NSW STATE EMERGENCY SERVICE

Greater Taree City

Local Flood Plan

FloodSafe

GREATER TAREE CITY FLOOD EMERGENCY SUB PLAN

A Sub-Plan of the Greater Taree City Council Local Emergency Management Plan (EMPLAN)

Vol 1 of the Greater Taree City Local Flood Plan

AUTHORISATION

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

Recommended

NSW SES Greater Taree Local Controller

Date: 19/03/13

Approved

Chair, Local Emergency Management Committee

Date: 19/03/13

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DISTRIBUTION LIST

Recipient	Number of copies
NSW SES Greater Taree City Local Controller	1
NSW SES Harrington, Taree, and Wingham Unit Controllers	3
NSW SES Harrington, Taree, and Wingham Units	3
Mid North Coast, NSW SES Region Headquarters	1
NSW SES State Headquarters	1
Greater Taree City Council, Local Emergency Operations Controller	1
NSW Police Force, Manning-Great Lakes Local Area Command	1
Greater Taree City Council, Local Emergency Management Committee Members	4
Greater Taree City Council, Local Emergency Management Officer	1
Greater Taree City Council, Local Emergency Operations Centre	1
Greater Taree City Council, Mayor	1
Greater Taree City Council, General Manager	1
Greater Taree City Council, Technical Services Department	1
Fire and Rescue NSW, Taree and Wingham	1
Rural Fire Service, Mid North Region	4
Ambulance Service of NSW, Taree	1
Volunteer Rescue Association, Taree Rescue Squad	1
Marine Rescue NSW	1
SLSNSW	1
Office of Environment and Heritage	1
Evacuation Centers	3
Hospitals	2
Schools	3
Caravan Parks	5
Council Libraries	2
Total	45

VERSION HISTORY

The following table lists all previously endorsed versions of this plan.

Description	Date
Greater Taree City Local Flood Plan endorsed	August 2007
Greater Taree City Local Flood Plan endorsed	December 2012

AMENDMENT LIST

Suggestions for amendments to this plan should be forwarded to:

The Local Controller
Greater Taree City State Emergency Service
P.O. Box 1011, TAREE NSW 2430

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

Amendment Number	Description	Updated by	Date
1	Section 3.2.4 Amendment to align with current sectorisation	Elspeth Rae	4/2/2015
2	Volume 1 amendments to Abbreviations; Glossary; Animal and Animal Services Functional Area; Caravan Parks; Engineering Services, Fire and Rescue NSW; Greater Taree Council; Forestry Corporation of NSW; Parks and Wildlife Service, Prescribed Dams; Roads and Maritime Service; TSFAC; TrainLink; Community resilience; Liaison	Tania Carrasco	4/2/2015

Document Issue: V1-30122014

LIST OF ABBREVIATIONS

The following abbreviations have been used in this plan:

AEP	Annual Exceedance Probability
AHD	Australian Height Datum
AIIMS	Australasian Inter-service Incident Management System
ARI	Average Recurrence Interval (Years)
ALERT	Automated Local Evaluation in Real Time
AWRC	Australian Water Resources Council
BUREAU	Australian Government Bureau of Meteorology
CBRN	Chemical, Biological, Radiation or Nuclear
DCF	Dam Crest Flood
DSC	Dams Safety Committee
DSEP	Dam Safety Emergency Plan
DVR	Disaster Victim Registration
EMPLAN	Emergency Management Plan
FRNSW	Fire and Rescue NSW
GIS	Geographic Information System
GRN	Government Radio Network
IAP	Incident Action Plan
IFF	Imminent Failure Flood
LEMC	Local Emergency Management Committee
LEOCON	Local Emergency Operations Controller
LO	Liaison Officer
LGA	Local Government Area
NOW	NSW Office of Water
OEH	Office of Environment and Heritage (previously DECCW)

PMF	Probable Maximum Flood
PMR	Private Mobile Radio
PMP	Probable Maximum Precipitation
PIIC	Public Information and Inquiry Centre
REMC	Region Emergency Management Committee
REMO	Regional Emergency Management Officer
RFS	Rural Fire Service
RMS	Roads and Maritime Services
SEOCON	State Emergency Operations Controller
SERCON	State Emergency Recovery Controller
NSW SES	NSW State Emergency Service
SITREPs	Situation Reports
SEWS	Standard Emergency Warning Signal
VRA	Volunteer Rescue Association

GLOSSARY

Annual Exceedance Probability (AEP). The chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage. For example, if a peak flood level (height) has an AEP of 5%, there is a 5% chance (that is, a one-in-20 chance) of such a level or higher occurring in any one year (see also Average Recurrence Interval).

Assistance Animal. A guide dog, a hearing assistance dog or any other animal trained to assist a person to alleviate the effect of a disability (Refer to Section 9 of the Disability Discrimination Act 1992).

Assembly Area. An assembly area is a designated location used for the assembly of emergency-affected persons before they move to temporary accommodation or a nominated evacuation centre. As such these areas do not provide welfare assistance nor are they used for long term sheltering or provision of meals. An assembly area may also be a prearranged, strategically placed area, where support response personnel, vehicles and other equipment can be held in readiness for use during an emergency.

Australian Height Datum (AHD). A common national surface level datum approximately corresponding to mean sea level.

Average Recurrence Interval (ARI). The long-term **average** number of years between the occurrence of a flood as big as, or larger than, the selected event. For example, floods reaching a height as great as, or greater than, the 20 year ARI flood event will occur **on average** once every 20 years.

Catchment (river basin). The land area draining through the main stream, as well as tributary streams, to a particular site. It always relates to an area above a specific location.

Coastal Erosion. The loss of land along the shoreline predominantly by the offshore movement of sand during storms.

Coastal Flooding. Flooding due to tidal or storm-driven coastal events, including storm surges in lower coastal waterways. This can be exacerbated by wind-wave generation from storm events (1).

Dambreak Study. A Dambreak Study is undertaken to determine the likely downstream inundation areas in case of a dam failure. Modelling is undertaken for a range of dam breach possibilities and design floods. The dambreak study includes information such as the extent of flooding, flood travel times and flood water velocities. The study can assist dam owners, regulators, and emergency agencies in

the preparations of evacuation plans, dam break and other flood warning systems, and hazard classification of affected areas.

Dam Failure. The uncontrolled release of a water storage. The failure may consist of the collapse of the dam or some part of it, or excessive seepage or discharges. The most likely cause of dam failure are:

- **Flood Induced Dam Failure**: Dam failure caused by flood, either due to overtopping erosion or by subsequent structural failure.
- **Sunny Day Dam Failure**: Dam Failure as a result of factors other than flood i.e. other than flood flow into the reservoir. Cause of "Sunny Day" dam failure can include internal erosion, landslide, piping, earthquake or sabotage.

Dam Safety Emergency Plan (DSEP). A DSEP outlines the required actions of owners and their personnel at dams in response to a range of possible emergency situations. The NSW Dam Safety Committee requires a quality controlled DSEP, with associated dambreak warning procedures to be prepared for prescribed dams where persons may be at risk downstream, if the dam failed.

Design flood (or flood standard). A flood of specified magnitude that is adopted for planning purpose. Selections should be based on an understanding of flood behaviour and the associated flood risk, and take account of social, economic and environmental considerations. There may be several design floods for an individual area.

Emergency Alert. The national telephone warning system used by emergency services to send voice messages to landlines and text messages to mobile phones within a defined area, about likely or actual emergencies.

EMPLAN (Emergency Management Plan). The object of a EMPLAN is to ensure the coordinated response by all agencies having responsibilities and functions in emergencies.

Essential services. Those services, often provided by local government authorities, that are considered essential to the life of organised communities. Such services include power, lighting, water, gas, sewerage and sanitation clearance.

Evacuation. The temporary movement of people from a dangerous or potentially dangerous place to a safe location, and their eventual return. It is a safety strategy which use distance to separate people from the danger created by the hazard.

Evacuation Order. Notification to the community, authorised by the NSW SES, when the intent of an Incident Controller is to instruct a community to immediately evacuate in response to an imminent threat.

Evacuation Warning. Notification to the community, authorised by the NSW SES, when the intent of an Incident Controller is to warn a community of the need to prepare for a possible evacuation

Flash flooding. Flooding which is sudden and often unexpected because it is caused by sudden local or nearby heavy rainfall. It is sometimes defined as flooding which occurs within six hours of the rain that causes it.

Flood. 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 overtopping coastline defences, including Tsunami.

Flood classifications. Locally defined flood levels used in flood warnings to give an indication of the severity of flooding (minor, moderate or major) expected. These levels are used by the State Emergency Service and the Australian Government Bureau of Meteorology in flood bulletins and flood warnings.

Flood intelligence. The product of collecting, collating, analysing and interpreting flood-related data to produce meaningful information (intelligence) to allow for the timely preparation, planning and warning for and response to a flood.

Flood fringe. The remaining area of flood prone land after floodway and flood storage have been defined

Flood liable land (also referred to as flood prone land). Land susceptible to flooding by the Probable Maximum Flood. (PMF) event. This term also describes the maximum extent of a **floodplain** which is an area of a river valley, adjacent to the river channel, which is subject to inundation in floods up to this event.

Flood of record. Maximum observed historical flood.

Floodplain. Area of land which is subject to inundation by floods up to and including the probable maximum flood event, that is, flood prone land (2).

Floodplain Management Plan. A plan developed in accordance with the principles and guidelines in the New South Wales Floodplain Development Manual. Such a plan usually includes both written and diagrammatic information describing how particular areas of flood prone land can be used and managed to achieve defined objectives.

Flood Plan. A response strategy plan that deals specifically with flooding and is a sub-plan of a Emergency Management Plan. Flood plans describe agreed roles, responsibilities, functions, strategies and management arrangements for the

conduct of flood operations and for preparing for them. A flood plan contains information and arrangements for all floods whereas an IAP is for a specific flood/event.

Flood Rescue. The rescue or retrieval of persons trapped by floodwaters.

Flood storage areas. Those parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood. The extent and behaviour of flood storage areas may change with flood severity, and loss of flood storage can increase the severity of flood impacts by reducing natural flood attenuation.

Floodway. An area where a significant volume of water flows during floods. Such areas are often aligned with obvious naturally-defined channels and are areas that, if partially blocked, would cause a significant redistribution of flood flow which may in turn adversely affect other areas. They are often, but not necessarily, the areas of deeper flow or the areas where higher velocities occur.

Flood Watch. A Flood Watch is a notification of the potential for a flood to occur as a result of a developing weather situation and consists of short generalised statements about the developing weather including forecast rainfall totals, description of catchment conditions and indicates streams at risk. The Bureau will also attempt to estimate the magnitude of likely flooding in terms of the adopted flood classifications. Flood Watches are normally issued 24 to 36 hours in advance of likely flooding. Flood watches are issued on a catchment wide basis.

Flood Warning. A Flood Warning is a gauge specific forecast of actual or imminent flooding. Flood Warnings specify the river valley, the locations expected to be flooded, the likely severity of flooding and when it will occur.

Functional Area. A category of services involved in the preparations for an emergency, including the following:

- Agricultural and Animal Services;
- Communication Services;
- Energy and Utility Services;
- Engineering Services;
- Environmental Services;
- Health Services;
- Public Information Services;
- Transport Services; and
- Welfare Services.

Geographic Information System (GIS). A geographic information system (GIS) integrates hardware, software, and data for capturing, managing, analysing, and displaying all forms of geographically referenced information.

Incident Action Plan (IAP). An action plan for managing a specific event. Information from the Local Flood Plan is used to develop the flood IAP.

Indirect Effect. Indirect effects are generally a consequence of infrastructure damage or interruption of services and can affect communities distant from the actual flood footprint i.e. floodplain. Indirect effects can also refer to indirect loss due to disruption of economic activity, both in areas which are inundated or isolated. Indirect effects are one of the three primary sources of risk in the context of flooding (the other two are inundation and isolation).

Inundation. See definition for Flood.

Isolation. Properties and/or communities where flooding cuts access to essential services or means of supply. Isolation is one of the three primary sources of risk in the context of flooding (the other two are inundation and indirect effects).

Liaison Officer (LO). A person, nominated or appointed by an organisation or functional area, to represent that organisation or functional area at a control centre, emergency operations centre, or coordination centre. A liaison officer maintains communications with and conveys directions/requests to their organisation or functional area, and provides advice on the status, capabilities, actions and requirements of their organisation or functional area (3).

Local Emergency Management Committee (LEMC). The LEMC is responsible for the preparation of plans in relation to the prevention of, preparation for, response to and recovery from emergencies in the local government area for which it is constituted. In the exercise of its functions, the Committee is responsible to the Region Emergency Management Committee (REMC) and may communicate with the REMC for matters associated with Functional Areas that are not represented at the local Level.

Local overland flooding. Inundation by local runoff rather than overbank discharge from a stream, river, estuary, lake or dam.

Major flooding. Flooding which cause inundation of extensive rural areas, with properties, villages and towns isolated and/or appreciable urban areas flooded.

Minor flooding. Flooding which causes inconvenience such as closing of minor roads and the submergence of low-level bridges. The lower limit of this class of flooding, on the reference gauge, is the initial flood level at which landholders and/or townspeople begin to be affected in a significant manner that necessitates the

issuing of a public flood warning by the Australian Government Bureau of Meteorology.

Moderate flooding. Flooding which inundates low-lying areas, requiring removal of stock and/or evacuation of some houses. Main traffic routes may be covered.

Moveable Dwellings. Any tent, or any caravan or other van or other portable device (whether on wheels or not), used for human habitation; or a manufactured home; or any conveyance, structure or thing of a class or description prescribed by the (Local Government) regulations (4).

Peak height. The highest level reached, at a nominated gauging station, during a particular flood event.

Prescribed Dam. "Prescribed" dams are those listed in Schedule 1 of the Dams Safety Act 1978. The NSW Dam Safety Committee will prescribe those dams with the potential for a failure which could have a significant adverse effect on community interests.

Probable Maximum Flood (PMF). The largest flood that could conceivably be expected to occur at a particular location, usually estimated from probable maximum precipitation. The PMF defines the maximum extent of flood prone land, that is, the floodplain. It is difficult to define a meaningful Annual Exceedance Probability for the PMF, but it is commonly assumed to be of the order of 10^4 to 10^7 (once in 10,000 to 10,000,000 years).

Riverine Flooding. Inundation of normally dry land occurring when water overflows the natural or artificial banks of a stream, river, estuary, lake or dam. Riverine flooding generally excludes watercourses constructed with pipes or artificial channels considered as stormwater channels (1).

Runoff. The amount of rainfall which ends up as stream flow, also known as 'rainfall excess' since it is the amount remaining after accounting for other processes such as evaporation and infiltration.

Stage height. A level reached, at a nominated gauging station, during the development of a particular flood event.

Storm Surge. The increases in coastal water levels above predicted astronomical tide levels (i.e. tidal anomaly) resulting from a range of location dependant factors including the inverted barometer effect, wind and wave set-up and astronomical tidal waves, together with any other factors that increase tidal water level (1).

Stream gauging station. A place on a river or stream at which the stage height is routinely measured, either daily or continuously, and where the discharge is measured from

time to time so as to develop a relationship between stage and discharge or rating curve.

Total Flood Warning System. A flood warning system is made up of components which must be integrated if the system is to operate effectively. Components of the total flood warning system include monitoring rainfall and river flows, prediction, interpretation of the likely impacts, construction and dissemination of warning messages, response by agencies and community members, and review of the warning system after flood events (5).

PART 1 - INTRODUCTION

1.1 PURPOSE

1.1.1 This plan covers preparedness measures, the conduct of response operations and the coordination of immediate recovery measures from flooding within the Greater Taree City Council area. It covers operations for all levels of flooding within the council area.

1.1.2 The plan also covers arrangements for the management of coastal erosion in the council area.

1.2 AUTHORITY

1.2.1 This plan is issued under the authority of the State Emergency and Rescue Management Act 1989 and the State Emergency Service Act 1989. It has been approved by the NSW SES Greater Taree City Local Controller and the NSW SES Mid North Coast Region Controller as a NSW SES plan and endorsed by the Greater Taree City Council Local Emergency Management Committee as a sub plan of the Local EMPLAN.

1.3 AREA COVERED BY THE PLAN

1.3.1 The area covered by the plan is the Greater Taree City Council area which includes: the City of Taree and the township of Harrington and Wingham. Also includes the minor townships of Johns River, Moorland, Coopernook, Lansdowne, Mount George, Burrell Creek, Krambach, Tinonee, Old Bar, Wallabi Point, Manning Point.

1.3.2 The council area and its principal rivers and creeks are shown in Attachment 3.

1.3.3 The council area is in the NSW SES Mid North Coast Region and for emergency management purpose is part of the North Coast Emergency Management Region.

1.4 DESCRIPTION OF FLOODING AND ITS EFFECTS

1.4.1 The NSW SES maintains information on the nature of flooding and effects of flooding on the community in the Greater Taree City Council area.

1.5 RESPONSIBILITIES

1.5.1 The general responsibilities of emergency service organisations and supporting services (functional areas) are listed in the Local and State Emergency Management Plans (EMPLAN). Some specific responsibilities are expanded upon in the following paragraphs. The extent of their implementation will depend on the severity of the flooding. Specific

responsibilities of agencies and organisations as they relate to tsunami are detailed in the State Tsunami Emergency Sub Plan.

1.5.2 **NSW SES Greater Taree City Local Controller.** The NSW SES Greater Taree City Local Controller is responsible for dealing with floods as detailed in the State Flood Plan, and will:

Preparedness

a. Maintain a Unit Headquarters at Lot 1 Hogan Street, Harrington in accordance with the NSW SES Controllers' Guide and the NSW SES Operations Manual.

b. Maintain a Unit Headquarters at 46 Muldoon Street, Taree in accordance with the NSW SES Controllers' Guide and the NSW SES Operations Manual

c. Maintain a Unit Headquarters at 45 Combined Street, Wingham in accordance with the NSW SES Controllers' Guide and the NSW SES Operations Manual

d. Ensure that NSW SES members are trained to undertake operations in accordance with current policy as laid down in the NSW SES Controllers' Guide and the NSW SES Operations Manual.

e. Coordinate the development and operation of a flood warning service for the community.

f. Participate in floodplain and coastal risk management initiatives organised by the Greater Taree City Council.

g. Coordinate a community engagement and capacity building program regarding local flood issues and associated risks to assist communities in building resilience to floods.

h. Identify and monitor people and/or communities at risk of flooding and coastal erosion.

i. Ensure that the currency of this plan is maintained.

Response

j. Appoint an appropriate Local Incident Controller to undertake response roles. The Incident Controller will:

k. Control flood and storm response operations. This includes:

- Directing the activities of the NSW SES units operating within the council area.
- Coordinating the activities of supporting agencies and organisations and ensuring that liaison is established with them.
- Contribute to preparation of Region IAP.

l. Provide an information service in relation to:

- Flood heights and flood behaviour.

- Coastal erosion / inundation.
- Road conditions and closures.
- Advice on methods of limiting property damage.
- Confirmation of evacuation warnings and evacuation orders.

m. Direct the conduct of flood rescue operations.

n. Direct the evacuation of people and/or communities.

o. Provide immediate welfare support for evacuated people.

p. Coordinate the provision of emergency food and medical supplies to isolated people and/or communities.

q. Coordinate operations to assist the community to protect property. This may include;

- Arranging resources for sandbagging operations.
- Lifting or moving household furniture.
- Lifting or moving commercial stock and equipment.

r. Where possible, arrange for support (for example, accommodation and meals) for emergency service organisation members and volunteers assisting them.

s. Ensure that the managers of caravan parks are advised of flood warnings and the details of any evacuation order.

t. If NSW SES resources are available, assist with emergency fodder supply operations conducted by Agricultural and Animal Services.

u. If NSW SES resources are available, assist the NSW Police Force, RMS and Council with road closure and traffic control operations.

v. Exercise financial delegations relating to the use of emergency orders as laid down in the NSW SES Controllers' Guide.

w. Coordinate the collection of flood and coastal erosion/inundation information for development of intelligence.

x. Submit Situation Reports to the NSW SES Mid North Coast Region Headquarters and agencies assisting within the council area. These will contain information on:

- Road conditions and closures.
- Current flood behaviour.
- Current operational activities.
- Likely future flood behaviour.
- Likely future operational activities.
- Probable resource needs.

y. Keep the Local Emergency Operations Controller advised of the flood situation and the operational response.

z. Issue the 'All Clear' when flood operations have been completed.

Recovery

aa. Ensure that appropriate After Action Reviews are held after floods.

bb. Provide appropriate representation to the recovery committee for the duration of the response phase of an event and as agreed during the recovery phase.

1.5.3 **NSW SES Harrington, Taree City, and Wingham Unit Controllers:**

a. Assist the NSW SES Greater Taree City Local Controller with flood preparedness activities, including:

- Flood planning.
- Training of unit members.
- The development of flood and coastal erosion/inundation intelligence.
- The development of warning services.
- Floodplain and coastal risk management initiatives.
- Community engagement and capacity building.

b. Conduct flood and coastal erosion operations within the Greater Taree City Council area as directed by the NSW SES Greater Taree City Local Incident Controller.

c. Submit Situation Reports to the NSW SES Greater Taree City Incident Controller, the NSW SES Mid North Coast Region Headquarters.

