

Title	Assessment of North Coast Floodplain TECs on NSW Crown Forest Estate
Alternative title(s)	North Coast Floodplain TEC survey, Classification and Mapping Completed for the NSW Environment Protection Authority
Abstract	<p data-bbox="359 190 941 235">Operational map for River-flat Eucalypt Forest:</p> <p data-bbox="359 246 1452 1500">The operational map for River-flat Eucalypt Forest (RFEF) 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 map was constructed in two parts, with State Forests to the north of Sydney being mapped in a separate process to those to the south of Sydney. We did this to minimise the risk that relationships between regional vegetation communities and the TEC would be confounded or masked by geographical variation or other major ecological gradients, which might otherwise be a significant risk if we had treated the full latitudinal range of the TEC as a single study area. In total, we assessed 1,218,000 hectares of State Forest across coastal NSW. This consisted of 868,000 hectares of State Forest on the north coast and more than 350,000 hectares of State Forest on the south coast. In both study areas, the project's Threatened Ecological Community (TEC) Reference Panel (the Panel) preceded the assessment process by reviewing the determination for RFEF and agreeing upon a set of diagnostic parameters for its identification. The Panel found that RFEF is primarily defined by floristic plot data and that it is mostly located on coastal floodplains and associated alluvial landforms. Following on from these conclusions, we started the mapping process by mapping the distribution of floodplains and alluvial soils and thus identifying possible areas of RFEF. For both the north and the south coast we used an existing map of coastal landforms and geology in combination with several fine-scale models of alluvial landform features to determine the likely extent of floodplains and alluvial soils within our study areas. We used aerial photograph interpretation (API) to assess the floristic and structural attributes of the vegetation cover found on our modelled alluvial environments, and thus delineated polygons likely to contain RFEF. We also used API to modify the boundaries of the modelled alluvial areas using a prescribed list of eucalypt, casuarina and melaleuca species in combination with the interpretation of landform elements relevant to alluvial and floodplain environments. We then compiled floristic plot data for all State Forest areas within our modelled alluvial landforms and API polygons. For both the north and the south coast the floristic plot data was sourced from both existing flora surveys held in the OEH VIS database and from targeted flora surveys conducted specifically for this project. We compared these plots with those previously assigned to flora communities listed in the determination of RFEF. Both dissimilarity-based methods and multivariate regression methods were used for the comparison. The results of the comparison were then used to assess the likelihood that the plots in State forests belonged to one or more of the communities listed in the RFEF determination. Following this, we developed a predictive statistical model of the probability of occurrence of RFEF using plot data and a selection of environmental and remote-sensing variables. For the north coast, we used a Random Forest model, while for the south coast we used a Boosted Regression Tree model. To create the operational map, we assigned every mapped API polygon to RFEF if appropriate based on the plot data, over-storey and understorey attributes, landform features and modelled probabilities underlying each API polygon. We mapped 3819 hectares of RFEF on the south coast and 198 hectares of RFEF on the north coast.</p> <p data-bbox="359 1523 997 1568">Operational map for Swamp Oak Floodplain Forest:</p> <p data-bbox="359 1579 1452 2228">The operational map for Swamp Oak Floodplain Forest (SOFF) 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 map was constructed in two parts, with State Forests to the north of Sydney being mapped in a separate process to those to the south of Sydney. We did this to minimise the risk that relationships between regional vegetation communities and the TEC would be confounded or masked by geographical variation or other major ecological gradients, which might otherwise be a significant risk if we had treated the full latitudinal range of the TEC as a single study area. In total, we assessed 1,218,000 hectares of State Forest across coastal NSW. This consisted of 868,000 hectares of State Forest on the north coast and more than 350,000 hectares of State Forest on the south coast. In both study areas, the project's Threatened Ecological Community (TEC) Reference Panel (the Panel) preceded the assessment process by reviewing the determination for SOFF and agreeing upon a set of diagnostic parameters for its identification. The Panel found that SOFF is primarily defined by floristic plot data and that it is mostly located on coastal floodplains and associated alluvial landforms. Following on from these conclusions, we started the mapping process by mapping the distribution of floodplains and alluvial soils and thus identifying possible areas of SOFF. For both the north and the south coast we used an existing map of coastal landforms and geology in combination with several fine-scale models of alluvial landform features to determine the likely extent of floodplains and alluvial soils within our study areas. We used aerial photograph interpretation (API) to assess floristic and structural attributes</p>

