NSW STATE EMERGENCY SERVICE

Nambucca Valley LGA

Local Flood Emergency Sub Plan

FloodSafe

NAMBUCCA VALLEY COUNCIL FLOOD EMERGENCY SUB PLAN

A Sub Plan of the Local Emergency Management Plan (EMPLAN)

Volume 1 of the Nambucca Valley Council Local Flood Plan

Endorsed by the Nambucca Valley Council Emergency Management Committee

Endorsed Date: 13th December 2022

AUTHORISATION

The Nambucca Council Flood Emergency Sub Plan is a sub plan of the Nambucca Council Local Emergency Management Plan (EMPLAN). It has been prepared in accordance with the provisions of the ***State Emergency Service Act 1989*** **(NSW)** and is endorsed by the Local Emergency Management Committee in accordance with the provisions of the ***State Emergency and Rescue Management Act 1989*** **(NSW)**.

Authorised

W. Hancock. WARREN HANCOCK

NSW SES Local/Unit Commander

Date: 13-12-2022

Endorsed

Daniel Walsh

Chair, Local Emergency Management Committee

Date: 13/12/22

VERSION HISTORY

Version Number	Description	Date
	Nambucca Shire Local Flood Plan	**February 2013**

AMENDMENT LIST

Suggestions for amendments to this plan should be forwarded to:

Community Planning and Engagement
NSW State Emergency Service
PO Box 6126, Wollongong NSW 2500
nswses.communityplanning@ses.nsw.gov.au

Amendments in the list below have been entered in this plan.

Amendment Number	Description	Updated by	Date
1.0	Changes to Template to condense with references to NSW State Flood Plan.	T Ware	1.12.22
1.1	Minor changes to reflect new AWS Warning System updates to State Board Rescue Policy naming and My Roads deleted with reference to Live Traffic only.	T Ware	1.12.22

DISTRIBUTION LIST

Available for general use and distribution on the NSW State Emergency Service website www.ses.nsw.gov.au

CONTENTS

1 OUTLINE AND SCOPE

1.1 PURPOSE

1.1.1 The purpose of this plan is to set out the multi-agency arrangements for the emergency management of flooding in the Nambucca Council Local Government Area (LGA).

1.2 AUTHORITY

1.2.1 This plan is written and issued under the authority of the *State Emergency and Rescue Management Act 1989* (NSW) ('SERM Act'), the *State Emergency Service Act 1989* (NSW) ("SES Act') and the NSW State Emergency Management Plan (EMPLAN).

1.2.2 This plan is a sub plan to the Nambucca Council Local Emergency Management Plan (EMPLAN) and is endorsed by the Nambucca Valley Council Emergency Management Committee (LEMC).

1.3 ACTIVATION

1.3.1 This plan does not require activation. The arrangements set out in this plan are always active.

1.3.2 The Nambucca Council Emergency Management Plan (EMPLAN) is active at all times in anticipation of the need to coordinate support and resources requested by combat agencies, including the NSW State Emergency Service (NSW SES).

1.4 SCOPE

1.4.1 The area covered by this plan is the Nambucca Council LGA. The Nambucca Council LGA and its principal towns, villages, rivers and creeks are shown in Appendix A.

1.4.2 The council area is in the NSW SES Northern Zone and for emergency management purposes is part of the North Coast Emergency Management Region.

1.4.3 The plan sets out the Nambucca Council level emergency management arrangements for prevention, preparation, response and initial recovery for flooding in the Nambucca Council LGA. Hazard and Risk information can be found in Volume 2 of this document, and NSW SES Response Arrangements can be found in Volume 3.

1.4.4 In this plan a flood is defined as a relatively high water level which overtops the natural or artificial banks in any part of a stream, river, estuary, lake or dam, and/or local overland flooding associated with drainage before entering a watercourse, and/or coastal inundation resulting from super-elevated sea levels and/or waves (including tsunami) overtopping coastline defences.

1.4.5 The arrangements for dealing with episodes of coastal erosion by severe weather, are described in the NSW State Storm Sub Plan.

1.4.6 The arrangements for the emergency management of tsunami are dealt with in the NSW State Tsunami Emergency Sub Plan.

1.4.7 This plan outlines the local level arrangements for the management of downstream consequences of flooding due to dam failure, however it does not cover the management of flooding of an underground mine by inrush or other cause, which should be covered by the Mine Emergency Sub Plan for the respective mine.

1.5 GOALS

1.5.1 The primary goals for flood emergency management in NSW are:

a. Protection and preservation of life.

b. Establishment and operation of flood warning systems.

c. Issuing of community information and community warnings.

d. Coordination of evacuation and welfare of affected communities.

e. Protection of critical infrastructure and community assets essential to community survival during an emergency incident.

f. Protection of residential property.

g. Protection of assets and infrastructure that support individual and community financial sustainability and aid assisting a community to recover from an incident; and

h. Protection of the environment and conservation values considering the cultural, biodiversity and social values of the environment.

1.6 KEY PRINCIPLES

1.6.1 The protection and preservation of human life (including the lives of responders and the community) is the highest priority.

1.6.2 Evacuation is the primary response strategy for people impacted by flooding.

1.7 ROLES AND RESPONSIBILITIES

1.7.1 General responsibilities of emergency service organisations and functional areas are set out in the NSW State EMPLAN and NSW State Flood Sub Plan.

1.7.2 Specific roles and responsibilities for agencies, functional areas and organisations in relation to flooding within Nambucca Council are detailed within this plan, Appendix B and Appendix C.

1.7.3 Any agency with agreed responsibilities in this plan that are temporarily unable, or no longer able to fulfil their responsibilities in response operations must as soon as possible notify the:

a. NSW SES Incident Controller (for local or zone level responsibilities during response operations).

b. NSW SES Zone Duty Commander (for regional level responsibilities outside of response operations).

1.8 PLAN MAINTENANCE AND REVIEW

1.8.1 The NSW SES will maintain the currency of this plan by:

a. Ensuring that all supporting emergency services and functional areas, organisations and officers mentioned in it are aware of their roles and responsibilities;

b. Conduct a minimum of one exercise every five years or within two years of the plan being reviewed;

c. Reviewing the contents of the plan:

- When there are changes which alter agreed plan arrangements.
- When changes to land use strategic plans and policies increase the population at risk.
- After a flood including recommendations from after action reviews, reports, or inquiries.
- As determined by the NSW SES Commissioner.

d. The plan is to be reviewed no less frequently than every five years or after a significant flood event.

1.9 SUPPLEMENTARY DOCUMENTS

1.9.1 Supplementary and supporting material of the Local Emergency Flood Plan maintained on the NSW SES website Flood, Storm and Tsunami Plans including:

a. Flood Plan Glossary.

b. NSW SES Dam Failure Notification Flowchart.

c. NSW SES Resupply Flowchart.

2 OVERVIEW OF NSW FLOOD HAZARD AND RISK

2.1 THE FLOOD THREAT

2.1.1 The NSW SES maintains information on the nature of flooding and effects of flooding on the community in the Nambucca Council LGA. This is outlined in Volume 2 – Hazard and Risk in Nambucca Council.

2.1.2 Declared dams in or upstream of the Nambucca Valley Local Government Area.

Dam Name	Owner	High Risk Dam
Nambucca Off-Stream Storage Dam	Nambucca Valley Council	
East West Road Dam	Transport for NSW	

3 PREVENTION/ MITIGATION

3.1 INTRODUCTION

3.1.1 The Floodplain Development Manual outlines the NSW Government's Flood Prone Land Policy which details the framework for managing flood prone land in New South Wales. Incorporation of floodplain risk management into land use planning is one of the key means to limit the exposure to flood risks to our

communities and help build long term resilience to future flood events.

3.2 LAND USE PLANNING

3.2.1 **Strategy:** Effective land use planning is a key focus for minimising the impacts of flooding. NSW SES will work with land use planning and consent authorities to advocate, inform and influence the consideration of the risks arising from flood, storm and tsunami, to prevent the creation of intolerable impacts of these hazards on the community.

Actions:

a. NSW SES will provide strategic input about land use planning matters which have or will create significant flood risk to life and/or property due to flooding.

b. NSW SES will provide responses to land use planning proposal referrals that have or will create significant flood risk to life and/or property due to flooding.

3.3 FLOODPLAIN RISK MANAGEMENT

3.3.1 **Strategy**: Advocate for consideration of emergency management decision making to reduce risks to the existing community and minimise the growth in future, continuing and residual risk due to development through the floodplain management program.

Actions:

a. NSW SES will provide coordinated and consistent emergency management advice to councils and other agencies in relation to the management of land that is subject to flooding or coastal inundation.

b. NSW SES will provide advice, support and technical resources for NSW SES representatives to contribute effectively on local Floodplain Management Committees.

4 PREPARATION

4.1 INTRODUCTION

4.1.1 Preparation includes arrangements or plans to deal with an emergency or the effects of an emergency.

4.2 FLOOD EMERGENCY PLANNING

4.2.1 **Strategy**: NSW SES develop, review and maintain Flood Emergency Sub Plans

4.2.2 **Actions**:

a. Develop and review this NSW SES Local Flood Emergency Sub Plan as required. Local Flood Plans outline the specific arrangements for management of flood events withinan LGA, and may include cross boundary arrangements.

b. Review plans as per Section 1.8.

4.2.3 Local EMPLAN Consequence Management Guides (CMG's) for flood are not required for communities covered by NSW SES Local Flood Emergency Sub Plans,

however may be utilised in place of Local Emergency Sub Plan if agreed to by NSW SES.

4.3 FLOOD INTELLIGENCE SYSTEMS

4.3.1 **Strategy**: NSW SES develop and maintain a flood intelligence system to identify flood behaviour, its impact on the community and required response actions.

Actions:

a. Gather and assess flood information for the full range of flood types and severities.

b. Collect, collate, and assess information on the characteristics of communities at risk and the potential effects of flooding on communities at risk; and

c. Share flood intelligence information with supporting agencies.

4.4 DEVELOPMENT OF WARNING SYSTEMS

4.4.1 **Strategy**: Develop, maintain and prepare systems for the provision of flood warnings and associated warning services.

Actions:

a. All levels of government work in partnership to develop and maintain flood warning infrastructure.

b. NSW SES maintains a list of the requirements for flood warnings for flood gauges in NSW (including flood classifications, warning times required and key statistics) and can be found in the supplementary document to the NSW State Flood Plan (see Section 1.9). Gauges of relevance within the Nambucca Council LGA are also listed in Volume 3 of this plan.

c. NSW SES will recommend new warning services and changes to warning alert levels for gauges to the NSW and ACT Flood Warning Consultative Committee.

d. The State Government, in partnership with Local Government, is responsible for developing and maintaining flash flood warning systems for local catchments where required.

e. Dam Owners will provide Emergency Plans (where required) and consult with NSW SES on alert levels and messaging. Alert level definitions are listedin Dam Emergency Plans.

f. NSW SES maintains a dedicated dam failure hotline and procedures to ensure priority dissemination of dam failure warnings.

g. NSW SES develops and maintains warning and flood information products by:

- Utilising flood intelligence data.
- Developing warning and flood information products.
- Continuously reviewing warning and flood information products.
- Consulting with affected communities, key stakeholders, Dam Safety NSW and the NSW and ACT Flood Warning Consultative Committee and maintains Operational Readiness.

- Gauge owners adequately maintain flood waring gauges and systems, including those identified in the 'Service Level Specification' maintained by the Bureau of Meteorology (Bureau) and those identified in the 'Provision and Requirements for Flood Warning in New South Wales' maintained by NSW SES.

4.5 BRIEFING, TRAINING AND EXERCISING

4.5.1 **Strategy**: Ensure NSW SES, supporting agencies, functional areas and the community are prepared and familiar with the strategies and arrangements within the Flood Emergency Sub Plan and supporting documents.

Actions:

a. NSW SES will consult stakeholders throughout the development of plans.

b. NSW SES will inform stakeholders of content changes after revisions.

c. NSW SES will ensure their facilities and resources are maintained and operationally ready.

d. NSW SES will train personnel for their expected flood operation roles; and

e. NSW SES will regularly brief stakeholders on the exercise arrangements contained in the NSW Flood Emergency Sub Plan.

4.6 COMMUNITY RESILIENCE TO FLOODING

4.6.1 **Strategy**: NSW SES provides and maintains a flexible volunteer workforce to support community resilience.

Actions:

a. Ensure ongoing recruitment and training of a diverse range of volunteers.

b. Ensure pre-planning to facilitate the management of spontaneous volunteers and community members during a flood.

4.6.2 **Strategy**: NSW SES works with individuals, communities, businesses and government agencies to build flood resilience.

Actions:

a. Partner with and engage communities to understand and manage the risks associated with floods, including providing business continuity guidance (NSW SES Business Floodsafe), family preparedness (NSW SES Home Floodsafe) and other engagement strategies.

b. Collate, assess and disseminate flood information to the community.

c. Collaborate with individuals, businesses, government agencies and communities when developing flood intelligence, preparedness and response information.

d. Plan for floods collaboratively with communities through community and stakeholder participation and engagement.

e. Collaborate with community sector and recognise the needs of individuals within communities who have an increased susceptibility during floods.

5 RESPONSE

5.1 INTRODUCTION

5.1.1 Flood response operations will begin:

a. On receipt of a Bureau Severe Weather Warning orThunderstorm Warning that includes heavy rain or storm surge; or

b. On the receipt of a Bureau Flood Watch or Flood Warning; or

c. On receipt of warnings for flash flood; or

d. On receipt of a dam failure alert; or

e. When other evidence leads to an expectation of flooding.

5.2 INCIDENT MANAGEMENT ARRANGEMENTS

5.2.1 **Strategy**: Maintain effective control of flood operations across NSW.

Actions:

a. NSW SES uses the Australasian Inter-service Incident Management System (AIIMS) to manage the flood response.

b. Control of flood response will be at the lowest effective level and may be scaled to suit the incident.

c. The NSW SES State Controller (or delegate) will appoint Incident Controllers and establish Incident Control Centres (see NSW SES facilities on map in Appendix A).

d. The NSW SES Incident Controller, in consultation with participating supporting emergency services and functional areas will determine the appropriate breakdown of an Area of Operations into Divisions and/or Sectors in accordance with the principles of AIIMS.

5.2.2 **Strategy**: Maintain Incident Control Centre(s).

Actions:

a. NSW SES will operate Incident Control Centre(s) as required.

b. The NSW SES Incident Control Centre(s) will:

- Control resources from NSW SES and coordinate resources of supporting emergency services and functional areas.
- Manage Request for Assistance (RFA) tasking and ensure they are actioned in a timely manner.
- Undertake response planning and determine future resourcing requirements.
- Coordinate information flow, including warnings, public information and social media.

5.2.3 **Strategy**: Provide effective liaison between NSW SES and supporting agencies or functional areas in accordance with Local EMPLAN.

Actions:

a. Supporting emergency services and functional areas should provide Liaison Officers to NSW SES Incident Control Centre(s) and/or Emergency Operation Centres as required.

b. NSW SES will provide Liaison Officer(s) to Emergency Operations Centres as required.

c. Where possible Emergency Operation Centre to be located with NSW SES Incident Control Centres for Flood Emergency Response.

5.2.4 **Strategy**: Coordinate resources and logistics support to ensure operational effectiveness.

Actions:

a. The NSW SES Incident Controller will notify agencies of potential access issues between locations, for the consideration of pre-deploying of resources.

b. NSW SES may request resources and logistics support directly from a supporting emergency service or functional area.

c. Wherever possible, supporting organisations are to provide their own logistic support in consultation with NSW SES where appropriate.

d. The NSW SES Incident Controller will control air support operations and may utilise supporting agencies in the management of aircraft.

5.3 USE OF INFORMATION AND COLLECTION OF INTELLIGENCE

5.3.1 **Strategy**: Ensure flood information is effectively utilised, communicated and collected during and after a flood.

Actions:

a. Information relating to the consequences of flooding, response strategies, situational awareness and operational updates will be distributed by NSW SES to supporting emergency services and functional areas listed under this Plan.

b. All supporting emergency services and functional areas and Council will accurately record and report information relevant to their activities and any real time flood information (including road closure information) to the NSW SES Incident Controller. This may be in the form of a combined Emergency Operations Centre (EOC) report, or direct from agencies where an EOC has not been established.

c. NSW SES may establish and operate a Joint Intelligence Unit to coordinatethe collection, collation, interpretation, mapping, actioning and dissemination of information.

d. Reconnaissance, mapping, damage assessments, intelligence validation and post flood evaluation will be coordinated by NSW SES. This may occur post impact and continue into the recovery phase.

e. NSW SES may request Engineering to assist with the gathering of flood intelligence including (not limited to) maximum flood extents, peak flood heights, recording major flood damage at key high velocity locations and

preparation of After Flood Report.

5.3.2 **Strategy**: Ensure flood intelligence is incorporated into operational decision-making.

Action: NSW SES will use flood intelligence, official forecasts, warnings and flood scenario products to undertake an assessment of the predicted impact of a flood and to inform operational decision-making.

5.4 PROVISION OF INFORMATION AND WARNINGS TO THE COMMUNITY

5.4.1 **Strategy**: Timely and effective warnings are distributed to the community.

Actions:

a. The Bureau issues public weather and flood warning products before and duringa flood. These may include:

- Severe Thunderstorm Warnings – Detailed – issued for all capital cities and surrounding areas when individual severe thunderstorms are within range of the capital city radars.
- Regional Severe Thunderstorm Warnings – Broadbased – issued for the entire Australian State or Territories affected highlighting broad areas where severe storms may occur within the next 3 hours.
- Severe Weather Warnings with reference to heavy rainfall and/or storm surge,
- Flood Watches.
- Flood Warnings.

b. Dam Owners will utilise the Dam Emergency Plan to provide warnings and information to NSW SES and communities (where appropriate).

c. NSW SES Incident Controllers will issue the following NSW SES Flood Warnings aligning to the Australian Warning System:

- Advice.
- Watch and Act.
- Emergency Warning.

d. NSW SES liaises with the Bureau to discuss the development offlood warnings as required.

e. NSW SES provides alerts and deliver flood information to affected communities using a combination of public information.

f. NSW SES may request supporting agencies redistribute NSW SES alerts and information, including through the provision of doorknocking teams.

g. Road closure information will be provided to the community through the following agencies/methods:

- Nambucca Valley Council website; and
- Transport for NSW 'Live Traffic' website: www.livetraffic.com or 'Transport InfoLine': 131 500. VMS messaging on roadways may also be used to advise motorists.

h. The Public Information and Inquiry Centre will be established by the NSW Police Force where required to provide information regarding evacuees and emergency information. Contact details will be broadcast once the centre is established.

i. The Disaster Welfare Assistance Line will be established by Disaster Welfare Services where required to provide information on welfare services and assistance. Assistance line contact details will be broadcast once Disaster Welfare Services commence.

5.5 PROTECTION OF PROPERTY

5.5.1 **Strategy**: Coordinate the protection of property from destruction or damage arising from floods.

Action: NSW SES, supporting agencies, and community volunteers will assist the community (where resources are available, feasible and safe to do so) in:

a. The protection of properties including critical infrastructure through flood protection systems (e.g.sandbagging) to minimise entry of water into buildings; and

b. The raising or moving of household furniture and commercial stock/equipment.

5.6 ROAD AND TRAFFIC CONTROL

5.6.1 **Strategy**: Coordinate the closing and re-opening of flood affected roads.

Actions:

a. Nambucca Council will coordinate the closure and reopening of council managed roads once inspections have been carried out by the relevant authority.

b. Transport for NSW will coordinate the closure and reopening of the state road network.

c. NSW Police Force may close and re-open roads but will normally only do so (if the Nambucca Council or Transport for NSW have not already acted and if public safety requires such action;

d. NSW SES will assist with erecting road closure signs and barriers when time and resources permit.

5.6.2 **Strategy**: Coordinate traffic control measures in flood affected areas.

a. The NSW SES Incident Controller may direct the imposition of traffic control measures into flood affected areas in accordance with the provisions of the *State Emergency Service Act, 1989* and the *State Emergency Rescue Management Act, 1989.*

b. The NSW SES Incident Controller may request the Local Emergency Operations Controller provide suitable personnel to assist with traffic coordination.

5.7 PROTECTION OF ESSENTIAL SERVICES

5.7.1 Arrangements for the protection of local assets are outlined in Volume 3 of this

NSW SES Local Flood Emergency Sub Plan. In addition, Local and Region EMPLAN's contain infrastructure inventories.

5.7.2 **Strategy**: Minimise disruption to the community by ensuring protection of infrastructure and supply of essential energy, utility services and lifelines.

Actions:

a. Transport Services Functional Area is to coordinate the provision of information about the assessment and restoration of transport network infrastructure.

b. Energy and Utility Services Functional Area is to coordinate the assessmentand restoration of essential energy and utility services (not including telecommunications).

c. Telecommunications Services Functional Area is to coordinate the assessment and restoration of telecommunications and the Public Safety Network.

d. Engineering Services Functional Area is to:

- Coordinate the assessment and restoration of critical public buildings for example hospitals.
- Assessment and operation of flood protection levees.
- Protection of property.
- Construction and repair of levees.
- Dam safety assessment and dam stability.
- Water supply and sewerage operations.
- Other critical infrastructure.

e. Functional Areas and Council will keep the NSW SES informed of the status of utilities and infrastructure.

5.8 EVACUATION

5.8.1 Evacuation is NSW SES's primary response strategy for managing the population at risk of flooding.

5.8.2 Community specific evacuation arrangements are located in Volume 3 of this Plan.

5.8.3 **Strategy**: Conduct planning to ensure all evacuation constraints are considered.

Actions:

a. Evacuations will take place when there is a risk to public safety. Circumstances may include:

- Evacuation of people when their homes or businesses are likely to flood.
- Evacuation of people who are unsuited to living in isolated circumstances, due to flood water closing access.
- Evacuation of people where essential energy and/or utility services are likely to fail or where buildings have been or may be made uninhabitable.

b. NSW SES will consider the following in evacuation decisions:

- Duration of evacuation.
- Characteristics of the community.
- Numbers requiring evacuation.
- Availability of evacuation routes and transport.
- The ability for existing levees or other flood protection works to fulfil their intended function.
- Time available for evacuation.
- Evacuee management requirements; and
- Resources and delivery of evacuation information.
- Length of isolation.

c. NSW SES Incident Controllers, planning and intelligence officers will carefully consider the risks involved in conducting evacuations.

d. All evacuation decisions will be made as per the current NSW SES policies and procedures, and consistent with the NSW Evacuation Management Guidelines.

e. Potential Evacuation Centres are located in Volume 3 / Local EMPLAN.

f. NSW Police Force will coordinate the provision of overall security for evacuated areas.

5.8.4 **Strategy**: Evacuate people pre-emptively from dangerous or potentially dangerous places and or locations created by the flood hazard to safe locations away from the hazard.

a. NSW SES will control and coordinate the evacuation of affected communities.

b. The NSW SES Commissioner (or delegate) will warn communities to prepare for a possible evacuation, where circumstances allow such lead time.

c. The NSW SES Commissioner (or delegate) will order any necessary evacuations and provide information to the community about when and how to evacuate.

d. Support to evacuation operations may be requested from other emergency services and supporting agencies using arrangements in the local EMPLAN and supporting plans.

e. Health Services Functional Area will coordinate the evacuation of hospitals, health centres and aged care facilities (including nursing homes) in consultation with NSW SES and Welfare Services.

f. School administration offices (Government and Private) will coordinate the evacuation of schools in consultation with NSW SES and Welfare Services, if not already closed.

g. Caravan Park proprietors will inform the NSW SES Incident Controller when caravan park evacuations have been completed.

h. People who are reluctant or refuse to comply with any Emergency Warning will be referred to NSW Police Force.

5.9 EVACUEE MANAGEMENT AND WELFARE

5.9.1 Research and experience in flood operations shows that most evacuees go to family, friends and commercial accommodation outside the impact area.

5.9.2 **Strategy**: Maintain the welfare of communities and individuals affected by the impact of a flood.

Actions:

a. NSW SES will provide initial welfare for evacuees where required but will hand the responsibility over to Welfare Services Functional Area as soon as possible. NSW SES will brief Welfare Services Functional Area at the earliest opportunity regarding the level of assistance required.

b. Welfare Services Functional Area will manage evacuation centres for affected residents and travellers in accordance with Welfare Services Functional Area Supporting Plan.

c. Schools Administration (Government and Private) will manage the safety of students directly affected by flooding and will work with NSW SES in the temporary closure of schools and will coordinate with NSW SES, Transport and Welfare Services in the management of school evacuees.

d. Disaster Victim Registration will be controlled and coordinated by the NSW Police Force with the assistance of NSW SES and the Welfare Services Functional Area.

e. NSW SES will provide details of all residents assisted in evacuations to the Welfare Services Functional Area as early as possible.

f. Where the expected remaining number of evacuees and the duration of evacuation is assessed to be beyond the capability and capacity of the established evacuation centre arrangements the SEOCON may establish Major Evacuation Centres or Mass Care facilities.

g. The decision to establish Major Evacuation Centres or Mass Care Facilities will be made by NSW SES and SEOCON in consultation with members of the State Emergency Management Committee.

5.9.3 **Strategy**: Coordinate available and accessible health services for flood affected communities.

Action: The provision of environmental health advice, assessment of public health risks and coordination of immediate mental health support will be provided by Health Services Functional Area.

5.9.4 **Strategy**: Maintain the welfare of animals impacted by a flood.

Actions:

a. Agriculture and Animal Services Functional Area will coordinate the welfare of livestock, pets, companion animals and wildlife including support to primary producers, animal holding establishments and community members.

b. Agriculture and Animal Services Functional Area role will coordinate the evacuation, emergency care of animals and assessment, humane destruction and disposal of affected animals, and supply of emergency fodder, water and aerial support where necessary.

5.10 FLOOD RESCUE

5.10.1 **Strategy**: Control and coordinate flood rescue of people and domestic animals.

Actions:

a. NSW SES will perform flood rescue, where training and equipment is suitable and where a risk assessment has indicated that the risk to rescuers is acceptable.

b. Flood rescue operations will be conducted in accordance with the State Rescue Board NSW State Rescue Policy which sets out the framework, governance, responsibilities and requirements for the management and conduct of flood rescue in NSW.

c. NSW SES may request other supporting emergency services to undertake flood rescues on behalf of the NSW SES. Agencies must be authorised/accredited to undertake flood rescue operations in accordance with State Rescue Board requirements, as prescribed by NSW SES. Supporting emergency services must supply information regarding rescues performed to the NSW SES. Notification arrangements with NSW Police Force are outlined in the State Rescue Board NSW State Rescue Policy; and

d. Rescue agencies will conduct rescue of domestic small and large animals as per the State Rescue Board NSW State Rescue Policy (and may include Large Animal Rescue of family horses and cows at a residence or property). The rescue of livestock (which includes commercial animals found on farming and breeding enterprises) will be coordinated through Animal and Agriculture Services Functional Area.

5.11 RESUPPLY

5.11.1 **Strategy**: Coordinate resupply to towns and villages isolated by flooding to minimise disruption to the community.

Actions:

a. NSW SES will advise communities and businesses if flood predictions indicate that areas are likely to become isolated, and indicative timeframes where possible.

b. Retailers should be advised to ensure sufficient stock is available for the duration of the flood.

c. When isolation occurs, NSW SES will establish loading points where retailers can instruct suppliers to deliver goods.

d. NSW SES will endeavour to support the delivery of mail to isolated communities but may notbe able to do so according to normal Australia Post timetables.

e. NSW SES will assist hospitals with resupply of linen and other consumables where able.

f. NSW SES may request resupply assistance from supporting agencies.

g. NSW SES may conduct resupply operations as per the designate resupply plan for the event.

h. Where additional supplies are required Engineering Services Functional Area be requested to coordinate the supply of goods and services in response to and recovery from the emergency.

5.11.2 **Strategy**: Coordinate resupply to rural properties isolated by flooding.