1.5.4 **NSW SES Harrington, Taree City, and Wingham Unit Members:**

a. Carry out flood and coastal erosion response tasks. These may include:

- The management of the NSW SES Greater Taree City Local and Unit Headquarters Operations Centres.
- Assist in the collection of flood and coastal erosion/inundation information for the development of intelligence.
- Flood rescue.
- Evacuation.
- Providing immediate welfare for evacuated people.
- Delivery of warnings and information.
- Resupply.
- Sandbagging.
- Lifting and/or moving household furniture and commercial stock.
- Animal rescue.

- Assisting with road closure and traffic control operations.
- Assisting with emergency fodder supply operations.

b. Assist with preparedness activities.

c. Undertake training in flood and storm response operations

1.5.5 **Greater Taree City Council Local Emergency Operations Controller (LEOCON):**

a. Monitor flood operations.

b. Request and coordinate support to the NSW SES Greater Taree City Local Controller if requested to do so.

1.5.6 **Greater Taree City Council Local Emergency Management Officer:**

a. Provide executive support to the LEMC and LEOCON in accordance with the Greater Taree City Council Local Emergency Management Plan.

b. At the request of the NSW SES Greater Taree City Local Controller, advise appropriate agencies and officers of the start of response operations.

1.5.7 **Greater Taree City Council:**

Preparedness

a. Develop and implement floodplain risk management plans in accordance with the NSW Government's Flood Prone Land Policy and the Floodplain Development Manual.

b. Establish and maintain floodplain and coastal risk management committees and ensure that key agencies are represented on such committees.

c. Provide flood studies, floodplain management studies and coastal management studies to the NSW SES.

d. Provide information on the consequences of dam failure to the NSW SES for incorporation into planning and flood intelligence.

e. Maintain a plant and equipment resource list for the council area.

f. Work with NSW SES on the development and implementation of a community engagement and capacity building program.

Response

g. At the request of the NSW SES Local Controller, deploy personnel and resources for flood and coastal erosion related activities.

h. Close and reopen council roads (and other roads nominated by agreement with the RMS) and advise the NSW SES Greater Taree City Local Controller and the Police.

i. Provide information on the status of roads.

j. Provide filled sandbags to urban and village areas in which flooding is expected.

k. Assist with the removal of caravans from caravan parks.

l. Provide back-up radio communications.

m. In the event of evacuations, assist with making facilities available for the domestic pets and companion animals of evacuees.

n. During periods of coastal erosion from ocean storms:

- Assist the NSW SES with reconnaissance of coastal erosion risk areas
- Liaise with the NSW SES Local Controller to provide advice regarding the need for response actions by the NSW SES such as evacuations.
- Activate the Greater Taree City Council Coastal Zone Management Plan – Emergency Action Plan.

Recovery

o. Provide for the management of health hazards associated with flooding. This includes removing debris and waste.

p. Ensure premise are fit and safe for reoccupation and assess any need for demolition.

q. Arrange for storage of evacuees' furniture as required.

1.5.8 **Agricultural and Animal Services Functional Area**

a. When requested by NSW SES;

- Activate the Agricultural and Animal Services Supporting Plan as required and coordinate the provision of required services which may include:
  - Coordinate response for all animals including pets, livestock and wildlife.
  - Supply and delivery of emergency fodder.
  - Emergency water replacement in certain circumstances.
  - Coordinate the management of livestock and farm animals.
  - Advice on dealing with dead and injured farm animals.
  - Financial, welfare and damage assessment assistance to flood affected farmers.
  - Coordinate the establishment of animal shelter compound facilities for the domestic pets and companion animals of evacuees.

1.5.9 The **Ambulance Service of NSW**:

a. Assist with the evacuation of at risk communities (in particular elderly and/or infirm people).

b. Deploy ambulance resources to appropriate locations if access is expected to be lost.

c. Assist the NSW SES with flood rescue operations.

1.5.10 **Australian Government Bureau of Meteorology (The Bureau):**

a. Provide Flood Watches for the Manning River Basin.

b. Provide Flood Warnings, incorporating height-time predictions, for

- Harrington Entrance (208425),
- Mt George (208901),
- Taree (Traffic Bridge) (208410), and
- Wingham (208400) gauges.

c. Provide severe weather warnings when large waves and/or storm surge conditions are forecast to result in coastal erosion/inundation.

d. Provide severe weather warnings when flash flooding is likely to occur.

1.5.11 **Biripi Land Council:**

a. Act as the point of contact between the NSW SES and the Biripi community.

b. Inform the NSW SES Greater Taree City Local Controller about flood conditions and response needs.

c. Disseminate flood information, including flood and evacuation warnings, to the Biripi community.

1.5.12 **Bootawa Dam (Mid Coast Water):**

a. Maintain and operate the Dam Failure Warning System for Bootawa Dam.

b. Contribute to the development and implementation of a public education program on flooding within the council area.

c. Consult with NSW SES on the determination of dam failure alert levels and notification arrangements when developing Dam Safety Emergency Plans.

d. Maintain a Dam Safety Emergency Plan and provide copies to the NSW SES.

e. Provide information on the consequences of dam failure to the NSW SES for incorporation into planning and flood intelligence.

1.5.13 **Caravan Park Proprietor(s)**:

a. Prepare a Flood Emergency Plan for the Caravan Park.

b. Ensure that owners and occupiers of moveable dwellings are aware that the caravan park is flood liable by:

- Providing a written notice to occupiers taking up residence. The notice will indicate that the caravan park is liable to flooding and designate the location of flood liable land within the park.

- Displaying this notice and the emergency arrangements for the Caravan Park prominently in the park.

c. Ensure that owners and occupiers of moveable 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.
- Leave any moveable 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) (6).

d. 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.
- Prepare for evacuation and moveable dwelling relocation.

e. Ensure that owners and occupiers of caravans are aware of what they must do to facilitate evacuation and moveable dwelling relocation when flooding occurs.

f. Coordinate the evacuation of people and the relocation of moveable dwellings when floods are rising and their return when flood waters have subsided. Moveable dwellings will be relocated back to the caravan park(s) by owners or by vehicles and drivers arranged by the park managers.

g. Secure any moveable dwellings that are not able to be relocated to prevent floatation.

h. Inform the NSW SES of the progress of evacuation and/or moveable dwellings relocation operations and of any need for assistance in the conduct of these tasks.

1.5.14 **Child Care Centres and Preschools**:

a. Childcare Centres are to be contacted by the NSW SES in the event of possible flooding or isolation.

b. When notified the child care 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.
- Assist with coordinating the evacuation of preschools and child care centres

1.5.15 **Energy and Utility Services Functional Area:**

a. When requested by NSW SES:

- Implement the Energy and Utilities Services Functional Area Supporting Plan.
- Where required, coordinate energy and utility services emergency management planning, preparation, response and recovery, including the restoration of services following a flood event.
- Coordinate advice to the NSW SES of any need to disconnect electricity, gas, water or wastewater services.
- Assist the NSW SES to identify infrastructure at risk of flooding for incorporation into planning and intelligence.
- Identify interdependencies between flooding and utility services due to secondary impacts of flooding and advise the NSW SES.
- Assist the NSW SES with advisory notices relating to hazards from utility services during flooding.
- Coordinate with utilities on restoration of services, including advisory notices relating to estimated time for restoration and mandatory safety checks prior to reconnection. Advise the NSW SES and the relevant recovery committee and coordinator of the timetable for restoration.

b. Local utility service distribution providers (electricity, gas, water, waste water) Essential Energy:

- Provide advice to the NSW SES Greater Taree City Local Controller of any need to disconnect power/gas/water/waste water supplies or of any timetable for reconnection.
- Advise the 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/waste water installations, when certified safe to do so and as conditions allow.
- Assist the NSW SES to identify infrastructure at risk of flooding for incorporation into planning and intelligence.

1.5.16 **Engineering Services Functional Area**:

a. When requested by NSW SES:

- Provide engineering advice regarding the integrity of damaged structures.
- Assist the NSW SES with damage assessment.

- Acquire and/or provide specialist technical engineering expertise.
- Assist the NSW SES and councils with the assessment and operation of flood protection levees when requested.
- Assist with property protection, including the construction or repair of levees.
- Coordinate the restoration of critical public facilities.

b. When requested by the Recovery Coordinator:

- Establish Recovery Centres by the procurement and fit-out of suitable properties.

1.5.17 **Environmental Services Functional Area**:

a. When requested by NSW SES:

- Implement the Environmental Services Functional Area (Enviroplan) Supporting Plan if required.

1.5.18 **Fire and Rescue NSW, Taree and Wingham**

a. FRNSW responsibilities are primarily confined to the FRNSW Fire District. Any deployment of FRNSW resources to assist NSW SES in flood events rests with the respective FRNSW Commander which must be a Senior Officer.

b. The FRNSW Commander will assess the capability of FRNSW to assist NSW SES in the following tasks:

- Assist the NSW SES with the warning and/or evacuation of at risk communities.
- Assist the NSW SES with the monitoring / reconnaissance of flood prone areas.
- Assist the NSW SES with the resupply of isolated communities and/or properties.
- Assist the NSW SES with property protection tasks including sandbagging.
- Provide resources for pumping flood water out of buildings and from low-lying areas.
- Assist with clean-up operations, including the hosing out of flood affected properties.
- Coordinate the deployment of fire resources to communities within Fire and Rescue NSW fire districts if access is expected to be lost in consultation with the NSW SES.

c. FRNSW will use its best endeavours to deploy appliances and or resources into locations where access is expected to be lost.

1.5.19 **Forestry Corporation of NSW**

a. Close and evacuate at risk camping grounds in State Forest managed areas.

b. Close and reopen Forestry Corporation of NSW roads when affected by flood waters and advise the NSW SES of its status.

c. Facilitate the safe reliable access of emergency resources on Forestry Corporation managed roads.

d. Assist the NSW SES with identification of road infrastructure at risk of flooding.

e. Manage traffic in Forestry Corporation of NSW roads.

1.5.20 Assist the NSW SES with the communication of warnings and information provision to the public through variable message signs and other appropriate means.**Health Services Functional Area**:

a. When requested by NSW SES:

- Activate Healthplan if required.
- Ensure that appropriate business continuity plans are developed for essential health infrastructure and are activated during floods.
- Provide medical support to the NSW SES.
- Establish health surveillance in affected areas.
- Assess potential public health risks that either acutely endanger the health of human populations or are thought to have longer term consequences.
- Provide environmental health advice.
- Provide public health warnings and advice to affected communities.
- Provide psychological counselling support to the community and emergency response workers impacted, via NSW Health Mental Health Division.
- Assist the NSW SES with the warning and evacuation of public hospitals, private hospitals and residential aged care facilities.
- Undertake vulnerable persons assessment for mental health and drug and alcohol dependant persons, dialysis, frail and/or aged and oxygen dependant persons in the community, known to the health service.

1.5.21 **Manning Point Reference Group Network:**

a. Provide flood information to the NSW SES Greater Taree City Local Controller.

b. Distribute flood warnings and flood information provided by the NSW SES Greater Taree City Local Controller.

1.5.22 **Marine Rescue NSW**

a. Assist the NSW SES with the delivery of evacuation warnings and evacuation orders.

b. Assist the NSW SES with the conduct of evacuations.

1.5.23 **NSW Office of Water**

a. Collect and maintain flood data including data relating to flood heights, velocities and discharges.

b. Provide the Bureau of Meteorology and NSW SES real-time or near real-time access to river height gauges and height data for the development of official flood warnings.

c. Provide flow rating charts for river height gauges.

d. Manage (with technical support from OEH) the approval process under the Water Act 1912 and Water Management Act 2000 for flood control works (earthworks, embankments and levees which can affect the distribution of floodwaters) including:

- Assessment and approval of flood control works (including flood mitigation works) in rural areas designated under the Acts.
- Use of floodplain management plans prepared by OEH in rural areas designated under the Acts to flood control work approvals.
- Giving the NSW SES access to relevant studies regarding flooding and studies supporting floodplain management plans prepared by OEH including flood studies, floodplain risk management studies and flood behaviour investigations.

1.5.24 **NSW Police Force, Manning-Great Lakes Local Area Command (LAC):**

a. Assist the NSW SES with the delivery of evacuation warnings and evacuation orders.

b. Assist the NSW SES with the conduct of evacuation operations.

c. Conduct road and traffic control operations in conjunction with council and/or RMS.

d. Coordinate the registration of evacuees.

e. Secure evacuated areas.

1.5.25 **NSW Rural Fire Service (RFS Mid Coast):**

a. Provide personnel in rural areas and villages to:

- inform the NSW SES Greater Taree City Local Controller about flood conditions and response needs in their own communities, and
- disseminate flood information.

b. Provide personnel and high-clearance vehicles for flood related activities.

c. Assist the NSW SES with the delivery of evacuation warnings and evacuation orders.

d. Assist the NSW SES with the conduct of evacuations.

e. Provide equipment for pumping flood water out of buildings and from low-lying areas.

f. Assist with the removal of caravans.

g. Provide back-up radio communications.

h. Assist with clean-up operations, including the hosing of flood affected properties.

i. Deploy fire resources to appropriate locations if access is expected to be lost.

1.5.26 **Office of Environment and Heritage**:

a. Provide specialist policy, engineering and scientific advice to councils and the NSW SES on flood related matters including assistance with:

- The identification of flood problems.
- The preparation of Floodplain Risk Management Plans and associated studies.
- The implementation of floodplain risk management plans. This involves floodplain management projects which include flood mitigation works, flood warning, strategic land use planning and upgrade of evacuation routes.
- The exercising of Local Flood Plans.

b. Provide specialist advice flood related matters as follows:

- Provide the NSW SES with access to relevant studies regarding flooding, including Flood Studies and Floodplain Risk Management Studies.
- Coordinate the collection of post event flood data, in consultation with the NSW SES.
- Provide advice to the NSW SES about conditions which may lead to coastal flooding or retarded river drainage near the coast.
- Collect and maintain flood data relating to flood heights, velocities and discharges in coastal areas of NSW (through a contract with MHL as discussed separately).
- Provide data to the Bureau of Meteorology and NSW SES real-time or near real-time access to river height gauges and height data for the development of official flood warnings (through a contract with MHL as described in the Response section of this plan).

c. **Parks and Wildlife Service**

- Close and reopen Parks and Wildlife Service Roads when affected by flood waters and advise the NSW SES of its status.
- Facilitate the safe reliable access of emergency resources on National Parks and Wildlife Service managed roads.
- Assist the NSW SES with identification of road infrastructure at risk of flooding.
- Manage traffic on Parks and Wildlife Service roads.
- Assist the NSW SES with the communication of warnings and information provision to the public through variable message signs and other appropriate means.

1.5.27 **Owners of Prescribed Dams within or upstream of Greater Taree**

Dam	Owner
Bootawa Dam	MidCoast Water

a. Maintain and operate the Dam Failure Warning System for their Dam.

b. Contribute to the development and implementation of community engagement and capacity building programs on flooding.

c. Consult with NSW SES on the determination of dam failure alert levels and notification arrangements when developing Dam Safety Emergency Plans.

d. Maintain a Dam Safety Emergency Plan and provide copies to the NSW SES.

e. Provide information on the consequences of dam failure to the NSW SES for incorporation into planning and flood intelligence.

f. Close and evacuate at risk camping grounds/recreational areas within their managed areas.

1.5.28 **Public Information Services Functional Area:**

a. When requested by NSW SES:

- Assist the NSW SES in the establishment and operation of a Joint Media Information Centre.

1.5.29 **Roads and Maritime Services**

a. Manage traffic on state roads, state highways and waterways affected by flood waters and advise the NSW SES of their status including the Pacific Highway.

b. Facilitate the safe reliable access of emergency resources on RMS managed roads.

c. Assist the NSW SES with identification of road infrastructure at risk of flooding.

d. Assist in Traffic management associated with evacuations where necessary.

e. Enter state road closure information into the Live Traffic site.

f. Assist the NSW SES and local councils with the communication of warnings and information provision to the public through variable message signs.

g. Cooperate with the Transport Services Functional Area Coordinator.

1.5.30 **School Administration Offices (including Catholic Education Office Diocese of Maitland-Newcastle, Department of Education & Communities Port Macquarie and Private Schools):**

a. Liaise with the NSW SES and arrange for the early release of students whose travel arrangements are likely to be disrupted by flooding and/or road closures (or where required, for students to be moved to a suitable location until normal school closing time).

b. Pass information to school bus drivers/companies and/or other schools on expected or actual impacts of flooding.

c. Assist with coordinating the evacuation of schools when flooding or isolation is expected to occur

d. Provide space in schools for evacuation centres where necessary.

1.5.31 **Telecommunication Services Functional Area**:

a. When requested by NSW SES:

- Coordinate the restoration of telephone facilities damaged by flooding.
- Assist the NSW SES to identify infrastructure at risk of flooding for incorporation into planning and intelligence.

1.5.32 **The Greater Taree Transport Services Functional Area Coordinator (TSFAC)**

a. The TSFAC will assist NSW SES, emergency services and other functional areas through the provision of transport services, including;

- The movement of emergency equipment and personnel.
- The movement of emergency supplies and goods, including water, fuel and food.
- The evacuation of people and animals.
- Assistance for medical transport.
- Transportation of animals and infectious material/dangerous goods.
- Maintaining and operating a transport route advisory service to the NSW SES, emergency services organisations and other Functional Areas and members of the community.

1.5.33 **NSW Train Link**

a. Operate NSW rail services through the Greater Taree Council area including the management of railway services affected by flood waters and advise the NSW SES.

b. Assist the NSW SES with the movement or evacuation of people during flood response operations if required.

c. Convey flood information and flood warnings to passengers and travellers on NSW trains.

d. Cooperate with, and assist the NSW SES Local Controller in relation to public safety during flood emergencies.

e. Cooperate with the Greater Taree Transport Services Functional Area Coordinator.

1.5.34 **Welfare Services Functional Area:**

a. When requested by NSW SES;

- Establish and manage evacuation centres, and provide disaster welfare services from recovery centres.
- Administer the Personal Hardship and Distress component of the NSW Disaster Relief Scheme established to provide financial assistance to people affected by emergencies.

1.5.35 **Volunteer Rescue Association (VRA), Taree:**

a. Assist the NSW SES Greater Taree City Local Controller with flood operations, where equipment and training are suitable.

1.6 CROSS-BORDER ASSISTANCE ARRANGEMENTS

1.6.1 Operations involving the village of John's River and its surrounding area would normally be conducted by the NSW SES Harrington Unit and/or the NSW SES Taree City Unit except when the area is to be isolated by flood waters. Should it be possible, the Camden Haven NSW SES will arrange for evacuations due to its location inside the Camden Haven catchment.

PART 2 - PREPAREDNESS

2.1 MAINTENANCE OF THIS PLAN

2.1.1 The NSW SES Greater Taree City Local Controller will maintain the currency of this plan by:

a. Ensuring that all agencies, organisations and officers mentioned in it are aware of their roles and responsibilities.

b. Conducting exercise to test arrangements.

c. Reviewing the contents of the plan:

- After each flood operation.
- When significant changes in land-use or community characteristics occur.
- When new information from flood studies become available.
- When flood control or mitigation works are implemented or altered.
- When there are changes that alter agreed plan arrangements.

2.1.2 The plan is to be reviewed no less frequently than every five years.

2.2 FLOODPLAIN AND COASTAL RISK MANAGEMENT

2.2.1 The NSW SES Greater Taree City Local Controller will ensure that:

a. NSW SES participates in local floodplain and coastal risk management committee activities when those committees are formed, in accordance with the protocols outlined in the NSW SES Controllers Guide.

b. The NSW SES Mid North Coast Region Headquarters is informed of involvement in floodplain and coastal risk management activities.

2.3 DEVELOPMENT OF FLOOD INTELLIGENCE

2.3.1 Flood intelligence describes flood behaviour and its effects on the community.

2.3.2 The NSW SES maintains a centralised flood intelligence system.

2.4 DEVELOPMENT OF WARNING SYSTEMS

2.4.1 The NSW SES establishes total flood warning systems for areas affected by flooding. This requires:

a. An identification of the potential clients of flood warning information at different levels of flooding (i.e. who would be affected in floods of differing severities).

b. Available information about the estimated impacts of flooding at different heights.

c. Identification of required actions and the amounts of time needed to carry them out.

d. Appropriate means of disseminating warnings to different clients and at different flood levels.

2.4.2 Greater Taree Council and Manly Hydraulics have installed hardware and software to monitor water levels in the Manning River catchments. Data gathered informs Flood Warnings issued by the Bureau and is provided to the NSW SES.

2.5 COMMUNITY RESILIENCE

2.5.1 The community needs to be as prepared as emergency agencies for the impact of all hazards (5), including flooding.

2.5.2 As the combat agency, NSW SES has the primary responsibility for the collation, assessment and public dissemination of information relating to flooding (3). To do this, NSW SES will require assistance from other agencies, particularly local government councils, dam owners, and the Bureau in the development and delivery of materials.