of the vegetation cover on our modelled alluvial environments, and thus delineated polygons likely to contain SOFF. We also used API to modify the boundaries of the modelled alluvial areas using a prescribed list of casuarina and melaleuca species in combination with the interpretation of landform elements relevant to alluvial and floodplain environments. We then compiled floristic plot data for all State Forest areas within our modelled alluvial landforms and API polygons. For both the north and the south coast the floristic plot data was sourced from both existing flora surveys held in the OEH VIS database and from targeted flora surveys conducted specifically for this project. We compared these plots with those previously assigned to flora communities listed in the determination of SOFF. Both dissimilarity-based methods and multivariate regression methods were used for the comparison. The results of the comparison were then used to assess the likelihood that the plots in State forests belonged to one or more of the communities listed in the SOFF determination. To create the operational map, we assigned every mapped API polygon to SOFF based on the plot data, over-storey and understorey attributes, landform features and model output underlying each API polygon. In total, we mapped approximately 272 hectares of SOFF across our full study area.

Operational map for Swamp Sclerophyll Forest:

The operational map for Swamp Sclerophyll Forest (SSF) 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 map was constructed in two parts, with State Forests to the north of Sydney being mapped in a separate process to those to the south of Sydney. We did this to minimise the risk that relationships between regional vegetation communities and the TEC would be confounded or masked by geographical variation or other major ecological gradients, which might otherwise be a significant risk if we had treated the full latitudinal range of the TEC as a single study area. In total, we assessed 1,218,000 hectares of State Forest across coastal NSW. This consisted of 868,000 hectares of State Forest on the north coast and more than 350,000 hectares of State Forest on the south coast. In both study areas, the project's Threatened Ecological Community (TEC) Reference Panel (the Panel) preceded the assessment process by reviewing the determination for SSF and agreeing upon a set of diagnostic parameters for its identification. The Panel found that SSF is primarily defined by floristic plot data and that it is mostly located on coastal floodplains and associated alluvial landforms. Following on from these conclusions, we started the mapping process by mapping the distribution of floodplains and alluvial soils and thus identifying possible areas of SSF. For both the north and the south coast we used an existing map of coastal landforms and geology in combination with several fine-scale models of alluvial landform features to determine the likely extent of floodplains and alluvial soils within our study areas. We used aerial photograph interpretation (API) to assess the floristic and structural attributes of the vegetation cover on our modelled alluvial environments, and thus delineated polygons likely to contain SSF. We also used API to modify the boundaries of the modelled alluvial areas using a prescribed list of eucalypt, casuarina and melaleuca species in combination with the interpretation of landform elements relevant to alluvial and floodplain environments. We then compiled floristic plot data for all State Forest areas within our modelled alluvial landforms and API polygons. For both the north and the south coast the floristic plot data was sourced from both existing flora surveys held in the OEH VIS database and from targeted flora surveys conducted specifically for this project. We compared these plots with those previously assigned to flora communities listed in the determination of SSF. Both dissimilarity-based methods and multivariate regression methods were used for the comparison. The results of the comparison were then used to assess the likelihood that the plots in State forests belonged to one or more of the communities listed in the SSF determination. Following this, we developed a predictive statistical model of the probability of occurrence of SSF using plot data and a selection of environmental and remote-sensing variables. For the north coast, we used a Random Forest model, while for the south coast we used a Boosted Regression Tree model. To create the operational map, we assigned every mapped API polygon to SSF if appropriate based on the plot data, over-storey and understorey attributes, landform features and modelled probabilities underlying each API polygon. In total, we mapped approximately 1131 hectares of SSF across our study area.

Operational map for Subtropical Coastal Floodplain Forest:

The operational map for Subtropical Coastal Floodplain Forest (SCFF) was constructed to resolve long-standing issues surrounding its identification, location and extent within the NSW State Forest estate covered by the eastern Regional Forest Agreements. The project's Threatened Ecological Community (TEC) Reference Panel (the Panel) reviewed the determination for SCFF in conjunction with the determinations of three other TECs associated with coastal floodplain environments. The Panel agreed that SCFF is primarily defined by floristic plot data and that it is mostly located on coastal floodplains and associated alluvial landforms. The operational map was constructed in several stages. Firstly, we identified candidate areas for SCFF by mapping the distribution of floodplains and alluvial soils. To do this we used an existing map of coastal landforms and geology in combination with several fine-scale models of alluvial landform features to determine the likely extent of floodplains and alluvial soils in our study area. Secondly, we compiled floristic plot data for State Forest areas within these