Actions:

a. When requested, NSW SES will establish a resupply schedule and coordinate the resupply for isolated rural properties.

b. NSW SES will provide local suppliers with designated loading points. Resupply items are to be packaged by the Supplier.

c. Isolated households unable to afford resupply items will be referred to Welfare Services Functional Area for assistance.

5.12 RETURN

5.12.1 **Strategy**: Coordinate the safe return of communities to flood affected areas when the immediate danger to life and property has passed.

Actions:

a. NSW SES Incident Controller will determine when it is safe to progressively return in consultation with the relevant Emergency Operations Controller and supporting agencies, considering the ongoing risk to public safety.

b. NSW SES Incident Controller will specify the level of access to affected communities as the following:

- Not suitable for access.
- Limited access by emergency services and response agencies.
- Limited access by residents and/or business operators; or
- Full access

c. NSW SES Incident Controller will issue an Advice Warning advising 'Reduced Threat: Return with Caution' when the immediate danger to life and property has passed for areas; and

d. NSW SES will facilitate the return of evacuees to their homes.

5.13 END OF RESPONSE OPERATIONS

5.13.1 **Strategy**: Conclude response operations.

Actions:

a. Response operations will conclude when:

- There is a reduced likelihood of additional flooding within the Area of Operations and flood.
- All requests for assistance related to the flood have been completed.
- The need for warning and evacuation no longer exist.
- There is no further likelihood of rescuing people.

- Resupply is no longer required (resupply operations may occur concurrently with the recovery phase).
- Response to fire and hazardous material incidents have concluded (not including subsequent clean-up of contaminated sites).
- All affected areas have had a 'Reduced Threat: Return with Caution' issued.

5.14 POST IMPACT ACTIONS

5.14.1 **Strategy**: Learnings from the event are used to inform recovery and future events.

Actions:

a. NSW SES will continue to engage with communities after significant floods through convening one or more community forums, workshops or other opportunities to provide communities a chance to provide feedback, address any concerns and provide input into the recovery process. These will typically include other agencies such as the Bureau, Welfare Services and Nambucca Council representatives.

b. NSW SES will conduct After Action Reviews at the conclusion of response operations, which will involve all stakeholders. Findings will be shared and incorporated into improved disaster resilience planning.

c. NSW SES will provide information and data throughout the emergency response to inform community recovery. A report will be developed at the request of the SERCON at the conclusion of the response within an area. Should a response summary report be required it will include the follows:

- The emergency action plan in place at conclusion of the response emphasising any continuing activities including community meetings/engagement activities.
- Resources allocated to the emergency response and associated exit strategies.
- Details of any areas or situations with potential to re-escalate the emergency.
- A recommendation for the conclusion of NSW SES as lead agency to transition to Resilience NSW as the lead agency for Recovery.
- Any actions that are incomplete or outstanding.
- Damage Assessment Data and Information obtained throughout the response phase which will further support the long-term recovery of communities.

d. NSW SES will undertake/coordinate a comprehensive review of intelligence and plans following significant flood events.

5.14.2 **Strategy:** Participate in post flood data collection analysis.

Actions: NSW SES will work with relevant stakeholders and Nambucca Council on post flood data collection analysis including review of flood intelligence where necessary.

6 RECOVERY OPERATIONS

6.1 INTRODUCTION

6.1.1 Recovery is the process of returning an affected community to its proper level of functioning after an emergency. It will generally commence simultaneously with the Response phase.

6.1.2 Recovery operations will be initiated and conducted as outlined in the NSW State EMPLAN and as further detailed in the NSW Recovery Supporting Plan.

6.2 NSW SES RECOVERY ROLE

6.2.1 **Strategy**: NSW SES will support recovery operations and established Recovery Committees.

6.2.2 **Actions**:

a. NSW SES will provide representation to Recovery Committees as required and may have an ongoing role in the Recovery phase.

b. NSW SES roles on Recovery Committees may include providing information about any continuing response, guidance on mitigation strategies and general advice and assistance to the committee as a subject matter specialist and or expert.

c. NSW SES will provide information to Resilience NSW to support applications to Treasury for Natural Disaster Relief and Recovery Arrangements.

d. NSW SES, in conjunction with a Recovery Committee, will provide a service to support the information needs of a community immediately following a flood; and

e. NSW SES and where required supporting agencies will assist with clean-up operations after floods, where possible when resources and personnel permit.

f. NSW SES may coordinate immediate relief in collaboration with Resilience NSW.

7 ABBREVIATIONS

For a full list of abbreviations refer to the NSW State Flood Plan - Abbreviations

8 GLOSSARY

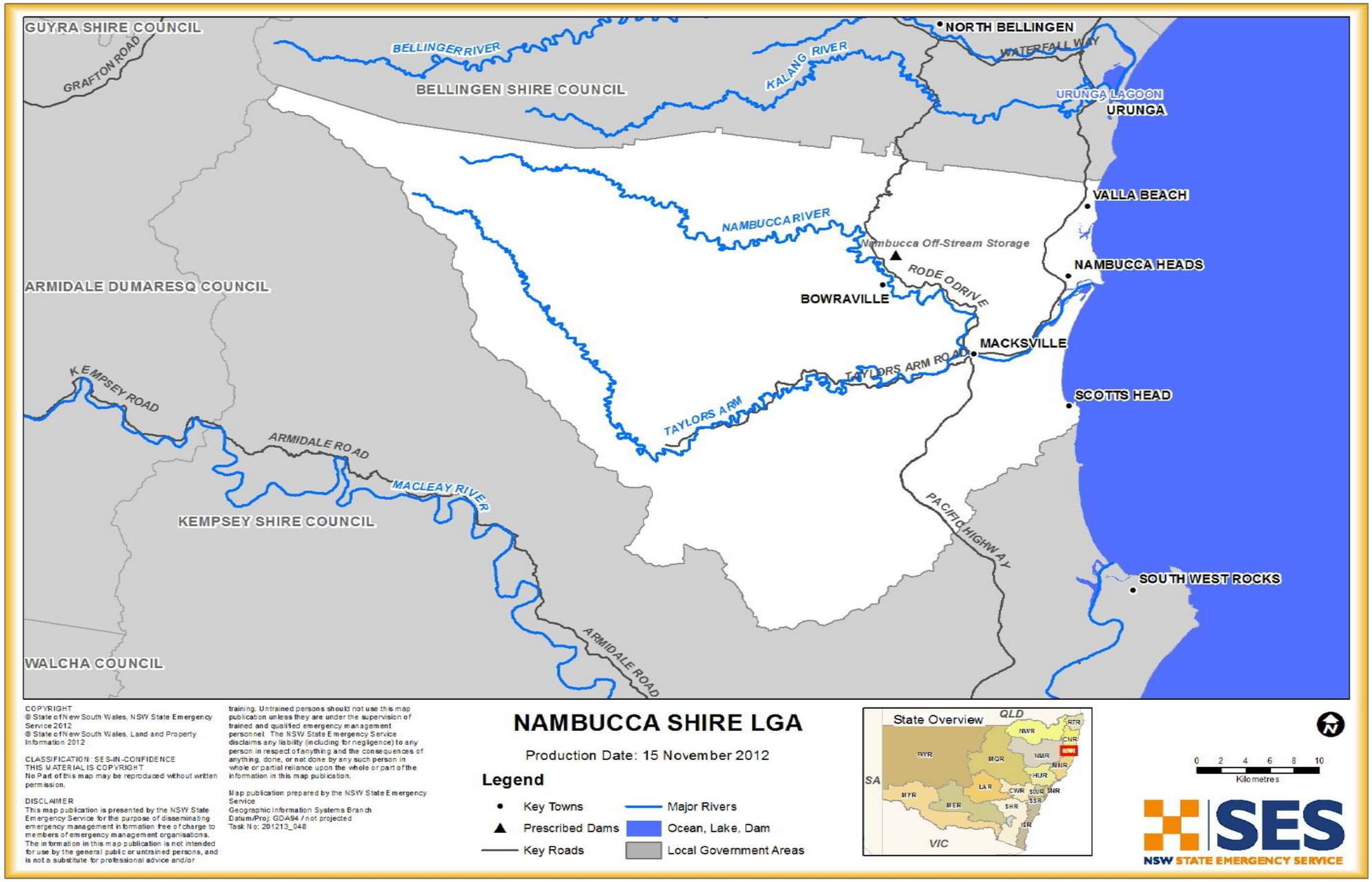
Common emergency service terminology can be found within the Australian Disaster Resilience Glossary.

Readers should refer to EMPLAN Annex 9 – Definitions.

Refer to the NSW State Flood Plan for a complete glossary of terminology used throughout this plan and within NSW SES Flood Plans.

For a full list of definitions refer to the Supporting Document - State Flood Plan Glossary https://www.ses.nsw.gov.au/media/2650/glossary.pdf

9 Appendix A – Map of Nambucca Valley Local Government Area



10 Appendix B – Roles and Responsibilities

AGENCY	RESPONSIBILITIES
NSW State Emergency Service	The NSW SES is the designated Combat Agency for floods, storms and tsunami and controls response operations. NSW SES roles and responsibilities in relation to floods are detailed within the New South Wales State Flood Plan.

AGENCY	RESPONSIBILITIES
Agriculture and Animal Services Functional Area	The roles and responsibilities for Agriculture and Animal Services are outlined in the Agriculture and Animal Services Supporting Plan and NSW State Flood Plan.
Australian Government Bureau of Meteorology	The roles and responsibilities of the Australian Government Bureau of Meteorology are outlined in the NSW State Flood Plan.
Nambucca Valley Council	**Preparedness** • Establish and maintain floodplain and coastal risk management committees and ensure that key agencies are represented. • Develop and implement floodplain risk management plans in accordance with the NSW Government's Flood Prone Land Policy and the Floodplain Development Manual. • Provide levee studies, flood studies and floodplain management studies to NSW SES. • Maintain Dam Emergency Plans for the Nambucca Valley Council dams and provide copies to NSW SES. • Provide information on the consequences of dam failure to NSW SES for incorporation into planning and flood intelligence. • Coordinate the development of warning services for catchments prone to flash flooding (small catchments), where appropriate. • Maintain council-owned flood warning networks and flood mitigation works. • Participate in NSW SES-led flood emergency planning meetings, to assist in the preparation of Flood Sub-Plans. • Maintain a plant and equipment resource list for the council area. • Contribute to community engagement activities.

AGENCY	RESPONSIBILITIES
	Response • Subject to the availability of council resources, assist the NSW SES with flood operations including: – Traffic management on council managed roads. – Provision of assistance to the NSW SES (plant, equipment and personnel where able and requested). – Property protection tasks including sandbagging. – Assist with the removal of caravans from caravan parks – Warning and/or evacuation of residents and other people in flood liable areas. – Provision of back-up radio communications – Resupply of isolated properties; and – Technical advice on the impacts of flooding. – Close and reopen council roads (and other roads nominated by agreement with Transport for NSW) and advise the NSW SES, the NSW Police Force and people who contact the council for road information. – Assist the NSW SES to provide filled sandbags and filling facilities to residents and business in areas which flooding is expected. • Assist with making facilities available for domestic pets and companion animals of evacuees during evacuations. • Operate flash flood warning systems; • Operate flood mitigation works including critical structures such as detention basins and levees and advise the NSW SES regarding their operation. • Manage and protect council-owned infrastructure facilities during floods. • Provide advice to the NSW SES and the Health Services Functional Area during floods about key council managed infrastructure such as sewerage treatment and water supply. • Advise the Environmental Protection Agency of any sewerage overflow caused by flooding. • Work with the NSW SES and DPIE to collect flood related data during and after flood events.

AGENCY	RESPONSIBILITIES
	Recovery • Provide for the management of health hazards associated with flooding including removing debris and waste. • Ensure premises are fit and safe for reoccupation and assess any need for demolition. • Provide services, assistance and advice to State Government in accordance with the State Recovery Plan.
Caravan Park Proprietor(s)	• Prepare a flood emergency plan for the Caravan Park; • Ensure that owners and occupiers of movable dwellings are aware that the caravan park is flood liable by providing a written notice to occupiers taking up residence and displaying this notice and emergency management arrangement within the park. • Ensure that owners and occupiers of movable dwellings are aware that if they are expecting to be absent for extended periods, they should: – Provide the manager of the caravan park with a contact address and telephone number in case of an emergency; and – Leave any movable dwelling in a condition allowing it to be relocated in an emergency (i.e.: should ensure that the wheels, axles and draw bar of the caravans are not removed and are maintained in proper working order). • Ensure that occupiers are informed of Flood Information. At this time, occupiers should be advised to: – Ensure that they have spare batteries for their radios. – Listen to a local radio station for updated flood information; and – Prepare for evacuation and movable dwelling (cabins) relocation. • Ensure that owners and occupiers of caravans are aware of what they must do to facilitate evacuation and movable dwelling relocation when flooding occurs. • Coordinate the evacuation of people and the relocation of movable dwellings when floods are rising and their return when flood waters have subsided. Movable dwellings will be relocated back to the caravan park(s) by owners or by vehicles and drivers arranged by the park managers. • Secure any movable dwellings that are not able to be relocated to prevent floatation. • Inform the NSW SES of the progress of evacuation and/or movable dwellings relocation operations and of any need for assistance in the conduct of these tasks.

AGENCY	RESPONSIBILITIES
Childcare Centres and Preschools	• When notified of possible flooding or isolation, childcare centres and preschools should. – Liaise with the NSW SES and arrange for the early release of children whose travel arrangements are likely to be disrupted by flooding and/or road closures; and – Assist with coordinating the evacuation of preschools and childcare centres.
Dams Safety NSW	The roles and responsibilities of the Dams Safety NSW (formerly NSW Dam Safety Committee) are outlined in the NSW State Flood Plan.
Department of Defence	Arrangements for Defence Assistance to the Civil Community are detailed within the State EMPLAN (section 448).
Energy and Utilities Services Functional Area	The roles and responsibilities for Energy and Utilities Services are outlined in the Energy and Utility Services Supporting Plan (EUSPLAN). Roles and responsibilities in addition to the Supporting Plan are: • Assist NSW SES with identification of infrastructure at risk of flood damage where resources are available. • Facilitate local utility service distribution providers (electricity, gas, water, wastewater) to: – Provide advice to NSW SES of any need to disconnect power/gas/water/wastewater supplies or of any timetable for reconnection. – Advise NSW SES of any hazards from utility services during flooding and coastal erosion/inundation. – Advise the public with regard to electrical hazards during flooding and coastal erosion/inundation, and to the availability or otherwise of the electricity supply. – Clear or make safe any hazard caused by power lines or electricity distribution equipment. – Reconnect customers' electrical/ gas/ water/wastewater installations, when certified safe to do so and as conditions allow. – Assist NSW SES to identify infrastructure at risk of flooding for incorporation into planning and intelligence.
Engineering Services Functional Area	The roles and responsibilities for Engineering Services are outlined in the and NSW State Flood Plan.
Environmental Services Functional Area	The roles and responsibilities for Environmental Services are outlined in the Environmental Services (ENVIROPLAN) Supporting Plan.

AGENCY	RESPONSIBILITIES
Environmental Services Functional Area	The roles and responsibilities for Environmental Services are outlined in the Environmental Services (ENVIROPLAN) Supporting Plan.
Floodplain Management Australia	The roles and responsibilities of Floodplain Management Australia are outlined in the New South Wales State Flood Plan.
Fire and Rescue NSW	The roles and responsibilities for Fire and Rescue NSW are outlined in the NSW State Flood Plan.
Forestry Corporation of NSW	The roles and responsibilities for Forestry Corporation of NSW are outlined in the NSW State Flood Plan.
Health Services Functional Area	The roles and responsibilities for Health Services Functional Area are outlined in the Health Services (HEALTHPLAN) Supporting Plan.
Local Emergency Operations Controller (LEOCON)	• Monitor flood operations. • If requested, coordinate support for the NSW SES Incident Controller.
Local Emergency Management Officer (LEMO)	• If requested by the NSW SES Incident Controller, advise appropriate agencies and officers of the start of response operations.
Manly Hydraulics Laboratory (MHL)	The roles and responsibilities of Manly Hydraulic Laboratory are outlined in the NSW State Flood Plan.
Marine Rescue NSW (as per NSW State Flood Plan)	The roles and responsibilities for Marine Rescue NSW are outlined in the NSW State Flood Plan.
NSW Ambulance	The roles and responsibilities for NSW Ambulance are outlined in the Health Services (HEALTHPLAN) Supporting Plan.
NSW Department of Education, Association of Independent Schools of NSW, and National Catholic Education Commission	The roles and responsibilities for NSW Department of Education, Association of Independent Schools of NSW, and National Catholic Education Commission are outlined in the NSW State Flood Plan.
NSW Department of Planning and Environment (Environment and Heritage Group)	The roles and responsibilities for NSW Department of Planning and Environment (Environment and Heritage Group) are outlined in the NSW State Flood Plan (referred to as DPIE EES).
NSW Department of Planning and Environment (Water)	The roles and responsibilities for NSW Department of Planning and Environment (Water) are outlined in the NSW State Flood Plan.
NSW Food Authority	The roles and responsibilities for NSW Food Authority are outlined in the Food Safety Emergency Sub Plan.
NSW National Parks and Wildlife Services	The roles and responsibilities for NSW National Parks and Wildlife Services are outlined in the NSW State Flood Plan.

AGENCY	RESPONSIBILITIES
NSW Police Force	The roles and responsibilities for NSW Police Force are outlined in the NSW State Flood Plan.
NSW Rural Fire Service	The roles and responsibilities for NSW Rural Fire Service are outlined in the NSW State Flood Plan.
Owners of Declared Dams within or upstream of the LGA	The roles and responsibilities for Owners of Declared Dams are outlined in the NSW State Flood Plan.
Public Information Services Functional Area	The roles and responsibilities for Public Information Services are outlined in the Public Information Services Supporting Plan and NSW State Flood. Plan.
Resilience NSW	The roles and responsibilities of Resilience NSW are outlined in the NSW State Flood Plan.
SEOCON/SEOC	The roles and responsibilities for the SEOCON/SEOC are outlined in the NSW State Flood Plan.
Surf Life Saving NSW	The roles and responsibilities for Surf Life Saving NSW are outlined in the NSW State Flood Plan.
Telecommunications Services Functional Area	The roles and responsibilities for Telecommunications Services are outlined in the Telecommunications Services (TELCOPLAN) Supporting Plan.
Transport for NSW	• Transport for NSW coordinates information on road conditions for emergency services access. • Transport for NSW coordinates the management of the road network across all modes of transport. • Transport for NSW in conjunction will assist the NSW SES with the evacuation of at-risk communities by maintaining access and egress routes. • Assist NSW SES with the communication of flood warnings and information provision to the public through Live Traffic and Social Media according to the VMS protocols and procedures. • Assist NSW SES with identification of road infrastructure at risk of flooding.
Transport Services Functional Area	The roles and responsibilities for Transport Services are outlined in the Transport Services Functional Area Supporting Plan and NSW State Flood Plan.
VRA Rescue NSW	The roles and responsibilities for VRA Rescue NSW are outlined in the NSW State Flood Plan.

AGENCY	RESPONSIBILITIES
Water NSW	The roles and responsibilities for Water NSW are outlined in the NSW State Flood Plan.
Welfare Services Functional Area	The roles and responsibilities for Welfare Services are outlined in the Welfare Services Functional Area Supporting Plan.

11 Appendix C – Community Specific Roles and Responsibilities

Community Members	**Preparedness** • Understand the potential risk and impact of flooding. • Prepare homes and property to reduce the impact of flooding. • Understand warnings and other triggers for action and the safest actions to take in a flood. • Households, institutions and businesses develop plans to manage flood risks, sharing and practicing this with family, friends, employees and neighbours. • Have an emergency kit; and • Be involved in local emergency planning processes. **Recovery** • Assist with community clean-up if required and able to do so. Participate in After Action Reviews if required.
Private companies or other organisations	• Not Applicable
Service and sporting clubs	• Not Applicable
Aboriginal organisations or groups	• Not Applicable
Communication	• Not Applicable
Name of farmer or flood warning networks	• Not Applicable
Community assistance Groups	• Not Applicable

NSW STATE EMERGENCY SERVICE

HAZARD AND RISK IN NAMBUCCA SHIRE

Volume 2 of the Nambucca Shire Flood Emergency Sub Plan

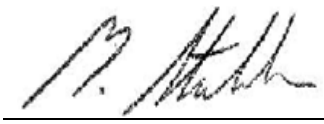
Last Update: February 2022

FloodSafe

AUTHORISATION

The Hazard and Risk in Nambucca Shire has been prepared by the NSW State Emergency Service (NSW SES) as part of a comprehensive planning process. The information contained herein has been compiled from the latest available technical studies.

Approved

Signature 

NSW SES Manager Emergency Planning / NSW SES Coordinator Planning

Print Name: Michael Stubbs

Date: 17 February 2022

Approved

Signature: 

NSW SES Northern Zone Commander

Print Name Stephen Patterson

Date: 23 February 2022

Date Tabled at LEMC

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VERSION LIST

The following table lists all previously approved versions of this Volume.

Description	Date
Nambucca Shire LFP (Update)	Nov 2015
Nambucca Shire LFP	Feb 2013

AMENDMENT LIST

Suggestions for amendments to this Volume should be forwarded to:

Manager, Emergency Risk Manager

NSW State Emergency Service

PO Box 6126, Wollongong NSW 2500

nswses.communityplanning@ses.nsw.gov.au

Amendments promulgated in the amendments list below have been entered in this Volume.

Amendment Number	Description	Updated by	Date

Document Issue: Version 3-02052016

1 THE FLOOD AND COASTAL EROSION THREAT

1.1 OVERVIEW

1.1.1 The Nambucca Valley is located on the Mid North Coast of New South Wales, between Port Macquarie and Coffs Harbour coastal growth region. It is half way between Sydney and Brisbane.

1.1.2 The Local Government Area (LGA) comprises an area of 1,491 sq. km. The LGA is bounded on the east by the Tasman Sea, the southern and western boundaries of the Valley are defined by the Nambucca River catchment, while the northern boundary begins approximately 10km north of Valla Beach and runs almost directly west. The Nambucca Valley has an estimated width of 23km at its widest extent, the eastern boundary adjacent to the coastline.

1.1.3 The area covered by this plan includes the whole of the Nambucca Valley which has a population of approximately 19,734, a large influx of people occur during the peak tourist times.

1.1.4 Situated within the plan area are the townships of Macksville, Nambucca Heads and Bowraville containing about 60% of the population. The villages of Scotts Head, Valla Beach, Hyland Park, Taylors Arm, Eungai and Eungai Rail also provide concentrations of population.

1.1.5 The Pacific Highway traverses the area on a North/South axis and carries a vast amount of local and interstate traffic. Heavy transport and large passenger vehicles regularly travel this highway giving rise to concern. The Nambucca River also passes through the Valley. This river system is expanding in recreational usage hence the potential for accidents and as for any coastal river there is the flooding threat. The main North Coast Railway Line passes through the area and the Sydney-Brisbane air corridor passes over the rugged interior of the Valley.

1.2 LANDFORMS AND RIVER SYSTEMS

1.2.1 The Nambucca Valley comprises the catchment areas of the Nambucca River, Taylors Arm and Warrell, Newee, Watt and Bellwood creeks. The total catchment area, to the mouth at Nambucca Heads, is approximately 1,400 square kilometres. Above Macksville the Nambucca River divides into two arms which rise in the extremely rugged fringe of the New England Plateau into which they have cut deep and precipitous gorges (NSW SES, 2007).

1.2.2 The main tributary of the Nambucca River is Taylors Arm, which flows in a south-easterly direction from the plateau and then turns north-east near the village of Taylors Arm. The main tributaries of Taylors Arm are Thumb and Baker Creeks. Near the town of Macksville, Taylors Arm joins the Nambucca River which then flows north-east to be joined by Newee, Watt and Bellwood Creeks on the left

bank and Gumma and Warrell creeks on the right bank. Above Bowraville the main tributaries of the Nambucca River are Buckra Bendinni Creek, South Creek and Missabotti Creek (NSW SES, 2007).

1.2.3 Warrell Creek, starting as Eungai Creek, rises in hilly country 15 kilometres south-west of Eungai, flowing northwards to a point about three kilometres south of Macksville where it suddenly turns east. At Scotts Head it flows north again, following the coast before joining the Nambucca River at Nambucca Heads (NSW SES, 2007). The catchment is narrow and wraps around the other catchments to the south.

1.2.4 Tidal influence extends upstream almost to Bowraville on the Nambucca River and to Utungun on Taylors Arm during low to average flows. On Warrell Creek the tidal influence extends beyond Scotts Head (NSW SES, 2007).

1.2.5 Above Bowraville and Utungun, areas of alluvial flats are limited to the width of the valley floors adjacent to the main channels. The rugged terrain in these areas is still being actively eroded by the steep tributary streams as they form wider and deeper valleys into the New England Plateau and into the ridges separating the two main catchments (NSW SES, 2007).

1.2.6 In the eastern and central parts of the valley, around Bowraville and west of Macksville, the higher, steep lands give way to more undulating terrain. Intervening ridges are only about 200 metres high. The lowland basin characteristics are more pronounced around Bowraville because so many tributary valleys join to widen the Nambucca River (NSW SES, 2007).

1.2.7 The easterly part of the catchment consists essentially of the deltaic plains of the Nambucca River and Warrell Creek, together with island hills on the plains and low bounding divides. Here, much of the land is below 10 metres and has been constructed from fluvial and estuarine deposition. This low-lying land contains areas of swamps and ponds and is subject to frequent flooding (NSW SES, 2007).

1.2.8 Deep Creek is located to the north of the Council area outflowing to the ocean at Valla. It has a catchment of 92 kilometres square. The upper reaches are steep and the lower reaches are flat. It is an intermittently closed and open lake and lagoon (ICOLL) and meets the coast at the northern end of Hayland Beach in the lee of Valla Headland. It is predominantly open with the entrance migrating along the beach up to half a kilometre and may be braided. The main tributaries are Buchanans, Cow, Boggy, Cedar and other unnamed creeks (WMA Water, 2013).

1.2.9 Indicative Flow Travel Time for the Nambucca River

Locations	Travel Time
Bowraville to Macksville	45 minutes

Utungun to Macksville	25 minutes
Macksville to Stuarts Island	25 minutes

1.3 STORAGE DAMS

1.3.1 **Nambucca off stream storage** was completed in 2014. It has a 4640 ML capacity. The full supply level is at RL 35.8m with a crest height of RL 38.3m. A Dam Safety Emergency Plan is not available as at February 2022.

1.3.2 **East West Road Dam** – Located at the intersection of East West Road and Pacific Highway, Valla.

The dam wall is formed by East West Road, which is owned and maintained by Nambucca Shire Council. The dam stores water which is used for irrigation of nearby macadamia nut plantations. The 7m high dam has a 1.2m diameter pipe outlet, which operates as the dam spillway. The dam crest level is 14m AHD and the spillway invert level (Full Supply Level (FSL)) is 11.7m AHD. The reservoir capacity to FSL is 27.6 ML.

The dam is a zoned earthfill embankment constructed from Silty Clay / Clayey Silt over a firm to stiff Clayey Silt Alluvium Foundation. The dam has a “Low” Sunny Day Consequence Category (SDCC) and a “Significant” Flood Consequence Category (FCC).

The dam wall was modified as part of the Pacific Highway Upgrade between Nambucca Heads and Urunga which was undertaken by Lend Lease on behalf of the Roads and Maritime Services (RMS). The modification of the dam wall comprised an increase to the vertical alignment, lengthening of the spillway pipe, widening on the northern (downstream) side of East West Road and revegetation of this downstream face.

Dam safety inspection records are unavailable at the time of reporting, and therefore the safety status of the dam is unknown. TfNSW are (as of September 2021) organising to commence monthly inspections in accordance with the East West Road Dam Operations, Monitoring and Maintenance (OMM) Manual (HATS, 2021).

1.3.3 There are a number of farm dams in the area. Failure of these dams would not significantly contribute to riverine flooding.