2.5.3 The NSW SES Greater Taree Local Controller, with the assistance of the Greater Taree City Council, the NSW SES Mid North Coast Region Headquarters and NSW SES State Headquarters, is responsible for the collation, assessment and public dissemination of information relating to flooding (3).

2.5.4 A range of tailored strategies to be employed with NSW communities include:

a. Dissemination of flood-related brochures and booklets in flood liable areas.

b. Dissemination of coastal erosion related brochures in coastal erosion liable areas.

c. Talks and displays orientated to at-risk groups, community organisations, businesses and schools.

d. Publicity given to this plan and to flood-orientated NSW SES activities through local media outlets, including articles in local newspapers about the flood threat and appropriate responses.

e. Flood Safe Guides

- Taree
- Wingham

2.6 TRAINING

2.6.1 Throughout this document there are references to functions that must be carried out by the members of the Harrington, Taree, and Wingham NSW SES.

The NSW SES Greater Taree City Local Controller is responsible for ensuring that the members are:

a. Familiar with the contents of this plan.

b. Trained in the skills necessary to carry out the tasks allocated to the NSW SES.

2.7 RESOURCES

2.7.1 The NSW SES Greater Taree City Local Controller is responsible for maintaining the condition and state of readiness of NSW SES equipment and the NSW SES Greater Taree City Local Headquarters.

2.7.2 The NSW SES Harrington, Taree, and Wingham Unit Controllers have similar responsibilities in relation to the Harrington, Taree, and Wingham Unit Headquarters and equipment.

PART 3 - RESPONSE

CONTROL

3.1 CONTROL ARRANGEMENTS

3.1.1 The NSW SES is the legislated Combat Agency for floods and is responsible for the control of flood operations. This includes the coordination of other agencies and organisations for flood management tasks.

3.1.2 The NSW SES is the designated Combat Agency for damage control for storms. This includes damage control for coastal erosion and inundation from storm activity, specifically the protection of life and the coordination of the protection 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.

3.1.3 The Local EMPLAN will operate to provide support as requested by the NSW SES Local Incident Controller.

3.2 OPERATIONAL MANAGEMENT

3.2.1 NSW SES utilises the Australasian Inter-service Incident Management System (AIIMS), which is based on three principles:

a. functional management;

b. management by objectives; and

c. span of control.

3.2.2 AIIMS provides for different incident levels based on the complexity of management.

3.2.3 Flood in the Greater Taree LGA will be divided into sectors and divisions to manage the flood and/or coastal erosion event (divisions are usually a group of sectors).

Table 1: Sectors within Greater Tagee LGA.

Sector Name	Community	Boundary	Sector Basis	Sector Controlled By
Sector 1	Wingham Central	CBD and West of Wynter Street.	High Flood Island	Wingham Unit
Sector 2	Wingham Peninsula	East of Wynter Street and bounded by Manning River and Cedar Party Creek.	Low Flood Island	Wingham Unit
Sector 3	Taree West	West of Commerce Street including Taree Estate and bounded by Manning River	High Flood Island	Taree Unit
Sector 4	Taree Central	Browns Creek, Chatham	Rising Road Access	Taree Unit
Sector 5	Tinonee	Tinonee	Rising Road Access	Taree Unit
Sector 6	Oxley, Mitchell Islands	Oxley/Mitchells Islands.	High Flood Island	Taree Unit
Sector 7	Jones Island, Croki	Croki, Moto, Cattai Creek	Low Flood Island	Taree Unit
	Coopernook	Coopernook	Rising Road Access	
Sector 8	Lansdowne	Lansdowne, Upper Lansdowne, Melinga	Rising Road Access	Taree Unit
Sector 9	Manning Point	Manning Point	Low Flood Island	Taree Unit
Sector 10	Harrington, Crowdy Head	Harrington, Crowdy Head	Low Flood Island	Harrington Unit
Sector 11	Cundletown, Dumeresque Island	Cundletown, Dumeresque Island	Rising Road Access Low Flood Island	Taree Unit
Sector 12	Pampoolah to Old Bar	Pampoolah, Bohnock	Rising Road Access	Taree Unit
Sector 13	Glenthorne	Glenthorne	Low Flood Island	Taree Unit

3.3 START OF RESPONSE OPERATIONS

3.3.1 This plan is always active to ensure that preparedness actions detailed in this plan are completed.

3.3.2 Response operations will begin:

a. On receipt of a Bureau of Meteorology Preliminary Flood Warning, Flood Warning, Flood Watch, Severe Thunderstorm Warning or a Severe Weather Warning for flash flooding or severe ocean conditions.

b. On receipt of a dam failure alert.

c. When other evidence leads to an expectation of flooding or coastal erosion within the council area.

3.3.3 Contact with the Bureau of Meteorology to discuss the development of flood warnings will normally be through the NSW SES Mid North Coast Region Headquarters and/or NSW SES State Headquarters.

3.3.4 The following persons and organisations will be advised of the start of response operations regardless of the location and severity of the flooding anticipated:

a. NSW SES Mid North Coast Region Headquarters.

b. Greater Taree City Local Controller.

c. NSW SES Harrington, Taree City, and Wingham Unit Controllers.

d. NSW SES Harrington, Taree City, and Wingham Units.

e. Greater Taree City Council Local Emergency Operations Controller (for transmission to the NSW Police Force Local Area Command Headquarters).

f. Greater Taree City Council Local Emergency Management Officer (for transmission to appropriate council officers and departments).

g. Greater Taree City Council Mayor.

h. Other agencies listed in this plan will be advised by the Local Emergency Management Officer on the request of the NSW SES Greater Taree City Local Incident Controller and as appropriate to the location and nature of the threat.

3.4 RESPONSE STRATEGIES

3.4.1 The main response strategies for NSW SES flood operations include:

a. Information Provision and Warning

- Provision of warnings, information and advice to communities.
- Inform the community regarding the potential impacts of a flood and what actions to undertake in preparation for flooding.

- Inform the community regarding the potential impacts of coastal erosion and what preparatory actions to undertake.
- Provide timely and accurate information to the community.

b. Property protection

- Protect the property of residents and businesses at risk of flood damage.
- Assistance with property protection by way of sandbagging and the lifting or transporting of furniture, personal effects, commercial stock and caravans.
- Assistance with the relocation of readily moveable household goods and commercial stock and equipment from properties threatened by coastal erosion.
- Assistance with the protection of essential infrastructure.

c. Evacuation

- Evacuation is a risk management strategy that may be used to mitigate the effects of an emergency on a community. It involves the movement of people to a safer location and their return. For an evacuation to be effective it must be appropriately planned and implemented (7).

d. Flood Rescue

- The rescue or safe retrieval of persons or animals trapped by floodwaters.

e. Resupply

- Minimise disruption upon the community by resupplying towns and villages which have become isolated as a consequence of flooding.
- Ensure supplies are maintained to property owners by coordinating the resupply of properties which have become isolated as a consequence of flooding.

3.4.2 The NSW SES Local Incident Controller will select the appropriate response strategy to deal with the expected impact of the flood in each sector and/or community. The impact may vary so a number of different strategies may need to be selected and implemented across the whole operational area. The available strategies for each sector and/or community are maintained by the NSW SES.

3.4.3 Supporting agency strategies may include:

a. Protect the community from incidents involving fire and hazardous materials

b. Maintain the welfare of communities and individuals affected by the impact of a flood.

c. Minimise disruption to the community by ensuring supply of essential energy and utility services.

d. Ensure coordinated health services are available to and accessible by the flood affected communities.

e. Maintain the welfare of animals affected by the impact of a flood.

3.5 OPERATIONS CENTRES

3.5.1 The Greater Taree LGA NSW SES Operations Centre is located at 46 Muldoon Street, Taree.

a. The Harrington NSW SES Response Centre is located at Lot 1 Hogan Street, Harrington.

b. The NSW SES Greater Taree City Response Centre is located at 46 Muldoon Street, Taree

c. The Wingham NSW SES Response Centre is located at 45 Combined Street, Wingham.

3.5.2 Supporting EOCs are located at:

a. The Greater Taree City Council Emergency Operations Centre is located at RFS Fire Control, 46 Muldoon Street, Taree.

3.6 LIAISON

3.6.1 At the request of the Greater Taree City LGA Incident Controller, any agency with responsibilities identified in this plan may be requested by the NSW SES to provide liaison (including a liaison officer where necessary) to the NSW SES Greater Taree City Operations Centre or designated Emergency Operations Centre.

3.6.2 In accordance with NSW EMPlan, Liaison officers will;

a. Maintain communication with and convey directions/requests to their organisation or functional area;

b. Provide advice on the status, resource availability, capabilities, actions and requirements of their organisation or functional area, and

c. Where appropriate, have the authority to deploy the resources of their parent organisation at the request of the NSW SES Local Incident Controller.

3.7 END OF RESPONSE OPERATIONS

3.7.1 When the immediate danger to life and property has passed the NSW SES Region Incident Controller or the NSW SES Local Incident Controller will issue an 'All Clear' message signifying that response operations have been completed. The message will be distributed through the same media outlets as earlier evacuation messages. The relevant Controller will also advise details

of recovery coordination arrangements, arrangements made for clean-up operations prior to evacuees being allowed to return to their homes, and stand-down instructions for agencies not required for recovery operations.

PLANNING

3.8 COLLATING SITUATIONAL INFORMATION

Strategy

3.8.1 The NSW SES maintains and records situational awareness of current impacts and response activities.

Actions

3.8.2 The NSW SES Greater Taree City Local Headquarters collates information on the current situation in the Greater Taree City Council LGA and incorporates in Situation Reports.

3.8.3 The NSW SES Mid North Coast Region Headquarters collates Region-wide information for inclusion in Region NSW SES Situation Reports.

3.8.4 Sources of situational information during times of flooding are:

a. **Agency Situation Reports**. Agencies and functional areas provide regular situation reports (SITREPs) to the NSW SES.

b. **Active Reconnaissance**. The NSW SES Greater Taree City Local Incident Controller is responsible for coordinating the reconnaissance of impact areas, recording and communicating observations. Reconnaissance can be performed on the ground and using remote sensing (more commonly aerial). The NSW SES monitors the following problem areas:

- Wingham
- Wingham Peninsula
- Taree West/Estate Rural Area
- Victoria St Levee, Victoria St, Taree
- Pulteney Street
- Streets in the vicinity of Browns Creek, Taree
- River St, Cundletown
- Croki
- Coopernook
- Manning Point

c. The **Bureau of Meteorology's Flood Warning Centre** provides river height and rainfall information, data is available on the website http://www.bom.gov.au/nsw/flood/

d. **Manly Hydraulics Laboratory (a business unit within NSW Public Works)** automated river watch system funded by the Office of Environment and Heritage. This system provides river height and rainfall readings for a number of gauges in the Greater Taree City Council area. Recent data from this system is available on the Manly Hydraulic Laboratory website: http://www.mhl.nsw.gov.au. A history of area floods is also available upon request via the website.

e. **NSW Office of Water**. This office advise flow rates and rates of rise for the Manning River catchment. Daily river reports containing information on gauge heights and river flows are available from the website: http://waterinfo.nsw.gov.au/

f. **Bootawa Dam Storage Monitoring System.** This system provides information on Bootawa Dam.

g. **NSW SES Mid North Coast Region Headquarters**. The Region Headquarters provides information on flooding and its consequences, including those in nearby council areas (this information is documented in Bulletins and Situation Reports).

h. **Greater Taree City Council.** Provides information on road closure bulletins.

3.8.5 During flood operations sources of information on roads closed by flooding include:

a. Greater Taree City Council http://www.gtcc.nsw.gov.au

b. Manning-Great Lakes Police Local Area Command

c. Roads and Maritime Services http://livetraffic.rta.nsw.gov.auNSW SES Mid North Coast Region Headquarters

d. NSW SES Greater Taree City Local Headquarters.

3.8.6 Situational information relating to consequences of flooding and/or coastal erosion should be used to verify and validate NSW SES Flood Intelligence records.

3.9 PROVISION OF FLOOD INFORMATION AND WARNINGS

Strategy

3.9.1 The NSW SES Greater Taree LGA Local Headquarters provides advice to the NSW SES Mid North Coast Region Headquarters on current and expected impacts of flooding in the Greater Taree City Council LGA.

3.9.2 The NSW SES Mid North Coast Region Headquarters issues NSW SES Flood Bulletins, NSW SES Livestock and Equipment Warnings, Evacuation Warnings and Evacuation Orders to media outlets and agencies on behalf of all NSW SES units in the Region.

Actions

3.9.3 The NSW SES Greater Taree LGA Local Incident Controller will ensure that the NSW SES Mid North Coast Region Incident Controller is regularly briefed on the progress of operations.

3.9.4 NSW SES Greater Taree City Local Headquarters operations staff will be briefed regularly so that they can provide information in response to inquiries received in person or by other means such as phone or fax.

3.9.5 **Bureau of Meteorology Severe Thunderstorm Warning**. These are issued direct to the media by the Bureau when severe thunderstorms are expected to produce dangerous or damaging conditions, including flash flooding. Severe thunderstorms are usually smaller in scale than events covered by Flood Watches and Severe Weather Warnings.

3.9.6 **Bureau of Meteorology Severe Weather Warnings for Flash Flooding**. These are issued direct to the media by the Bureau and provide a warning of the possibility for flash flooding as a result of intense rainfall. These warnings are issued when severe weather is expected to affect land based communities with 6 to 24 hours. Severe Weather Warnings may also include other conditions such as Damaging Surf, Dangerous Surf or tides, or Damaging Winds.

3.9.7 **Bureau of Meteorology Flood Watches**. Flood Watches are issued by the Bureau to advise people of the potential for flooding in a catchment area based on predicted or actual rainfall. Flood Watches will be included in NSW SES Flood Bulletins issued by the NSW SES Mid North Coast Region Headquarters.

3.9.8 **Bureau of Meteorology Flood Warnings.** The NSW SES Mid North Coast Region Headquarters will send a copy of Bureau Flood Warnings to the NSW SES Greater Taree City Unit. On receipt the NSW SES Local Incident Controller will provide the NSW SES Mid North Coast Region Headquarters with information on the estimated impacts of flooding at the predicted heights for inclusion in NSW SES Region Flood Bulletins.

3.9.9 **NSW SES Livestock and Equipment Warnings**. Following heavy rain or when there are indications of significant creek or river rises (even to levels below Minor Flood heights), the NSW SES Greater Taree City Local Incident Controller will advise the NSW SES Mid North Coast Region Headquarters which will issue NSW SES Livestock and Equipment Warnings.

3.9.10 **NSW SES Local Flood Advices**. The NSW SES Local Incident Controller may issue Local Flood Advices for locations not covered by Bureau Flood Warnings. They may be provided verbally in response to phone inquiries but will normally be incorporated into NSW SES Region Flood Bulletins.

3.9.11 **NSW SES Flood Bulletins**. The NSW SES Mid North Coast Region Headquarters will regularly issue NSW SES Flood Bulletins which describe information on the estimated impacts of flooding at the predicted heights (using information from Bureau Flood Warnings and NSW SES Local Flood Advices) to NSW SES

units, media outlets and agencies on behalf of all NSW SES units in the Region. When operations relating to coastal erosion/inundation are being undertaken, NSW SES Region Bulletins will contain information and advice about property damage mitigation measures and evacuation in affected areas.

3.9.12 **NSW SES Evacuation Warnings and Evacuation Orders**. These are usually issued to the media by the NSW SES Region Incident Controller on behalf of the NSW SES Local Incident Controller.

3.9.13 **Dam Failure Alerts**. Dam failure alerts are issued to NSW SES by the dam owner, in accordance with arrangements in the Dam Safety Emergency Plan (DSEP), the system involves the Dam Owner notifying NSW SES State Headquarters Operations Communications Centre, who in turn distribute the warning to the NSW SES Region Headquarters and NSW SES Unit Headquarters.

3.9.14 A flow chart illustrating the notification arrangements for potential dam failure is shown in Attachment 2.

3.9.15 Dam failure alert levels are set in consultation with the NSW SES and are used to trigger appropriate response actions. The conditions that define each of the alert levels are listed in the relevant DSEP. Response escalates as the alert level migrates from white to amber to red. Table 1 briefly outlines example defining conditions and appropriate NSW SES response associated with each alert.

Alert Level	Example Defining Condition	NSW SES Response	NSW SES Warning Product
White	May be a structural anomaly. May be increased monitoring in response to a heavy rainfall event	Implements notification flowchart. Check operational readiness.	This is a preliminary alert to assist the NSW SES in its preparation. This is not a public alert.
Amber	Failure possible if storage level continues to rise or structural anomaly not fixed	Implements notification flowchart. Warn downstream population at risk to prepare to evacuate	NSW SES Evacuation Warning
Red	Failure imminent or occurred	Implements notification flowchart. Evacuation of downstream populations	NSW SES Evacuation Order

Table 2: Dam Failure Alert Levels

Note: Some DSEPs will have alert levels that proceed directly from White to Red. This is the case if adequate time does not exist between the three alert levels to evacuate the downstream population at risk. The decision to omit the Amber Alert level, and the general setting of Alert levels should be undertaken in consultation with the NSW SES.

3.9.16 The NSW SES / Dam Owner will disseminate warnings to the population at risk of dam failure (these arrangements are specific to each dam, are negotiated between the Dam Owner and NSW SES, and are documented in the DSEP).

3.9.17 **Standard Emergency Warning Signal (SEWS).** This signal may be played over radio and television stations to alert communities to Evacuation Warnings, Evacuation Orders, Special Warnings or Dam-Failure Warnings. Approval to use the signal is associated with who approves the warning/order message.

3.9.18 **The Public Information and Inquiry Centre (PIIC)** (operated by the NSW Police Force) will answer calls from the public regarding registered evacuees.

3.9.19 **The Disaster Welfare Assistance line** is a central support and contact point for disaster affected people inquiring about welfare services advice and assistance. This normally operates during business hours, but can be extended when required.

3.9.20 **The RMS Transport Information Line** will provide advice to callers on the status of roads. The RMS website also lists road closure information.

a. http://livetraffic.rta.nsw.gov.au/desktop.html

3.9.21 **Greater Taree City Council** will provide information on the status of roads.

a. website http://www.midnorthcoast.myroadinfo.com

3.9.22 Collation and dissemination of road information is actioned as follows:

a. As part of Situation Reports, the NSW SES Greater Taree City Local Incident Controller provides road status reports for main roads in the council area to the NSW SES Mid North Coast Region Headquarters.

b. The NSW SES Mid North Coast Region Headquarters distributes information on main roads to NSW SES units, media outlets and agencies as part of NSW SES Flood Bulletins.

OPERATIONS

3.10 AIRCRAFT MANAGEMENT

3.10.1 Aircraft can be used for a variety of purposes to support NSW SES during flood operations including evacuation, rescue, resupply, reconnaissance and emergency travel.

3.10.2 Air support operations will be conducted under the control of the NSW SES Region Headquarters, which may allocate aircraft to units if applicable.

3.10.3 NSW SES maintains the following information for the Greater Taree City Council area:

a. Locations of suitable helicopter landing points.

b. Locations of suitable airports and records detailing aircraft size and type that can land at airports.

c. Intelligence on when access to these locations is expected to be lost.

3.11 ASSISTANCE FOR ANIMALS

3.11.1 Matters relating to the welfare of livestock, companion animals and wildlife are to be referred to Agricultural and Animal Services Functional Area.

3.11.2 Requests for emergency supply and/or delivery of fodder to stranded livestock, or for livestock rescue, are to be referred to Agriculture and Animal Services Functional Area.

3.11.3 Requests for animal rescue should be referred to the NSW SES.

3.12 COMMUNICATION SYSTEMS

3.12.1 The primary means of communications between fixed locations is by telephone, email and facsimile.

3.12.2 The primary means of communication to and between deployed NSW SES resources is by NSW SES PMR.

3.12.3 All liaison officers will provide their own communication links back to their parent agencies.

3.12.4 All other organisations will provide communications as necessary to their deployed field teams.

3.12.5 Back-up communications are provided as follows:

a. NSW Rural Fire Service

3.13 PRELIMINARY DEPLOYMENTS

3.13.1 When flooding is expected to be severe enough to cut road access to towns, within towns and/or rural communities, the NSW SES Greater Taree City Local Incident Controller will ensure that resources are in place for the distribution of foodstuffs and medical supplies to the areas that could become isolated.

3.13.2 When access between locations is expected to be cut, the NSW SES Greater Taree City Local Incident Controller will advise appropriate agencies so that resources (including sandbags, fire fighting appliances, ambulances, etc.) are deployed to ensure that operational capability is maintained.

3.14 ROAD AND TRAFFIC CONTROL

3.14.1 A number of roads within the council area are affected by flooding. NSW SES maintains details of these roads.

3.14.2 The council closes and re-opens its own roads.

3.14.3 The NSW Police Force has the authority to close and re-open roads but will normally only do so (if the Council or the RMS have not already acted) if public safety requires such action.

