata standard

Name ISO 19115

Edition 2016

Dataset URI <https://datasets.seed.nsw.gov.au/dataset/9ce4c195-a122-4850-812e-4df498ed71ed>

Purpose Native Forestry Regulation on State Forests

Status Completed

Spatial representation

Type vector

Geometric Object Type curve

Spatial reference system

Code identifying the spatial reference system 4283

Equivalent scale 1:None

Topic category

Keyword set	
keyword value	Threatened Ecological Community Endangered Ecological Community Vegetation State Forest Lowland Rainforest Lowland Rainforest on Floodplain EEC TEC Environment Protection Authority EPA
Originating controlled vocabulary	
Title	ANZLIC Search Words
Reference date	2008-05-16
Geographic location	
West bounding longitude	150.01026
East bounding longitude	153.2021
North bounding latitude	-35.56819
South bounding latitude	-28.31929
Vertical extent information	
Minimum value	-100
Maximum value	2228
Coordinate reference system	
Authority code	urn:ogc:def:cs:EPSG::
Code identifying the coordinate reference system	5711
Temporal extent	
Begin position	2016-10-01
End position	N/A
Dataset reference date	
Resource maintenance	
Maintenance and update frequency	Irregular
Contact info	
Contact position	Data Broker
Organisation name	Environment Protection Authority (EPA)
Responsible party role	pointOfContact

Lineage	<p>Linework has been derived from manual interpretation of stereoscopic 3D ADS-40 imagery collected at a 50cm resolution. Date of photography varies across eastern NSW between 2009-2015. Interpretation has collected a range of floristic attributes including canopy species dominance, understorey attributes and assessment of landscape characteristics. Lines have been interpreted using a viewing scale between 1:2000- 1: 5000. Interpretation has been supported by field traverse (except bogs and saltmarsh), and existing field based observation data held by OEH. Final linework was assembled using combinations of aerial photo patterns, predictive TEC models, systematic plot data and where relevant fine scale topographic data derived from 1 metre resolution digital elevation model.</p>	
Limitations on public access		
Scope	dataset	
DQ Conceptual Consistency	<p>Explanation Standard API mapping pathways have been established for mappers to apply consistent interpretation of vegetation features including, size criteria and polygon attribution.</p>	
DQ Topological Consistency	<p>Explanation Not assessed</p>	
DQ Absolute External Positional Accuracy	<p>Explanation Positional accuracy for operational maps has been measured using independent assessment of interpreted lines as a mean of 8.5 metres. Other influence on positional accuracy include the accuracy of field based GPS records currently tested at a mean of 9.2 metres. Some error with interpreted line from 2D to 3D environment can result in a positional shift of up to 10 metres.</p>	
DQ Non Quantitative Attribute Correctness	<p>Explanation Attribution is consistent</p>	
Responsible party	<p>Contact position Data Broker</p> <p>Organisation name Environment Protection Authority (EPA)</p> <p>Responsible party role pointOfContact</p>	
Metadata point of contact	<p>Contact position Data Broker</p> <p>Organisation name Environment Protection Authority (EPA)</p> <p>Responsible party role pointOfContact</p>	
Metadata date	2024-02-26T15:32:06.381115	
Metadata language		