1.4 WEATHER SYSTEMS AND FLOODING

1.4.1 Median annual rainfall over the Nambucca River catchment is 1,270 mm. In the northern and eastern high-ridge country it varies between 1,270 and 1,500 mm,

but to the west and south in the catchment of Taylors Arm it varies from 1,400 mm in the elevated areas to as low as 1,150 mm. March is usually the wettest month, and August the driest. Floods are generally of short duration and warning times are short, being measured in hours rather than days.

1.4.2 Most flooding in the Nambucca Council area results from cyclonic depressions. Amongst these are:

a. Degraded ex-tropical cyclones, migrating southwards and becoming deep low-pressure systems. These systems occur in the mid-late summer months and in autumn, bringing very heavy falls over wide areas and over periods of up to two days when they lie off or over the coast. Falls of 250 mm or more in 24 hours are not uncommon under these circumstances. These systems may also cause coastal erosion.

b. East Coast low-pressure systems can occur throughout the year, but are most common between the which develop during the autumn and winter months. They and travel slowly along the coast, creating heavy rain over the coastal strip and nearby upland country. They also can bring very heavy falls over periods of up to two days and may also result in coastal erosion.

1.4.3 In addition, high-intensity, short-duration convective thunderstorms which occur during the summer months may briefly cause local flooding, flooding on minor creeks and the surcharging of urban drainage systems. Such flooding is `flash' flooding, occurring with little or no warning and having no significant impact on water levels in the Nambucca River itself.

1.4.4 Rain Gauges

Locations	
Girralong	Girralong 9436-4-N 6618
Bowra Sugarloaf	Thumb Ck 9436-4-S 6607
Taylors Arm	Bellbrook 9436-3-N 7194
Bowraville	Macksville 9436-1-S 8610

1.5 FLOOD MITIGATION SYSTEMS

1.5.1 No structural flood mitigation systems exist.

1.6 COASTAL EROSION

1.6.1 Although there are no identified coastal erosion hot spots, erosion has been observed at South Valla Beach footbridge and car park, where there is a vertical rock wall. Scotts Head is also susceptible to erosion. No houses are identified at risk at either location (SMEC, 2010).

1.6.2 Storm surge and wave runup in a large storm may overtop the breakwall (V-Wall) and also inundate the areas around Wellington Drive (including the Caravan Park, as these areas are below 2 metres AHD). The crest level of the break wall is approximately 4 metres AHD. The caravan park would not be susceptible to erosion or reduced foundation capacity as a result of storms.

2 EFFECTS ON THE COMMUNITY

2.1 SECTOR OVERVIEW TABLE

For detailed information on Sectors shown below refer to Volume 3 Chapter 2 of the Local Flood Plan.

Sector Name	Community	Sector Basis	Total Properties	Properties potentially at risk
Macksville Sector	Central Business District (CBD)	Rising Road Access	1096	Approximately 71 businesses would require evacuation in 1% Annual Exceedance Probability (AEP) flood.
	East Macksville	Rising Road Access	Included above	Approximately 32 houses may require evacuation from East and Willis Street during a 1% AEP flood. During large floods the Autumn Lodge Retirement Village in Boundary Street may also require evacuation.
	Kings Point	Low Flood Island	Included above	Approximately 130 residences would

				require evacuation during a 1% AEP flood.
	North Macksville	High Flood Island	285	Approximately 50 houses may require evacuation in a 1% AEP flood, from Bellevue Drive, Ferry Street and Egan Lane.
Bowraville	Bowraville	High Flood Island	470	Six residences may require evacuation during flooding
Nambucca Heads	Nambucca Heads	Rising Road Access	3411	The White Albatross Caravan Park and properties along Wellington Dr may require evacuation. Flooding here can occur as a result of riverine flooding or storm surge. In addition properties in Bellwood may require evacuation.
Scotts Head	Scotts Head	Rising Road Access	548	Some Rural Properties along Scott's Head Road CBD isolation on moderate flooding.

2.2 DISSEMINATION OPTIONS FOR NSW SES FLOOD INFORMATION AND WARNING PRODUCTS

2.2.1 NSW SES provides alerts and delivers flood information to affected communities using a combination of outlets listed in Volume 1 Section 5.4 of the Nambuca Flood Emergency Sub Plan.

LIST OF REFERENCES

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Transport for NSW (2021) East West Road Dam – Dam Safety and Emergency Plan

SES RESPONSE ARRANGEMENTS FOR NAMBUCCA SHIRE

Volume 3 of the Nambucca Shire Local Flood Plan

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Version List

The following table lists all previously approved versions of this Volume.

Description	Date
Nambucca Shire Local Flood Plan (Update)	Nov 2015
Nambucca Shire Local Flood Plan	Feb 2013

Amendment List

Suggestions for amendments to this Volume should be forwarded to:

Manager, Emergency Risk Manager

NSW State Emergency Service

PO Box 6126, Wollongong NSW 2500

nswses.communityplanning@ses.nsw.gov.au

Amendments promulgated in the amendments list below have been entered in this Volume.

Amendment Number	Description	Updated by	Date

NAMBUCCA SHIRE COUNCIL

NSW STATE EMERGENCY SERVICE

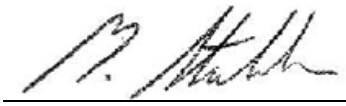
NAMBUCCA SHIRE: NSW SES LOCALITY RESPONSE ARRANGEMENTS

Chapter 1 of Volume 3
(NSW SES Response Arrangements for Nambucca Shire) of the
Nambucca Shire Local Flood Plan
Last Update: February 2022

FloodSafe

AUTHORISATION

Approved

Signature 

NSW SES Manager Emergency Planning / NSW SES Coordinator Planning

Print Name: Michael Stubbs

Date: 17 February 2022

Approved

Signature: 

NSW SES Northern Zone Commander

Print Name: Stephen Patterson

Date: 23 February 2022

Date Tabled at LEMC

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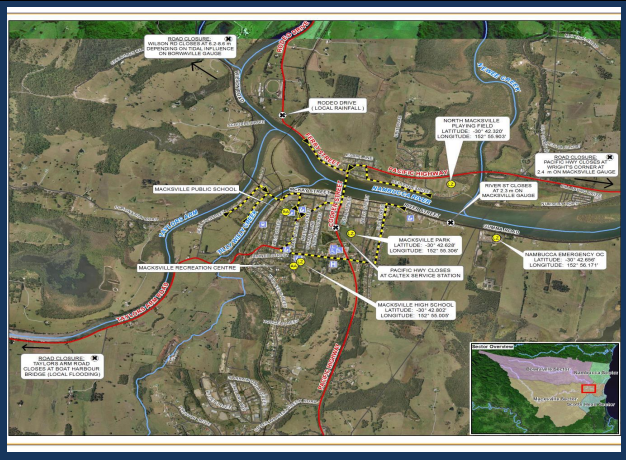
Last Update: February 2022



SECTOR OVERVIEW

Location

The town of Macksville is located on the Nambucca River approximately 13 km upstream of its mouth at Nambucca Heads. The Central Business District, East Macksville, North Macksville and Kings Point are all prone to flooding.

Taylors Arm is the main tributary of the Nambucca River, which has its confluence upstream of Macksville.

Flood History

The present gauges at Bowraville and Macksville were not installed until 1959 and 1963 respectively, but peak flood heights have been established at both centres for events going back to the late nineteenth century.

Historically, floods greater than 2.1 metres at Macksville have been most frequent between February and July, though this does not mean that other periods are flood-free. Floods on record include;

April	1962	2.95m	May	1980	2.10m
April	1963	2.45m	July	1985	2.16m
March	1964	2.40m	July	1999	2.14m
June	1967	2.60m	March	2001	2.38m
January	1968	2.20m	May	2009	2.34m
October	1972	2.50m	January	2011	2.65m
March	1974	2.95m	February	2013	2.47m
	1977	2.65m			

The flood of record occurred in 1950 when the reported level was 3.40 metres AHD at the Macksville Gauge. Flood waters spread through the commercial centre around Princess Street, Wallace Street and Mackay Street to recorded depths of up to 0.6 metres over floor levels. This frequency flood would also have affected residential areas of the town along River Street, East Street and the Pacific Highway near Macksville Park.

Upstream Bowraville gauge was installed in June 2006 which replaced the Lanes Bridge Gauge requiring a realignment of data and historical referencing on past flood peaks for future predictions on the Macksville Gauge.

The Flood Behaviour

The main tributary of the Nambucca River is Taylors Arm, which flows in a south-easterly direction from the plateau and then turns north-east near the village of Taylors Arm. The main tributaries of Taylors Arm are Thumb and Baker Creeks. Near the town of Macksville, Taylors Arm joins the Nambucca River which then flows north-east to be joined by Newee, Watt and Bellwood Creeks on the left bank and Gumma and Warrell Creeks on the right bank. Above Bowraville the main tributaries of the Nambucca River are Buckra Bendinni Creek, South Creek and Missabotti Creek (NSW SES, 2007).

Flood levels at Macksville are very dependent on the relative timing of the flood peaks on the Nambucca River and Taylors Arm. The catchment area of both rivers to their confluence just upstream of Macksville are similar (458 and 459 km2 respectively), however the catchments have very different shapes with Taylors Arm being long and narrow while the Nambucca River catchment is much more compact. The Taylors Arm catchment also wraps around the Nambucca River on the south western and north western sides. The differences in catchment shape result in very different response times. For most small to moderate events from 1997 to present, flood levels at Utungun peak after Macksville even though Macksville is located downstream. However, this is somewhat complicated by the tidal interaction at Macksville.

There can be considerable variation in the rate of rise of an event, which affects the flood response at different locations down the river. It is also possible that the rate of rise of larger events may differ significantly from smaller events. A timing difference of between -8.25 and -20 hours was found to exist between the peaks at Bowraville and Utungun. These characteristics mean that flooding at Macksville is usually caused by the peak flow on the more responsive Nambucca catchment interacting with the rising limb of the Taylors Arm hydrograph. The recent 2013 event has a timing difference of approximately 11.25hrs between Bowraville and Utungun peaks. It is not known if this timing difference persists in very large events. The analysis lead to the adoption of an 11 hr timing delay for design events.

Flood waters overtop the bank downstream of Macksville to fill up Gumma Gumma Swamp which eventually backwaters into east Macksville. This is a large storage area in the floodplain. Other storage areas in the catchment include the area surrounding Newee Creek, Watt Creek and Warrell Creek.

Tilly Willy Creek is located to the west of Macksville. Town Drain is to the east. A limited number

of properties are affected in smaller events. Evacuation of the majority of the area is relatively simple. Kings Point and East Macksville are both low flood islands and will need evacuation early.
Events rarer than a 5% AEP event will result in floodwaters through the commercial and residential centre of the town.

The majority of Kings Point (53 houses) is inundated in a 2% AEP event along with large areas of Macksville. Properties in Gumma Gumma Swamp are inundated above floor level in a 20% AEP event.

Kings Point is a Low Flood Island. During a flood event most, people would evacuate as they are inundated in a relatively frequent event. Floodwaters first enter the area in a 5% AEP event.

CHARACTERISTICS OF FLOODING

The Kings Point area is a high hazard floodway and East Macksville is a high hazard flood fringe. Velocities can exceed 3 metres per second, from 10% AEP (2.25m) flood events.

Flood behaviour in the lower Nambucca at Macksville is affected by the complex interaction between catchment runoff and tides.

Warning time of impending floods is relatively short with only 6 to 9 hours of flood heights exceeding 3.0 metres AHD at the Macksville gauge, generally available. However, this may vary a small amount depending upon the distribution of rainfall throughout the catchment.

Floods are generally of short duration, but roads maybe closed for several days.

Flow times from Bowraville to Macksville 45 minutes.

Flow times from Utungun to Macksville 25 minutes.

Rural Areas

There are numerous ungauged tributaries in the Nambucca River and Warrell Creek catchments.

The flooding in the area is not directly impacted by riverine flooding. Instead, it is mostly caused by localised overland flooding and flooding of the small tributaries.

In a 1% AEP flood, the majority of the flood affected areas are high hazard.

Map of Bellinger Nambucca River Schematics identified as (Attachment 1)
Map of Macksville Sector identified as (Attachment 2)

Community Profile - Bureau of Statistics updates

Population as per 2016 Census.

SUBURB	POPULATION	MEDIUM AGE (YEARS)	CHILDREN 0-14YRS (%)	OVER 65'S (%)
Macksville	2,598	48	18.2	28.9
Total	2,598			

Flood Affect Classification

Macksville is classified as "Rising Road Access and Low Flood Island "and North Macksville, East Macksville, and Kings Point are "Low Flood Islands".

At Risk Properties Inundation & Isolation Summary

MACKSVILLE SECTOR PROPERTY INUNDATIONS/ABOVE FLOOR FLOODING														
SUBURB	Total Prop	50% AEP		20% AEP		10% AEP		5% AEP		1% AEP		PMF		ISOLATIONS
		RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	
Macksville	289					1		37		151		17		50 (1,749 people)
Total	289					1		37		151		17		50

Warning time of impending floods is relatively short with only 6 to 9 hours of flood heights exceeding 3.0 metres AHD at the Macksville gauge, generally available.

Inundation

The Central Business District (CBD): Flood waters begin to enter the CBD at 2.3 metres on the Macksville gauge, reaching the intersection of River and Princess Streets however this generally occurs around 2.6 meters. As the river rises water will enter Mackay, Princess, River, Wallace, Tilly Willy, Angus, West and Cooper Streets. During a 1% AEP (3.67 metres) flood an estimated 32 residences and 71 businesses would suffer over-floor flooding.

East Macksville: The eastern residential area is subject to backwater flooding from the Gumma Creek flats and over bank flows from the Nambucca River. The area is considered to be High Hazard Flood Fringe. During the 1% AEP (3.67 metres) flood the riverbank area would not be flooded but would be surrounded by low velocity flood waters of up to one metre deep.

In extreme events, the entire area could be covered by up to 2.5 metres of medium velocity flood water, creating a high risk situation. There is no high ground in the area to retreat to, and there would be difficulty in evacuating people from the area across the town drain.

It is uncertain when flood waters initially enter East Macksville, however significant parts of East Macksville would be flooded below 2.95 metres (Macksville Gauge). Specific areas likely to be affected include the lower sections of Willis, Star, Partridge, Macksville, Dudley, George, Boundary, River, Nambucca, East and Asher Streets and Kane Lane.

The Autumn Lodge Retirement Village in Boundary Street is flood prone and may require evacuation if floodwaters are expected to rise above 3.5 metres. This retirement village plans to relocate.

North Macksville: A narrow low-lying strip of North Macksville, fronting the river is within the floodplain. Over-ground flooding commences in the area between 1.5 and 2 metres on the Macksville gauge, resulting in flooding beneath the many raised houses in this area. The area is generally flood fringe with velocities increasing towards the river. During 1% AEP (3.67 metres) flood 14 residences would be flooded over-floor, with many others affected by deep over-ground flooding.

Flooding is likely to occur in Ferry Street, Egan Lane and Bellevue Drive. Access along Ferry Street and Bellevue Drive can be limited in minor to moderate flood events.

Kings Point: Classified as a high hazard floodway, Kings Point is a narrow piece of land between Taylors Arm and Tilly Willy Creek. Over floor flooding of Kings Point begins around 2.5 metres (6 properties in Sturdee and Jelico Streets). Approximately 124 residential properties are built in the area, many with raised floors, but all prone to high hazard flooding. During a 1% AEP (3. 67 metres) flood 57 houses would be flooded over-floor with many others suffering deep over-ground flooding. For the 1% AEP flood (3.55 metres), high velocities flood waters of up to 1.5 metres deep could be experienced. In an extreme event, flood waters could be up to an additional 3.0 metres deeper especially to the south.

Evacuation from Kings Point is potentially extremely difficult and risky because of the high flood depths and velocities across the land, and along Tilly Willy Creek. Evacuation would need to be completed early in a major flood.

Eungai Rail and Eungai Creek: are susceptible to flooding (with at least 5 properties being over floor flooded in the January 2015 event, including the Eungai Creek Store).

Isolation

From 2.3 metres (Macksville gauge), the eastern side of Macksville (including the Depot and SES Headquarters) becomes isolated when River Street closes.

From 2.4 metres (Macksville gauge) Wilsons Road may close, pending tidal influences. This prevents access between Macksville and Bowraville. Bowraville Road may be available for an alternative route, depending on tides. Wrights Corner on the Pacific Highway may also close at this height, preventing access between Macksville and North Macksville/Nambucca. At this stage, the Highway at Clybucca is also usually closed, effectively isolating the area between Macksville and Clybucca.

The Pacific Highway is susceptible to overland localised flooding at the Golf Course and Caltex, impacting traffic within Macksville. An alternate route is available on Wallace Street.

Rural Areas

Kesby's Road between Eungai Rail and Eungai Creek closes at several creek crossings, isolating the western community of Eungai residents (approximately 10 properties). Browns Crossing Road can also be cut at both ends, isolating approximately 40 properties) (ungauged).

Taylors Arm and Utungun becomes isolated when Boat Harbour Bridge on Taylors Arm Road closes in a moderate flood, which equates to approximately 341 people. This area utilises the Utungun gauge (205414), however no intelligence has been collected at this stage.

South Arm, North Arm, Bakers Creek, and Appletree Glenn become isolated due to creek crossing closures in major flooding, which equates to over 1000 people (however is ungauged).

Warrell Creek can become isolated in a major flood, access to Macksville may still be available. This area utilises the Warrell Creek gauge (205490), however no intelligence has been collected at this stage.

Gumma may become isolated in a moderate flood, when Gumma Road closes at the Gumma Crossing. There are approximately 408 residents affected. The Gumma Reserve is a recreational area and requires evacuation in a moderate flood.

Map of Nambucca Classifications of Community identified as (Attachment 3 & 4)
Map of Nambucca Overground Flooding identified as (Attachment 5)

KEY HAZARDS & CONSEQUENCES

Hazard Type	Risk/Consequence	Ranking
Riverine Flooding	Loss of life from floodwater drownings Significant urban flooding Extensive road closures and disruption to road networks Infrastructure damage, including roads, bridges and culverts Power outages Sewerage system failure Water supply disruption	High (Extreme)
Flash Flooding	Loss of life from high velocity floodwater Overland flows causing isolation, inundations	Medium

		and road closures	
	Storm	Damaging winds and intense rainfall causing roof and tree damage	High

FACILITIES AT RISK

The following facilities are at risk of flooding and/or isolation

Hospitals – The hospital is not at risk of flooding.

Emergency Services –

- **NSW SES**, Kelly Close, Macksville (inundation)
- **Headquarters RFS**, Kelly Close, Macksville (inundation)

Schools –

- **Macksville High School**, Boundary Street, Macksville (isolation)
- **Macksville Public School**, 35a Wallace Street, Macksville (isolation)
- **St Patrick's Primary School**, 78 Wallace Street, Macksville (isolation, plans to relocate near Snake Creek)
- **Hibiscus Christian School**, Dudley Street, Macksville (isolation)
- **Medlow Public School**, 2896 Taylors Arm Road, Medlow (isolation in a major flood).
- **Eungai Public School**, Main Street, Eungai Creek (isolation from major towns)

Childcare centres -

- **Macksville Pre School Child Care Centre**, Park Street, Macksville (isolation)
- **Alphabet Long Day Care**, 32 Johnston Close, Macksville (isolation)
- **Eungai Preschool**, Little Tamban Road Eungai Creek.(isolation in a major flood)

Aged and Infirm –

- **Autumn Lodge**, Short Street, Macksville (51 beds, plans to relocate) (inundation above 2.95m)

Caravan Parks –

- **Nambucca River Tourist Park**, 143 Nursery Rd, Macksville (116 Sites – isolation) *Moveable vans to be located at the railway car park, Station St, Macksville*

ESSENTIAL SERVICES AT RISK

Protection of Essential Services:

- Council Depot is at risk of isolation and inundation from 2.3 metres, including the SES Nambucca Unit Headquarters.
- A number of shops in the CBD are prone to inundation. No identified essential infrastructure requiring protection.
- Electrical – Telecommunications, Water treatment and energy are not identified at risk

Levees – NA

Dams - Bowraville Off-river Storage, Bobo Road, Bowraville. Details relating to this Dam can be found within the Nambucca EMPLAN. In the event of Dam alert and or failure refer to NSW SES Dam Safety Summary Sheet for Operational Response details.

Off storage Dam near Bowraville has no impact on the Macksville Gauge.

KEY EVACUATION TRIGGER

Gauge Name	Watercourse	AWRC #	Trigger/Consequence/Action
Macksville	**Nambucca**	**205416**	**Min 1.7** **Mod 2.1m** **Maj 2.6m**
Deep Creek	Deep Creek	205485	

EVACUATION AND/OR ISOLATION TRIGGERS

Macksville is located on both sides of the Nambucca River. Evacuations should proceed progressively from low-lying areas in Macksville to higher areas as flood severity increases.

CBD flooding in Macksville will cause the Old Pacific Highway to close.

Sequencing of Evacuation

The effect of flooding on the town and outlying areas in this sector is very much dependant on tidal influences. Tidal levels will need to be identified at the onset of main river flooding.

The key evacuation triggers based on Bureau of Meteorology flood height predictions at the **Macksville Gauge** (205416):

1. Prediction to reach and/or exceed 1.70m - Targeted Evacuation Warning issued for North Macksville for low-lying properties in Bellevue Drive, Ferry Street and Pacific Highway (15 residential properties).

2. Prediction to reach and/or exceed 2.0m - Targeted Evacuation Order issued at North Macksville.

3. Prediction to reach and/or exceed 2.30m - Targeted Evacuation Warning issued for low-lying areas of Macksville CBD, including River Street, Willis Street and Princess Street.

Targeted Evacuation Warning issued for low-lying areas of Kings Point including Sturdee and Jelico Streets (6 residential properties).

4. Prediction to reach and/or exceed 2.50m - Targeted Evacuation Order issued for low-lying areas of Kings Point.

5. Prediction to reach and/or exceed 2.80m - Targeted Evacuation Order issued for low-lying

areas of Macksville CBD.

Targeted Evacuation Warning issued for low-lying areas of East Macksville, including Princess Street, Wallace Street and Mackay Street.

6. Prediction to reach and/or exceed 3.50m - Targeted Evacuation Order issued for low-lying areas of East Macksville.

7. Prediction to reach and/or exceed 3.67m - An event of a 1% magnitude. Over flood flooding affecting approximately (103 residential 71 commercial properties) in Macksville.

Evacuation Routes

For Prediction 2 the areas of North Macksville to Macksville High School – Pacific Highway, Wallace Street and Boundary Street.

For prediction 4 the areas of Kings Point to Macksville High School – along Jofrey Street West Street.

For Prediction 5 the areas in Macksville CBD to Macksville High School – Wallace Street to Boundary Street.

For prediction 6 From East Macksville to Macksville High School – along East Street, Boundary Street.

Evacuation Route Closures

River Street eastern side (2.3m at Macksville); Pacific Highway at Caltex Service Station opposite Macksville Park (local flooding); Pacific Highway North of Macksville at Wrights Corner (2.4 metres at Macksville); Wilsons Road at Congarinni North (6.7m at Bowraville); Taylors Arm Road at Boat Harbour Bridge (local flooding).

Known road closures include: Willis, Mackay, Princess, Gumma, Bellevue, Sturdee and Jelico Streets.

Other roads where closure is dependent on local rainfall and events (e.g. landslips) include:

- Pacific Highway South of Macksville closed at Clybucca.
- Ferry Street at Macksville Lions Park.

ADMINISTRATION MANAGEMENT

People should be encouraged to stay with friends/ relatives outside the flood affected areas.

Where this is not possible nominated centres will be determined by WELFAC upon request, refer to the Nambucca EMPLAN for possible identified facilities.

When large-scale evacuations are likely, the NSW SES Incident Controller will liaise with the

LEOCON and request support of the EOC as required.

Large scale evacuations would be unlikely in this sector but if required additional locations will be identified.

AIRCRAFT MANAGEMENT

Possible Helicopter Landing Zones in this sector. Aviation plan will determine exact locations when required.

North Macksville Park, Pacific Highway/Casey Drive
(S30° 42'2125080 E152° 55'5120040)

Macksville High School, Boundary Street
(S30° 42' 5153760 E152° 55' 15823230)

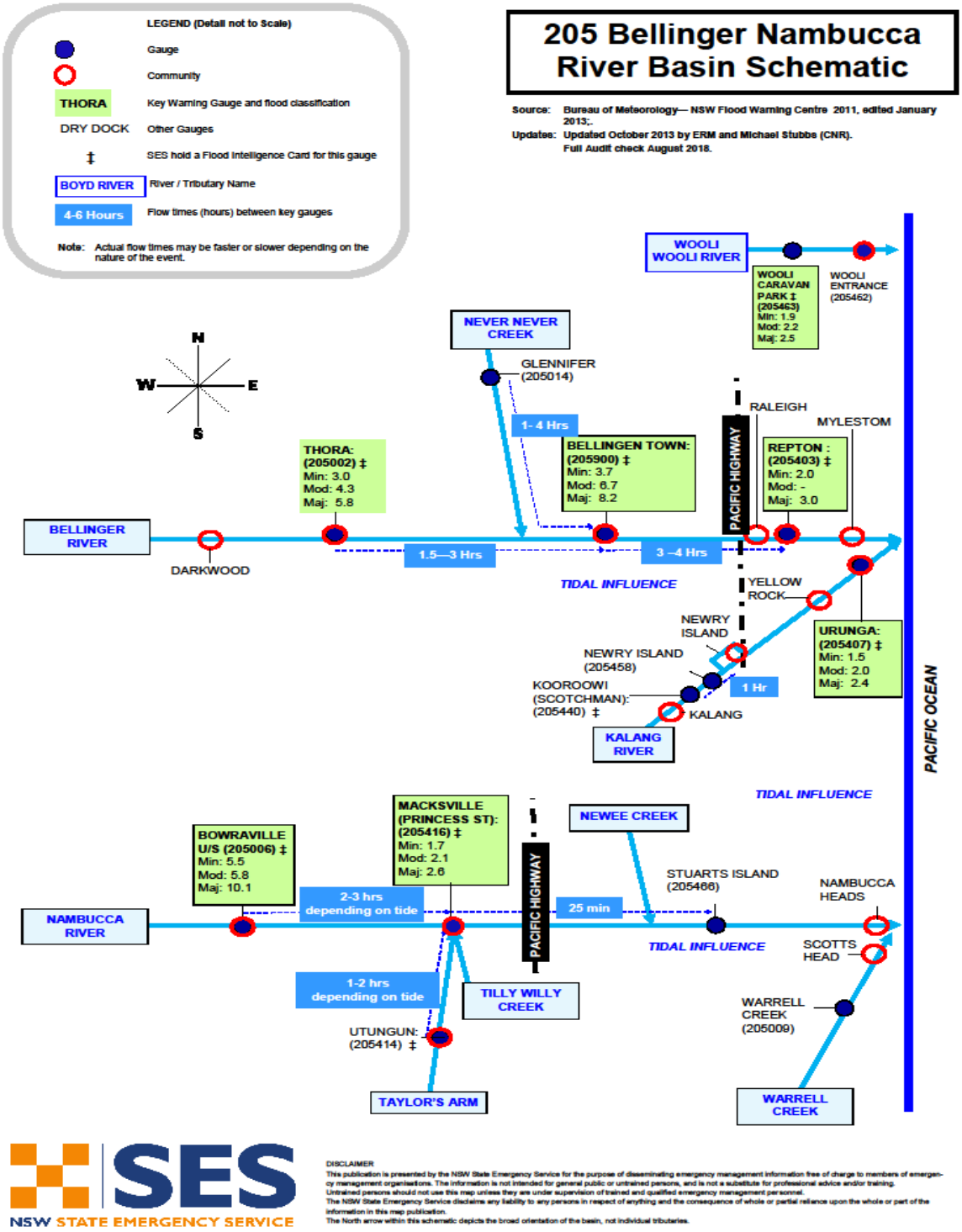
Macksville Park, Pacific Highway
(S30° 42' 3679200 E152° 55' 2061120)

Nambucca Emergency Operations Centre, Kelly Close Macksville
(S30° 42' 41.3748 E152° 56' 10.5138)

OTHER

Special considerations relating to the evacuation:

- Closure of schools - coordinated through the Department of Education and Training.
- Closure of licensed premises - the hotel will be closed if required.
- Security - Police patrols to be established to maintain law and order after evacuation has occurred.
- The NSW SES will use flood boats and helicopters to monitor safety of individuals, where feasible.
- Nambucca has 4 peak seasons with potential for in excess of 10% population increase:
    - School Holidays – December/ January
    - Easter Holidays – March /April
    - Rusty Iron Rally September
    - VW Spectacular – September/October
- In large flood events there are limited telecommunications available in the rural areas due to the terrain.