3.14.4 When resources permit, the NSW SES assists Council, RMS or the Police by erecting road closure signs and barriers.

3.14.5 In flood events, the NSW SES Greater Taree City Local Incident Controller may direct the imposition of traffic control measures. The entry into flood affected areas will be controlled in accordance with the provisions of the State Emergency Service Act, 1989 (Part 5, Sections 19, 20, 21 and 22) and the State Emergency Rescue Management Act, 1989 (Part 4, Sections 60KA, 60L and 61).

3.14.6 Police, RMS or Council officers closing or re-opening roads or bridges affected by flooding are to advise the NSW SES Greater Taree Local Headquarters. All such information will also be passed to the Police, RMS and the Council.

3.15 STRANDED TRAVELLERS

3.15.1 Flood waters can strand travellers. Travellers seeking assistance will be referred to the Welfare Services Functional Area for the arrangement of emergency accommodation.

3.16 MANAGING PROPERTY PROTECTION OPERATIONS

Strategy

3.16.1 Protect the property of residents and business at risk of flood damage.

Actions

3.16.2 The NSW SES is the responsible agency for the coordination of operations to protect property.

3.16.3 Property may be protected from floods by:

a. Lifting or moving of household furniture.

b. Lifting or moving commercial stock and equipment.

c. Sandbagging to minimise entry of water into buildings.

3.16.4 The NSW SES maintains limited stocks of sandbags.

3.16.5 Property protection options are however very limited in the Lower Manning Area due to the large number of properties that can be affected and the depth of floodwaters arising from severe flooding on the Manning River.

3.16.6 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.

3.17 MANAGING FLOOD RESCUE OPERATIONS

Strategy

3.17.1 Rescue of people and animals from floods.

Actions

3.17.2 The NSW SES Greater Taree City Local Incident Controller controls flood rescue in Greater Taree City Council LGA during a flood emergency.

3.17.3 Flood rescues, may be carried out by accredited units in accordance with appropriate standards.

3.17.4 Additional flood boats and crews can be requested through the NSW SES Mid North Coast Region Headquarters.

3.17.5 There may be some residual population which did not evacuate during the early stages of flooding and which require rescue.

3.18 MANAGING EVACUATION OPERATIONS

Strategy

3.18.1 When there is a risk to public safety, evacuation is the primary strategy. Circumstances may include:

a. Evacuation of people when their homes or business are likely to flood.

b. Evacuation of people who are unsuited to living in isolated circumstances, due to flood water closing access.

c. Evacuation of people where essential energy and utility services are likely to fail, have failed or where buildings have been made uninhabitable.

d. Evacuation of people when their homes or business are at threat of collapse from coastal erosion

Actions

3.18.2 The evacuation operation will have the following stages:

a. Decision to evacuate.

b. Mobilisation (mobilisation may begin prior to the decision to evacuate).

c. Evacuation Warning delivery.

d. Evacuation Order delivery.

e. Withdrawal.

f. Shelter.

g. Return.

3.18.3 During floods evacuations will be controlled by the NSW SES. Small-scale evacuations will be controlled by the NSW SES Greater Taree City Local Incident Controller. Should the scale of evacuation operations be beyond the capabilities of local resources control may be escalated to the NSW SES Mid North Coast Region Incident Controller.

Decision to evacuate

3.18.4 In most cases the decision to evacuate rests with the NSW SES Greater Taree City Local Incident Controller who exercises his/her authority in accordance with Section 22(1) of The State Emergency Service Act 1989. However, the decision to evacuate will usually be made after consultation with the NSW SES Mid North Coast Region Incident Controller and the Local Emergency Operations Controller.

3.18.5 In events that require large scale evacuations, the decision to evacuate may be escalated to the Region or the State Incident Controller.

3.18.6 Some people will make their own decision to evacuate earlier and move to alternate accommodation, using their own transport. This is referred to as self-managed evacuation (8).

Mobilisation

3.18.7 The NSW SES Local Incident Controller will request the following personnel for doorknock teams for designated Sectors/locations:

a. NSW SES Greater Taree City Unit members,

b. RFS Mid Coast Region members via the RFS Fire Control Officer,

c. Local Police Force officers via the Local Area Command.

3.18.8 The NSW SES Mid North Coast Region Incident Controller will request any additional personnel required to assist with doorknock teams using:

a. NSW SES members from the NSW SES Mid North Coast Region and surrounding NSW SES Regions

b. FRNSW personnel arranged via the FRNSW Liaison Officer.

c. RFS personnel arranged via the RFS Liaison Officer.

3.18.9 The NSW SES Local Incident Controller will request the Chairperson of the LEMC to provide Council personnel to assist with traffic coordination within Sector(s)/Community.

3.18.10 The NSW SES Local Incident Controller will arrange liaison officers for Sector Command Centres.

Delivery of Evacuation Warnings and Evacuation Orders

3.18.11 The NSW SES will advise the community of the requirements to evacuate. The NSW SES will issue an **Evacuation Warning** when the intent of an NSW SES

Incident Controller is to warn the community of the need to prepare for a possible evacuation.

3.18.12 The NSW SES will issue an **Evacuation Order** when the intent of the NSW SES Incident Controller is to instruct a community to immediately evacuate in response to an imminent threat.

3.18.13 The NSW SES Local Incident Controller will distribute Evacuation Warnings and Evacuation Orders to:

a. Greater Taree City Council Local Emergency Operations Centre.

b. Greater Taree City Council.

c. Manning-Great Lakes Police Local Area Command.

d. Mid Coast Rural Fire Service Control Centre.

e. Radio Stations.

f. Other local agencies and specified individuals.

3.18.14 The NSW SES Mid North Coast Region Incident Controller will distribute Evacuation Warnings and Evacuation Orders to:

a. The NSW SES State Operations Centre.

b. The NSW SES Greater Taree City Local Incident Controller.

c. Affected communities via dial-out warning systems where installed or applicable.

d. Relevant media outlets and agencies.

3.18.15 Evacuation Warnings and Evacuation Orders may be delivered through:

a. Radio and television stations.

b. Doorknocking by emergency service personnel.

c. Public address systems (fixed or mobile).

d. Telephony-based systems (including Emergency Alert).

e. Two-way Radio.

f. Direct access to Radio Station 2RE/MAX FM

3.18.16 The Standard Emergency Warning Signal (SEWS) may be used to precede all Evacuation Orders broadcast on Radio Stations.

3.18.17 Doorknock teams will work at the direction of:

a. The Local Incident Controller.

3.18.18 Field teams conducting doorknocks will record and report back the following information to the Operations officer:

a. Address and locations of house doorknocked and/or evacuated.

b. The number of occupants.

c. Details of support required (such as transport, medical evacuation, assistance to secure house and/or property and raise or move belongings).

d. Details of residents who refuse to comply with the Evacuation Order.

3.18.19 Refusal to evacuate. Field teams cannot afford to waste time dealing with people who are reluctant or refuse to comply with any Evacuation Order. These cases are to be referred to the NSW Police Force.

Withdrawal

3.18.20 Evacuations will generally be carried out in stages starting from the lowest areas, low flood islands and low trapped perimeters; and progressively from higher areas.

3.18.21 The most desirable method of evacuation is via road using private transport. This may be supplemented by buses for car-less people. However, other means of evacuation may also be used if available and as necessary (e.g. by foot, rail, air).

3.18.22 Evacuees who require emergency accommodation or disaster welfare assistance will be directed to designated evacuation centres. Evacuees who have made their own accommodation arrangements will not be directed to evacuation centres. It is not possible to determine in advance how many will fall into this category.

3.18.23 Evacuees will:

a. Continue along the suburban/regional/rural road network to allocated Evacuation Centres.

3.18.24 **Health Services**. The Health Services Functional Area will coordinate the evacuation of hospitals, health centres, aged care facilities (including nursing homes).

3.18.25 **Schools.** School administration offices (Department of Education and Communities, Catholic Education Office and Private Schools) will coordinate the evacuation of schools if not already closed.

3.18.26 If there is sufficient time between the start of response operations and the evacuation of communities, the NSW SES Mid North Coast Region Incident Controller will discuss the temporary closure of appropriate schools with the Regional Director, North Coast Region, Department of Education and Communities. This will enable pupils to stay at home or be returned home so they can be evacuated (if required) with their families.

3.18.27 Note that in the Greater Taree City Council LGA, school principals may close some schools affected by flooding in the early stages of flooding.

3.18.28 **Caravan parks**. When an evacuation order is given occupiers of moveable dwellings should:

a. Isolate power to moveable dwellings.

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

c. Lift the other contents in any remaining dwellings as high as possible.

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

e. If undertaking self-managed evacuation, register their movements with the caravan park management upon leaving the park.

3.18.29 Where possible, dwellings that can be moved will be relocated by their owners. Park managers will arrange for the relocation of moveable dwellings as required. Council and NSW SES personnel may assist if required.

3.18.30 Caravan park managers will ensure that their caravan park is capable of being evacuated in a timely and safe manner [Or Insert time frame].

3.18.31 Advise the NSW SES Greater Taree City Local Controller of:

a. The number of people requiring transport.

b. Details of any medical evacuations required.

c. Whether additional assistance is required to effect the evacuation.

3.18.32 Check that all residents and visitors are accounted for.

3.18.33 Inform the NSW SES Greater Taree City Local Controller when the evacuation of the caravan park has been completed.

3.18.34 Provide the NSW SES Greater Taree City Local Controller with a register of people that have been evacuated.

3.18.35 **Assistance Animals, Pets and Companion Animals of Evacuees:** Assistance animals (guide dogs, hearing assistance animals, etc.) will remain in the care of their owners throughout the evacuation. This includes transport and access into evacuation centres etc. Due to safety restrictions, it may not be possible to allow companion animals to accompany their owners when being transported via aircraft or flood rescue boats. Agricultural and Animal Services will make separate arrangements for the evacuation and care of companion animals.

3.18.36 **Transport and storage:** Transport and storage of furniture from flood and/or coastal erosion threatened properties will be arranged as time and resources permit.

3.18.37 **Security:** The NSW Police Force will coordinate the provision of overall security for evacuated areas.

3.18.38 The NSW SES Local Incident Controller is to provide the following reports to the NSW SES Mid North Coast SES Region Headquarters:

a. Advice of commencement of the evacuation of each Sector;

b. Progress reports (by Sectors) during evacuations; and

c. Advice of completion of the evacuation of each Sector.

3.18.39 **Assembly areas:** An assembly area is a designated location used for the assembly of emergency-affected persons before they move to temporary accommodation or a nominated evacuation centre. As such these areas do not provide welfare assistance nor are they used for long term sheltering or provision of meals. An assembly area may also be a prearranged, strategically placed area, where support response personnel, vehicles and other equipment can be held in readiness for use during an emergency.

Shelter

3.18.40 **Evacuation centre**s**:** Evacuees will be advised to go to friends or relatives, or else be taken to the nearest accessible evacuation centre, which may initially be established at the direction of the NSW SES Greater Taree City Local Incident Controller, but managed as soon as possible by Welfare Services.

3.18.41 The following locations are suitable for use as flood evacuation/assembly centres:

a. Taree:
   - Taree Police Boys Club, Commerce St.
   - Taree High School, Albert St.

b. Harrington:
   - Harrington Public School, High St, Harrington.
   - Harrington Public Hall, Cnr of Pilot St and Beach St, Harrington.

c. Coopernook:
   - Coopernook Public School, Macquarie St, Coopernook.

d. Lansdowne:
   - Lansdowne Bowling Club.
   - Lansdowne Public School, Kundle Rd and Macquarie St.

e. Manning Point:
   - The Manning Point Bowling Club.

f. Mitchell's Island:
   - Mitchell’s Island Public Hall, Manning Point Rd, Mitchell’s Island.

g. Wingham:
   - Wingham Services Club.

h. Oxley Island:
   - The Oxley Island Public School, The Horsley Drive, Oxley Island.

3.18.42 **Registration:** The NSW Police Force will facilitate the requirement of Disaster Victim Registration for people evacuated to designated evacuation centres.

3.18.43 **Animal shelter compounds:** Animal shelter compounds will be set up for the domestic pets and companion animals of evacuees if required. Facilities will be managed by Agriculture and Animal Services.

Return

3.18.44 The NSW SES Local Incident Controller will advise when return to evacuated areas is safe after flood waters have receded and reliable access is available.

3.18.45 The NSW SES Local Incident Controller will determine when it is safe for evacuees to return to their homes in consultation with:

a. NSW SES Region Incident Controller,

b. the Recovery Coordinating Committee (if established),

c. Welfare Services Functional Area Coordinator (welfare of evacuees),

d. Engineering Services Functional Area Co-coordinator (safety of buildings, structural integrity of levees/dams),

e. Health Service Functional Area Coordinator (public health),

f. Transport Services Functional Areas Coordinator (arrangement of transport),

g. the Greater Taree City Council LEOCON,

h. the Greater Taree City Council,

i. Other appropriate agencies/functional areas as required (mitigation and advice regarding identified risks resulting from the flood and/or coastal erosion event).

3.18.46 Once it is considered safe to do so, the NSW SES Incident Controller will authorise the return of evacuees, usually by issuing an All Clear.

3.18.47 The return will be controlled by the NSW SES Local Incident Controller and may be conducted, at their request, by the Recovery Coordinator.

3.19 MANAGING RESUPPLY OPERATIONS

3.19.1 The NSW SES is responsible for the coordination of the resupply of isolated communities and properties.

3.19.2 If isolation is expected to occur, residents should be encouraged to consider their needs and suitability for an unknown period of isolation.

3.19.3 If properties/communities are going to remain in locations expected to become isolated, households/retailers should be encouraged to stock up on essential supplies.

3.19.4 Where practicable, once supplies are delivered to the NSW SES designated loading point, the NSW SES Local Incident Controller will arrange for the delivery of essential foodstuffs, fuels or urgent medical supplies required by an isolated property or community.

3.19.5 All reasonable effects will be made to deliver supplies, however where necessary the NSW SES will prioritise the delivery of items.

Resupply of Isolated Towns and Villages

Strategy

3.19.6 Minimise disruption upon the community by resupplying towns and villages which have become isolated as a consequence of flooding.

Actions

3.19.7 The NSW SES is responsible for the coordination of the resupply of isolated communities.

3.19.8 If flood predictions indicate that areas are likely to become isolated, the NSW SES Local Incident Controller should advise retailers that they should stock up.

3.19.9 When isolation occurs, retailers will be expected to place orders with suppliers where they have a line of credit and to instruct those suppliers to package their goods and deliver them to loading points designated by the NSW SES.

3.19.10 The NSW SES is prepared to deliver mail to isolated communities but may not be able to do so according to normal Australia Post timetables.

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

Resupply of Isolated Properties

Strategy

3.19.12 Ensure supplies are maintained to properties by coordinating the resupply of properties which have become isolated as a consequence of flooding.

Actions

3.19.13 The resupply of isolated properties is a common requirement during floods and coordination can be difficult because requests can emanate from a variety of sources. Isolated properties may call their suppliers direct, place their orders through their own social networks or contact the NSW SES.

3.19.14 The principles to be applied when planning for the resupply of isolated properties are:

a. The NSW SES will coordinate resupply and establish a schedule.

b. Some isolated households will not have the ability to purchase essential grocery items due to financial hardship. If an isolated household seeks resupply from the NSW SES and claims to be, or is considered to be, in dire circumstances, he/she is to be referred to Welfare Services for assessment of eligibility. Where financial eligibility criteria are met, Welfare Services will assist with the purchase of essential grocery items.

Welfare Services will deliver the essential grocery items to the NSW SES designated loading point for transport.

c. Local suppliers will liaise with the NSW SES regarding delivery of resupply items to the designated loading point.

d. Local suppliers are responsible for packaging resupply items for delivery.

3.19.15 A flowchart illustrating the Resupply process is shown in Attachment 1. Please note that the flowchart outlines the resupply process but does not encompass all potential situations and/or outcomes.

PART 4 - RECOVERY

4.1 RECOVERY COORDINATION AT THE LOCAL LEVEL

4.1.1 The NSW SES Greater Taree City Local Controller will ensure that planning for long-term recovery operations begins at the earliest opportunity, initially through briefing the Local Emergency Management Committee (LEMC). As soon as possible the LEMC will meet to discuss recovery implications including the need for a Local Recovery Committee. The LEMC will consider any impact assessment in determining the need for recovery arrangements. This is conveyed in the first instance to the State Emergency Operations Controller (SEOCON) for confirmation with the State Emergency Recovery Controller (SERCON).

4.1.2 Once the need for recovery has been identified, the SERCON, in consultation with the SEOCON, may recommend the appointment of a Local Recovery Coordinator and nominate an appropriate candidate to the Minister for Police and Emergency Services.

4.1.3 The SERCON may send a representative to the LEMC and subsequent recovery meetings to provide expert recovery advice and guidance.

4.1.4 The NSW SES Greater Taree City Local Controller and Local Emergency Operations Controller (LEOCON) attend recovery meetings to provide an overview of the emergency response operation.

4.1.5 The NSW SES Region Incident Controller, the Region Emergency Management Officer and appropriate

4.1.6 region Functional Area Coordinators will be invited to the initial local meeting and to subsequent meetings as required.

4.1.7 The recovery committee will:

a. develop and maintain a Recovery Action Plan with an agreed exit strategy

b. monitor and coordinate the activities of agencies with responsibility for the delivery of services during recovery

c. ensure that relevant stakeholders, especially the communities affected, are involved in the development and implementation of recovery objectives and strategies and are informed of progress made

d. provide the SERCON with an end of recovery report

e. ensure the recovery is in line with the National Principles of Disaster Recovery and the NSW tenets

4.2 RECOVERY COORDINATION AT THE REGION AND STATE LEVEL

4.2.1 In the event that an emergency affects several local areas, a Region Emergency Management Committee (REMC) will meet to discuss recovery implications including the need for a Region Recovery Committee. This is conveyed in the first instance to the SEOCON for confirmation with the SERCON.

4.2.2 In the event of an emergency which affects multiple regions, or is of state or national consequence, or where complex, long term recovery and reconstruction is required, it may be necessary to establish a State Recovery Committee and the appointment of a State Recovery Coordinator.

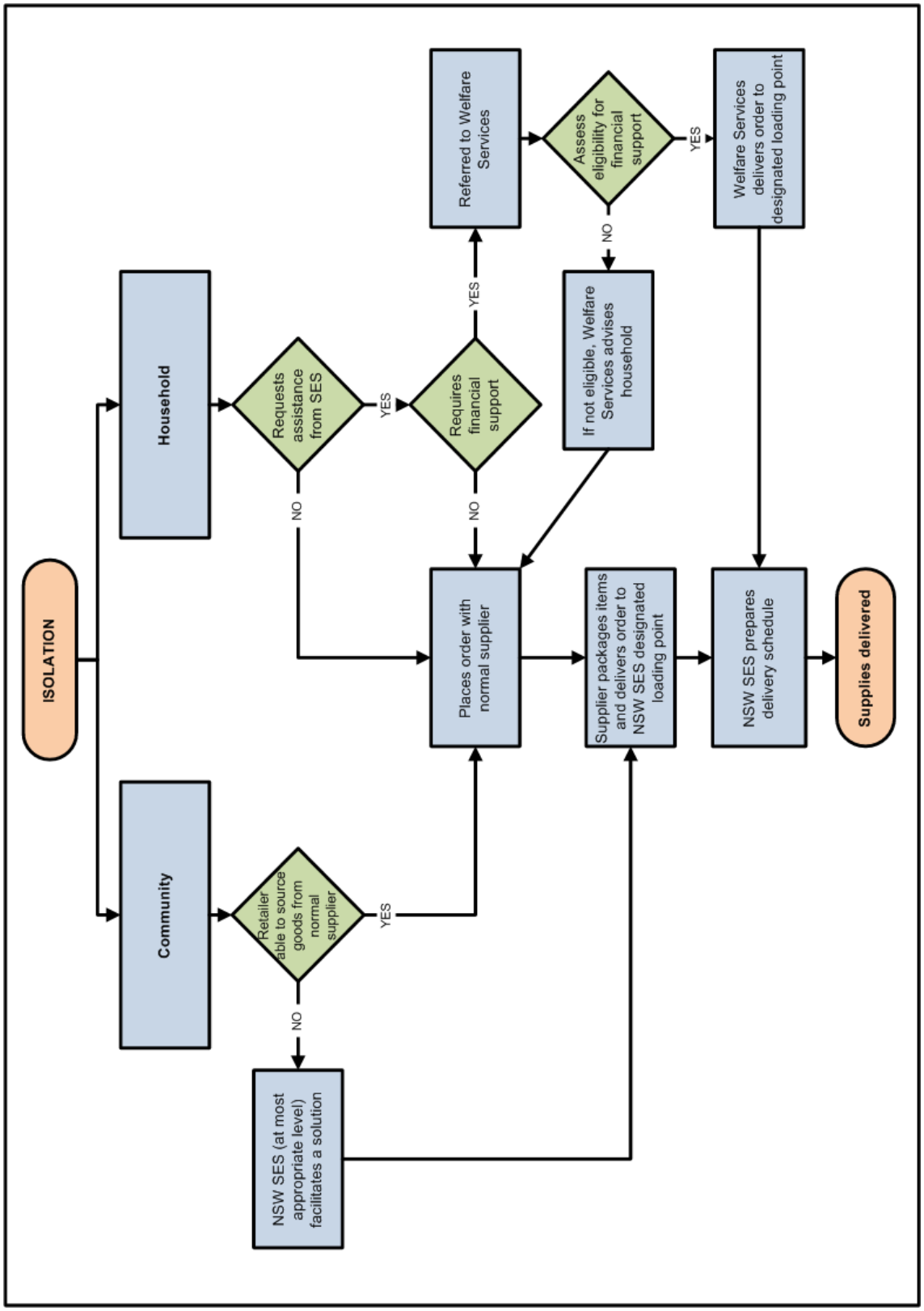
4.3 ARRANGEMENTS FOR DEBRIEFS / AFTER ACTION REVIEWS

4.3.1 As soon as possible after flooding has abated, the NSW SES Greater Taree City Local Controller will advise participating organisations of details of response operation after action review arrangements.