alluvial landforms. The floristic plot data was sourced from both existing flora surveys held in the OEH VIS database and from targeted flora surveys conducted specifically for this project. We compared these plots with those assigned to previously defined communities listed in the determinations for SCFF. Both dissimilarity-based methods and multivariate regression methods were used for the comparison. The results of the comparison were then used to assess the likelihood that plots in State forests belonged to one or more of the communities listed in the determination. Thirdly, we used aerial photograph interpretation (API) to assess both floristic and structural attributes found on the modelled alluvial and related environments. We also used API to modify the boundaries of the modelled alluvial areas using a prescribed list of eucalypt, casuarina and melaleuca species in combination with the interpretation of landform elements relevant to alluvial and floodplain environments. Fourthly, we 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 SCFF. To create the operational map, we assigned every mapped API polygon to SCFF if appropriate based on the plot data, over-storey and understorey attributes, landform features and modelled probabilities underlying each API polygon. In total, we mapped approximately 11,050 hectares of Subtropical Coastal Floodplain Forest. The majority of the mapped SCFF was located between Grafton and Casino.

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 North Coast Floodplain TECs on NSW Crown Forest Estate](#)

Name: Assessment of North Coast Floodplain TECs on NSW Crown Forest Estate

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

Description:

Report on the Assessment of North Coast Floodplain TECs on NSW Crown Forest Estate

Function: download

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

Name: Operational Map for Subtropical Coastal Floodplain Forest Threatened Ecological Community on NSW Crown Forest Estate

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

Description:

Shapefile - Operational map (Subtropical Coastal Floodplain Forest) for the Assessment of North Coast Floodplain TECs on NSW Crown Forest Estate

Function: download

[Operational Map for River-Flat Eucalypt Forest Threatened Ecological Community on NSW Crown Forest Estate](#)

Name: Operational Map for River-Flat Eucalypt Forest Threatened Ecological Community on NSW Crown Forest Estate

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

Description:

Shapefile - Operational map (River-Flat Eucalypt Forest) Assessment of North Coast Floodplain TECs on NSW Crown Forest Estate

Function: download

[Operational Map for Swamp Oak](#)

Name: Operational Map for Swamp Oak Floodplain Forest Threatened Ecological Community on NSW Crown Forest Estate

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

[Floodplain Forest Threatened Ecological Community on NSW Crown Forest Estate](#)

Description:
Shapefile - Operational Map (Swamp Oak Floodplain Forest) for the Assessment of North Coast Floodplain TECs on NSW Crown Forest Estate

Function: download

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

Name: Operational Map for Swamp Sclerophyll Forest Threatened Ecological Community on NSW Crown Forest Estate

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

Description:

Shapefile - Operational Map (Swamp Sclerophyll Forest) for the Assessment of North Coast Floodplain 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 Map Viewer](#)

Name: Native Forestry Map Viewer

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

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 14e778cd-aa67-4424-8f38-828e06c95966

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/14e778cd-aa67-4424-8f38-828e06c95966>

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
Subtropical Coastal Floodplain Forest
EEC
TEC
Environment Protection Authority
EPA
River-flat Eucalypt Forest
Swamp Oak Floodplain Forest
Swamp Sclerophyll Forest

Originating controlled vocabulary

Title ANZLIC Search Words

Reference date 2008-05-16

Geographic location

West bounding longitude 149.50438

East bounding longitude 153.28261

North bounding latitude -37.41703

South bounding latitude -28.97536

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

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.

Limitations on public access

Scope

dataset

DQ Conceptual Consistency

Explanation

Standard API mapping pathways have been established for mappers to apply consistent interpretation of vegetation features including, size criteria and polygon attribution

DQ Topological Consistency

Explanation

Not assessed

DQ Absolute External Positional Accuracy

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.

DQ Non Quantitative Attribute Correctness

Explanation

Attribution is consistent

Responsible party

Contact position

Data Broker

Organisation name

Environment Protection Authority (EPA)

Responsible party role

pointOfContact

Metadata point of contact

Contact position

Data Broker

Organisation name

Environment Protection Authority (EPA)

Responsible party role

pointOfContact

Metadata date

2024-02-26T15:31:43.319174

Metadata language