LEGEND (Detail not to Scale)
Gauge
Community
THORA
Key Warning Gauge and flood classification
DRY DOCK
Other Gauges
‡
SES hold a Flood Intelligence Card for this gauge
BOYD RIVER
River / Tributary Name
4-6 Hours
Flow times (hours) between key gauges
Note: Actual flow times may be faster or slower depending on the nature of the event.
205 Bellinger Nambucca River Basin Schematic
Source: Bureau of Meteorology— NSW Flood Warning Centre 2011, edited January 2013;.
Updates: Updated October 2013 by ERM and Michael Stubbs (CNR).
Full Audit check August 2018.
N
W
E
S
WOOLI WOOLI RIVER
WOOLI CARAVAN PARK ‡ (205463) Min: 1.9 Mod: 2.2 Maj: 2.5
WOOLI ENTRANCE (205462)
NEVER NEVER CREEK
GLENNIFER (205014)
1- 4 Hrs
BELLINGEN TOWN: (205900) ‡ Min: 3.7 Mod: 6.7 Maj: 8.2
RALEIGH
MYLESTOM
REPTON : (205403) ‡ Min: 2.0 Mod: - Maj: 3.0
PACIFIC HIGHWAY
THORA: (205002) ‡ Min: 3.0 Mod: 4.3 Maj: 5.8
BELLINGER RIVER
DARKWOOD
1.5—3 Hrs
3 –4 Hrs
TIDAL INFLUENCE
YELLOW ROCK
NEWRY ISLAND
NEWRY ISLAND (205458)
URUNGA: (205407) ‡ Min: 1.5 Mod: 2.0 Maj: 2.4
KOOROOWI (SCOTCHMAN): (205440) ‡
1 Hr
KALANG
KALANG RIVER
PACIFIC OCEAN
TIDAL INFLUENCE
MACKSVILLE (PRINCESS ST): (205416) ‡ Min: 1.7 Mod: 2.1 Maj: 2.6
NEWEE CREEK
BOWRAVILLE U/S (205006) ‡ Min: 5.5 Mod: 5.8 Maj: 10.1
2-3 hrs depending on tide
PACIFIC HIGHWAY
25 min
STUARTS ISLAND (205466)
NAMBUCCA HEADS
NAMBUCCA RIVER
TIDAL INFLUENCE
SCOTTS HEAD
1-2 hrs depending on tide
TILLY WILLY CREEK
WARRELL CREEK (205009)
UTUNGUN: (205414) ‡
TAYLOR'S ARM
WARRELL CREEK
SES
NSW STATE EMERGENCY SERVICE
DISCLAIMER
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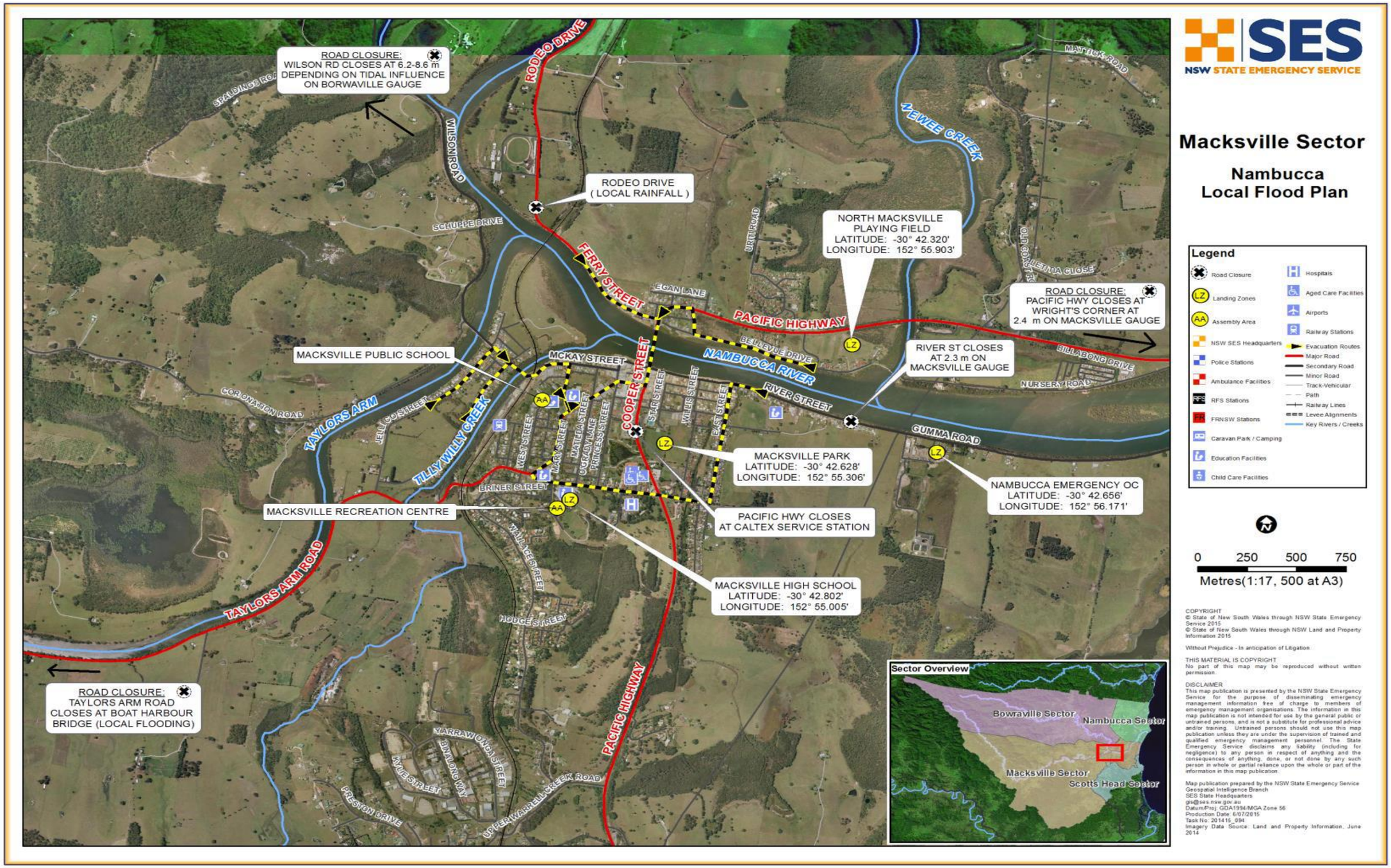
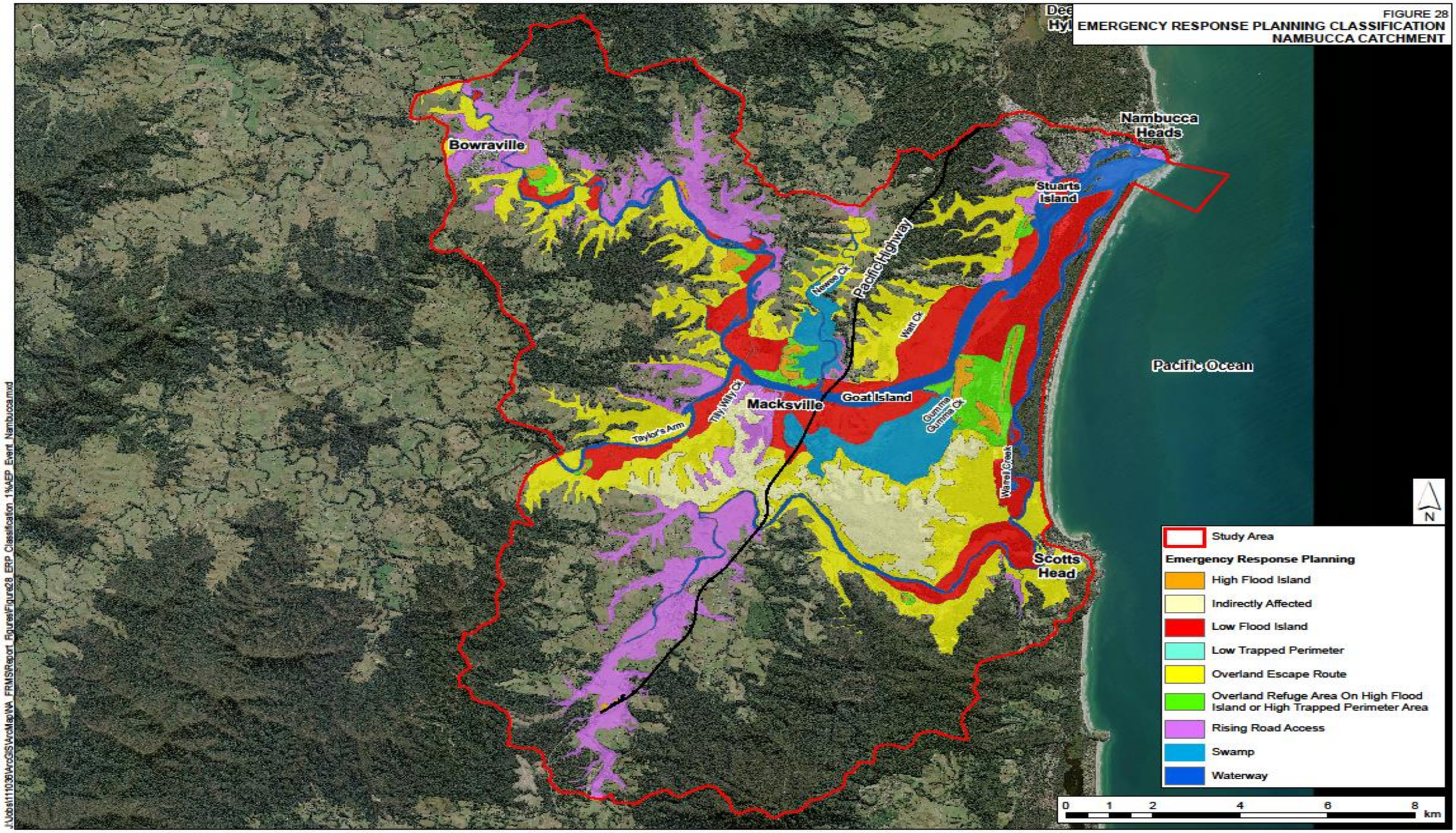
Untrained persons should not use this map unless they are under supervision of trained and qualified emergency management personnel.
The NSW State Emergency Service disclaims any liability to any persons in respect of anything and the consequence of whole or partial reliance upon the whole or part of the information in this map publication.
The North arrow within this schematic depicts the broad orientation of the basin, not individual tributaries.

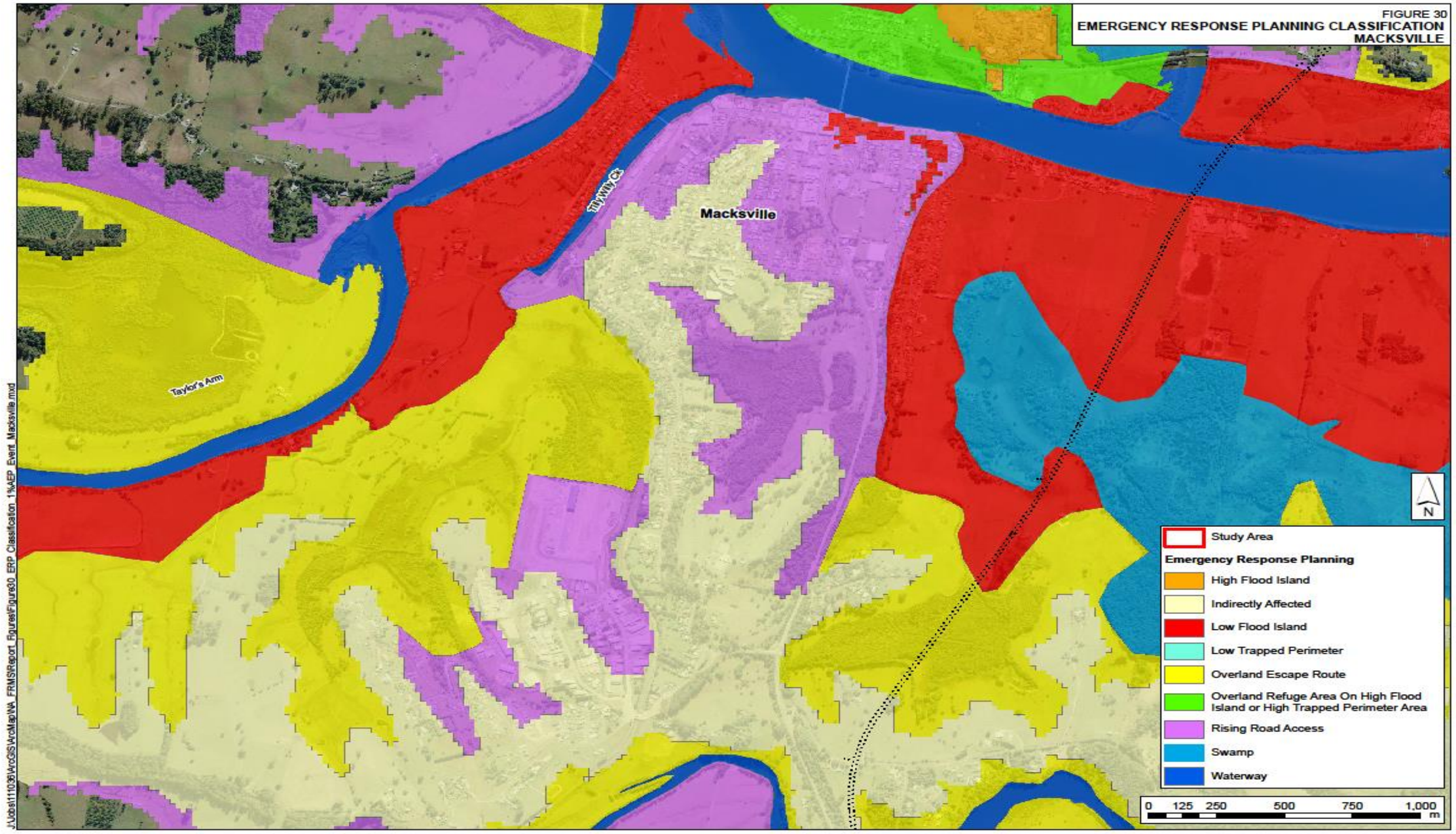
Attachment 2



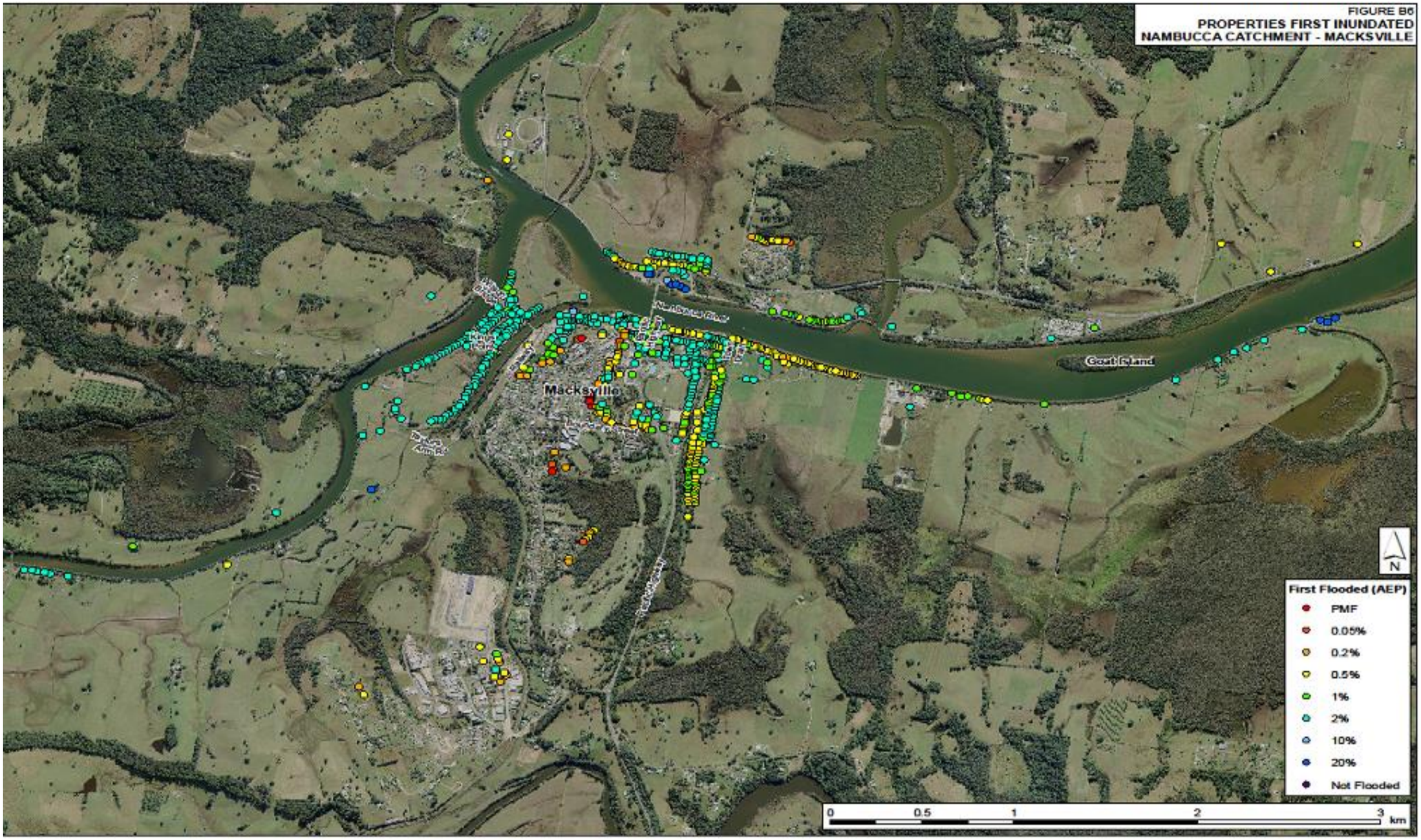
Attachment 3



Attachment 4



Attachment 5



VOLUME 3

Bowraville Sector

Last Update: August 2021

SECTOR OVERVIEW

Location

Bowraville is approximately 28km upstream from the entrance at Nambucca Heads and 14km upstream of Macksville. The town is situated on the south side of Nambucca River and to the east of South Creek on high ground.

Flood History

The flood of record occurred in 1890 when the river is reported to have reached 11.9 metres AHD. The next highest flood level was 11.0 metres AHD in 1954. Although about 40% of the town area is below this level, there are only six occupied residences below 11.0 metres AHD.

The present gauges at Bowraville and Macksville were not installed until 1959 and 1963 respectively, but peak flood heights have been established at both centres for events going back to the late nineteenth century.

Historically, floods greater than 2.1 metres at Macksville have been most frequent between February and July, though this does not mean that other periods are flood-free.

The flood of record occurred in 1950 when the reported level was 3.40 metres AHD at the Macksville Gauge. Flood waters spread through the commercial centre around Princess Street, Wallace Street and Mackay Street to recorded depths of up to 0.6 metres over floor levels. This frequency flood would also have affected residential areas of the town along River Street, East Street and the Pacific Highway near Macksville Park.

Upstream Bowraville gauge was installed in June 2006 which replaced the Lanes Bridge Gauge requiring a realignment of data and historical referencing on past flood peaks for future

predictions on the Macksville Gauge.

CHARACTERISTICS OF FLOODING

Above Bowraville the main tributaries of the Nambucca River are Buckra Bendinni Creek, South Creek and Missabotti Creek (NSW SES, 2007). Tidal influence extends upstream almost to Bowraville on the Nambucca River and to Utungun on Taylors Arm during low to average flows.

Above Bowraville and Utungun, areas of alluvial flats are limited to the width of the valley floors adjacent to the main channels. The rugged terrain in these areas is still being actively eroded by the steep tributary streams as they form wider and deeper valleys into the New England Plateau and into the ridges separating the two main catchments (NSW SES, 2007).

In the eastern and central parts of the valley, around Bowraville and west of Macksville, the higher, steep lands give way to more undulating terrain. Intervening ridges are only about 200 metres high. The lowland basin characteristics are more pronounced around Bowraville because so many tributary valleys join to widen the Nambucca River.

South Creek (NSW Water) contributes to the Nambucca River immediately upstream of Bowraville. The flood impacts may vary depending if one or both of the tributaries are flooding. South Creek can back up in the swampy areas to the west of Bowraville.

Map of Bellinger Nambucca River Schematics identified as (Attachment 1)
Map of Bowraville Sector identified as (Attachment 2)

Community Profile - Bureau of Statistics updates

Population as per 2016 Census.

SUBURB	POPULATION	MEDIUM AGE (YEARS)	CHILDREN 0-14YRS (%)	OVER 65'S (%)
Bowraville	1,122	45	20.4	22.7
Total	1,122			

Map of overview of Bowraville Town identified as (Attachment 3)
Map of Sector Overview identified as (Attachment 4)

Flood Affect Classification
Bowraville is classified as a "High Flood Island"

At Risk Properties Inundation & Isolation Summary

BOWRAVILLE SECTOR PROPERTY INUNDATIONS/ABOVE FLOOR FLOODING														
SUBURB	Total Prop	50% AEP		20% AEP		10% AEP		5% AEP		1% AEP		PMF		ISOLATIONS
		RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	
Bowraville	491											4		
Total	491											4		

Inundation

The flood of record occurred in 1890 when the river is reported to have reached 11.9 metres AHD. The next highest flood level was 11.0 metres AHD in 1954. Although about 40% of the town area is below this level, there are only six occupied residences below 11.0 metres AHD.

Isolation

Isolation is the main flood issue in the area as roads into the village are cut in a 5year ARI. No property in the township of Bowraville is flooded in a 1% AEP event. The main issue for Bowraville is therefore isolation. Approximate period of Isolation 2-3 days. Resupply likely to be required after 2-3 days (depending on warning time). See below for further details.

Bowraville becomes isolated at around 6.7 metres on the U/S Bowraville gauge, when Wilsons Road Closes at Congarinni (Bowraville Road will also be closed at the Showground and Little Motleys Bridge and Lanes Bridge, which occurs around 4.4 metres).

Residents on Rodeo Drive, Bowraville also become isolated as Newry Creek bridge closes (ungauged), preventing access to Nambucca Heads. It generally occurs in a moderate flood.

Map of Bowraville Classifications of Community identified as (Attachment 5 & 6)
Map of Bowraville Overground Flooding identified as (Attachment 7)

KEY HAZARDS & CONSEQUENCES

Hazard Type	Risk/Consequence	Ranking
Riverine Flooding	Loss of life from floodwater drownings Significant urban flooding Extensive road closures and disruption to road networks Infrastructure damage, including roads, bridges and culverts Power outages Sewerage system failure Water supply disruption	High (Extreme)
Flash Flooding	Loss of life from high velocity floodwater Overland flows causing isolation, inundations and road closures	Medium

	Storm	Damaging winds and intense rainfall causing roof and tree damage	High

FACILITIES AT RISK

The following facilities are at risk of flooding and/or isolation

Hospitals – N/A

Emergency Services – N/A

Schools –

- **Bowraville Central School** – High Street, Bowraville (isolation)
- **Tallowood Steiner School** – 220 Bellingen Road, Bowraville (isolation)
- **St Mary's Primary School** – Carbin Street, Bowraville (isolation)

Childcare centres –

- **Bowraville Community Pre School** – Coronation Street, Bowraville (isolation)

Aged and Infirm – N/A

Caravan Parks – N/A

ESSENTIAL SERVICES AT RISK

Protection of Essential Services:

- No identified essential infrastructure requiring protection below 1% flood height of 11.90m.
- **Water Supply** – Water supply reservoir is located on high ground.
- **Sewerage** – Bowraville Sewerage Pump may become inundated in major flooded. Council manages this asset and associated risk.
- **Electrical –** Country Energy substation is flood free below the 1% flood height, 11.90m.
- **Telecommunications** - The Telstra exchange for Nambucca Shire is located on Wallace Street, Macksville which is located above the PMF. This exchange is powered by mains electricity. If electricity was lost during a flood, then the generator (located above PMF height) will automatically start. The generator will last between 24-48 hours before refuelling is required.

Levees – NA

Dams.- Nambucca off stream storage was completed in 2014. It has a 4640 ML capacity. The full supply level is at RL 35.8m with a crest height of RL 38.3m. A Dam Emergency Plan is available.

KEY EVACUATION TRIGGER

Gauge Name	Watercourse	AWRC #	Trigger/Consequence/Action
Bowraville US	**Nambucca River**	**205015**	**Min 4.20m** **Mod 4.50m** **Maj 7.50m**
Bowraville D/S	Nambucca River	205425	
South Creek	Nambucca River	20518	NSW WATER

EVACUATION AND/OR ISOLATION TRIGGERS

Upstream Bowraville gauge was installed in June 2006 which replaced the Lanes Bridge Gauge requiring a realignment of data and historical referencing on past flood peaks for future predictions.

The majority of Bowraville is above the PMF level only a minor number of evacuations are anticipated.

Bowraville will be isolated for a number of days. Reconnaissance will be undertaken to determine if resupply is required.

Sequencing of Evacuation

The key evacuation triggers based on Bureau of Meteorology flood height predictions at the **Bowraville U/S** (205015):

1. **Prediction to reach and/or exceed 6.7m** - Bowraville becomes isolated

2. **Prediction to reach and/or exceed 8.30m -** Targeted Evacuation Warning issued for parts of Bowraville affecting properties in Adams Lane, High Street, North Arm Road. (6 properties).

3. **Prediction to reach and/or exceed 8.60m -** Targeted Evacuation Order issued at Bowraville.

Evacuation Routes

For Prediction 2 Low-lying properties in Bowraville will move to the Bowraville Anglican Church Hall in Young Street Bowraville.

Evacuation Route Closures

6.7 metres (Bowraville gauge) Wilsons Road may close, pending tidal influences. This prevents

access between Macksville and Bowraville. Bowraville Road may be available for an alternative route, depending on tides.

4.4 metres (Bowraville gauge) Bowraville Road will be closed at the Showground and Little Motleys Bridge and Lanes Bridge.

ADMINISTRATION MANAGEMENT

People should be encouraged to stay with friends/ relatives outside the flood affected areas.

Where this is not possible nominated centres will be determined by WELFAC upon request, refer to the Nambucca EMPLAN for possible identified facilities.

When large-scale evacuations are likely, the NSW SES Incident Controller will liaise with the LEOCON and request support of the EOC as required.

Large scale evacuations would be unlikely in this sector but if required additional locations will be identified.

AIRCRAFT MANAGEMENT

Possible Helicopter Landing Zones in this sector. Aviation plan will determine exact locations when required.