4.3.2 The NSW SES Greater Taree City Local Controller will ensure that adequate arrangements are in place to record details of the after action review and each item requiring further action is delegated to an organisation or individual to implement.

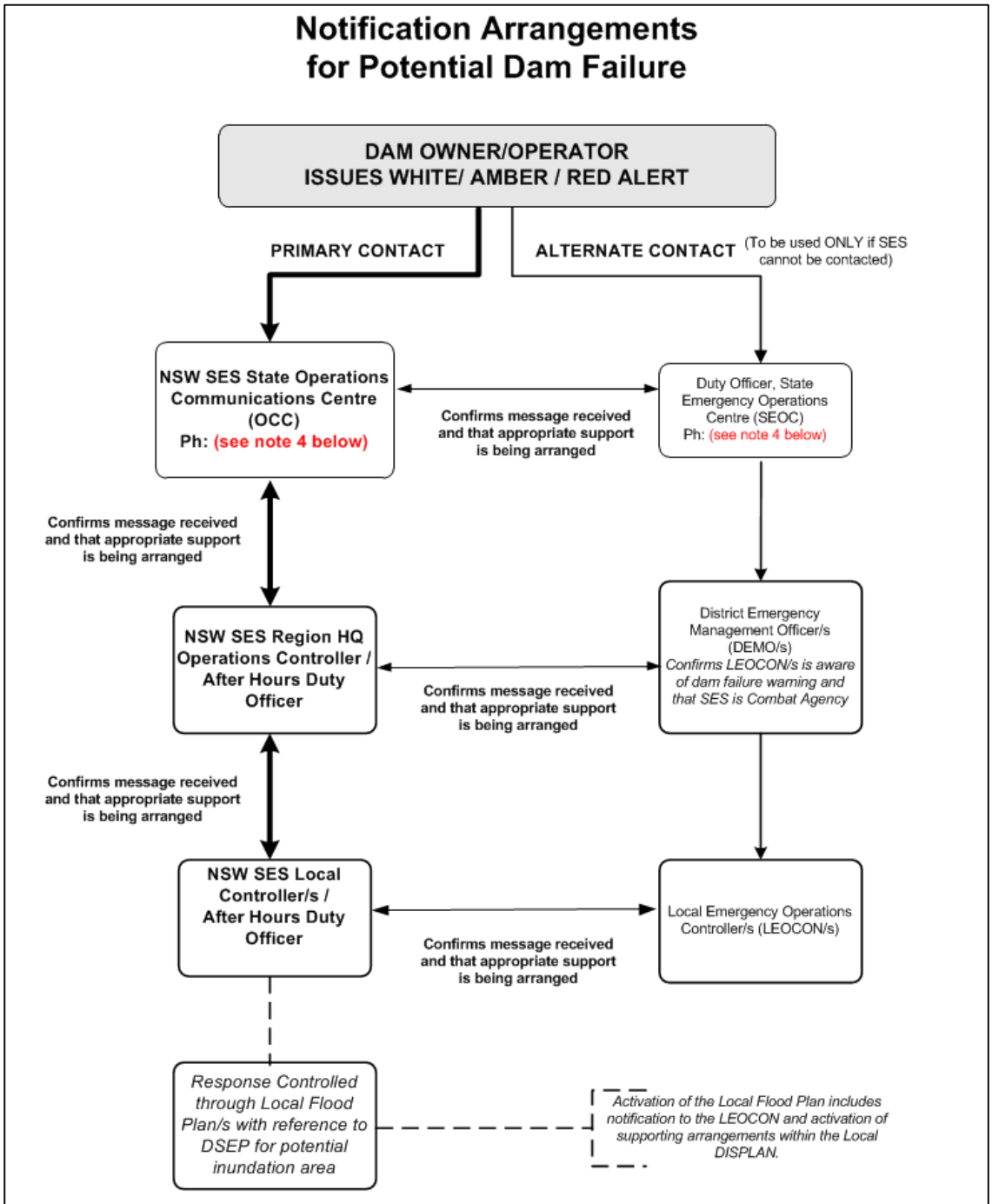
4.3.3 Follow-up to ensure the satisfactory completion of these actions will be undertaken by the Greater Taree City Council Local Emergency Management Committee.

ATTACHMENT 1 - RESUPPLY FLOWCHART



Please Note: **The chart outlines the resupply process, but does not encompass all potential situations and outcomes.**

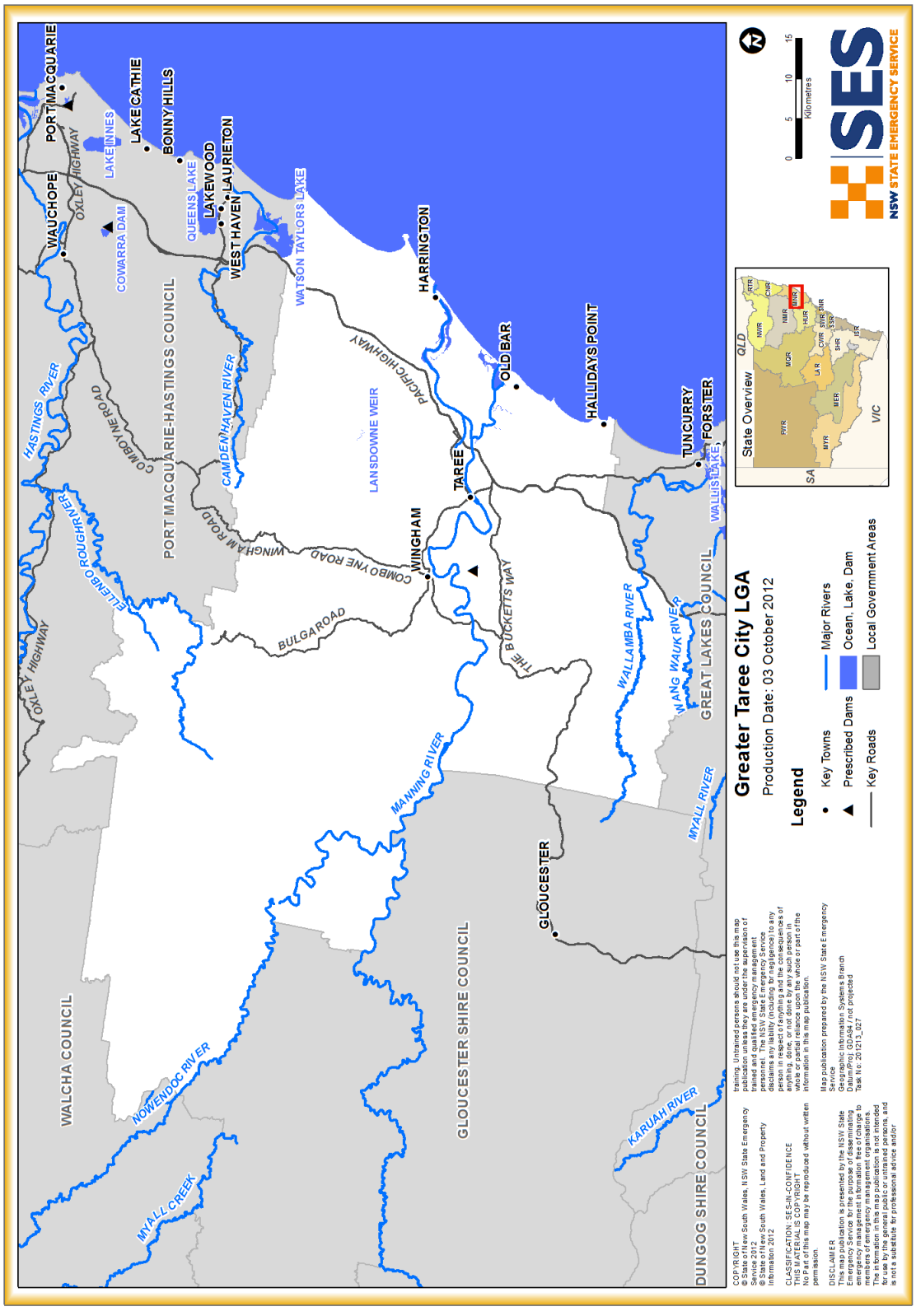
ATTACHMENT 2 - DAM FAILURE ALERT NOTIFICATION ARRANGEMENTS FLOWCHART



NOTES:

1. Dam owners should only contact the SEOC if the NSW SES State Operations Communications Centre (OCC) cannot be contacted.
2. The first priority for notification is to contact the next NSW SES HQ or the next level of EOC down the flowchart. The second notification should always be across the flow chart to confirm the message is received. If the first priority notification fails or is not picked up for any reason, the second priority notification should be made before any further attempts to contact the first priority (this is why an alternate or backup system of contacts is in place).
3. The triple zero (000) number for emergency services should not be used unless contact cannot be made with NSW SES or the SEOC, as it is likely the triple zero (000) operators will have difficulty dealing with the very unusual case of potential or actual dam failure.
4. Dam owners must contact the NSW SES State Headquarters during the preparation of the DSEP to obtain the appropriate emergency contact numbers.

ATTACHMENT 3 - GREATER TAREE CITY LGA MAP



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HAZARD AND RISK IN GREATER TAREE CITY

Volume 2 of the Greater Taree City Local Flood Plan

Last Update: December 2014

AUTHORISATION

The Hazard and Risk in Greater Taree City 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

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Date: 21/10/14

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Date: 11/12/14

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VERSION LIST

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

Description	Date
Greater Taree City Local Flood Plan endorsed	August 2007
Greater Taree City Local Flood Plan endorsed	August 2007

AMENDMENT LIST

Suggestions for amendments to this Volume should be forwarded to:

The Local Controller

NSW State Emergency Service

P.O. Box 1011, TAREE NSW 2430

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

Amendment Number	Description	Updated by	Date

1 THE FLOOD AND COASTAL EROSION THREAT

1.1 LANDFORMS AND RIVER SYSTEMS

1.1.1 The Greater Taree City Council area comprises of the Manning River catchment and small sections of the Camden Haven River and Hastings River catchments MAP 1 - Manning River basin. Information on flooding in the Manning River catchment is discussed below. For information on the Hastings and Camden Haven river catchments refer to the Port Macquarie Hastings Flood Emergency Sub Plan.

1.1.2 The Manning River, situated approximately 290 kilometres north of Sydney, drains an area of approximately 8200 square kilometres (1). From its entrances at Harrington and Old Bar, the river extends inland for a distance of about 175 kilometres to the Great Dividing Range (1). The elevation of the valley varies from almost mean sea level along the coastal areas downstream of Taree to more than 1500 metres in the Barrington Tops area. The principal tributaries of the Manning are the Avon, Rowleys, Little Manning (1), Barrington, Gloucester, Barnard, Nowendoc, Number Two and Lansdowne Rivers and Dingo Creek (2).

1.1.3 The valley consists of four main topographic zones; plateau areas, deeply dissected uplands, alluvial valleys and coastal riverine plains. The Manning River Basin is bounded on the north east by the Hastings River, on the north west by the Peel River, on the South and South West by the Hunter River and on the south east by the Karuah River. In general, major streams in the valley commence in the plateau or dissected uplands and flow easterly or south-easterly through alluvial valleys, and in the lower section of the valley, the Manning River traverses the coastal riverine or flood plain zone (2).

1.1.4 The Manning River rises in the Mount Royal Range about 15 kilometres north from Barrington Tops and soon enters the dissected upland areas, passing through mountainous and heavily forested country, traversing waterfalls and rapids in its steep descent to the alluvial valleys (2).

1.1.5 The western section of the valley is drained by the Barnard River, which also rises in the mountainous country at elevation from 1000-1200 metres. The main tributary of the Barnard is the Myall River, which rises 25 kilometres North West of the Nowendoc River at an altitude of 1500 metres, and travels through steep terrain in a south-easterly direction to join the Barnard River (2).

1.1.6 The central section of the valley is drained by the Nowendoc, and its tributaries the Cooplacurripa, Mummel and Number One Rivers, all of which rise in the mountainous and heavily forested country at altitudes ranging between 1300-1500 metres. The Barrington and Gloucester Rivers drain the south western sector of the valley. Both these streams rise and travel through steep and hilly country, with the general elevation of the land being about 1000 metres (2).

1.1.7 The lower north eastern sections of the valley are drained by the Dingo and Cedar Party Creeks and the Lansdowne River, the latter of which enters the flat coastal flood plain area of the Manning at Coopernook (2).

1.1.8 Below Taree, the lower Manning River flows through a wide floodplain before entering the Pacific Ocean at Harrington and Farquhar Inlet. The topography in these areas has the general characteristics of natural levee banks falling to low lying, poorly drained swampy areas (2).

1.1.9 The main river channel splits downstream of Taree as it passes around Dumaresq Island into channels known as the North and South Passages. These channels re-join downstream of the island and flow on to Harrington. Subsidiary channels, known as the South Channel and Scotts Creek, leave the southern banks of the South Passage, joining and flowing to the Pacific Ocean north of Old Bar at Farquhar Inlet, which alternates between being open and closed to the ocean (1). The North Passage is joined by the Dawson and Lansdowne Rivers and flows into the Pacific Ocean at Harrington (1).

1.1.10 The main river channels of the lower Manning, together with the local connecting creeks such as Scott's, Cattai, Ghinni Ghinni, Tappin and Saltwater Creeks, form a delta system and consequently a series of islands – Dumaresq, Mamboo, Jones, Oxley, Charleys, Cabbage Tree and Mitchell's Islands (1).

1.1.11 The Manning River is subject to a tidal influence up Abbotts Falls, approximately three kilometres upstream of Wingham (1).

1.2 STORAGE DAMS

Bootawa Dam

1.2.1 The only major dam structure is the Bootawa Dam which is an off-stream storage facility owned and operated by Mid Coast Water. It is located South-South-East of the township of Wingham MAP 1 - Manning River basin.

1.2.2 The dam has a capacity of 2,200 mega litres and storage area of 26.3 hectares and 16 metres deep. Bootawa Dam does not have any mitigating effect on flooding as it is purely an off stream storage facility reliant solely on pumping from the river which does not occur during times of flood (3).

1.2.3 Further information can be obtained from the Dam Safety Emergency Plan for Bootawa dam (DSEP) (3).

Table 1: Prescribed Dams in Greater Taree City LGA; summary of information about each storage (4).

Bootawa Dam	
Owner / Operator	MidCoast Water
Description of Dam	Storage capacity of 2280 ML, with a side channel spillway crest level of RL 53.74 m AHD.
Location	Off-creek storage dam, 8km west of Taree on an un-named

	minor tributary of the Manning River.
Communities Downstream	Nine properties (on Storage Dam Road and Bootawa Dam Road, Bootawa) are at risk of dambreak inundation identified in the dam safety emergency plan.
Monitoring System	Daily monitoring occurs for seepage and a series of hydraulic piezometers monitor downstream and upstream conditions monthly. Under flood conditions the gauge is read hourly.
Warning System	NSW SES is responsible for warning and issuing evacuation orders to downstream residents upon receipt of notification of Flood warning and Emergency response (also known as Amber and Red) alerts respectively. A Protection Response is issued at 53.94m AHD (similar to a "white alert"). The Flood Warning response is identified as 54.14m AHD. The Emergency Response is identified as 54.54m AHD.
Other	The Storage level at the main embankment (i.e. imminent failure flood level) is 54.96m AHD, with a maximum flood level of RL 56.7m AHD.

1.3 WEATHER SYSTEMS AND FLOODING

1.3.1 Heavy rain which produces floods in the Greater Taree City council area may come from the following types of weather systems (2):

a. **East Coast Low-Pressure Systems**. E.g. such as the June 2011 flood event. East Coast low-pressure systems that travel along the coast, usually in a southerly direction and during the cooler months, direct moist on-shore winds over the Manning River catchment. Orographic uplift of these air masses once they hit the Great Dividing Range often produces heavy rainfall. Along the coast, oceanic storm surges and large waves may also result from East Coast low-pressure systems and their associated gales and storm-force winds. Such conditions may lead to incursions of seawater onto land, which is usually not flooded, and to the retarding of flood flows from eastward –flowing streams and coastal lakes. Erosion of sand dunes may also occur endangering properties and exposing landward areas to seawater inundation. These effects are most apparent if storm surge conditions occur during periods of spring or extreme tides.

b. **Ex-Tropical Cyclones**. Rain depressions originating as tropical cyclones in the Gulf of Carpentaria or Coral Sea move southwards sometimes causing flooding in the Manning River catchment. Usually such flooding

occurs in the months from January to April. In coastal areas high seas, large waves and storm surge conditions may occur in addition to extremely heavy rain and may be associated with the erosion of sand dunes in addition to flooding.

c. **Monsoonal Low-Pressure Systems**. Monsoonal low-pressure systems move across the Great Dividing Range from northern Australia, usually during the late summer months and autumn months. These systems are indicated on weather maps as elongated low-pressure troughs stretching from the Northern Territory to the north coast of NSW.

d. **Frontal Systems**. Sequences of fronts cross the valley from west to east, usually in the winter months. The individual fronts are not usually associated with very heavy rainfalls but the cumulative effect of a series of them over a period of some weeks may produce flooding. This flood-producing mechanism is uncommon.

e. **Thunderstorms**. High-intensity, short duration, convective thunderstorms occur frequently over the Greater Taree City Council area, especially during the summer months. The rain from such storms may cause town drainage systems or minor creeks to surcharge, creating local flooding in low-lying areas. No rise in the Manning River is likely from such events.

1.3.2 The average annual rainfall over the Manning Valley is 1179mm. The highest annual rainfall is experienced in the north-eastern sector of the valley near Comboyne where the average annual rainfall is 1630mm. The driest area of the valley is along the middle and upper sections of the Manning where rainfall is less than 1000mm per year. The wettest period in the year occurs from December to April. Along the coast the wet period may extend until June. August, September and October are the driest months. Very heavy rainfalls may be experienced when depressions are located off the north coast of New South Wales or when tropical low pressure systems move over the catchment from the north western area of the State in summer. During such periods, rainfalls of 250mm in 24 hours are not uncommon (5).

1.4 CHARACTERISTICS OF FLOODING

1.4.1 The Manning River can rise quickly. During the 1978 flood rates of rise as high as 1.5 metres per hour occurred at Wingham and upstream with rises of about 0.4 metres per hour occurring at Taree (6). The rate of rise during the 2011 flood was slower, with up to 0.5 metres per hour at Killawarra and Belbowrie Bridge and up to 0.3 metres per hour in Taree West (1).

1.4.2 The floodplains to the north of the Pacific Highway have the potential to store a significant volume of floodwater. There are large areas of low-lying land to the west of the town of Coopernook and on the Moto floodplain. Rising flood levels in the Manning River result in flood waters filling these low areas through the back-up of Ghinni Ghinni Creek and the Lansdowne River. In extreme flood events the Pacific Highway may be overtopped and significant

volumes of flood water may flow from the Manning River across the highway and onto the eastern and southern floodplains at 2.87m on the Croki gauge (2). In particular, the highway between the Harrington Road turn off south to the Coopernook River Bridge (observed in June 2011) (1).

1.4.3 Flood behaviour varies across the floodplain. Flooding of the upper floodplains above Croki is influenced primarily by rainfall, whilst the lower floodplains below Croki are influenced by rainfall, river entrance conditions and oceanic affects including tides and storm surge. Oceanic influences and the effects of entrance conditions are greatest at Harrington, Manning Point and Old Bar. The following table lists the estimated ocean levels for various probabilities (7).

Table 2: Estimated ocean levels for various probabilities

AEP	ARI	Height (m AHD)
1%	1 in 100 years	2.26
2%	1 in 50 years	2.18
5%	1 in 20 years	1.90

1.4.4 High flood velocities can be experienced in the upper catchment as far downstream as Taree. In particular high velocity flooding can be experienced on the Wingham Peninsula and Taree Estate. Velocities reduce below Taree due to the backwater nature of flooding. The only exception being in the immediate vicinity of the river channel where it can cause damage to riverbanks and structures located upon the floodplain (7).