Recreation Ground Bowraville Carbin Street Bowraville

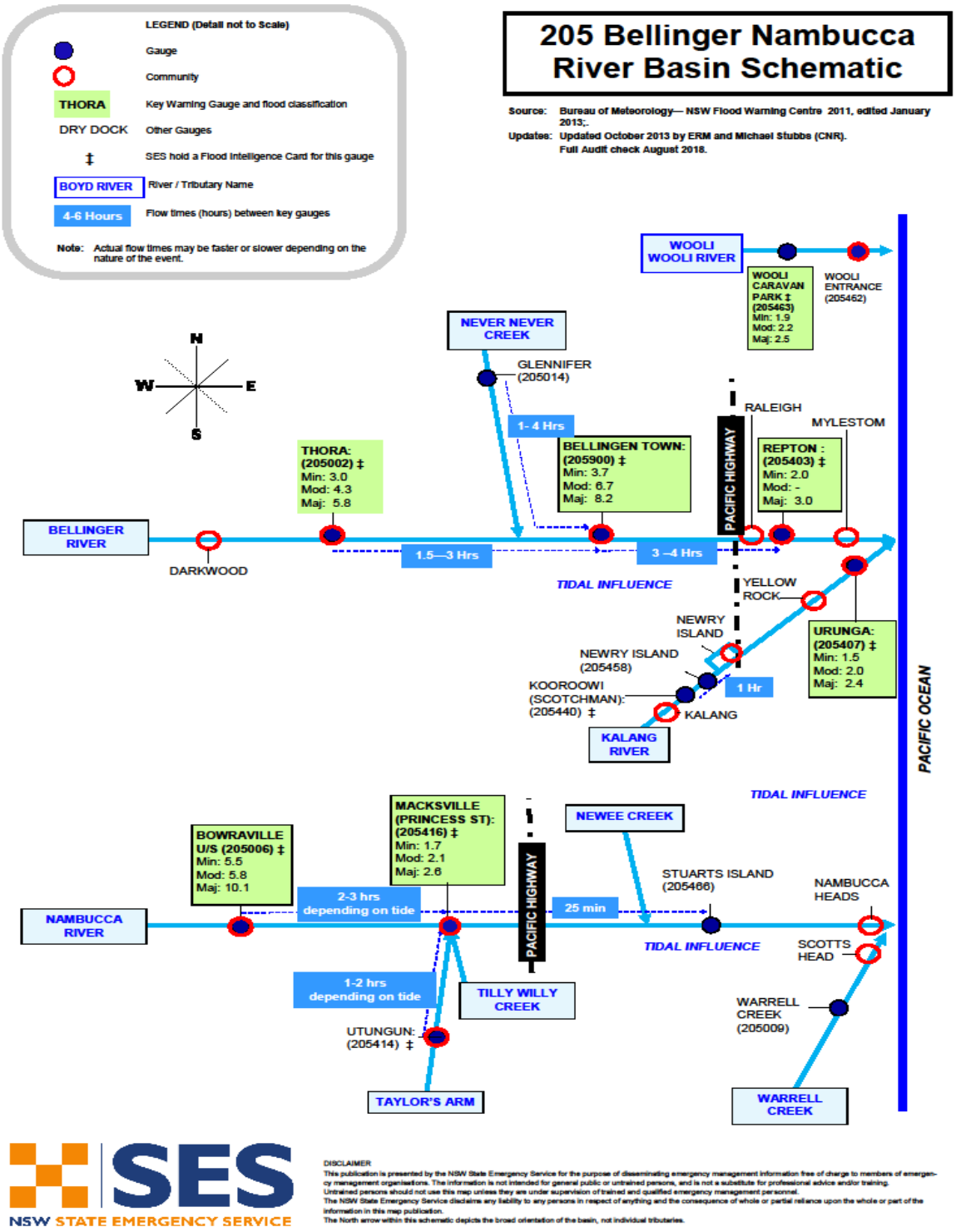
(S30^{o} 38' 5852040 E152^{o} 50' 5290800)

OTHER

Special considerations relating to the evacuation:

- Closure of schools - coordinated through the Department of Education and Training.
- Closure of licensed premises. The hotel will be closed if required.
- Security. Police patrols to be established to maintain law and order after evacuation has occurred.
- The NSW SES will use flood boats and helicopters to monitor safety of individuals, where feasible.
- Bowraville has 2 peak seasons with potential for in excess of 10% population increase:
    - School Holidays – December/ January
    - Rusty Iron Rally September
- In large flood events there are limited telecommunications available in the rural areas due to the terrain.

Bowraville Sector Maps
Attachment 1



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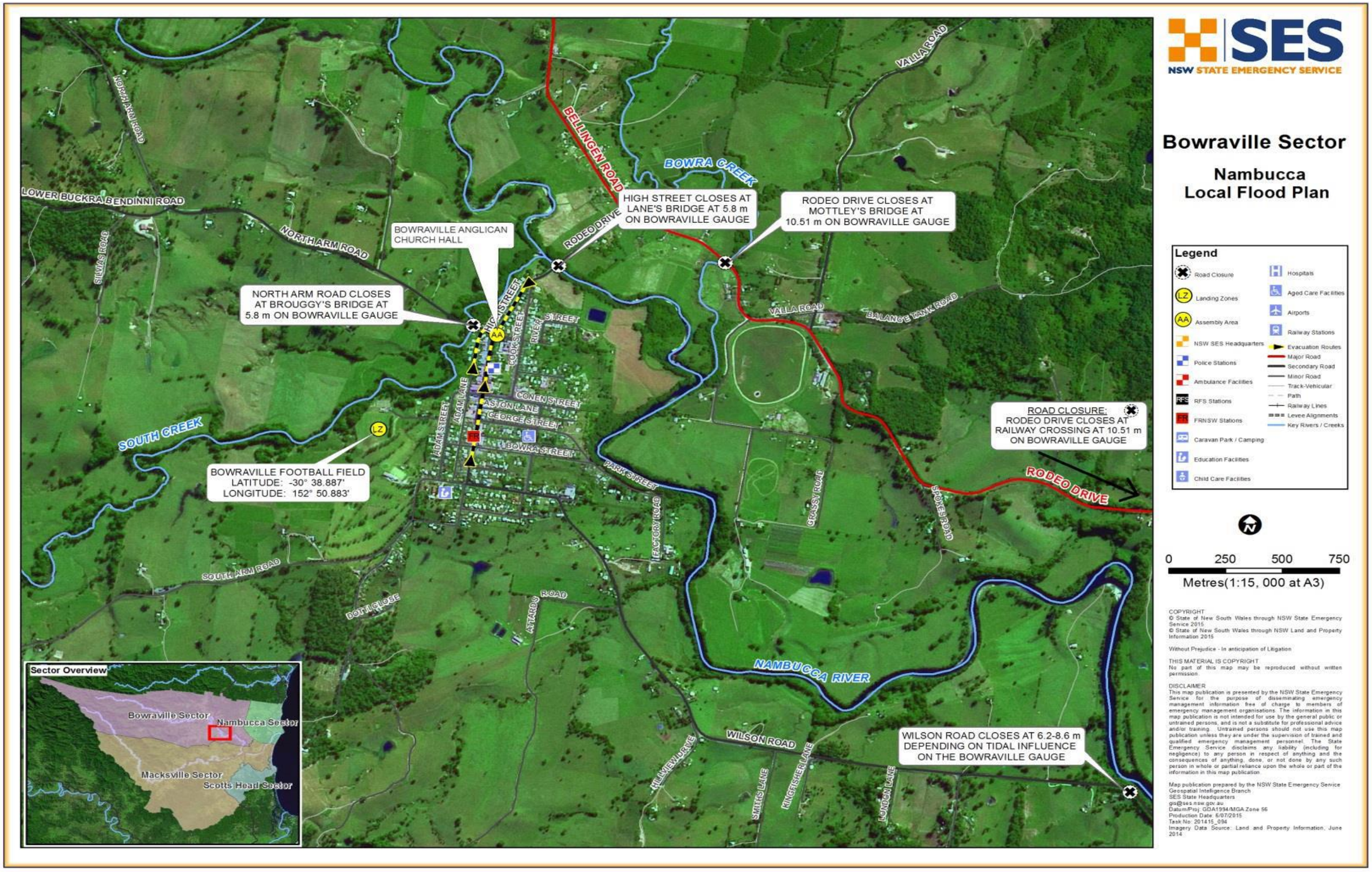

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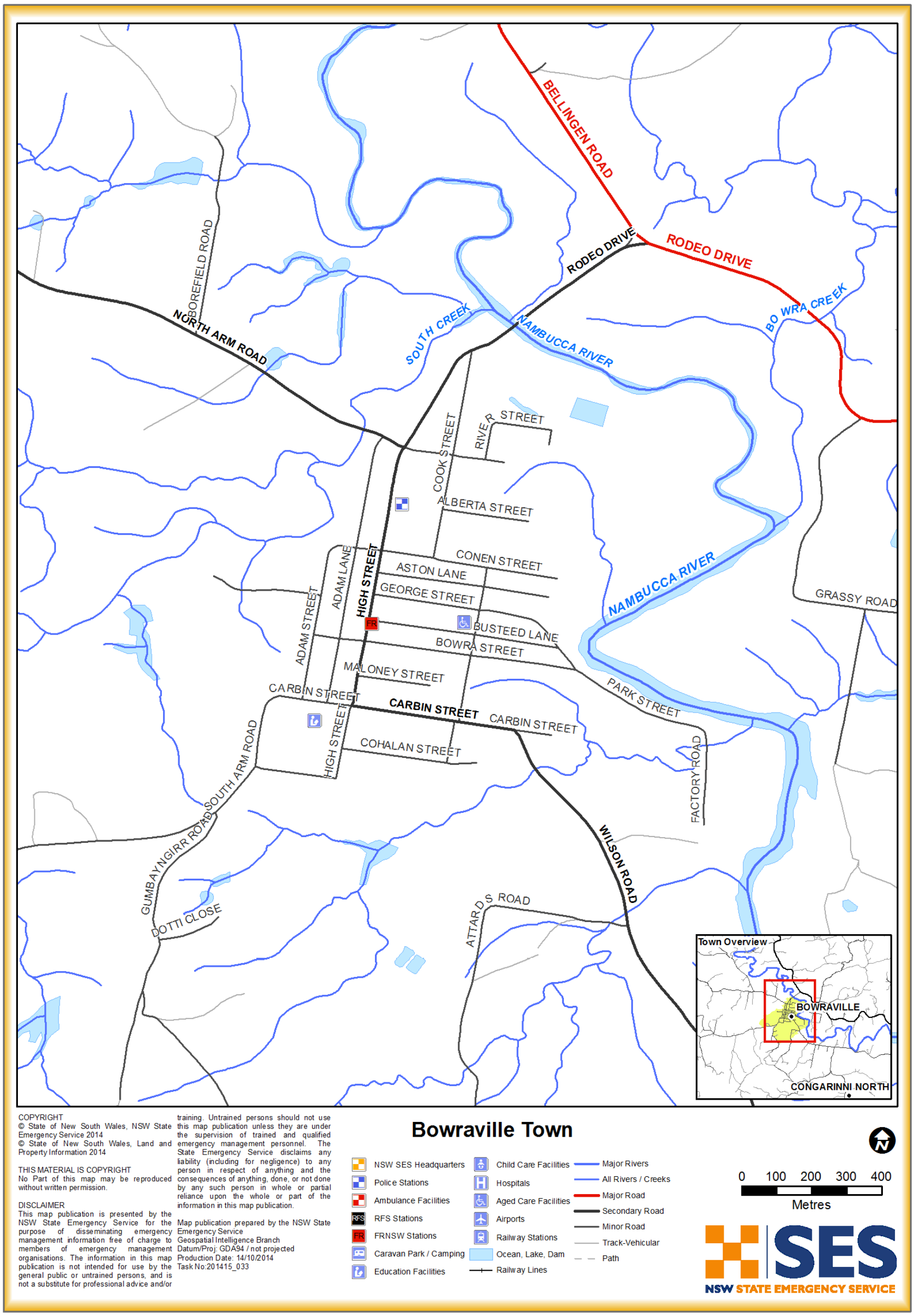

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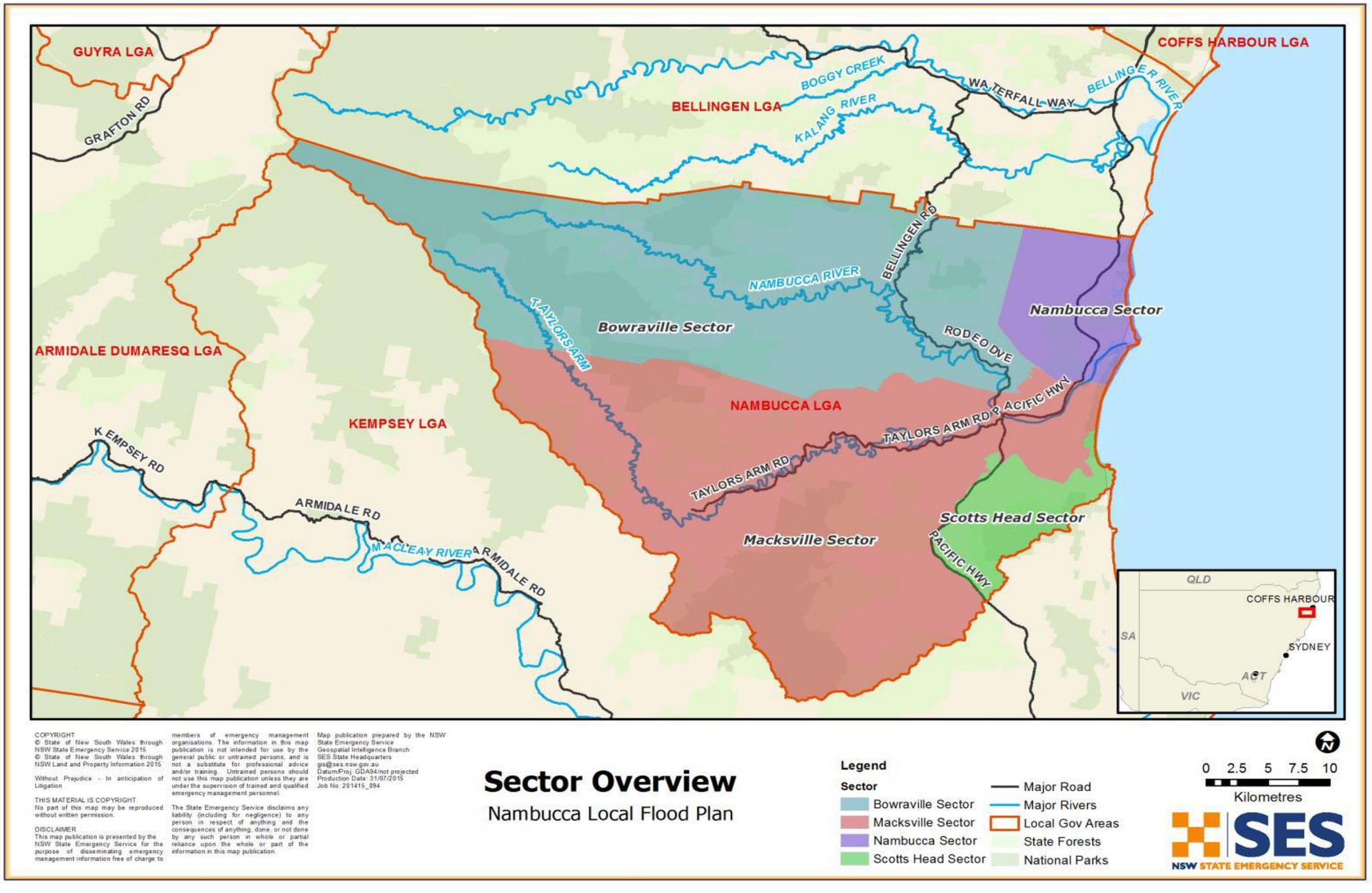

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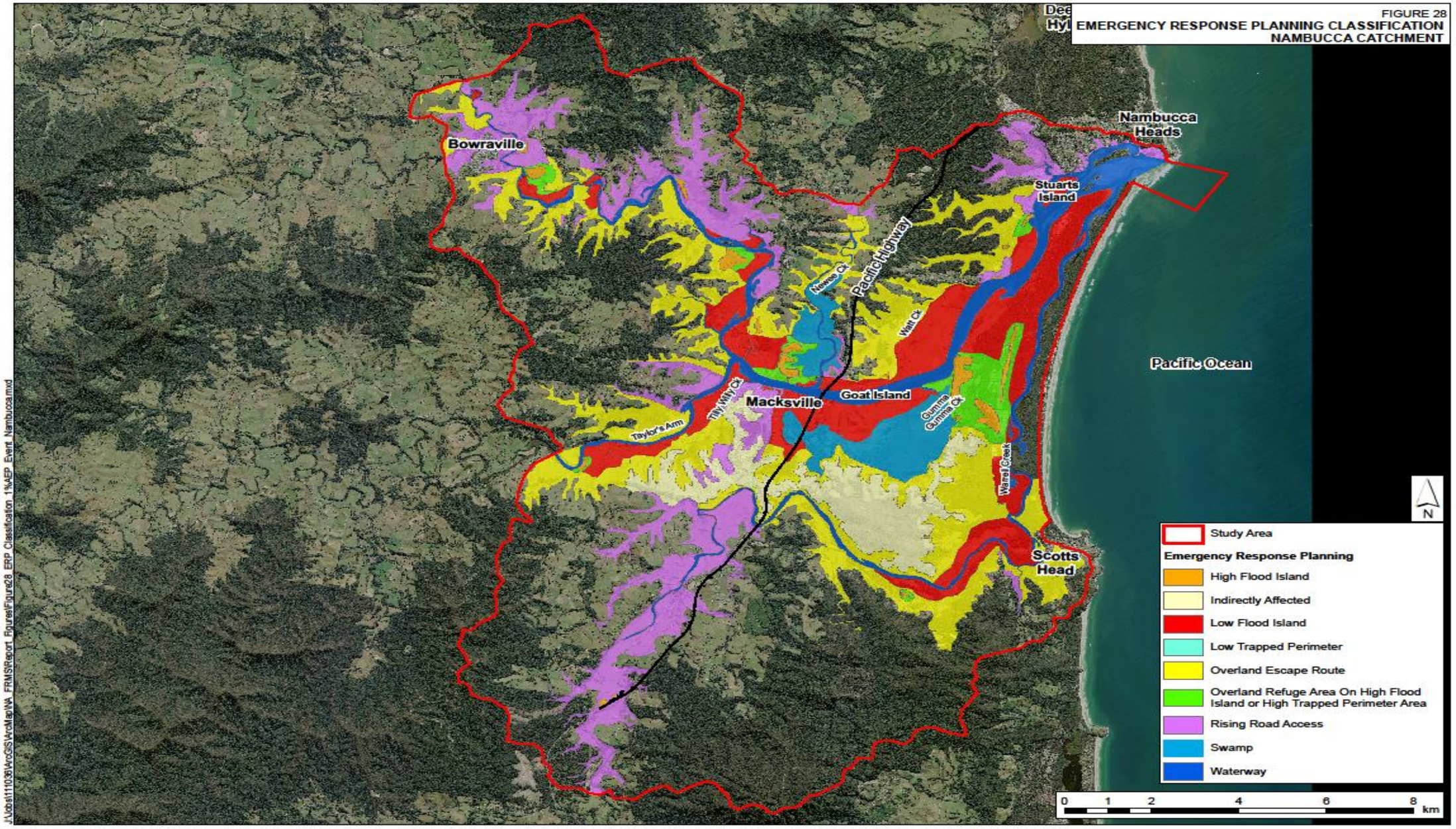

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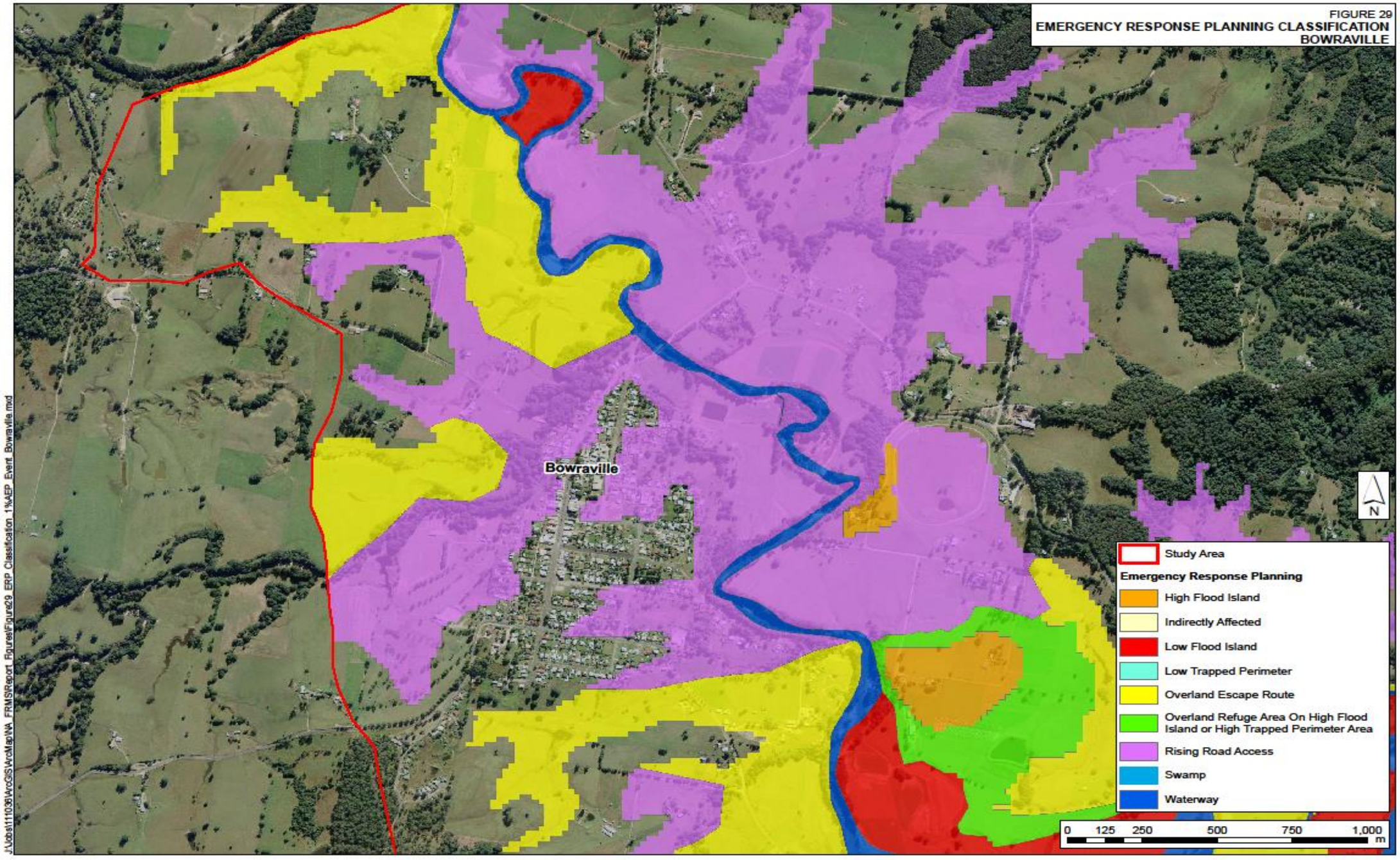
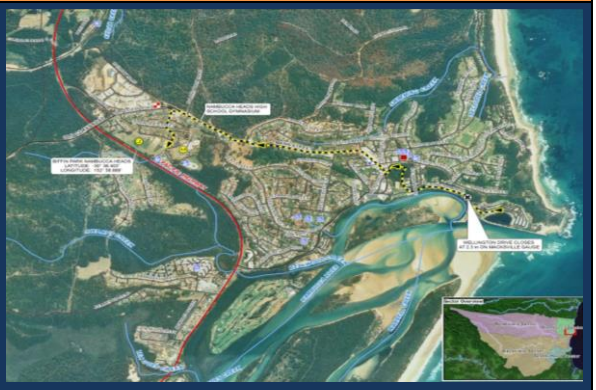


Attachment 7

VOLUME 3

Nambucca Sector



Last Update: August 2021

SECTOR OVERVIEW

Location

Nambucca located at the mouth of the Nambucca River adjacent to the Pacific Ocean. It has limited property damage from riverine flood events as it is close to the ocean and inundation times are relatively short, however small parts of the town suffer from high-risk flooding. The four main areas at risk are Wellington Drive, Bellwood, Stuart Island and the Pacific Highway South of Nambucca Heads.

This Sector also includes Deep Creek, Valla Beach and Hyland Park.

Flood History

The present gauges at Bowraville and Macksville were not installed until 1959 and 1963 respectively, but peak flood heights have been established at both centres for events going back to the late nineteenth century.

Historically, floods greater than 2.1 metres at Macksville have been most frequent between February and July, though this does not mean that other periods are flood-free.

The flood of record occurred in 1950 when the reported level was 3.40 metres AHD at the Macksville Gauge. Flood waters spread through the commercial centre around Princess Street, Wallace Street and Mackay Street to recorded depths of up to 0.6 metres over floor levels. This frequency flood would also have affected residential areas of the town along River Street, East Street and the Pacific Highway near Macksville Park.

Upstream Bowraville gauge was installed in June 2006 which replaced the Lanes Bridge Gauge requiring a realignment of data and historical referencing on past flood peaks for future

predictions on the Macksville Gauge.

CHARACTERISTICS OF FLOODING

As Nambucca is located at the river mouth, the area is tidal and susceptible to storm surge and inundation from wave run up. It is also prone to overland flooding.

The channel is a high hazard flood way. Sand builds up on the bar can alter the characteristics of flooding. Closer to the mouth storm surge and wave setup effects also influence behaviour. Storm surge and wave runup in a large storm may overtop the break wall (V-Wall) and also inundate the areas around Wellington Drive (including the Caravan Park, as these areas are below 2 metres AHD). The crest level of the break wall is approximately 4 metres AHD. The caravan park would not be susceptible to erosion or reduced foundation capacity as a result of storms.

The easterly part of the catchment consists essentially of the deltaic plains of the Nambucca River and Warrell Creek, together with island hills on the plains and low bounding divides. Here, much of the land is below 10 metres and has been constructed from fluvial and estuarine deposition. This low-lying land contains areas of swamps and ponds and is subject to frequent flooding (NSW SES, 2007).

The confluence of Warrell Creek and Nambucca River at Nambucca Heads impacts on the amount and behaviour of flooding. This means that the Macksville gauge may not be a true reflection of the flooding situation at Nambucca as it does not include Warrell Creek.

Hyland Park, Valla and Valla Beach may experience flooding from Deep Creek and Cow Creek. These are ungauged creeks. Flooding in the lower reaches of the catchment is dominated by the entrance and ocean conditions. When the entrance is closed, the berm height controls flood levels and if left unmanaged, flooding of upstream properties in Hyland Park (over 10 properties at risk after heavy rain), Valla Beach Resort and rural areas may occur. The entrance is manually opened when the berm reaches 0.95 metres AHD.

Warning time of impending floods is relatively short with only 6 to 9 hours of flood heights exceeding 3.0 metres AHD at the Macksville gauge, generally available. However, this may vary a small amount depending upon the distribution of rainfall throughout the catchment.

Floods are generally of short duration, but roads maybe closed for several days.

The new highway may have the potential to vary the current flood characteristics. It is anticipated that the New Pacific Highway may raise the flood levels by 0.2 metres in a 1% AEP flood (3.67 metres Macksville gauge) (WMA Water, 2013).

Flow time from Macksville to Stuart Island 25 minutes.

Coastal Erosion

Although there are no identified coastal erosion hot spots, erosion has been observed at South Valla Beach footbridge and car park, where there is a vertical rock wall. Scotts Head is also susceptible to erosion. No houses are identified at risk at either location (SMEC, 2010).

Map of Bellinger Nambucca River Schematics identified as (Attachment 1)
Map of Nambucca Sectors identified as (Attachment 2)

Community Profile - Bureau of Statistics updates

Population as per 2016 Census.

SUBURB	POPULATION	MEDIUM AGE (YEARS)	CHILDREN 0-14YRS (%)	OVER 65'S (%)
Nambucca	6,327	56	13.4	35.9
Valla Beach	1,313	53	16.3	29.9
Hyland Park	429	46	17.1	19.4
Total	8,069			

Map of overview of Nambucca Heads Town identified as (Attachment 3 & 4)

Flood Affect Classification

Nambucca is classified as "Rising Road Access to a High Flood Island".
Valla Beach is classified as "Rising Road and Low Flood Island".
Hyland Park is classified as "Rising Road Access".