1.4.5 The duration of flooding varies across the catchment. In the upper reaches the high velocities and rapid rises of floods are usually associated with rapid falls. On the coastal floodplain downstream of Taree, inundation and water logging can persist for weeks or even months after a flood due to the poor natural drainage system.

1.4.6 A flood peak at Mount George can occur within 12 to 24 hours of a concentrated burst of upstream rainfall and then take from seven to nine hours to reach Taree. Some indicative travel times which are only estimates and may vary considerably, particularly during extreme events are as follows in table 2 (1).

Table 3: Indicative flow travel time for the Manning and Lansdowne Rivers (1). ~ indicates an approximation.

From	To	Time (hrs)
Gloucester	Bundook	10 hours
Bundook	Taree	10 to 15 hours
Bundook	Wingham	7 to 12 hours
Mt George	Wingham	4 to 6 hours
Mt George	Killawarra	~2.25 hours (1)
Killawarra	Wingham	~2.5 hours (1)
Wingham	Taree West	~2.5 hours
Wingham	Taree	3 – 4.5 hours (1)

From	To	Time (hrs)
Taree	Cundletown	1 to 3.5 hours (1)
Taree	Harrington	8.5 hours (1)
Cundletown	Croki	1 to 4.5 hours (1)
Croki	Harrington	3 to 8.5 hours (1)
Lansdowne	Croki	~30 hours (1)

1.5 FLOOD HISTORY

1.5.1 The Manning River has a long recorded history of flooding. Significant floods occur irregularly and have occurred in 1866, 1875, 1895, 1929, 1930, 1968, 1976, 1978, 1990, 1995, 2010 and 2011 (1). The largest floods on record occurred in 1866, 1929 and 1978. The respective peak flood levels were 5.15, 5.6 and 5.45m AHD at Macquarie St, Taree; and 15.5, 14.9 and 14.9m AHD at Wingham Bridge (1) (Table 4; Figure 2).

Table 4: Flood History and peak heights (metres) at Mt George, Wingham, Taree and Croki 1866 to 2011

Date	Mt George	Wingham	Taree	Croki
6/1866		15.5	5.15	
18/02/1921	8.56			
3/02/1929		14.9	5.6	
1/06/1930			5.1	
2/01/1950	10.06			
7/08/1952	6.63			
21/02/1954	8.71			
19/02/1956	10.82			
29/02/1956	10.59			
1/03/1956			4.56	
18/02/1957	6.35			
6/04/1962	7.98			
18/03/1963	9.45			
28/03/1963	7.34			
27/04/1963	8.13			
7/05/1963	9.14			
21/10/1967	9.4			
22/10/1967		10.55	3.19	
12/01/1968	11.05			
13/01/1968		12.99	4.33	
21/06/1969	5.72			
20/01/1971	7.52			
31/03/1972	6.68			
28/10/1972	7.39			
9/01/1974			3.28	
12/01/1974	7.16			

Date	Mt George	Wingham	Taree	Croki
4/06/1974	8.51			
2/03/1976		12.28		
25/03/1976	7.64			
3/03/1977	8.66			
18/03/1977	9.74			
20/03/1978	13.11	14.9	5.45	2.81
4/02/1990		12.73	4.28	
5/03/1995	9.9	10.3	3.33	
25/11/1996		5.01		
15/07/1999		8.34		
24/04/2008				1.85
25/04/2008	6.92			
1/06/2011	1.5			
15/06/2011	12.24	12.18		
16/06/2011			4.5	2.14
1/01/2012			2.6	
2/02/2012	4.64	9.5		
3/02/2012				1.48

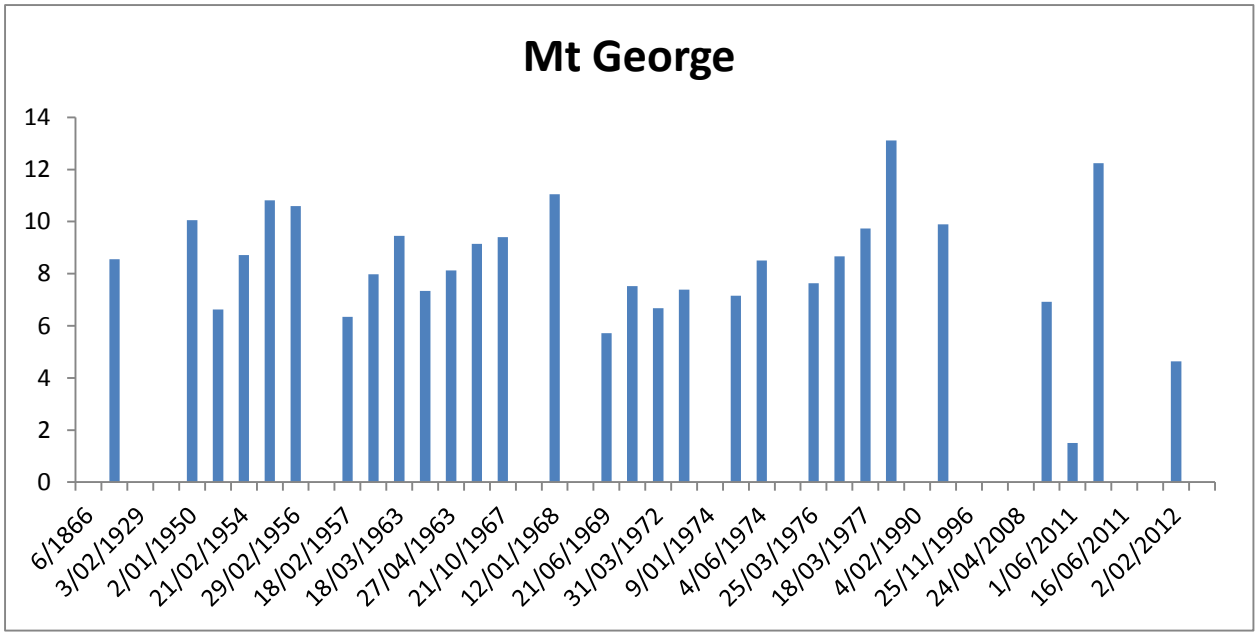


Figure 1: Flood peak heights and history for the Manning River Mt George Gauge from 1866 to 2013

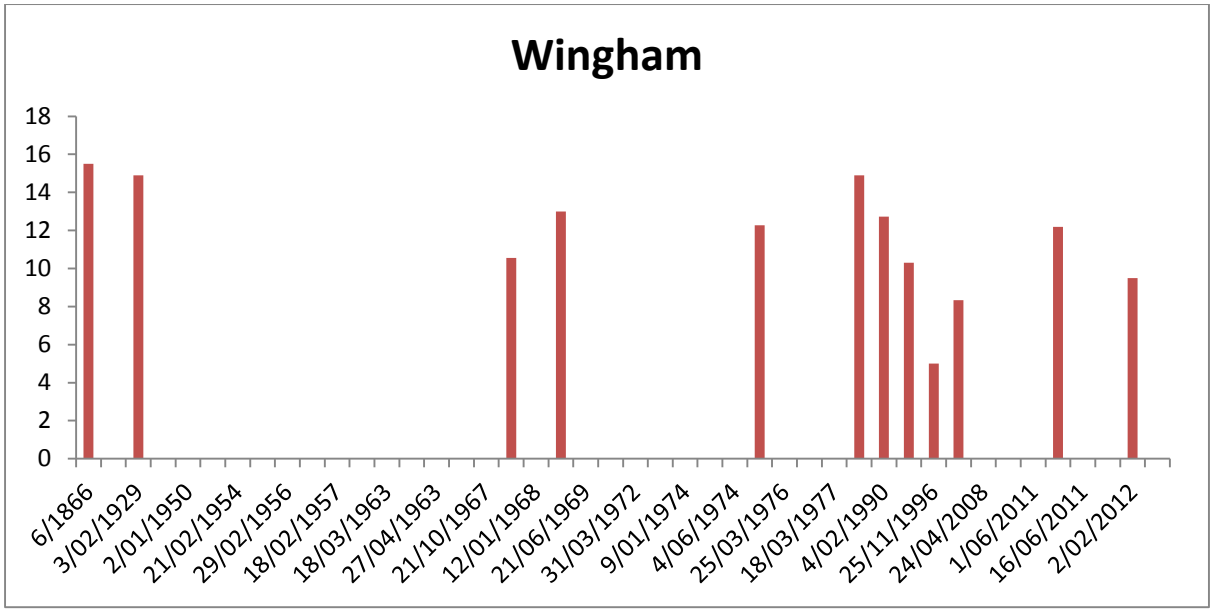


Figure 2: Flood peak heights and history for the Manning River Wingham Gauge from 1866 to 2013

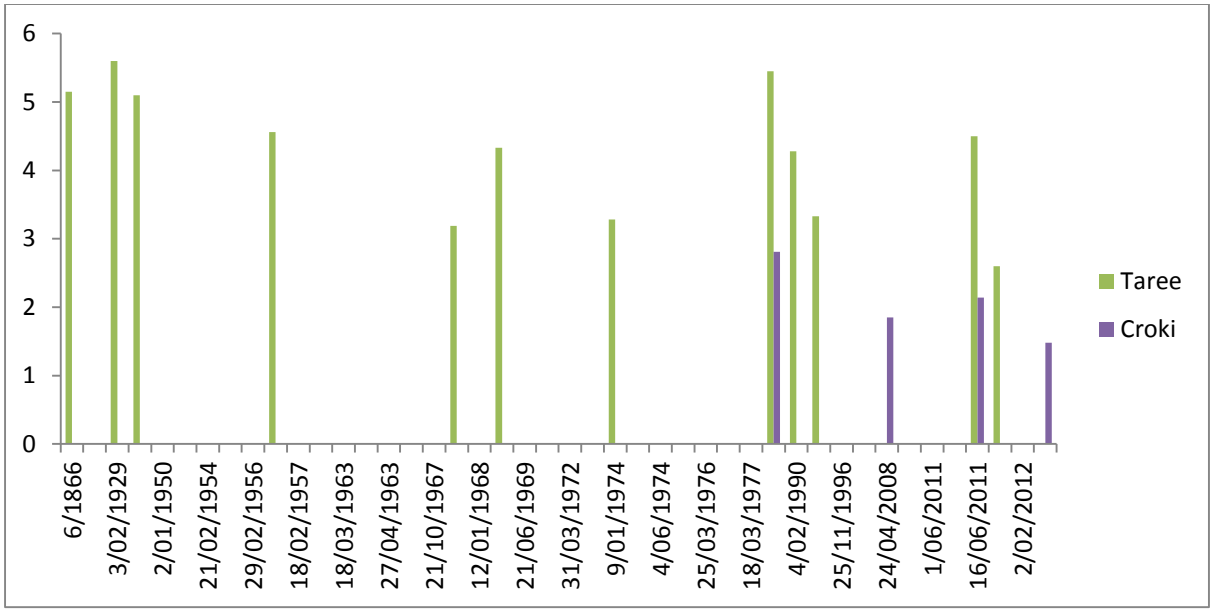


Figure 3: Flood peak heights and history for the Manning River Taree and Croki gauges from 1866 to 2013

1.5.2 The 2011 flood is estimated to be in the order of a 5% AEP flood magnitude, with four days of over 400mm of rain in the Upper Manning catchment. It still resulted in the closure of a number of roads, damage to power and sewerage infrastructure and isolation of approximately 700 properties and an estimated 26545 persons in the Taree LGA (Table 5) (1).

Table 5: Number of dwellings and population isolated in each community in the June 2011 flood event (1)

Location	Population	Dwellings
Cattai	400	22
Croki	60	20
Cundletown	700	24

Location	Population	Dwellings
Dumaresq Island	200	10
Harrington	1410	87
Lansdowne-Coopernook	600	70
Manning Point	250	56
Oxley	400	57
Pampoolah	400	84
Taree	16660	166
Taree Estate	100	21
Tinonee	700	5
Wingham	4665	81

1.6 FLOOD MITIGATION SYSTEMS

1.6.1 An embankment is located at the top of Fothering Park on Victoria St, Taree (MAP 3 -). It has a crest height of 4.94 m AHD, and protects the central business district from inundation up to a flood height of 4.63 metres on the Taree Traffic Bridge gauge. When the embankment overtops, flooding of the CBD will occur in Pulteney and Victoria streets. Low lying businesses in Victoria Street, Albert Lane, Albert Street and the southern end of Commerce Street, and the Chapman Street Carpark may be inundated around 4.6m on the Taree Traffic Bridge gauge (1). This CBD area is also impacted by backflow from the local drainage systems.

1.7 EXTREME FLOODING

1.7.1 On very rare occasions, flooding of extreme proportions can occur. Extreme floods can reach far greater heights than any previously recorded, flooding areas without any previous flood history. In addition, such floods are generally both faster to rise and more dangerous in terms of depth and velocity than previous floods. The PMF rate of rise would be in the order of 2.1m/s at Wingham (8).

1.7.2 Design flood heights up to the PMF are summarised in Table 6.

Table 6: Design flood heights for various probabilities (1)

Location	PMF	1% AEP	2% AEP	5% AEP
Wingham	22.18	15.58	14.48	12.70
Taree Traffic bridge	9.7	5.68	5.36	4.63
Croki (m AHD)	5.9	3.07	2.87	2.46
Harrington (m AHD)	2.9	2.26	2.10	1.89
Lansdowne	12.1	11.3	11.0	10.5

1.8 COASTAL EROSION

1.8.1 The following locations have property at risk of coastal erosion and are shown on MAP 12 - :

a. Old Bar Beach (8)

2 EFFECTS ON THE COMMUNITY

2.1 COMMUNITY PROFILE

Table 7: Census of Housing and Population data (2011). Data presented within this Volume of the Local Flood Plan is current as at the time of the 2011 census (8)

Census Description	Greater Taree (C)	Taree	Wingham	Old Bar	Harrington
Total Persons	46,541	17,679	5,952	4,275	2,922
Aged 0-4 yrs	2,653	1,111	348	285	129
Aged 5-14 yrs	6,025	2,247	834	527	277
Aged 65 + yrs	10,464	4,230	1,283	1,013	946
Of Indigenous Origin	2,501	1,430	242	139	79
Who do not speak English well	78	43	7	0	7
Have a need for assistance (profound/severe disability)	3,572	1,677	424	304	266
Living alone (Total)	5,011	2,280	615	455	378
Living alone (Aged 65+)	2,450	1,153	297	228	237
Residing in caravans, cabins or houseboats or improvised dwellings	328	31	9	12	100
Occupied Private Dwellings (Households)	18,161	7,028	2,297	1,711	1,268
No Motor Vehicle	1,419	890	190	94	76
Caravan, cabin, houseboat or improvised dwelling	199	23	7	3	66
Rented via State or Housing Authority	597	523	67	0	0
Rented via Housing Co-Op or Community Church Group	187	103	16	11	3
No Internet Connection	5,352	2,450	755	433	407
Unoccupied Private Dwellings	2,789	697	184	274	401
Average persons per occup dwelling	2.4	2.3	2.4	2.3	1.7
Average vehicles per occup dwelling	1.6	1.5	1.7	1.6	1.5

Census Description	Diamond Beach	Lansdowne	Tinonee	Wallabi Point	Hallidays Point
Total Persons	1,681	1,248	1,054	753	684
Aged 0-4 yrs	98	71	55	60	31
Aged 5-14 yrs	229	187	171	94	84
Aged 65 + yrs	284	219	162	93	224
Of Indigenous Origin	36	69	31	24	3
Who do not speak English well	0	0	0	3	0
Have a need for assistance (profound/severe disability)	76	92	67	35	32
Living alone (Total)	120	87	87	49	47
Living alone (Aged 65+)	56	43	32	17	33
Residing in caravans, cabins or houseboats or improvised dwellings	83	0	0	0	0
Occupied Private Dwellings (Households)	632	438	391	278	261
No Motor Vehicle	11	10	9	6	9
Caravan, cabin, houseboat or improvised dwelling	47	0	0	0	0
Rented via State or Housing Authority	0	0	0	0	0
Rented via Housing Co-Op or Community Church Group	3	0	0	0	3
No Internet Connection	97	115	77	40	45
Unoccupied Private Dwellings	226	26	41	34	129
Average persons per occup dwelling	2.5	2.7	2.6	2.6	2.4
Average vehicles per occup dwelling	1.7	2.0	1.8	2.0	1.7

Census Description	Coopernook	Manning Point
Total Persons	521	206
Aged 0-4 yrs	31	11
Aged 5-14 yrs	67	17
Aged 65 + yrs	108	89
Of Indigenous Origin	24	6
Who do not speak English well	0	0
Have a need for assistance (profound/severe disability)	36	24
Living alone (Total)	64	42
Living alone (Aged 65+)	30	26
Residing in caravans, cabins or houseboats or improvised dwellings	0	0
Occupied Private Dwellings (Households)	200	97
No Motor Vehicle	3	13
Caravan, cabin, houseboat or improvised dwelling	0	0
Rented via State or Housing Authority	0	0
Rented via Housing Co-Op or Community Church Group	3	0
No Internet Connection	69	47
Unoccupied Private Dwellings	26	62
Average persons per occup dwelling	2.4	1.8
Average vehicles per occup dwelling	1.7	1.1

2.2 SPECIFIC RISK AREAS - FLOOD

2.2.1 Numerous areas scattered across the Manning River floodplain are susceptible to flooding and are described in the following sections. Table 8 shows the number of properties inundated over-floor during various design floods.

2.2.2 In addition to areas at risk of flooding, numerous rural properties and communities including Wingham, Taree, Harrington, Crowdy Head, Manning Point, Old Bar, Tinonee, Mt George and Lansdowne can be become isolated necessitating resupply. Johns River, in the Camden Haven Catchment is also susceptible to flooding. For details regarding Johns River see the Port Macquarie Hastings Local Flood Plan.

Table 8: Number of properties flooded over-floor for various design floods in each community (1)

Location	5% AEP	2% AEP	1% AEP
Cattai	3	12	22
Croki	12	15	20
Cundletown	7	18	24
Dumaresq Island	0	9	10
Harrington	16	60	87
Lansdowne-Coopernook	11	43	70
Manning Point	23	51	56
Oxley	15	41	57
Pampoolah	37	67	84
Taree	54	121	166
Taree Estate	13	19	21
Tinonee	4	5	5
Wingham	5	35	81

WINGHAM

2.2.3 Wingham is the second largest urban centre in the Greater Taree City council. The town is situated upon the Manning River near the upper limit of tidal influence. Three other watercourses, Stoney Creek, Cedar Party Creek and Dingo Creek also influence flooding in this area (7) (MAP 2 -).

2.2.4 Wingham is located approximately 45 kilometres upstream along the Manning River at the confluence of Cedar Party Creek. It has a population of 5,313 (8) with approximately 350 of which reside in Wingham Peninsula (9). A large portion of Wingham is elevated high above the floodplain. Some portions, including the Wingham Peninsula, consist of undulating river terrace at a general elevation of less than 12 metres. There are also portions of central and northern Wingham where tributary drainage gullies feeding Cedar Party creek are now part of the urbanised area (7).

2.2.5 Wingham is divided into two flood emergency response planning sectors;

a. The Wingham community is bound by Wynter Street to the east, Gorman Creek to the north and the Manning River to the south.

b. Wingham Peninsula is defined by the confluence of Cedar Party Creek and the Manning River, consisting of Wingham Peninsula east of Wynter Street.

Cultural and Linguistic Diversity

2.2.6 Wingham Township and Wingham Peninsular have 218 indigenous residents recorded and some residents that have difficulty understanding the English language. There are no known programs in place to assist them (8).

Schools and childcare centres

2.2.7 The following schools and childcare centres are at risk of isolation at 10m with access to the evacuation centre remaining(7) (1).

a. Schools

- Wingham High School, 9 Rowley St, Wingham (Peninsula).
- Wingham Brush Primary School, Isabella St, Wingham.
- Murray Road Public School, 157 Murray Rd, Wingham.
- St Josephs Primary School, Church Lane, Wingham.

b. Childcare centres

- Cuddlepie Early Childhood Learning Centre, Queen Street, Wingham.

Facilities for the aged and/or infirm

2.2.8 The following facilities are at risk of isolation at 10m with access to the evacuation centre remaining (7):

a. Frank Whiddon Masonic Homes (Wingham Court) Primrose Street Wingham. This location is also at risk of flooding around 12m.

b. Wingham Community Hospital which is primarily a convalescence facility.

Utilities and Infrastructure

2.2.9 The following utilities and infrastructure are at risk of flooding (1) (7):

a. Wingham sewerage treatment works and pump stations in East Combined Street, Primrose St, Coroma Place and Wingham Road (11).

b. Concrete road bridge Wherrol Flat Road, Stoney Creek Bridge, Cedar Party Creek Bridge, Bight Bridge and other low lying bridges in the area.

c. The rail line is reported to close at 14.88 metres cutting the North South rail link.

d. Substations supplying Wingham CBD and Wingham Services Club in the Laneway behind Wingham Services Club; supplying Wingham Fire and

Police Stations on the cnr of Bent and Farquhar St; and the Sewerage Treatment Works on Combined Street (12).