At Risk Properties Inundation & Isolation Summary

NAMBUCCA SECTOR PROPERTY INUNDATIONS/ABOVE FLOOR FLOODING														
SUBURB	Total Prop	50% AEP		20% AEP		10% AEP		5% AEP		1% AEP		PMF		ISOLATIONS
		RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	
Nambucca	3,523			1		1		1				1		
Valla Beach	713									10		59		
Hyland Park	210					2						22		
Total				1		3		1		10		82		

Inundation

Deep Creek: As an ICOLL, the Deep Creek estuary flows into the sea via an entrance that naturally changes between being open and closed, however, unlike most ICOLL's it is predominately open with the entrance migrating along the beach. The ICOLL is classified as a Type IV ICOLL.

Flooding in the lower reaches of the catchment is dominated by the entrance and oceanic storm

surge conditions. When the entrance is closed, the berm height controls flood levels and if left unmanaged, flooding of upstream properties in Hyland Park, Valla Beach Resort and rural areas is of concern.

Flooding above floor level in the Deep Creek catchment does not occur until the 1% AEP event.

Hyland Park: is located on the south bank of Deep Creek on high ground. Areas within the zone can be inundated however, no property damage occurs until a 2% AEP event and only minimal damages occur in terms of over floor flooding. The majority of properties are above the Probable Maximum Flood (PMF) or are only inundated in the PMF.

Inundation of backyards at Hyland Park occur when the berm at the entrance is closed. Council has implemented an entrance management strategy to manage the Deep Creek estuary. The entrance management strategy opens the entrance berm at 1.4mAHD. The strategy was designed to have the most beneficial environmental outcomes including the natural inundation of state significant wetlands and EEC's.

Wellington Drive: Wellington Dr is located on the shore of the inner harbour. Water frequently cuts the road making access difficult. The White Albatross Caravan Park located at the eastern end of Wellington Dr and can be affected by storm surge and riverine flooding (and potentially landslip). Evacuation from the park is extremely difficult as many vans are permanent and the high likelihood that Wellington Dr will become flooded, closing the only possible vehicular evacuation route. High ground is located adjacent to the site, however access is steep and difficult. Many residents of the park are elderly or disabled.

Bellwood: Residential and commercial properties adjacent to the Nambucca River, Swampy Creek and Bellwood Swamp are at risk.

Stuart Island: This area, on which the Nambucca Heads Golf course is situated has been completely inundated during major floods, but the club buildings have not been seriously in danger.

Pacific Hwy South of Nambucca Heads: The Pelican Park Caravan Park and various other commercial properties are located in low-lying areas.

Valla Beach: Is close to the entrance of Deep Creek and the land use consists of residential properties and a caravan park. It is on high ground and many properties are raised resulting in over floor flooding only occurring in large events, equal to or greater than the 1% AEP design event.

Nine houses (8 being tourist accommodation) are at risk of inundation in a 1% AEP flood (3.18 metres at Deep Creek), with the first houses becoming flooded from 2.89 metres. In a PMF, 42 residential homes and 239 relocatable homes are at risk of above floor level flooding. Over 15 Hyland Park Yards may also start to inundate from approximately 1.3 metres (Deep Creek), with up to 296 yards at risk in a PMF.

Wellington Point (including Caravan Park of 295 sites, up to 5 houses and holiday units) will become isolated from Nambucca in a moderate flood (around 2.4 metres on the Macksville gauge).

Valla rural residents (approximately 4 houses at risk) may become isolated due low-lying roads and creek crossings. These residents are generally self-sufficient.

Valla Beach utilises the Deep Creek gauge (205485), however no intelligence has been recorded for this gauge.

Stuarts Island utilises the Stuarts Island gauge (205466), however no intelligence has been recorded for this gauge

Map of Nambucca Heads Sector Overview Classification of Community identified as (Attachment 5 & 6)
Map of Deep Creek Classification of Community identified as (Attachment 7)
Map of Nambucca Inundations identified as (Attachment 8)
Map of Deep Creek Inundations identified as (Attachment 9)

KEY HAZARDS & CONSEQUENCES

Hazard Type	Risk/Consequence	Ranking
Riverine Flooding	Loss of life from floodwater drownings Significant urban flooding Extensive road closures and disruption to road networks Infrastructure damage, including roads, bridges and culverts Power outages Sewerage system failure Water supply disruption	High (Extreme)
Flash Flooding	Loss of life from high velocity floodwater Overland flows causing isolation, inundations and road closures	Medium
Storm	Damaging winds and intense rainfall causing roof and tree damage	High

FACILITIES AT RISK

The following facilities are at risk of flooding and/or isolation

Hospitals – N/A

Emergency Services –

- **Marine Rescue**, 3 Wellington Dr, Nambucca Heads (inundation)

Schools –

- **Nambucca Heads High School**, Centenary Parade, Nambucca Heads (isolation in a major flood).
- **Nambucca Heads Primary School**, Ridge Street, Nambucca Heads (isolation in a major flood).
- **Nambucca Valley Christian Community School**, Centenary Parade, Nambucca Heads (isolation in a major flood).
- **Frank Partridge Public School**, Centenary Parade, Nambucca Heads (isolation in a major flood).

Childcare Centres –

- **Nambucca Heads Pre School Playcentre**, Bank Street, Nambucca Heads (isolation in a major flood).
- **Nambucca Valley Family Day Care**, 157A Main Street, Nambucca Heads (isolation in a major flood).
- **Teddy Bears Kindy**, 69 Marshall Way, Nambucca (isolation in a major flood).
- **Valla Beach Preschool**, Valla Beach Road, Valla Beach (isolation in a major flood).
- **Bellwood Preschool**, Bellwood Road (isolation in a major flood).

Aged and Infirm –

- **Riverside Gardens Hostel**, Piggott St, Nambucca Heads (40 beds) three units may become inundated above floor from around 2.3m (however is a flash flood environment and is variable) The remainder of the village becomes inundated at 3.5m (Macksville guage).
- **Pacifica Aged Care**, Short St, Nambucca Heads (86 beds which may become isolated in a major flood).

Caravan Parks –

- **White Albatross Caravan Park**, Wellington Drive, Nambucca Heads (295 Sites - Isolation)
- **Pelican Park**, Pacific Highway, Nambucca Heads (98 Sites – inundation above 2.4m)
- **Foreshore Caravan Park,** Riverside Dr, Nambucca Heads (138 Sites – inundation above 2.65m)
- **Aukaka Caravan Park**, Pacific Highway, Nambucca Heads (30 Vans, 15 Cabins, 10 Camp Sites – inundation at 2.6m.

ESSENTIAL SERVICES AT RISK

Protection of Essential Services:

- The North Coast Railway line at Deep Creek may close after 2.79 metres (Deep Creek) Water Supply.
- **Sewerage** – The septic tanks for the caravan parks may fill up with rainwater and contaminate the surrounding areas Three pump stations at Deep Creek are also susceptible to inundation from 1.8 metres (Deep Creek). Sewer pump stations will be switched off if affected.
- **Electrical –** Country Energy substation is flood free below the 1% flood height, 3.67m
- **Telecommunications** – The Telstra exchange for Nambucca Heads is located on Creek St, Nambucca Heads above the PMF. This exchange is powered by mains electricity. If electricity was lost during a flood, then the generator (located above PMF height) will automatically start. The generator will last between 24-48 hours before refuelling is required.
- Water supply reservoir is located on high ground.
- No identified essential infrastructure requiring protection below 1% height of 3.67m.

Levees – NA

Dams - There are no identified prescribed dams. There are a few small farm dams that would impact significantly on riverine flooding but may cause localised flooding if they overtop.

Where this is not possible nominated centres will be determined by WELFAC upon request, refer to the Nambucca EMPLAN for possible identified facilities.

KEY EVACUATION TRIGGER

Gauge Name	Watercourse	AWRC #	Trigger/Consequence/Action
Macksville	**Nambucca**	**205416**	**Min 1.70m** **Mod 2.10m** **Maj 2.60m**
Stuart Island	Nambucca	205466	
Warrell Creek	Warrell Creek	205490	

EVACUATION AND/OR ISOLATION TRIGGERS

Nambucca Heads will require reconnaissance to determine when evacuations will be necessary.

Local triggers include:

- Over flowing of the Nambucca Golf Club Bridge.
- Over flowing of Wellington Drive

The key evacuation triggers based on Bureau of Meteorology flood height predictions at the **Macksville Gauge** (205416):

Prediction to reach and/or exceed 2.40 - Targeted Evacuation Warning issued for White Albatross Caravan Park, Pelican Park and residences on Wellington Drive.

Targeted Evacuation Order to be determined based on tidal influences and local intelligence advice.

Sequencing of Evacuation

Nambucca Heads is located on the north side of the Nambucca River. Evacuations should proceed progressively from low-lying areas along Wellington Drive to higher areas as flood severity increases. The majority of Nambucca Heads is above the PMF only a small number of properties are affected by flooding. Outside the identified sequenced evacuation areas, a number of residences and properties may need to be evacuated during periods of significant flooding. In most floods the evacuation tasks will only involve a small number of people; these properties would be dealt with on a single case by case situation in conjunction with the Department of Family and Community Services. Evacuation of vulnerable facilities (e.g.: Aged care facilities, schools, childcare facilities) will require higher priority

Evacuation Routes

From White Albatross Caravan Park to Nambucca Heads High School Gymnasium Centenary Parade, Nambucca along Wellington Drive. Fraser Street, Bowra Street, Mann Street, Centenary Parade.

Evacuation Route Closures

Road Closures affecting the sequenced evacuation of the sectors:

- Wellington Drive

Other roads where closure is dependent on local rainfall and events (e.g. landslips) include:

- Pacific Highway North of Macksville at Wrights Corner
- Pacific Highway South of Macksville closed at Clybucca.
- Ferry Street at Macksville Lions Park

Evacuation Route Closures

Primarily self-evacuation by private transport to family and friends outside the flood affected area. Primarily self-evacuation by private transport to nominated assembly areas. At risk residents will be door knocked by NSW SES, RFS and other emergency personnel and advised on the evacuation details.

ADMINISTRATION MANAGEMENT

People should be encouraged to stay with friends/ relatives outside the flood affected areas.

Where this is not possible nominated centres will be determined by WELFAC upon request, refer to the Nambucca EMPLAN for possible identified facilities.

When large-scale evacuations are likely, the NSW SES Incident Controller will liaise with the LEOCON and request support of the EOC as required.

Large scale evacuations would be unlikely in this sector but if required additional locations will be identified.

AIRCRAFT MANAGEMENT

Possible Helicopter Landing Zones in this sector. Aviation plan will determine exact locations when required.

EJ Biffin Playing Fields Centenary Parade Nambucca Heads
(S30° 38' 2485680 E152° 58' 5489400)

Airports:

Suitable landing areas for fixed wing aircraft.

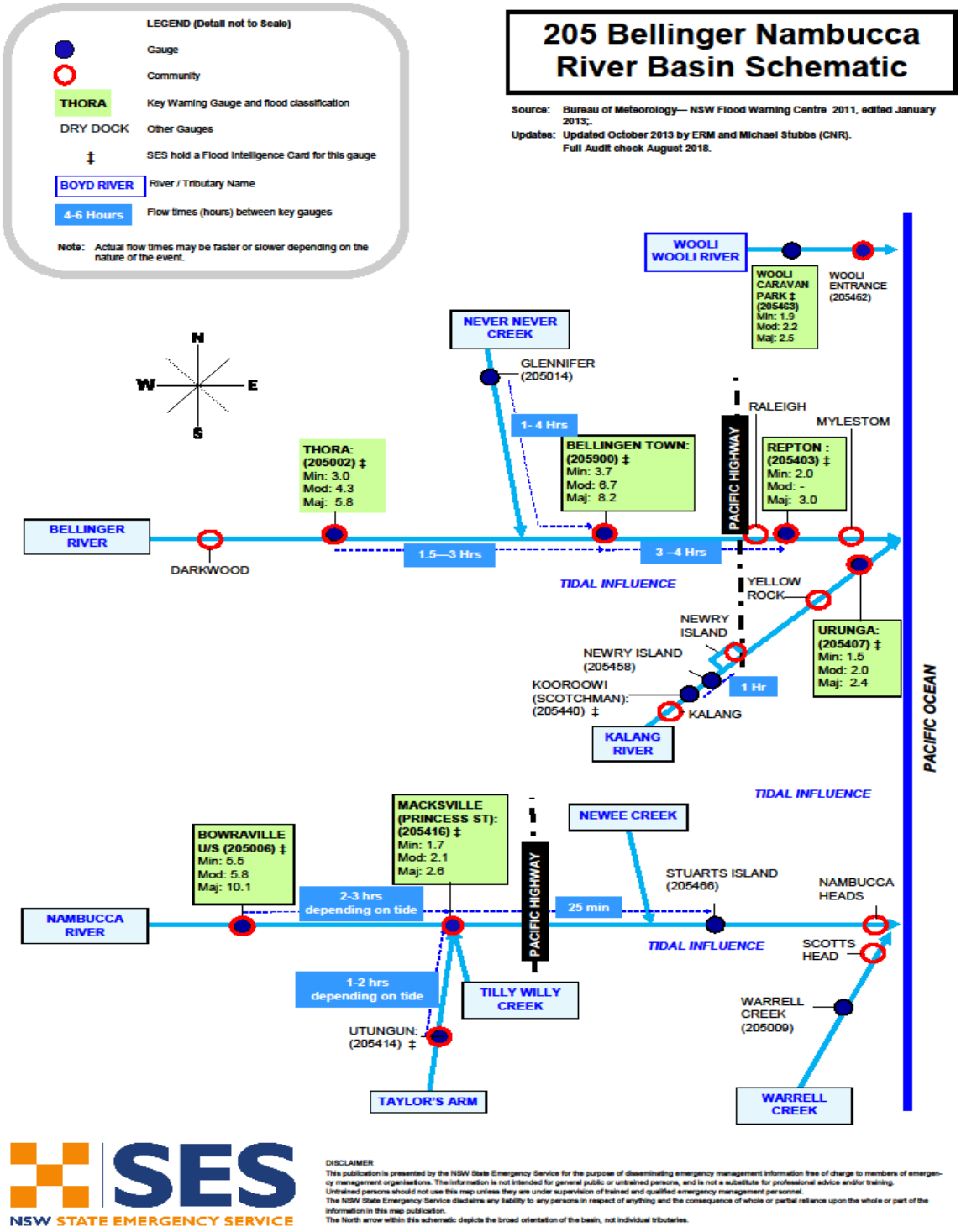
Coffs Harbour Airport
(S 30° 19.2 E 153° 07.0)

Kempsey Airport
(S 31° 04.5 E 152° 46.2)

OTHER

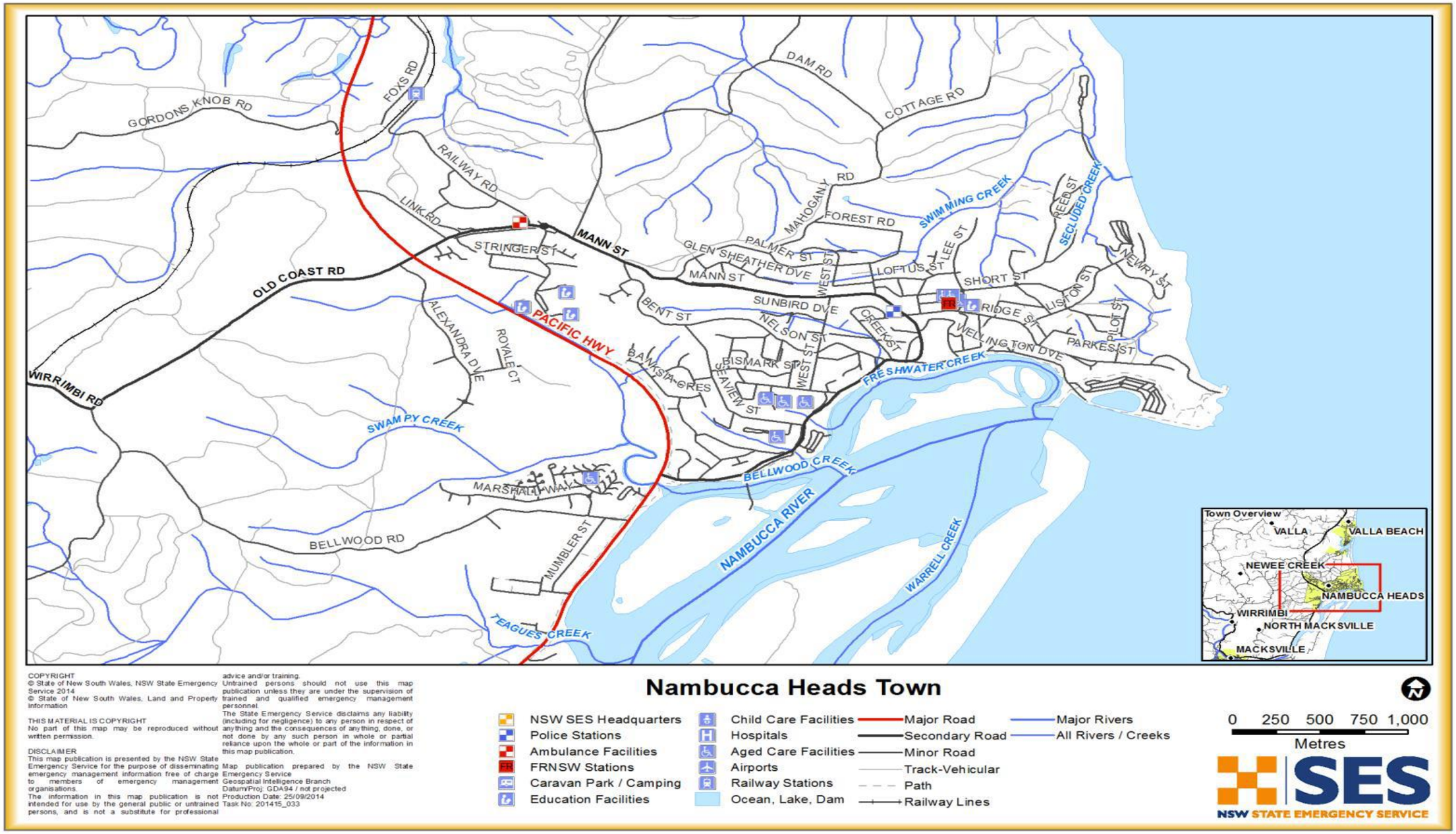
Special considerations relating to the evacuation:

- Closure of schools - coordinated through the Department of Education and Training.
- Closure of licensed premises. The hotel will be closed if required.
- Security. Police patrols to be established to maintain law and order after evacuation has occurred.
- The Macksville Hospital will only be evacuated in extenuating circumstance's current location above the PM
- The NSW SES will use flood boats and helicopters to monitor safety of individuals, where feasible.
- Nambucca Heads has 4 peak seasons with potential for in excess of 10% population increase:
    - School Holidays December /January
    - Easter Holidays March/April
    - Rusty Iron Rally Festival September
    - VW Spectacular September.


LEGEND (Detail not to Scale)
Gauge
Community
THORA
Key Warning Gauge and flood classification
DRY DOCK
Other Gauges
‡
SES hold a Flood Intelligence Card for this gauge
BOYD RIVER
River / Tributary Name
4-6 Hours
Flow times (hours) between key gauges
Note: Actual flow times may be faster or slower depending on the nature of the event.
205 Bellinger Nambucca River Basin Schematic
Source: Bureau of Meteorology— NSW Flood Warning Centre 2011, edited January 2013;.
Updates: Updated October 2013 by ERM and Michael Stubbs (CNR).
Full Audit check August 2018.
N
W
E
S
WOOLI WOOLI RIVER
WOOLI CARAVAN PARK ‡ (205463) Min: 1.9 Mod: 2.2 Maj: 2.5
WOOLI ENTRANCE (205462)
NEVER NEVER CREEK
GLENNIFER (205014)
1- 4 Hrs
BELLINGEN TOWN: (205900) ‡ Min: 3.7 Mod: 6.7 Maj: 8.2
RALEIGH
MYLESTOM
REPTON : (205403) ‡ Min: 2.0 Mod: - Maj: 3.0
PACIFIC HIGHWAY
THORA: (205002) ‡ Min: 3.0 Mod: 4.3 Maj: 5.8
BELLINGER RIVER
DARKWOOD
1.5—3 Hrs
3 –4 Hrs
TIDAL INFLUENCE
YELLOW ROCK
NEWRY ISLAND
NEWRY ISLAND (205458)
KOOROOWI (SCOTCHMAN): (205440) ‡
KALANG
1 Hr
URUNGA: (205407) ‡ Min: 1.5 Mod: 2.0 Maj: 2.4
KALANG RIVER
PACIFIC OCEAN
TIDAL INFLUENCE
MACKSVILLE (PRINCESS ST): (205416) ‡ Min: 1.7 Mod: 2.1 Maj: 2.6
NEWEE CREEK
BOWRAVILLE U/S (205006) ‡ Min: 5.5 Mod: 5.8 Maj: 10.1
2-3 hrs depending on tide
25 min
STUARTS ISLAND (205466)
NAMBUCCA HEADS
NAMBUCCA RIVER
PACIFIC HIGHWAY
TIDAL INFLUENCE
SCOTTS HEAD
1-2 hrs depending on tide
TILLY WILLY CREEK
WARRELL CREEK (205009)
UTUNGUN: (205414) ‡
TAYLOR'S ARM
WARRELL CREEK
SES
NSW STATE EMERGENCY SERVICE
DISCLAIMER
This publication is presented by the NSW State Emergency Service for the purpose of disseminating emergency management information free of charge to members of emergency management organisations. The information is not intended for general public or untrained persons, and is not a substitute for professional advice and/or training.
Untrained persons should not use this map unless they are under supervision of trained and qualified emergency management personnel.
The NSW State Emergency Service disclaims any liability to any persons in respect of anything and the consequence of whole or partial reliance upon the whole or part of the information in this map publication.
The North arrow within this schematic depicts the broad orientation of the basin, not individual tributaries.

Attachment 2

Attachment 3



Map publication prepared by the NSW State Emergency Service
Geospatial Intelligence Branch
Datum/Proj: GDA94 / not projected
Production Date: 25/09/2014
Task No: 201415_033

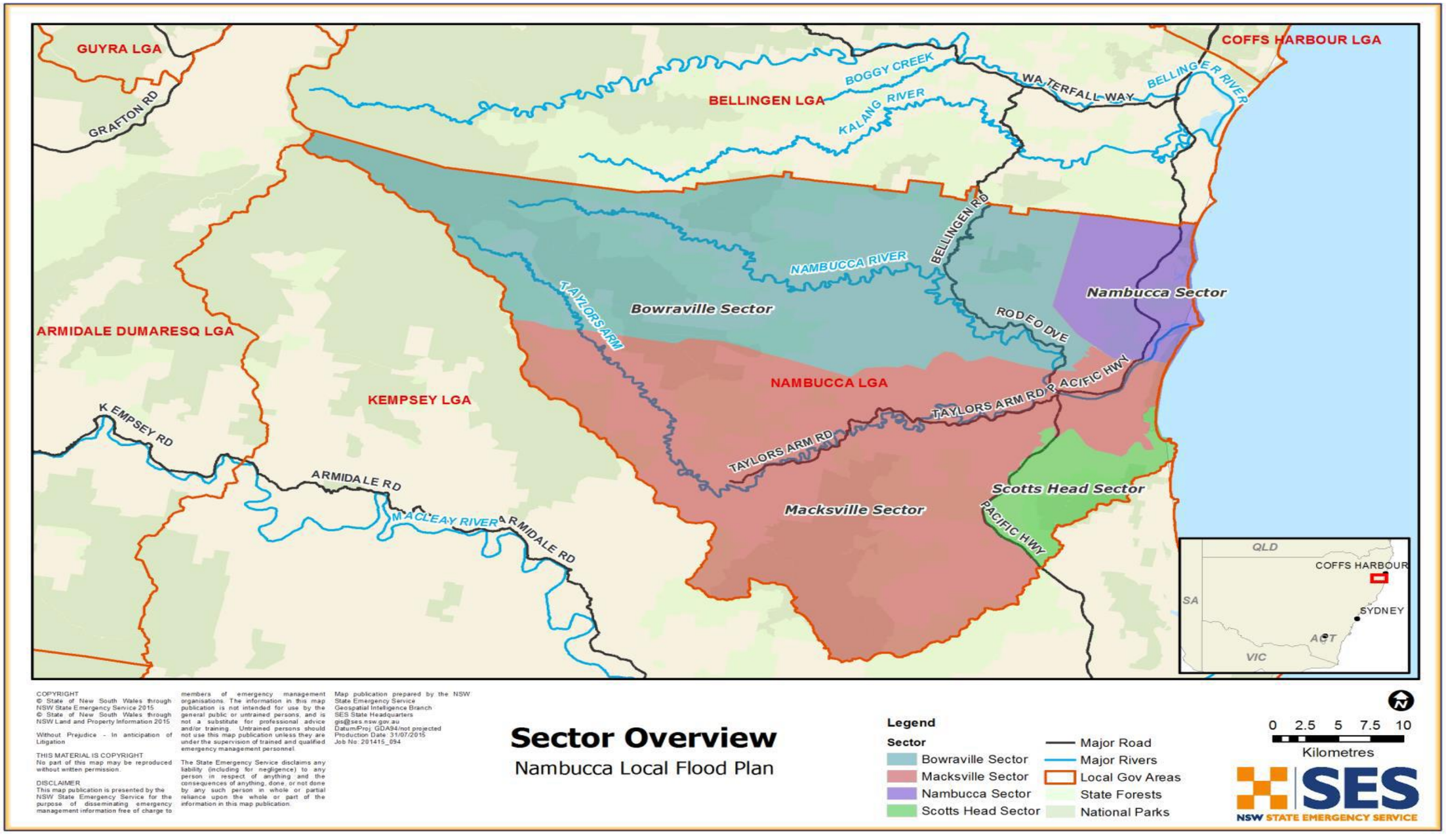
Nambucca Heads Town

- NSW SES Headquarters
- Police Stations
- Ambulance Facilities
- FRNSW Stations
- Caravan Park / Camping
- Education Facilities
- Child Care Facilities
- Hospitals
- Aged Care Facilities
- Airports
- Railway Stations
- Ocean, Lake, Dam
- Major Road
- Secondary Road
- Minor Road
- Track-Vehicular
- Path
- Railway Lines
- Major Rivers
- All Rivers / Creeks