2.2.10 Caravan Parks are listed in Volume 3, Chapter 4 of this Local Flood Plan (SES Caravan Park Arrangements).

Classification of Floodplain

2.2.11 The Wingham community (excluding Wingham Peninsula) is classified as having rising road access (RRA) to an evacuation centre located on a High Flood Island (HFI) during the 5%, 1% and PMF events (12.7m, 15.3m and 22.3m respectively) (1).

2.2.12 Wingham Peninsula is classified as RRA during the 5% and 1% floods (12.7 and 15.3m), becoming an overland refuge area and Low Flood Island (LFI) during a PMF event (1).

Inundation

2.2.13 The Wingham Township is covered primarily from the Bureau of Meteorology Flood Gauge 208400 located at the Bight Bridge. An additional gauge is located at Mt George giving advance warning of 4 to 6 hours (1).

2.2.14 Classification of flooding at Wingham Gauge is summarised in Table 9.

Table 9: Summary of gauge heights and classification for Wingham gauge.

Min	Mod	Major	5% AEP	2% AEP	1% AEP	PMF
4.9m	8.9m	11.9m	12.7m	14.5m	15.3m	22.3m

2.2.15 Approximately 25 houses may become inundated in a 5% AEP flood (12.7m) in Wingham Peninsula (7).

2.2.16 Wingham Court Nursing Home lower level units, and low lying parts of Isabella and Flett Street become inundated around 12.7m.

2.2.17 During a 15.3m (1% AEP) event, 70 houses and 11 businesses (81 in total) may be affected by over-floor flooding in the streets listed above and in Keech and Ruth Street. Six (6) properties face a flow depth and velocity that would likely lead to partial or complete destruction. Thirty-one (31) properties can be expected to experience a very large depth of flood water up 4 metres posing a risk to life (7). In 1978 at least 30 of these were evacuated.

2.2.18 In a PMF event (22.3 metres) large portions of Wingham are inundated, including all of Wingham Peninsula (approximately 60), with an evacuation centre and township on a HFI remaining (7);

a. 8 properties are isolated very early, before adequate warning based on river levels is available, necessitating possible evacuation prior to river level rise (this is as a direct result of the Cedar Party Creek influence).

b. 51 properties would have less than 3 hours to evacuate after the Major Flood level was reached at Bight Bridge.

c. 94 properties would have at least 3 hours to evacuate after the Major flood level was reached.

2.2.19 Streets susceptible to flooding are identified in Section 2.4.

Isolation

2.2.20 Isolation from Tinonee occurs when the Bight Bridge is overtopped at 5m. Upstream of Wingham, the main road to Nowendoc can be cut at McQueens low level bridge at Number One. The low level bridge at Tiri, near the junction of the Gloucester and Manning Rivers can be cut by relatively low levels of flooding (1).

2.2.21 The Wingham township becomes completely isolated when the Cedar Party Bridge is overtopped at 10m to the east, along with Stoney Creek (Peter Garret Bridge) to the north, and Gloucester Road (Wingham to Gloucester) at Dingo Creek to the west (1).

2.2.22 Isolation of the Wingham Township is normally of short duration (3-5 days) and resupply may be required for general provisions after 2 days (2).

2.2.23 Communities and isolated farms in the upper catchment above Wingham may become isolated for a considerable amount of time (5 days to 5 weeks) with some residents requiring resupply. Many upper catchment residents are prepared for extended isolation and require minimal assistance (2).

Characteristics of flooding

2.2.24 Flooding in Wingham occurs as a consequence of riverine and overland water flow towards the Manning River system. Cedar Party and Dingo Creeks enter into the system around the township (7).

2.2.25 During early stages of flooding, Cedar Party Creek has a greater effect on flood heights upstream of Wynter Street Bridge (7).

2.2.26 The ultimate level of inundation is influenced by backwater flow from the Manning River (7).

2.2.27 Wingham Peninsula is particularly hazardous, with flood depths exceeding 8.1m in a 14.3m flood to 14m in a PMF (22.3m) (9). Flood velocities may exceed 2 m per second for a 14.3m to 3.8m per second in a PMF (22.3m). The rate of rise is estimated to be up to 2.1m/h for a PMF (9).

Flood Mitigation Systems

2.2.28 There are no known flood mitigation systems for Wingham, including the Peninsula.

Dams

2.2.29 There is no direct flooding consequence in Wingham of Bootawa dam failure.

Other Considerations

2.2.30 There are numerous community events that occur during the year, resulting in up to a 60% increase in population, and a large attendance by families with children;

- January Wingham Summertime Rodeo
- February – March Wingham Show
- April-May Wingham Beef Week
- May – June Bonnie Wingham Scottish Festival
- July Wingham Rodeo
- October Akoostik Festival (Wingham)
- November Wingham Campdraft
- December Wingham Street Christmas Carnival

TAREE

2.2.31 Taree is located on the northern bank of the Manning River, at the confluence of Browns Creek and the divergence of the Manning River into the north and south passages, including Taree Estate, and Chatham (MAP 3 -).

2.2.32 Taree has a population of 15848. It has an aging population, with approximately 36% of the population over 55 years old (8).

Cultural and Linguistic Diversity

2.2.33 1369 persons in Taree are identified as Aboriginal and/or Torres Strait Islander. Over 52 persons in Taree have identified that they do not speak English well or at all (8).

Schools and childcare centres

2.2.34 The following schools and childcare centres are at risk of isolation from 4.63m and flooding within the PMF (9):

a. **Schools**

- Chatham Public School, 17 Chatham Avenue, Taree.
- St Clares High School, Davis Street, Taree.
- St Joseph's Primary School, St Joseph's Drive, Taree.

b. **Childcare centres**

- Children's Haven, 15 Chatham Ave, Taree.

Facilities for the aged and/or infirm

2.2.35 The following facilities are at risk of flooding in a 1% AEP flood (5.68m, i.e. above the Major flood classification):

a. Bushland Place retirement village, Gipps Street, Chatham (220 persons).

Utilities and Infrastructure

2.2.36 The following utilities and infrastructure are at risk of flooding (2):

a. Martin Road Bridge Manning River Drive.

b. Taree Show Ground Muldoon Street Taree.

c. Fig Tree Bridge.

d. Ambulance Depot in Marathon Street (at around 4.68m).

e. Sewer pump stations at River Street, Prince Street, Lansdowne Road, Munghi Close, Bayview Crescent, Amaroo Drive, Bent Street, Mackay Street, Albert Street, Chapman Place, Cornwall Street, Gipp Street, at the Racecourse and two on Old Punt Road (13).

f. Substations supplying critical sewerage pump located behind Bundarra Close at 100 Edinburgh Drive, Taree; RFS and NSW SES on Muldoon St; supplying the Ambulance station on Elizabeth Ave; main supply Taree

and surrounding feeders on Whitbread St; Supply to Essential Energy Depot; supply to critical sewerage pump at the end of Cornwall St; Commerce St supplying the Police Boys Club; York St supplying Manning Base Hospital; Cnr Wynter and Pulteney St supplying Taree Fire Station; Albert Street supplying Taree Police Station; Zone sub near cnr Kanangra Dr and Bushland Dr (13).

2.2.37 Caravan Parks are listed in Volume 3, Chapter 4 of this Local Flood Plan (SES Caravan Park Arrangements).

Classification of Floodplain

2.2.38 Flood prone areas of Taree are classified as RRA to a HFI Evacuation Centre during the 5% and 1% AEP and PMF (4.63, 5.68 and 9.7m respectively) floods. Taree West becomes a LFI beyond 4.3m (1).

Inundation

2.2.39 The Taree community utilises the warnings provided by the Bureau for Taree Traffic Bridge Gauge. Classification of flooding at Taree Bridge Gauge is summarised in Table 10.

Table 10: Flood classification and heights at Taree Traffic Bridge Gauge.

Min	Mod	Major	5% AEP	2% AEP	1% AEP	PMF
1.8m	2.4m	3.7m	4.63m	5.36m	5.68m	9.7m

2.2.40 At the Minor Flood Level (1.8m);

a. Low lying grazing land is flooded in Taree Estate.

b. The Council Car Park, River Street, Library and Council chambers may commence inundation.

2.2.41 Initial over floor flooding commences from 3.68 metres in Taree Estate (1).

2.2.42 Taree CBD is protected by an embankment along Victoria Street up to a flood level of 4.28m on the Taree Traffic Bridge Gauge (1).

2.2.43 During a flood of approximately 4.6m (5% AEP) (1);

a. Approximately 54 houses may experience flooding (20 of which would be over-floor) in Taree.

b. Approximately 13 houses in Taree Estate may experience over floor flooding.

2.2.44 During a flood in the order of 5.68 m (1% AEP) (9);

a. Parts of the CBD may experience high hazard flooding with low points inundated to a depth of 3m. It is estimated that 100 businesses and 66 houses would be flooded over floor (1).

b. In the North Taree area 29 businesses and 52 houses are likely to be flooded over floor, some to a depth of 2 metres (1).

c. In Taree Estate (Taree West), a total of 21 houses may be flooded over floor.

2.2.45 In a PMF, substantial flooding is expected to occur across Taree West and Taree Central (including Chatham Public and Primary School, St Joseph's Primary, Chatham Shopping Centre and a substantial number of properties).

2.2.46 Streets susceptible to flooding are identified in Section 2.4.

Isolation

2.2.47 In floods of 4.63m (5% AEP equivalent i.e. above the Major flood classification level) Mid North Coast Events Taree can become isolated as Manning River Drive Closes at Dawson's River.

2.2.48 The airport becomes affected from 5.43m. Development of the Highway bypass may have reduced this isolation, but this is not yet determined (1).

2.2.49 Taree Estate becomes isolated at 4.3m as Figtree Bridge becomes inundated (Taree Gauge) (1). Residents within lower lying rural areas are generally located on earthwork mounds or higher ridges of land due to planning requirements but some may inundate from 3.68m including egress via property access roads; Edinburgh Road is likely to be affected from 5% AEP (4.63m) and greater floods isolating the remaining properties (1).

Characteristics of flooding

2.2.50 The majority of Taree CBD and Taree Estate is flood Prone and likely to experience high hazard flooding consisting of deep fast flowing flood waters to depths of 3m in a PMF (1).

2.2.51 Flooding in North Taree is affected by the Manning River, Dawson River and Browns Creek (1).

2.2.52 Taree East is affected by backwater flooding and local flooding from Browns Creek. Some areas may be flooded to depths exceeding 2m (9).

2.2.53 In Taree West, flooding can be up to 2m in a PMF with high velocities; however flood peaks are usually only short duration (9).

Flood Mitigation Systems

2.2.54 Victoria Street has an embankment, with a design height of 4.63 m (plus 300mm freeboard resulting in a crest height of 4.94 m AHD). When the embankment overtops, flooding of the CBD will occur in Pulteney and Victoria streets. Low lying businesses in Victoria Street, Albert Lane, Albert Street and the southern end of Commerce Street and the Chapman Street Carpark should be prepared for evacuation if the level is expected to exceed 4.63m (1). It should be noted that it is not a registered levee, and consequently not appropriately maintained to withstand this height.

Dams

2.2.55 There are no known consequences in Taree CBD of Bootawa Dam or any other dam failure.

Other Considerations

2.2.56 There are numerous community events that occur in Taree during the year that cause an increase in population and risk including:

- January Manning River Aquatic Festival
- January Manning River Summer Festival
- January Tagged Fish Round Up
- January Taree Summer Regatta
- February-March Manning Marathon Sailing Regatta
- February-March NSW Rowing Championships
- February-March Artisans Expo
- Easter Taree Aquatic Powerboat Easter Spectacular
- April-May River City Classic BMX competition
- April-May The Wedding Party
- April-May Autumnfest
- April-May Weekend on Wheels
- April – June Taree District Eisteddfod
- June EnviroFair
- June Junior Rodeo
- July Women's master Hockey
- August Flair Fashion Awards
- October Taree Show
- November Taree Arts Council Major Production

2.2.57 Easter and a Christmas holidays are identified peak seasons for tourists, with up to a 60% increase in population in the Greater Taree LGA (14).

TINONEE AND HILLVILLE

2.2.58 Tinonee is located south-west of Taree on the Manning River. It has a population of 1052 (8) (MAP 4 -).

2.2.59 Hillville is located southwest of Tinonee, backing onto Kiwarrak State Forest and is predominantly rural properties. The residential population is estimated to be 279. It has 39% of its population aged 55 and older (8).

Cultural and Linguistic Diversity

2.2.60 Hillville and Tinonee had 9 and 31 Aboriginal or Torres Strait Islander residents respectively (8), with no identified residents without proficient English in Hillville and 10 not stating their proficiency in Tinonee (8).

Schools and childcare centres

2.2.61 The following school is at risk of flooding and/or isolation.

a. Tinonee Public School, Manchester Street, Tinonee is identified as being located within the 1% AEP flood extent (5.68m on the Taree Traffic Bridge Gauge).

2.2.62 No Child Care Centres have been identified as at risk

Facilities for the aged and/or infirm

2.2.63 No facilities for the aged or infirm are identified as at known risk of flooding and/or isolation.

Utilities and Infrastructure

2.2.64 The following utilities are at risk of isolation or inundation:

a. Sewer pump stations at Peveril St, Manning River Drive, Cotton St, and Manchester St (13).

b. Substations at Tall Ships Reserve and Cotton St, Tinonee supplying critical sewerage pumps (13).

2.2.65 Caravan Parks are listed in Volume 3, Chapter 4 of this Local Flood Plan (SES Caravan Park Arrangements).

Classification of Floodplain

2.2.66 HFI, with RRA to an evacuation centre located on the HFI from 3.68m on the Taree Traffic Bridge Gauge.

Inundation

2.2.67 Tinonee utilises the warnings provided for Wingham gauge and Taree Traffic Bridge Gauge. Classification of flooding is summarised in Table 10 and Table 9.

2.2.68 In 2011 (with a peak height of 12.24m at Wingham) two properties were identified as flooded of the main dwelling in Claxton Street, and a further

three properties reported minor property flooding in Bucketts Way, Winter Street and Hutchinson Street in Tinonee (1).

2.2.69 In a flood of around 4.5m at the Taree gauge (below the 1% AEP), approximately 5 houses may be flooded over floor.

2.2.70 Hillville experienced minor flooding in 2011 in Hillville Road, Marylands Close and Careys Road (for up to 120 hours), as well as Bucketts Way, Deans Creek (1).

2.2.71 Streets susceptible to flooding are identified in Section 2.4.

Isolation

2.2.72 Water may begin to cross Bucketts Way at Deans Creek Road, potentially cutting access from Tinonee East to Taree and the Pacific Highway at 3.2m on the Taree gauge (a Moderate flood). At 5m on the Wingham gauge the Bight Bridge inundates, isolating the town (a Minor flood) (1).

Characteristics of flooding

2.2.73 Flooding in Tinonee is experienced from the Manning River, as it meanders east of the community and inflow from Peg Leg Creek to the north west and Deans Creek to the south east of Tinonee. It is a floodway or flood fringe based on flow depth and velocities with depths around 2m in a 1% flood (9).

2.2.74 Hillville is impacted by Snakes Creek and Bo Bo Creek inflows from the surrounding hinterland.

Flood Mitigation Systems

2.2.75 There are no known mitigations systems in Tinonee.

Dams

2.2.76 Nine properties (on Storage Dam and Bootawa Dam roads) are at risk of inundation if Bootawa Dam fails. Refer to the Dam Safety Emergency Plan for Bootawa Dam (4) and Section 1.2 of this Volume of the Greater Taree Local Flood Plan for more detail.

2.2.77 Access routes to Bootawa Dam along Bootawa Dam and Storage Dam Roads may be cut if dam failure occurs (3).

Other Considerations

2.2.78 No specific festivals or other considerations have been identified for Tinonee.

OXLEY AND MITCHELLS ISLANDS

2.2.79 Oxley Island is a very large area to the north of Bohnock, and east of Pampoolah comprised of rural properties. It is surrounded by the Manning river north and south arms and Scotts Creek (MAP 5 -). It has a population of 301 persons, 25% of which are aged 14 years or younger, and 30% of which are aged 55 years or older (8).

2.2.80 Mitchells Island is located on the lower floodplain on the coast to the east of Oxley Island and surrounded by the northern arm of the Manning River and Scotts Creek. It has a population of 445, with 40% of the population aged 55 years or older (8) (MAP 5 -).

2.2.81 The Islands are joined by narrow bridges on the Manning Point Road at Bohnock and Scott's Creek.

Cultural and Linguistic Diversity

2.2.82 Oxley Island and Mitchells Island have 6 and 24 identified Aboriginal and/or Torres Strait Islander residents respectively. Mitchells Island has no reported persons that do not have proficiency in English; however three (3) Oxley Island residents identified that they do not speak English well or not at all (8).

Schools and childcare centres

2.2.83 The following schools and childcare centres are at risk of flooding and/or isolation.

a. Schools

- Oxley Island Public School, 74 Oxley Island Road, Oxley Island may become isolated in flooding above the 5.68m (1% AEP) flood height.
- Mitchells Island Public School, 1222 Manning Point Road, Mitchells Island is located outside of PMF, however may be isolated in a Major flood.

b. No Childcare centres have been identified at risk

Facilities for the aged and/or infirm

2.2.84 There are no identified facilities are at known risk of flooding and/or isolation.

Utilities and Infrastructure

2.2.85 There are no utilities at risk of flooding in Oxley and Mitchell Islands.

2.2.86 Caravan Parks are listed in Volume 3, Chapter 4 of this Local Flood Plan (SES Caravan Park Arrangements).

Classification of Floodplain

2.2.87 The sector is characterised by both low and HFIs with areas of farmland that are easily inundated. The area is made up of low density rural properties with

minimal access routes therefore becoming overland refuge areas. The residents are largely independent and require little support during events (1).

Inundation

2.2.88 Oxley Island utilises flood warnings from the Bureau for the Taree Traffic Bridge gauge (Table 10).

2.2.89 Mitchells Island also utilises the Croki gauge (Table 11) to monitor flooding.

2.2.90 Oxley Island properties have high ground which remains flood free. In 2011 (4.5m at Taree Traffic Bridge Gauge), properties in Alans Lane, Ferry Road, Cowans Lane, Lauries Lane, and Manning Point Road experienced flooding for up to 96 hours; however no dwellings were reported as being affected. During a 1% AEP (5.68m), 57 properties may be flooded above the floor in Oxley Island (1).

2.2.91 Mitchells Island has some flood prone rural properties. In 2011 (2.14m on the Croki gauge), 11 properties were flooded, however no main dwellings were affected (1).

2.2.92 Larger floods are possible, and consequences are likely to be on a larger scale in these conditions.

2.2.93 Streets susceptible to flooding are identified in Section 2.4.

Isolation

2.2.94 Properties on Oxley Island are prone to isolation, when Manning Point Road (1.8m at Taree Traffic Bridge) and Old Bar Road (before 4.5m at Taree Traffic Bridge) close. Isolation of the sector area is normally of short duration (3-5 days) and resupply into the area may not be required as it is not unusual for the residents to be independent (2).

Characteristics of flooding

2.2.95 Flooding may occur from the Manning River or Scotts Creek.

2.2.96 The two Islands in this sector are comprised of rural properties with some high ground that is completely flood free. In the floodway areas the hazard is high, characterised by fast flowing floodwaters and long evacuation distances that will close early.

2.2.97 The area has advanced notification of impending riverine flooding due to the lag time of around 36 hours from river rise in Gloucester to water arrival. Localised rainfall will produce overland flooding of farmland earlier (2).

2.2.98 In the floodway areas on Mitchells Island the hazard is high, characterised by fast flowing floodwaters and long evacuation distances (2).

2.2.99 The hazard is also high on Oxley Island, as a consequence of the 1m depth exceedance and 2m/s velocities (9).

Flood Mitigation Systems

2.2.100 There are no identified flood mitigation systems in the Lower Manning Islands area.

Dams

2.2.101 There are no known consequences of Bootawa dam failure in the Lower Manning Islands area.

Other Considerations

2.2.102 Christmas and Easter holiday periods are considered peak seasons for tourism and cause a seasonal increase of up to 60% in population in the Greater Taree Council area (14).

CROKI, MOTO, CATTAI CREEK, JONES ISLAND AND COOPERNOOK (LOWER MANNING)

2.2.103 Croki and Moto are small villages located approximately ten kilometres north-east of Taree (MAP 6 -). They have a combined population of 290, 39% of which are aged 55 years or older (8). Croki also contains a caravan park.

2.2.104 Coopernook is a small village located approximately 12 kilometres north of Taree (MAP 6 -). It has a population of 519 people; with 34% of residents aged 55 years or older and 20% aged 14 years or younger (8). The majority of properties located along the road from Coopernook towards Lansdowne are farmland.

2.2.105 Cattai is a rural area on the road to Harrington (MAP 6 -). It has a population of 690, with 28% of residents are aged 55 years and older and 23% aged 14 years or younger (8).