0 250 500 750 1,000
Metres

NSW STATE EMERGENCY SERVICE

Attachment 4



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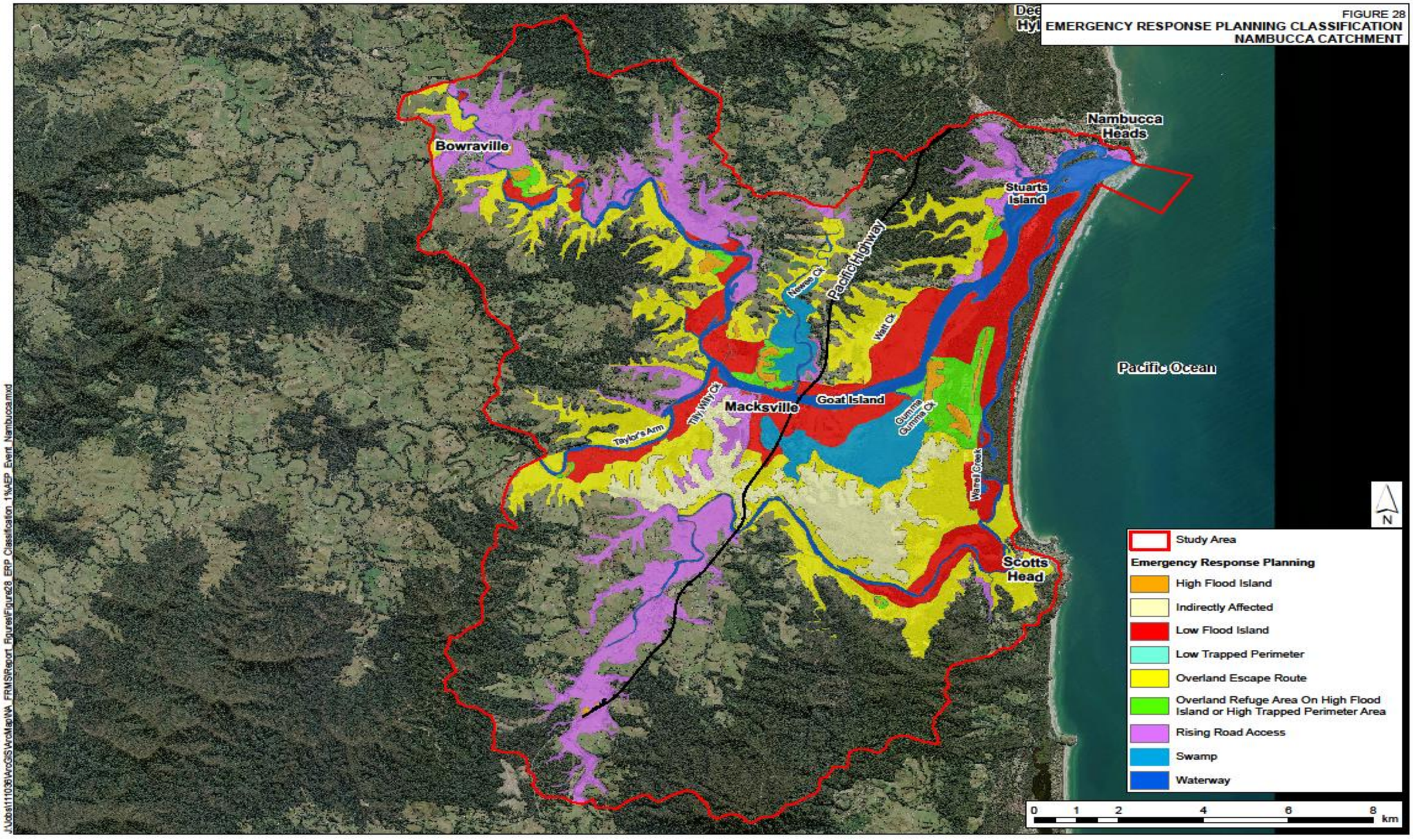

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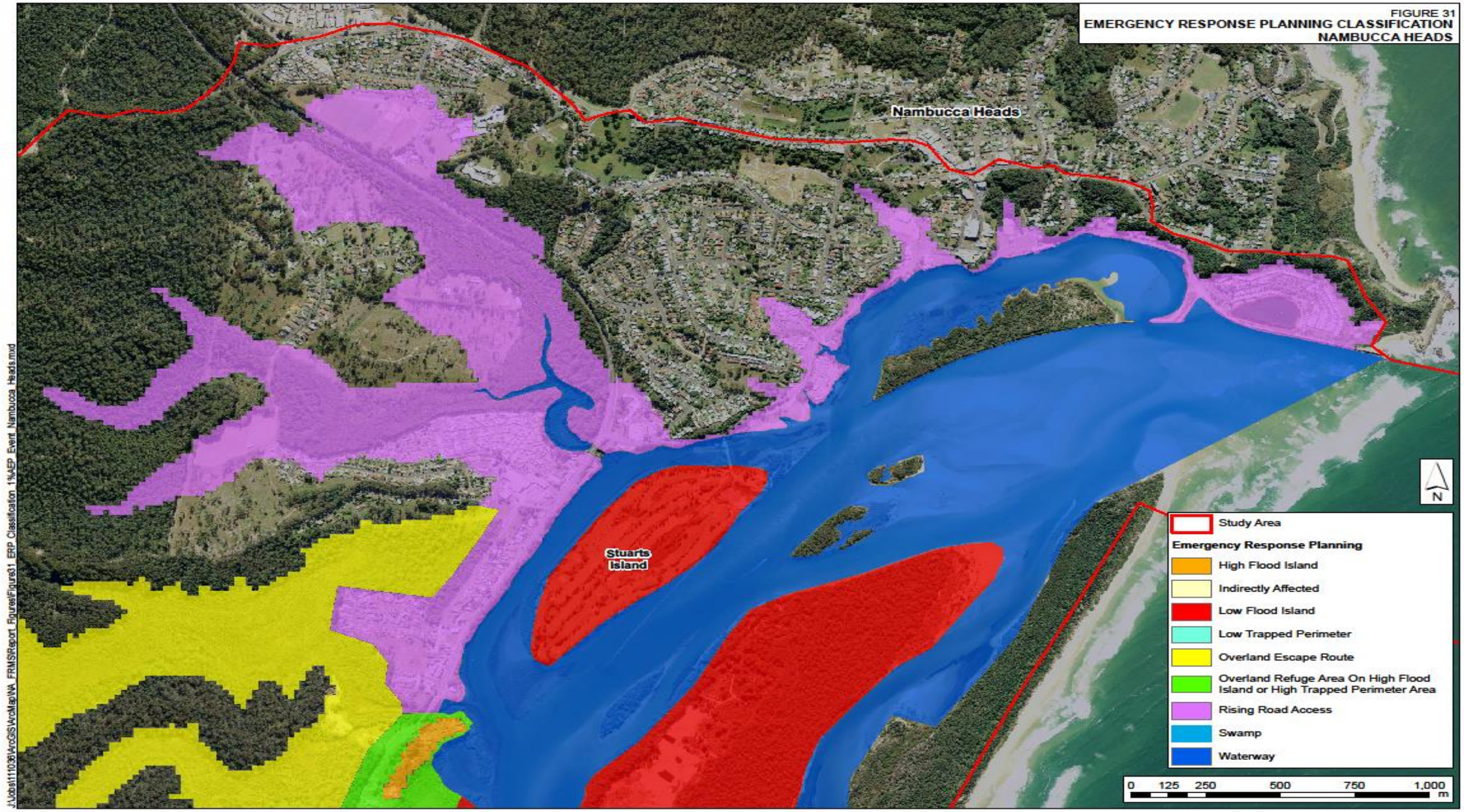

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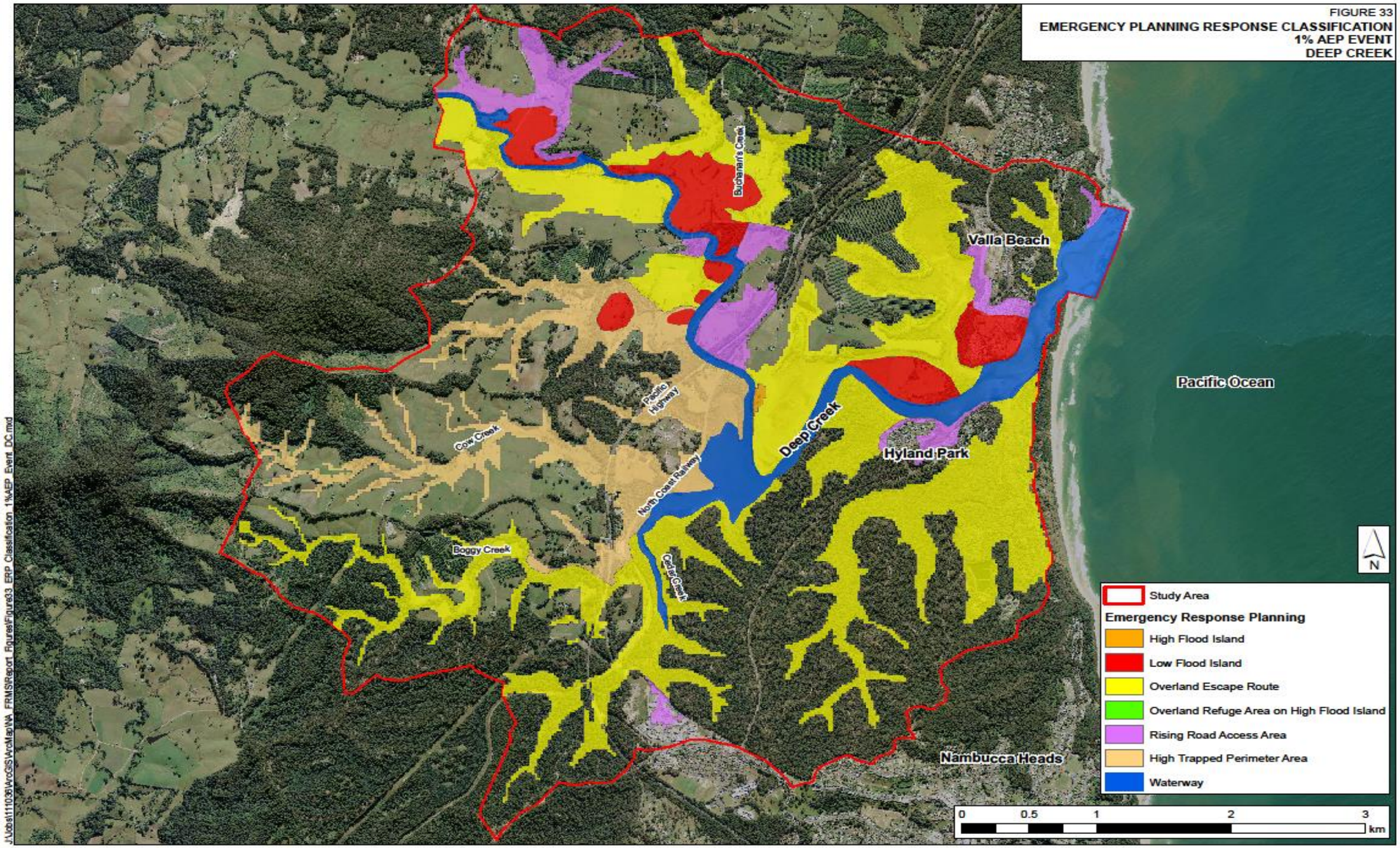

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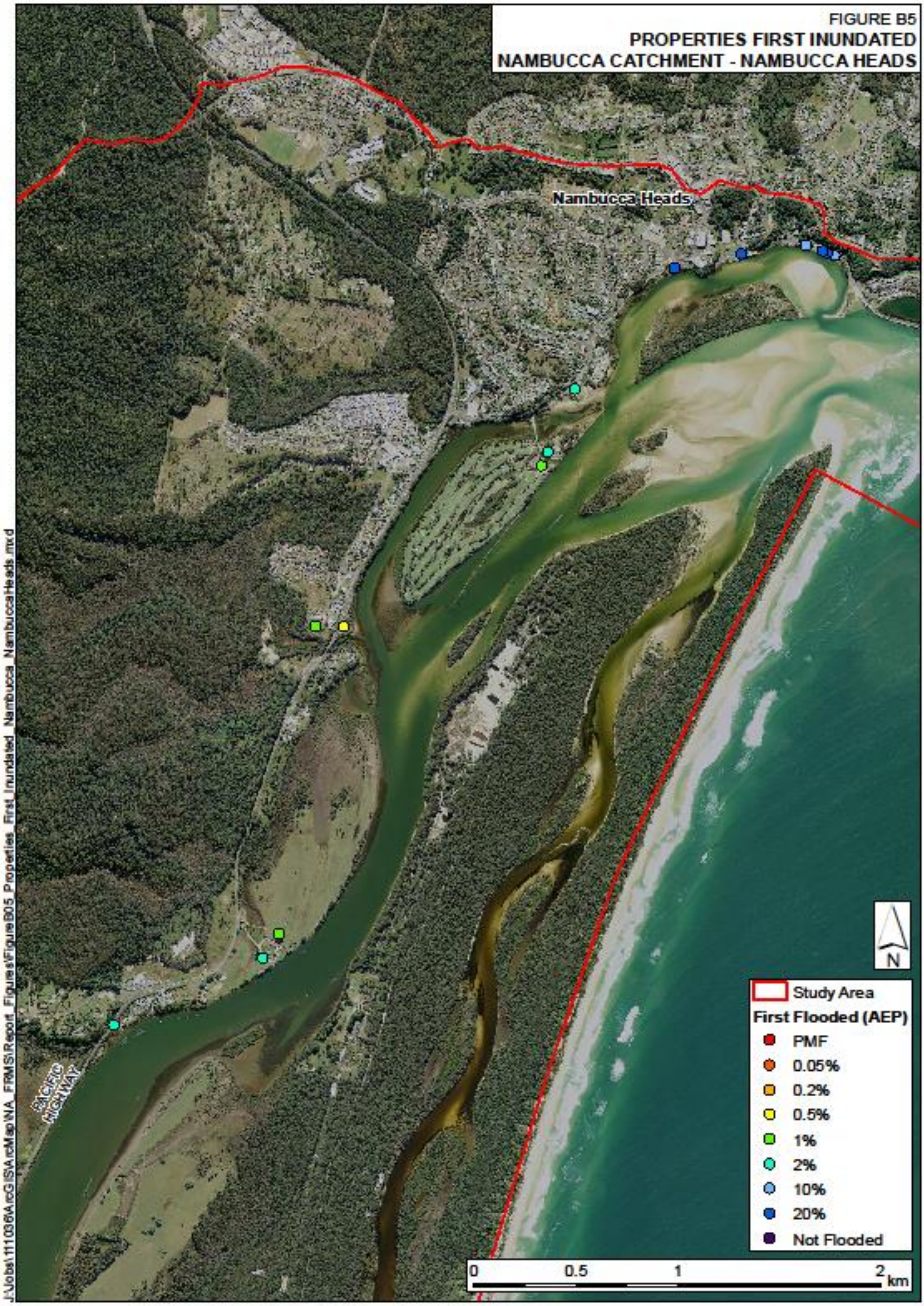


Attachment 9

VOLUME 3

Scotts Head Sector

Last Update: August 2021

SECTOR OVERVIEW

Location

Scotts Head is 11km south of Nambucca Heads and is located between the coast and Warrell Creek. Warrell Creek joins with the Nambucca River and discharges to the ocean at Nambucca Heads.

Flood History

The present gauges at Bowraville and Macksville were not installed until 1959 and 1963 respectively, but peak flood heights have been established at both centres for events going back to the late nineteenth century.

Historically, floods greater than 2.1 metres at Macksville have been most frequent between February and July, though this does not mean that other periods are flood-free.

The flood of record occurred in 1950 when the reported level was 3.40 metres AHD at the Macksville Gauge. Flood waters spread through the commercial centre around Princess Street, Wallace Street and Mackay Street to recorded depths of up to 0.6 metres over floor levels. This frequency flood would also have affected residential areas of the town along River Street, East Street, and the Pacific Highway near Macksville Park.

Upstream Bowraville gauge was installed in June 2006 which replaced the Lanes Bridge Gauge requiring a realignment of data and historical referencing on past flood peaks for future predictions on the Macksville Gauge.

CHARACTERISTICS OF FLOODING

Warrell Creek is the main cause of flooding.

Warrell Creek, starting as Eungai Creek, rises in hilly country 15 kilometres south-west of Eungai,

flowing northwards to a point about three kilometres south of Macksville where it suddenly turns east. At Scotts Head it flows north again, following the coast before joining the Nambucca River at Nambucca Heads (NSW SES, 2007). The catchment is narrow and wraps around the other catchments to the south.

On Warrell Creek the tidal influence extends beyond Scotts Head.

The easterly part of the catchment consists essentially of the deltaic plains of the Nambucca River and Warrell Creek, together with island hills on the plains and low bounding divides. Here, much of the land is below 10 metres and has been constructed from fluvial and estuarine deposition. This low-lying land contains areas of swamps and ponds and is subject to frequent flooding.

Potential loss of life from rapid and potentially high velocity flooding inundation.

Potential isolation of thousands of people estimated to be for a number of days.

Potential loss of life from tidal surges and large oceans seas.

Property Protection

Specific property protection measures:

- Monitoring rising flood waters.
- Relocation of farm machinery and valuable goods
- Control of surface water through sandbagging measures.
- Assist in the lifting of furniture to residents in need.
- Monitoring integrity of dwellings surrounded by flood waters/ocean influences.

Coastal Erosion

Although there are no identified coastal erosion hot spots, erosion has been observed at South Valla Beach footbridge and car park, where there is a vertical rock wall. Scotts Head is also susceptible to erosion. No houses are identified at risk at either location.

Note: Property protection measures for the threat of coastal erosion involves the relocation of readily moveable household goods and commercial stock and equipment.

The NSW SES is not responsible for planning or conduct of emergency beach protection works or other physical mitigation works. The Nambucca Shire Council is responsible for the activation of the Nambucca Coastal Zone Management Plan – Emergency Action

Plan relocation of livestock.

Map of Bellinger Nambucca River Schematics identified as (Attachment 1)
Map of Scotts Head Sectors/Town identified as (Attachment 2, 3 & 4)

Community Profile - Bureau of Statistics updates

Population as per 2016 Census.

SUBURB	POPULATION	MEDIUM AGE (YEARS)	CHILDREN 0-14YRS (%)	OVER 65'S (%)
Scotts Head	899	50	17.2	24.8
Total	899			

Flood Affect Classification

Scotts Head is classified as "Overland Escape Route" and "High Trapped Perimeter".

At Risk Properties Inundation & Isolation Summary

SCOTTS HEAD SECTOR PROPERTY INUNDATIONS/ABOVE FLOOR FLOODING														
SUBURB	Total Prop	50% AEP		20% AEP		10% AEP		5% AEP		1% AEP		PMF		ISOLATIONS
		RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	RES	COM/ IND	
Scotts Head	581									1		2		
Total	581									1		2		

Inundation

The township is not affected by the 1% AEP flood (3.55 metres on Macksville). However, some blocks along Warrell Close and Raleigh and Vernon Streets on the southern fringe of the town are subject to flooding from Warrell Creek.

Isolation in rare events can be an issue. No properties are affected in events less than a 2% AEP event.

Isolation

Access to Macksville is limited from around 2.1 metres (Macksville gauge) when Scotts Head Road closes (approximately 900 people). This is actually flooded from Warrell Creek. Scotts Head may become totally isolated in a major flood when Grassy Head Road closes. Warrell Creek utilises the Warrell Creek gauge (205490), however no intelligence has been recorded for this gauge.

Map of Scotts Head Classification of Community identified as (Attachment 5 & 6)
Map of Scotts Head Inundations identified as (Attachment 7)

KEY HAZARDS & CONSEQUENCES

Hazard Type	Risk/Consequence	Ranking
Riverine Flooding	Loss of life from floodwater drownings Significant urban flooding Extensive road closures and disruption to road	High (Extreme)

		networks Infrastructure damage, including roads, bridges and culverts Power outages Sewerage system failure Water supply disruption	
	Flash Flooding	Loss of life from high velocity floodwater Overland flows causing isolation, inundations and road closures	Medium
	Storm	Damaging winds and intense rainfall causing roof and tree damage	High

FACILITIES AT RISK

The following facilities are at risk of flooding and/or isolation

Hospitals – N/A

Emergency Services – N/A

Schools –

- **Scotts Head Public School** – 21 Vernon St, Scotts Head (isolation in a major flood**).**

Childcare centres – N/A

Aged and Infirm –

- No facilities are at known risk of flooding and/or isolation

Caravan Parks – N/A

ESSENTIAL SERVICES AT RISK

Protection of Essential Services:

- No identified essential infrastructure requiring protection.
- **Telecommunications**, water treatment and energy are not identified at risk.

Levees – NA

Dams.- N/A

KEY EVACUATION TRIGGER

Gauge Name	Watercourse	AWRC #	Trigger/Consequence/Action
Warrell Creek 1% 8.74m	Warrell Creek	205009	
Warrell Creek	Warrell Creek	205490	

EVACUATION AND/OR ISOLATION TRIGGERS

The **Warrell Creek Gauge** (205009) is not a gauge predicted to by the Bureau:

The Warrell Creek Gauge at Warrell Creek is a tidal gauge situated to the West of the Pacific Highway near the Sawmill, approximately 10km from Scotts Head. Tidal levels should be considered/factored in for all the below predictions.

Sequencing of Evacuation

1. Prediction to reach and/or exceed 2.20m (Macksville Gauge 205416) - Scotts Head becomes isolated tidal dependant (approximately 900 people affected).

2. Prediction to reach and/or exceed 8.74m - 1% flood height possible inundation of rural properties along Scotts Head Road.

3. Storm Surge/Large Wave events may impact areas within this sector.

Evacuation Routes

Scott's Head Road to Scott's Head

Evacuation Route Closures

Road Closures affecting the sequenced evacuation of the sectors:

- Access to Macksville is limited from around 2.1 metres (Macksville gauge) when Scotts Head Road closes
- Scotts Head may become totally isolated in a major flood when Grassy Head Road closes.

Other roads where closure is dependent on local rainfall and events (e.g. landslips) include:

- Pacific Highway North of Macksville at Wrights Corner
- Pacific Highway South of Macksville closed at Clybucca.
- Ferry Street at Macksville Lions Park

Method of Evacuation

Primarily self-evacuation by private transport to family and friends outside the flood affected area.

Primarily self-evacuation by private transport to nominated assembly areas.

At risk residents will be door knocked by NSW SES, RFS and other emergency personnel and advised on the evacuation details.

ADMINISTRATION MANAGEMENT

People should be encouraged to stay with friends/ relatives outside the flood affected areas.

Where this is not possible nominated centres will be determined by WELFAC upon request, refer to the Nambucca EMPLAN for possible identified facilities.

When large-scale evacuations are likely, the NSW SES Incident Controller will liaise with the LEOCON and request support of the EOC as required.

Large scale evacuations would be unlikely in this sector but if required additional locations will be identified.

AIRCRAFT MANAGEMENT

Possible Helicopter Landing Zones in this sector. Aviation plan will determine exact locations when required.

Scotts Head Sports Ground
(S30^{o} 44' 4667640 E152^{o} 59' 3614640)

Airports:
Suitable landing areas for fixed wing aircraft.

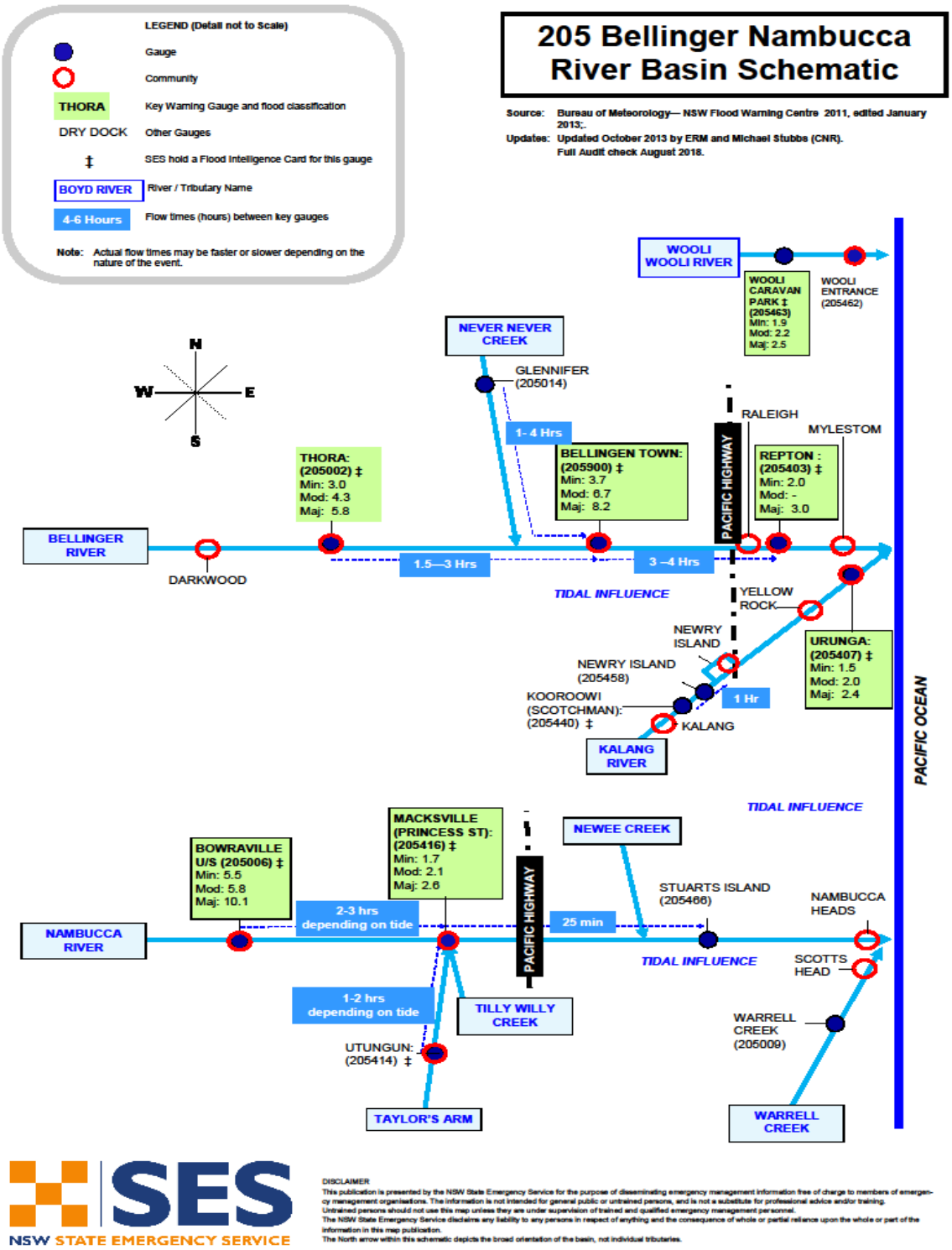
Coffs Harbour Airport
(S 30^{o} 19.2 E 153^{o} 07.0)

Kempsey Airport
(S 31^{o} 04.5 E 152^{o} 46.2)

OTHER

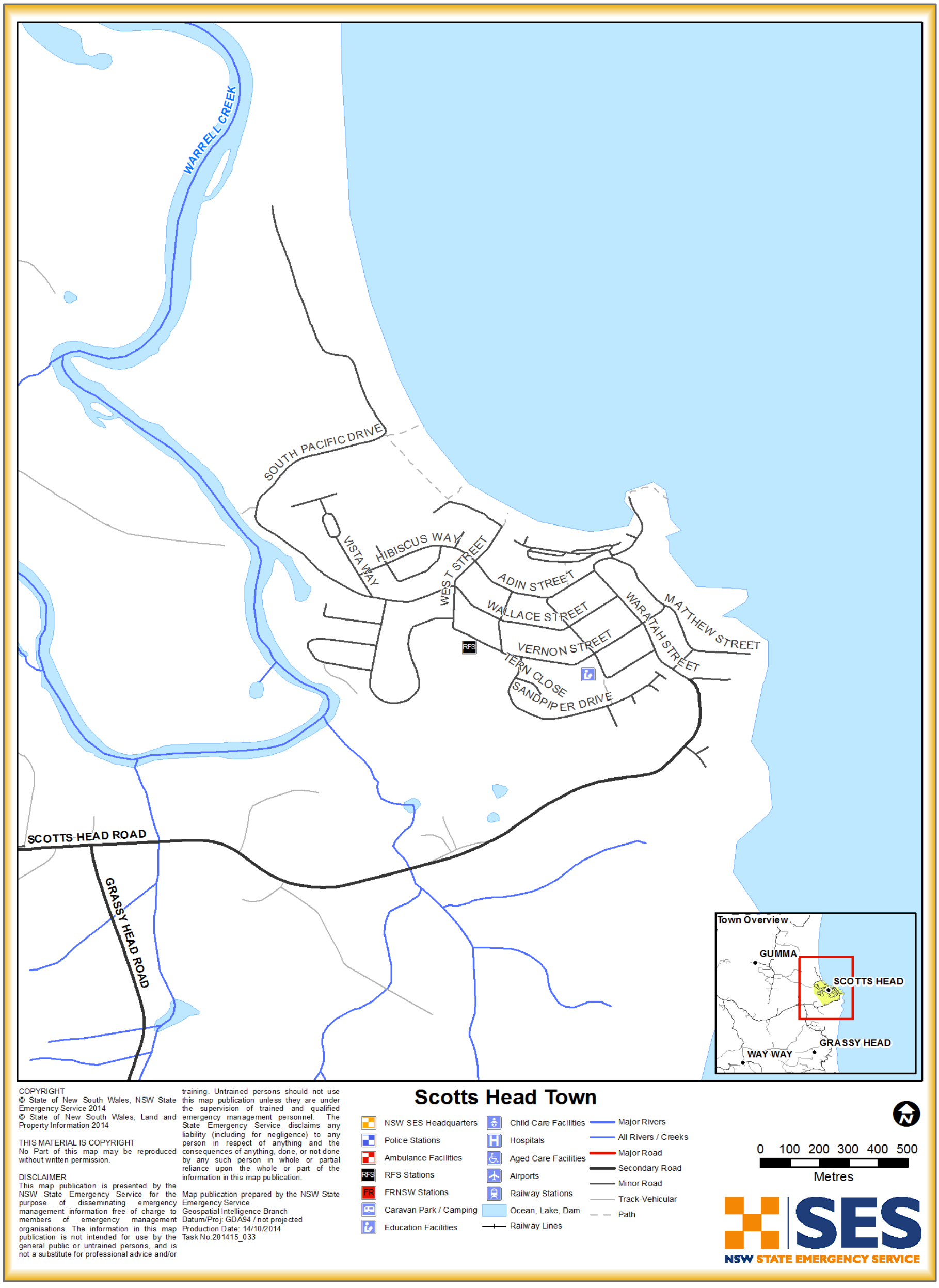
Special considerations relating to the evacuation:

- Closure of schools - coordinated through the Department of Education and Training.
- Closure of licensed premises. The hotel will be closed if required.
- Security. Police patrols to be established to maintain law and order after evacuation has occurred.
- The NSW SES will use flood boats and helicopters to monitor safety of individuals, where feasible.
- There are two peak seasons with potential for a 10% population increase associated with tourism:
    - Christmas holidays December –January.
    - Easter long weekend


LEGEND (Detail not to Scale)
Gauge
Community
THORA
Key Warning Gauge and flood classification
DRY DOCK
Other Gauges
‡
SES hold a Flood Intelligence Card for this gauge
BOYD RIVER
River / Tributary Name
4-6 Hours
Flow times (hours) between key gauges
Note: Actual flow times may be faster or slower depending on the nature of the event.
205 Bellinger Nambucca River Basin Schematic
Source: Bureau of Meteorology— NSW Flood Warning Centre 2011, edited January 2013;.
Updates: Updated October 2013 by ERM and Michael Stubbs (CNR).
Full Audit check August 2018.
N
W
E
S
WOOLI WOOLI RIVER
WOOLI CARAVAN PARK ‡ (205463) Min: 1.9 Mod: 2.2 Maj: 2.5
WOOLI ENTRANCE (205462)
NEVER NEVER CREEK
GLENNIFER (205014)
1- 4 Hrs
BELLINGEN TOWN: (205900) ‡ Min: 3.7 Mod: 6.7 Maj: 8.2
RALEIGH
MYLESTOM
REPTON : (205403) ‡ Min: 2.0 Mod: - Maj: 3.0
PACIFIC HIGHWAY
THORA: (205002) ‡ Min: 3.0 Mod: 4.3 Maj: 5.8
BELLINGER RIVER
DARKWOOD
1.5—3 Hrs
3 –4 Hrs
TIDAL INFLUENCE
YELLOW ROCK
NEWRY ISLAND
NEWRY ISLAND (205458)
URUNGA: (205407) ‡ Min: 1.5 Mod: 2.0 Maj: 2.4
KOOROOWI (SCOTCHMAN): (205440) ‡
1 Hr
KALANG
KALANG RIVER
PACIFIC OCEAN
TIDAL INFLUENCE
MACKSVILLE (PRINCESS ST): (205416) ‡ Min: 1.7 Mod: 2.1 Maj: 2.6
NEWEE CREEK
BOWRAVILLE U/S (205006) ‡ Min: 5.5 Mod: 5.8 Maj: 10.1
2-3 hrs depending on tide
25 min
STUARTS ISLAND (205466)
NAMBUCCA HEADS
NAMBUCCA RIVER
PACIFIC HIGHWAY
TIDAL INFLUENCE
SCOTTS HEAD
1-2 hrs depending on tide
TILLY WILLY CREEK
WARRELL CREEK (205009)
UTUNGUN: (205414) ‡
TAYLOR'S ARM
WARRELL CREEK
SES
NSW STATE EMERGENCY SERVICE
DISCLAIMER
This publication is presented by the NSW State Emergency Service for the purpose of disseminating emergency management information free of charge to members of emergency management organisations. The information is not intended for general public or untrained persons, and is not a substitute for professional advice and/or training.
Untrained persons should not use this map unless they are under supervision of trained and qualified emergency management personnel.
The NSW State Emergency Service disclaims any liability to any persons in respect of anything and the consequence of whole or partial reliance upon the whole or part of the information in this map publication.
The North arrow within this schematic depicts the broad orientation of the basin, not individual tributaries.

Attachment 2

Attachment 3



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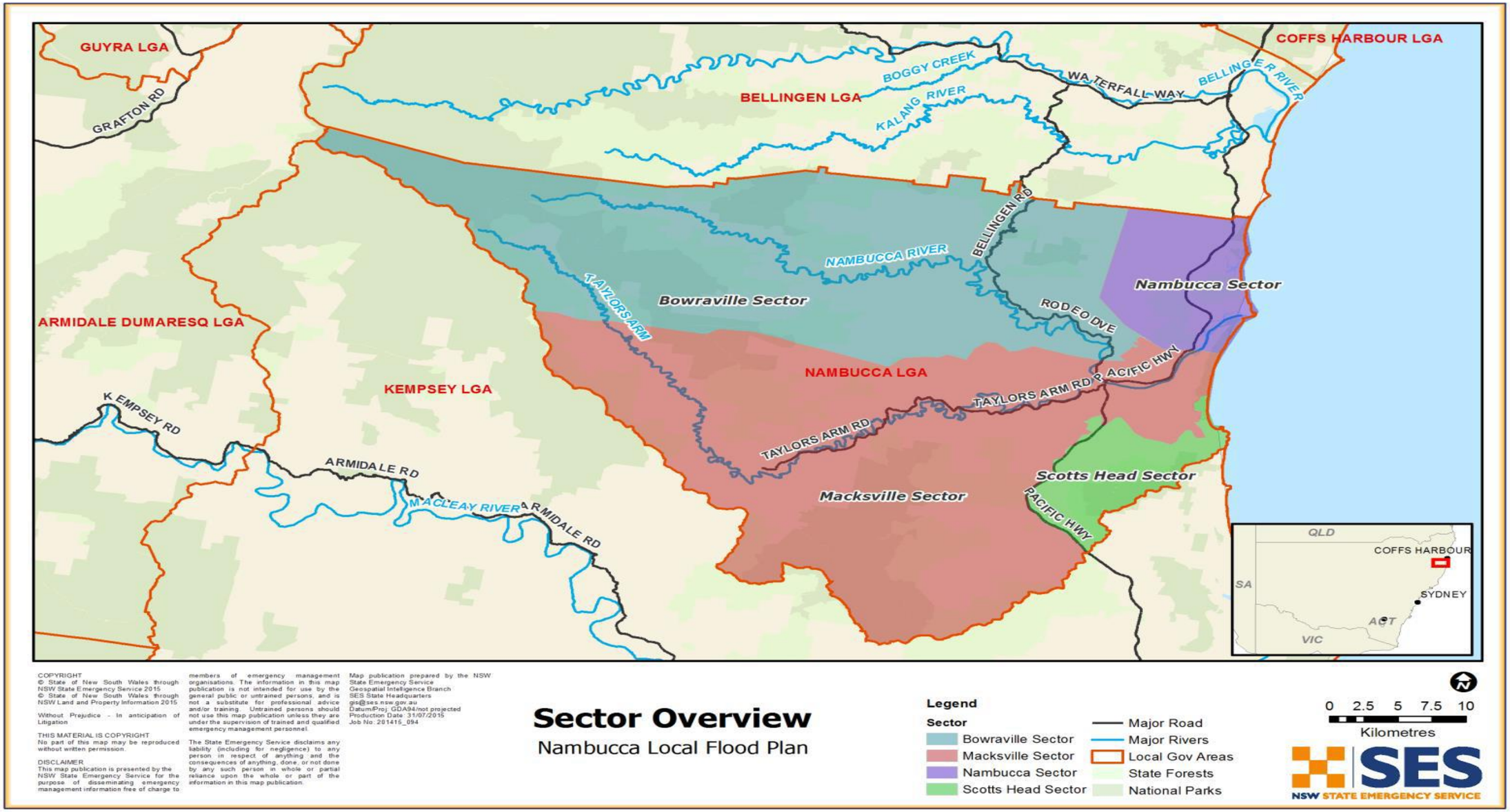

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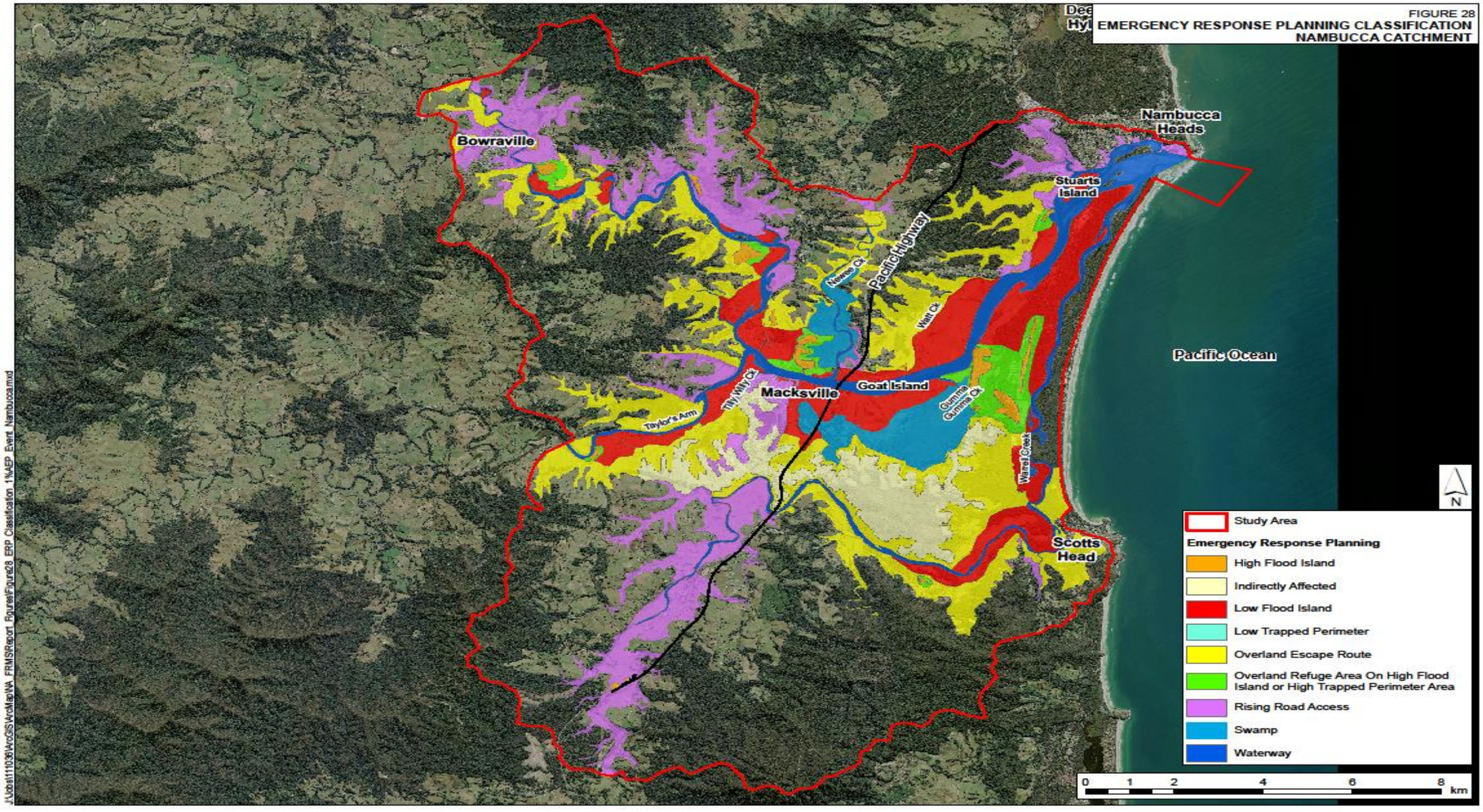

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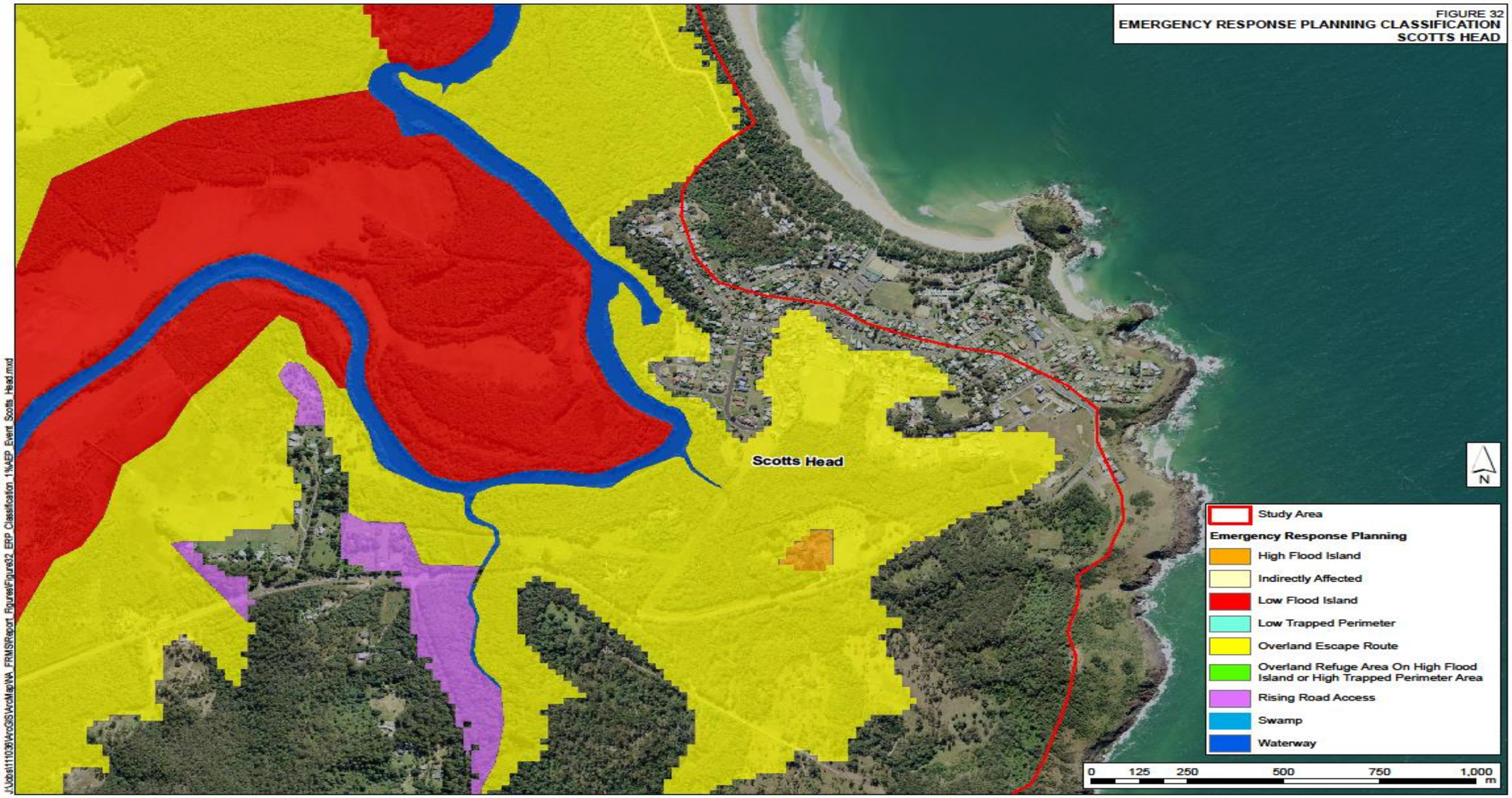

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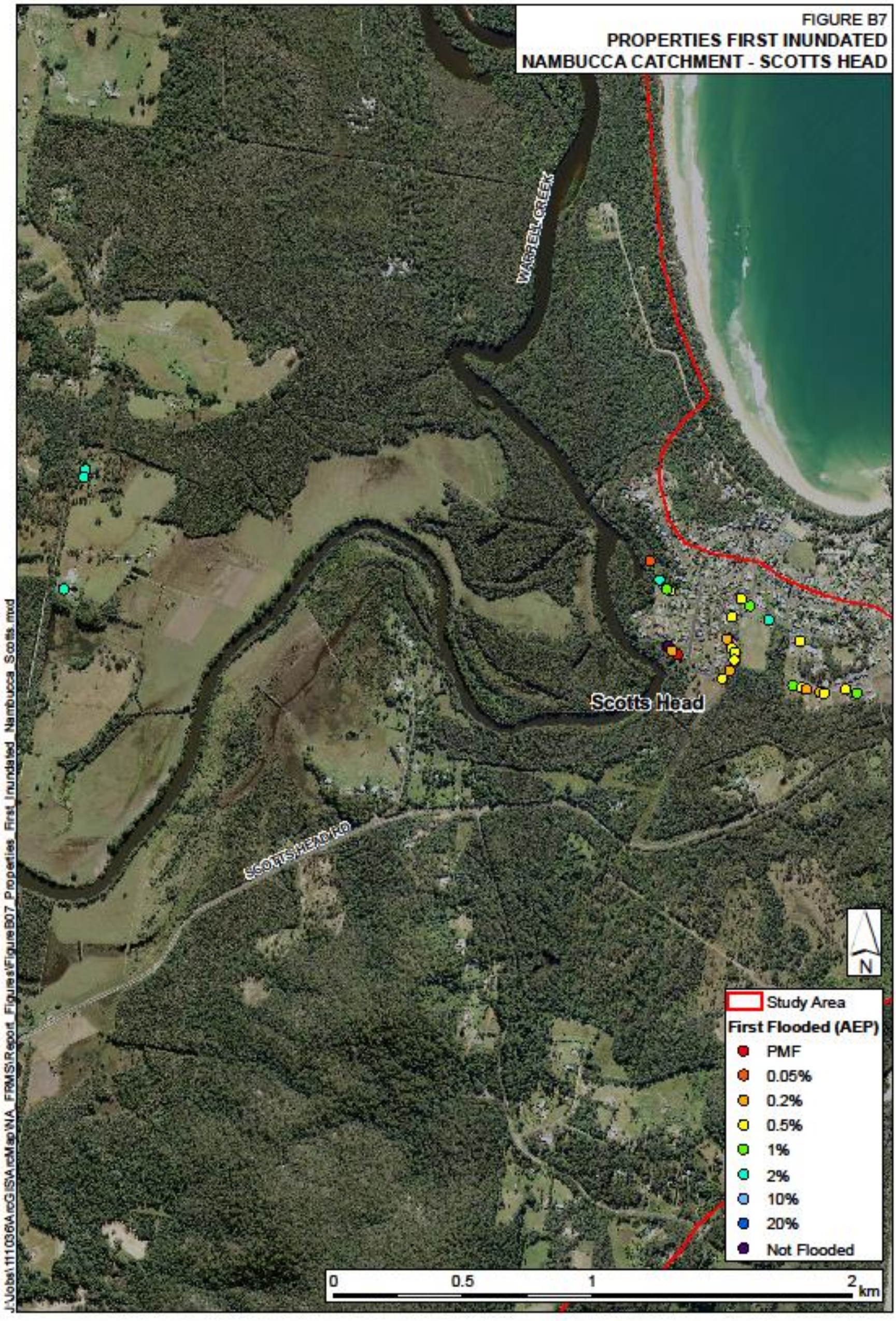


NAMBUCCA SHIRE COUNCIL

NSW STATE EMERGENCY SERVICE

NAMBUCCA SHIRE: NSW SES CARAVAN PARK ARRANGEMENTS

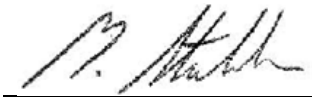
Chapter 2 of Volume 3 (NSW SES Response Arrangements for Nambucca Shire) of the Nambucca Shire Local Flood Plan

Last Update: February 2022

FloodSafe

AUTHORISATION

Approved

Signature 

NSW SES Manager Emergency Planning / NSW SES Coordinator Planning

Print Name: Michael Stubbs

Date: 17 February 2022

Approved

Signature: 

NSW SES Northern Zone Commander

Print Name Stephen Patterson

Date: 23 February 2022

Date Tabled at LEMC

Document Issue: V3.3-07042014

CONTENTS

LIST OF TABLES

1 ARRANGEMENTS FOR THE EVACUATION OF CARAVAN PARKS AND THE RELOCATION OF CARAVANS

1.1 GENERAL

1.1.1 The following caravan parks are flood liable:

a. Aukaka Caravan Park

b. Foreshore Caravan Park

c. Pelican Park Caravan Park

d. White Albatross Holiday Centre

e. Nambucca River Tourist Caravan Park

1.1.2 For more information on individual caravan parks see Table 1 and Table 2 at the end of this Chapter.

1.2 ADVISING PROCEDURES

1.2.1 Caravan Park proprietors will ensure that the owners and occupiers of caravans are:

a. Made aware that the caravan park is flood liable by:

- Handing a printed notice to occupiers taking up residence. The notice will indicate that the caravan park is liable to flooding and outline the evacuation and van relocation arrangements as detailed in this Annex.
- Displaying this notice prominently in each van.

b. Made aware that if they are expecting to be absent from their vans for extended periods, they must:

- Provide the manager with a key; in a sealed envelope; to the van.
- Provide a contact address and telephone number.
- Inform the manager if a vehicle will be required to relocate the van during flood time.
- Leave any mobile van in a condition allowing it to be towed in an emergency (ie: tyres inflated, jacks wound up, personal effects secured and annexes and lines for water, sewer, electricity and gas readily detachable).

c. Informed when a flood is rising. At this time, occupiers will be advised to:

- Ensure that they have spare batteries for their radios.
- Listen to a local radio station for updated flood information.

- Prepare for evacuation and van relocation.

1.2.2 The NSW SES Nambucca Shire Local Controller will ensure that the managers of caravan parks are advised of flood warnings and the details of any evacuation order.

1.3 EVACUATION OF OCCUPANTS AND RELOCATION OF VANS

1.3.1 Caravan park proprietors will install flood depth indicators and road alignment markers within their caravan parks.

1.3.2 When an evacuation order is given occupiers of non-movable vans should:

a. Secure their vans by tying them down to prevent flotation. Stoe outside equipment.

b. Isolate power to their vans / disconnect water/disconnect sewrage connections.

c. Collect personal papers, medicines, a change of clothing, toiletries and bedclothes.

d. Lift the other contents of their vans as high as possible within the van.

e. Move to a designated evacuation centre if they have their own transport, or move to the caravan office to await transport.

1.3.3 Where possible, vans that can be moved will be relocated by their owners. Park managers will arrange for the relocation of mobile vans whose owners do not have a vehicle. Council and SES personnel will assist if available and may be able to provide additional vehicles. Vans are to be moved to the locations outlined in Tables 1 and 2 at the end of this Chapter.

1.3.4 Caravan park managers will:

a. Ensure that their caravan park is capable of being evacuated within the warning timeline.

b. Advise the NSW SES Nambucca Shire Local Controller of:

- The number of people requiring transport.
- Details of any medical evacuations required.
- Whether additional assistance is required to effect the evacuation.

c. Check that no people remain in non-removable vans that are likely to be inundated.

d. Inform the NSW SES Nambucca Shire Local Controller when the evacuation of the caravan park has been completed.

e. Provide the NSW SES Nambucca Shire Local Controller with a register of people that have been evacuated.

1.4 RETURN OF OCCUPANTS AND VANS

1.4.1 The NSW SES Nambucca Shire Local Controller, using council resources as necessary, will advise when it is safe for the caravan parks to be re-occupied.

1.4.2 Vans will be towed back to the caravan park(s) by van owners or by vehicles and drivers arranged by the park managers. Again, Council and NSW SES personnel may assist if available.

Table 1: Caravan Parks at risk of Inundation and/or Isolation from Flooding.

Name	Address/Location description	Town/Sector	Number of sites	Risk	Evacuation route	Evacuation route closure	Van relocation location	Evacuation centre	Notes
Aukaka Caravan Park	Pacific Highway, Nambucca Heads	Nambucca Heads	30 vans, 15 cabin and 10 campsites	Inundation at 2.60m Riverine flooding	Pacific Highway to Old Coast Road to Mann Street	2.6	Coronation Park, Short Street or flood free streetsclose to caravan parks.	Nambucca Heads Ex Services Club, Nelson Street, Nambucca Heads.	Mostly permanent residents
Foreshore Caravan Park	Riverside Drive, Nambucca Heads	Nambucca Heads	138	Inundation above 2.65m Riverine flooding	Riverside Drive to Pacific Highway to Old Coast Road to Mann Street	2.6	Coronation Park, Short Street or flood free streetsclose to caravan parks.	Nambucca Heads Ex Services Club, Nelson Street, Nambucca Heads.	High percentage tourists in school holidays
Pelican Park Caravan Park	Pacific Highway, Nambucca Heads	Nambucca Heads	98	Inundation at 2.40m riverine flooding.	Riverside Drive to Pacific Highway to Old Coast Road to Mann Street	2.6	Coronation Park, Short Street or flood free streetsclose to caravan parks.	Nambucca Heads Ex Services Club, Nelson Street, Nambucca Heads.	Many permanent vans and cabins
White Albatross Holiday Centre	Wellington Drive, Nambucca Heads	Nambucca Heads	295	Flooding here can occur as a result of riverine flooding or storm surge. Isolation	Wellington Drive	There is a high likelihood that Wellington Drive will become flooded, closing the	Coronation Park, Short Street or flood free streetsclose to caravan parks.High ground is located	Nambucca Heads Ex Services Club, Nelson Street, Nambucca Heads.	High percentage of permanent residents. Evacuation difficulties likely to be experienced, as Wellington

Name	Address/Location description	Town/Sector	Number of sites	Risk	Evacuation route	Evacuation route closure	Van relocation location	Evacuation centre	Notes
						only possible vehicular evacuation route.	adjacent to the site, however access is steep and difficult.		Drive likely to flood early.
Nambucca River Tourist Caravan Park	Nursery Road, Macksville	Macksville	116	Isolation	Pacific Highway to Wallace Street to Station Street.	2.5	Station Street Railway Car Park.	Macksville High School, Boundary Street, Macksville or Macksville Recreation Centre, Park Street, Macksville.	Size includes 46 permanent vans.

Table 2: Caravan Parks at risk from Coastal Erosion and/or Coastal Inundation.

Name	Address/Location description	Town/Sector	Number of sites	Risk	Evacuation route	Evacuation route closure	Van relocation location	Evacuation centre	Notes
White Albatross Holiday Centre	Wellington Drive, Nambucca Heads	Nambucca Heads	295	Flooding here can occur as a result of riverine flooding or storm surge.	Wellington Drive	There is a high likelihood that Wellington Drive will become flooded, closing the only possible vehicular evacuation route.	Coronation Park, Short Street or flood free streetsclose to caravan parks.High ground is located adjacent to the site, however access is steep and difficult.	Nambucca Heads Ex Services Club, Nelson Street, Nambucca Heads.	High percentage of permanent residents. Evacuation difficulties likely to be experienced, as Wellington Dr likely to flood early.