Cultural and Linguistic Diversity

2.2.106 Moto, Coopernook, and Cattai have 12, 30 and 7 identified Aboriginal and/or Torres Strait Islander residents and no residents have identified that they do not have a proficiency in English (8).

Schools and childcare centres

2.2.107 The following schools and childcare centres are at risk of flooding and/or isolation (2).

a. Schools

- Coopernook Public School

b. Childcare centres

- Flying Fox Mobile Pre Schools, St Lukes Church Hall, West Street Coopernook

Facilities for the aged and/or infirm

2.2.108 There are no aged care facilities identified as at known risk of flooding and/or isolation.

Utilities and Infrastructure

2.2.109 The following utilities and infrastructure are at risk of inundation:

a. Sewer pump stations at Macquarie St and George Gibson Drive, Coopernook (13).

b. Zone substation on West St, Coopernook (13).

2.2.110 Caravan Parks are listed in Volume 3, Chapter 4 of this Local Flood Plan (SES Caravan Park Arrangements).

Classification of Floodplain

2.2.111 Croki is classified as a LFI in the 5% floods up to the PMF. The entire village is located in a high hazard area and may become completely inundated during major floods (1).

2.2.112 Moto is classified as a LFI in the 5% floods up to the PMF. The entire village is located in a high hazard area and may become completely inundated during major floods (1).

2.2.113 Coopernook is classified as RRA area in 5% and 1% (2.46 and 3.07m respectively) floods, becoming an area with overland escape route in a PMF (1).

Inundation

2.2.114 The area utilises flood warnings provided by the Bureau for Taree Traffic Bridge gauge (Table 10) and the Lansdowne gauge (Table 12). Therefore arrival time from Taree flood gauge to Croki varies between 2 to 4 hours. Croki has its own flood gauge (208404) although few levels are available. These are summarised in Table 11.

Table 11: Summary of Croki flood levels for design floods

5% AEP	2% AEP	1% AEP	PMF
2.46m	2.87m	3.07m	5.90m

2.2.115 Croki – In a 5% AEP (2.46m) flood, the entire village may become entirely inundated (1).

a. In 2011 (2.14m Croki gauge), Barton St Croki, Croki Road Jones Island, Pacific Highway Jones Island and the intersection of Barton Street and the Pacific Highway Jones Island (for several days) were inundated. Four houses reported minor inundation on Barton Street and Young Street, with only one reporting inundation to the main dwelling (1).

b. The majority of Croki becomes inundated around 2.46m.

c. During a 1% AEP (3.07m at Croki) event 20 properties may be flooded above floor level, including the caravan park. Farm land adjacent to the village is also prone to flooding.

2.2.116 Moto - During a 1% AEP (3.07m at Croki) event flooding occurs over Moto Road – Ghinni Ghinni Creek area are generally deeper than 1 metre but of low velocity (1).

2.2.117 Coopernook - Flooding may be experienced over West and Macquarie Streets and the old Pacific Highway.

a. Coopernook Hotel experiences flooding of the ground floor at approximately 1.1 metres. Evacuation during a flood event may be affected by flooding of the George Gibson Drive in the vicinity of Coopernook Creek; however extensive land flooding occurs prior to this.

Alternate routes (e.g. Macquarie Street) are likely to provide a suitable egress route if George Gibson Drive is impassable (1).

b. From 2m on the Lansdowne gauge, low lying areas become inundate and some rural properties isolated (1).

c. In June 2011 (2.14m at Lansdowne) the new Pacific Highway had water across some of the north bound lanes. Coralville Road and Crowdy Bay Road encountered flooding, and minor property inundation occurred on Coralville Road, Harrington Road and North Moto Road. Eleven properties may become inundated between Lansdowne and Coopernook at this height (1).

d. Seventy (70) properties may become inundated between Lansdowne and Coopernook in a 1% AEP flood between (3.07m Croki) (1).

Isolation

2.2.118 Isolation will occur prior to over floor flooding in Croki. Evacuation from Croki during a flood event would be undertaken towards the Pacific Highway via Barton Street. Barton Street has a minimum ground level of between 0.7 to 1.0m and is likely to become inundated prior to the residential properties within Croki. This is the evacuation route, and is generally closed around 1.2m on the Croki gauge. Similarly Croki Road becomes inundated from 1.5m, also a section of the evacuation route (2).

2.2.119 In Coopernook, flooding of George Gibson Drive occurs from around 1.8m on the Croki Gauge. Macquarie Street may close around 3.07m at Croki gauge, isolating Coopernook. The Pacific highway in the vicinity of Two Mile Creek may isolate the community during a PMF event (5.9m), after substantial inundation has already occurred (2).

Characteristics of flooding

2.2.120 These areas are subject to both riverine and overland flooding from Lansdowne River and/or Manning River. The Manning River joins with the Lansdowne River and its tributaries (2).

2.2.121 In Coopernook the depth of flooding is regularly less than one metre and flow velocities are low (1).

2.2.122 Croki village is a high hazard area (1).

Flood Mitigation Systems

2.2.123 There are privately owned flood gates located in the Coopernook area near to the Coopernook Pub. They are operated independently by the owner (1).

Dams

2.2.124 There are no known consequences in the Lower Manning of Bootawa Dam failure.

Other Considerations

2.2.125 Christmas and Easter holiday periods are considered peak seasons for tourism and cause a seasonal increase in population (up to 60%) (10).

LANSDOWNE

2.2.126 The town of Lansdowne is located to the north of Taree on the banks of the Lansdowne River and Cross Creek (MAP 7 -). It has a population of approximately 630. Hampton Court is prone to overland flooding during heavy rainfall. Intermittent inundation of access roads may occur during rainfall events. It is an aging community, with 34% of the population over the age of 55 (8).

Cultural and Linguistic Diversity

2.2.127 There are 48 identified Aboriginal residents in Lansdowne and all residents identified proficiency in English (8).

Schools and childcare centres

2.2.128 No schools and childcare centres are identified as at known risk of flooding and/or isolation in Lansdowne.

Facilities for the aged and/or infirm

2.2.129 No aged care or hospital facilities are identified as at known risk of flooding and/or isolation in Lansdowne.

Utilities and Infrastructure

2.2.130 The following utilities and infrastructure are at risk of flooding (1):

a. Lansdowne concrete road bridge Lansdowne Road (10m).

b. Lansdowne Rail Bridge Lansdowne Road (10m).

2.2.131 Caravan Parks are listed in Volume 3, Chapter 4 of this Local Flood Plan (SES Caravan Park Arrangements).

Classification of Floodplain

2.2.132 RRA for floods up to the PMF (12.10m) (1).

Inundation

2.2.133 Lansdowne utilises the flood warnings provided by the Bureau to Taree Traffic Bridge gauge. Classification of flooding at Taree Traffic Bridge gauge is summarised in Table 10.

2.2.134 Lansdowne River has a telemetric gauge (208015) installed but has limited associated history. Design heights for this location are provided in Table 12.

Table 12: Design heights for Lansdowne gauge (208015)

50% AEP	20% AEP	10% AEP	5% AEP	2% AEP	1% AEP	PMF
8.4m	9.5m	10m	10.5m	11m	11.3m	12.1m

2.2.135 The town of Lansdowne is relatively flood free although Hampton Court is prone to overland flooding during heavy rainfall (6).

2.2.136 Approximately 10 properties are at risk of inundation in a PMF (12.1m) (1).

2.2.137 Streets susceptible to flooding (from 4.37m) are identified in Section 2.4.

Isolation

2.2.138 Intermittent inundation of access roads may occur during rainfall events; however RRA remains up to the PMF (1).

Characteristics of flooding

2.2.139 Flooding may occur from Lansdowne River or Cross Creek.

2.2.140 Lansdowne is predominantly outside the PMF extent and relatively flood free. However, the area is classified as a high hazard flood storage area and overland flooding of the Hampton Court area of Lansdowne may require evacuation of domestic animals (Greyhounds) (1).

2.2.141 Smaller access roads may be cut for short durations at intermittent intervals, isolating rural areas from 4.37m (1).

Flood Mitigation Systems

2.2.142 There are no known mitigations systems in Lansdowne.

Dams

2.2.143 There are no known consequences in Lansdowne of Bootawa dam failure.

Other Considerations

2.2.144 October - November Upper Lansdowne Craft in the Country

MANNING POINT

2.2.146 Manning Point is situated at the southern entrance of the Manning River North Arm (MAP 8 -). The village has a population of approximately 220 and is a popular tourist destination which includes two caravan parks (1). Manning Point is an aging population, with 61% of residents aged 55 years and older (8).

Cultural and Linguistic Diversity

2.2.147 Manning Point has six (6) identified Aboriginal residents (8).

Schools and childcare centres

2.2.148 No schools or childcare centres are identified are at known risk of flooding and/or isolation in Manning Point.

Facilities for the aged and/or infirm

2.2.149 No aged care or hospital facilities are identified as at known risk of flooding and/or isolation in Manning Point.

Utilities and Infrastructure

2.2.150 The following utility is at risk of flooding:

a. Substation at Ocean Pde, Manning Point supplying the, Manning Point Bowling Club (13).

2.2.151 Caravan Parks are listed in Volume 3, Chapter 4 of this Local Flood Plan (SES Caravan Park Arrangements).

Classification of Floodplain

2.2.152 Manning Point is a LFI and will require evacuation prior to 1.8m on the Taree Traffic Bridge Gauge (1).

Inundation

2.2.153 Manning Point utilises flood warnings provided by the Bureau for the Harrington Gauge and Taree Traffic Bridge gauge. Classification of flooding at Harrington Gauge is summarised in Table 13.

Table 13: Classification of flooding at Harrington Gauge.

Min	Mod	Maj	5% AEP	2% AEP	1% AEP	PMF
1.9m	2.2m	2.8m	1.89m	2.1m	2.26m	2.90m

2.2.154 Properties fronting Manning Point Road, Banksia Close and Manning Street may inundate from 1.5m (1).

2.2.155 During a 5% AEP flood (1.89m) 23 properties may become inundated (1).

2.2.156 During a 1% AEP (2.26m) event 52 houses and 4 businesses are likely to be affected by over floor flooding.

2.2.157 A peak flood at the Harrington gauge of 1.53m was recorded in 2011, with flooding reported at properties in Manning Point Road, the junction of Banksia Close and Manning Street (Main Road), Main Road and Banksia Crescent. Most properties become inundated by 1.9m (1).

2.2.158 Most of Manning Point is inundated at 2.37m on the Harrington gauge (5.68m at Taree identifies that 56 properties will be affected, with flooding initiating at 4.63m) (1).

2.2.159 Manning Point dwellings at the Manning River entrance on Manning Point Road are also susceptible to coastal inundation as a consequence of an oceanic storm event; however there is a greater risk of inundation due to riverine flooding (13).

Isolation

2.2.160 The Manning Point Road becomes cut from 1.8m at the Taree Traffic Bridge gauge, resulting in isolation prior to the entire area becoming a LFI (1).

Characteristics of flooding

2.2.161 Much of Manning Point is flood liable flood fringe and floodway (where the South Arm approaches the village), with access roads cut and variable flood velocities. It is susceptible to inundation and isolation from Manning River floods (9).

Flood Mitigation Systems

2.2.162 No flood mitigation systems are identified at Manning Point; however a breakwall is located opposite the community alongside Harrington on the northern bank of the Manning River, channelling the river to the south of Harrington and adjacent wetlands.

Dams

2.2.163 There are no known consequences in Manning Point of Bootawa dam failure.

Other Considerations

2.2.164 Christmas and Easter holiday periods are considered peak seasons for tourism and cause a seasonal increase in population with up to a 60% increase in population in the Greater Taree LGA (14).

HARRINGTON AND CROWDY HEAD

2.2.165 Harrington is an urban settlement situated at the northern mouth of the Manning River MAP 9 -). It is a popular holiday destination and populated by 2258 permanent residents. Harrington is expanding, with the development of Harrington Waters Estate (1).

2.2.166 Crowdy Head is a holiday community situated further east and north of Harrington (MAP 9 -) with a population of 221 (8).

Cultural and Linguistic Diversity

2.2.167 Harrington and Crowdy Head recorded 43 indigenous residents and many residents that have difficulty understanding the English language (8). There are no known programs in place to assist them.

Schools and childcare centres

2.2.168 The following schools and childcare centres are at risk of isolation (2) (1).

a. Schools

- Harrington Public School High Street Harrington
- Crowdy Head Public School Geoffrey Street Crowdy Head

b. Childcare centres

- Jabiru Pre School Jabiru Drive Harrington

Facilities for the aged and/or infirm

2.2.169 There are no aged care or hospital facilities identified as at known risk of flooding and/or isolation in Harrington and Crowdy Head.

Utilities and Infrastructure

2.2.170 The following utilities and infrastructure are at risk of flooding:

a. Electricity Substations on Industrial Road Harrington supplying Harrington and surrounding areas and the sewerage treatment works (13).

b. Pump stations in Murray St and Hogan St, Harrington (12)

2.2.171 Caravan Parks are listed in Volume 3, Chapter 4 of this Local Flood Plan (SES Caravan Park Arrangements).

Classification of Floodplain

2.2.172 Harrington is a HFI in the 5% and 1% floods (1.59 and 2.26m respectively), becoming a LFI in a PMF (5.4m) (1).

Inundation

2.2.173 Harrington has its own BoM gauge (ARWC 208425). Flood heights for this gauge are summarised in Table 13.

2.2.174 At 1.5m the following roads may close in Harrington; (1)

a. Bakers Road (isolating 6 houses)

b. Coralville Bridge, Coralville (isolating 10 houses)

c. Crowdy Bay Road, Coralville

d. Forest Road (at Bridge)

e. Harrington Road (at Cattai Creek and Clunes Lane)

f. Rutile Road (Gully Creek and Bakers Road)

2.2.175 Sixteen (16) properties may inundate in a 5% AEP flood (1).

2.2.176 Large areas of Harrington remain flood free until around 1.89m (1% AEP). As this height is exceeded (from 1.9 to 2.26m), 83 houses and four businesses (around Coralville Road, Crowdy Bay Road, Harrington Drive, Scott Street, Beach Street, Crowdy Street, Hogan Street, Nicholson Street, Jabiru Close, Minamurra Drive, Terranora Avenue, Latham Street, Bangalee Place, Glacken Street, Manor Road, Colonial Leisure Village Caravan Park and Bluewater Drive) are likely to be flooded above floor level (1).

2.2.177 Roads around Harrington Waters Estate may begin to inundate around 2.37m (however the impact of Harrington Estate infill is not definitive). Properties may begin inundation from 2.7m.

2.2.178 Only the small area of Harrington Public School remains flood free throughout the PMF (5.4m) (1).

2.2.179 Harrington dwellings at the Manning River entrance on Beach Street are also susceptible to coastal inundation as a consequence of an oceanic storm event; however it would not be as significant as a major catchment flooding event (13).

Isolation

2.2.180 Access to the area is by Harrington Road, which is likely to be cut prior to flood waters affecting any residential property. This is estimated to occur around 1.4 to 2.2m at Harrington gauge, but is impacted by local swamp (non-riverine) flooding (1). Alternate access may remain available via Coralville or Diamond Head Road, which is 4WD only (1). Harrington can become isolated for 3 to 5 days (1).

2.2.181 The area suffers inundation and isolation along its single access route prior to any flooding of property (1).

2.2.182 Mamboo Island properties become isolated from Harrington around 1.9m.

Characteristics of flooding

2.2.183 Flooding is a mixture of riverine from the Manning and Lansdowne Rivers, Cattai Creek and overland from the surrounding swampland (Cattai Wetlands); however, flood waters are generally shallow and slow (9). Storm

and tidal surges typically increase the water and wave height. There are no river systems that significantly affect the river below Coopernook (2).

2.2.184 The area is influenced by its location directly on the coast. It can be affected by storm surge, tides and overland flow. The access (and evacuation) route (Harrington Road in the vicinity of Clunes Lane) may be cut by overland flooding without any residential effect other than outlying farmland (2).

2.2.185 The tidal deltas gradually accrete sand over time, which can increase flood levels by approximately 30 mm, scouring the entrance channel (9).

Flood Mitigation Systems

2.2.186 Harrington Estate has been constructed 0.5 metre above the 1% AEP by the use of landfill. There is no recorded flood data available since its construction (2).

2.2.187 A breakwall extends from the south of Harrington on the Manning River to its entrance at the east of Harrington.

Dams

2.2.188 There are no known consequences in Harrington of Bootawa dam failure.

Other Considerations

2.2.189 Harrington has an annual festival on the 1st of January each year which can occur over a 2 day period.

2.2.190 The Harrington Festival is hosted in January.

2.2.191 Christmas and Easter holiday periods are considered peak seasons for tourism and cause a seasonal increase (up to 60%) in population (10).

CUNDLETOWN

2.2.192 Cundletown is located directly east of Taree and the confluence of the Dawson and Manning Rivers (MAP 10 -).

2.2.193 Cundletown has a population of 2064. It has an aging population, with 795 residents aged over 55 years (8).

Cultural and Linguistic Diversity

2.2.194 Fifty five (55) residents have been identified as Aboriginal and/or Torres Strait Islander and no residents identified that they do not speak English (8).

Schools and childcare centres

2.2.195 The following schools and childcare centres are at risk of flooding and/or isolation (1).

a. Schools

- Cundletown Public School may be isolated during a 1% AEP equivalent flood.

b. Childcare centres

- Cundletown Pre-school and Long Day Care Centre may be isolated during a 1% AEP flood.

Facilities for the aged and/or infirm

2.2.196 The following facility is at risk of flooding and/or isolation (1):

a. St Paul's Hostel (nursing home) which is located on River Street.

Utilities and Infrastructure

2.2.197 Substation at Lansdowne Road near Taree Airport supplying the Airport (13).

2.2.198 Caravan Parks are listed in Volume 3, Chapter 4 of this Local Flood Plan (SES Caravan Park Arrangements).

Classification of Floodplain

2.2.199 Cundletown is classified as a RRA Area during the 5% and 1% AEP flood (4.63 and 5.68m respectively) to a safe refuge located on a HFI up to a PMF (1).

Inundation

2.2.200 The Cundletown community utilises the warnings provided for Taree Traffic Bridge Gauge. Classification of flooding at Taree Bridge Gauge is summarised in Table 10.

2.2.201 Inundation of 11 properties in Cundletown occurred in 2011 on Albert Street, Arkana Avenue, High Street, McDonnell Avenue, Oakdale Road, Old Lansdowne Road, Park Avenue, Princes Street and River Street (1).

2.2.202 Seven (7) properties are inundated in a 5% AEP flood; 17 in a 2% AEP and 24 in a 1% AEP flood (1).

2.2.203 Streets susceptible to flooding are identified in Section 2.4.

Isolation

2.2.204 In the 2011 event (4.5m), approximately 24 dwellings became isolated (Table 5). Many potential evacuation routes may become inundated during the design 5% and greater floods. Consequently, evacuation during major floods may only be available via Lansdowne Road (1).

2.2.205 Cundletown may become isolated during an event greater than the 1% AEP flood (1).

Characteristics of flooding

2.2.206 Cundletown is largely unaffected by flooding and is considered to be a low hazard flood fringe (9).

Flood Mitigation Systems

2.2.207 There are no known mitigations systems in Cundletown.

Dams

2.2.208 There are no known consequences in Cundletown of Bootawa dam failure.

Other Considerations

2.2.209 Christmas and Easter holiday periods are considered peak seasons for tourism and cause a seasonal increase in population (up to 60%) (10).

DUMARESQ ISLAND

2.2.210 Dumaresq Island is a low lying area surrounded by the Manning River to the east of Taree (MAP 11 -). It is largely used for dairying and grazing land. The residential population is estimated to be 72 (8).

Cultural and Linguistic Diversity

2.2.211 No cultural or linguistically diverse persons are identified as residents in Dumaresq Island (8).

Schools and childcare centres

2.2.212 No schools or childcare centres are identified as at known risk of flooding and/or isolation in Dumaresq Island.

Facilities for the aged and/or infirm

2.2.213 No facilities for the aged/infirm are identified as at known risk of flooding and/or isolation on Dumaresq Island.

Utilities and Infrastructure

2.2.214 No utilities or infrastructure are identified as at known risk of flooding.

2.2.215 Caravan Parks are listed in Volume 3, Chapter 4 of this Local Flood Plan (SES Caravan Park Arrangements).

Classification of Floodplain

2.2.216 Dumaresq Island is classified as predominantly a LFI for 5% floods up to the PMF. In smaller floods there are areas of overland refuge (1).

Inundation

2.2.217 The Dumaresq Island community utilises the warnings provided for Taree Traffic Bridge Gauge. Classification of flooding at Taree Bridge Gauge is summarised in Table 10.

2.2.218 The area starts to inundate in low lying areas from 1.8m (1).

2.2.219 The entire location may be completely inundated in a 5% (4.63m) and rarer event (i.e. above the “Major” flood classification). It appears that the houses in the area may be constructed on earthwork mounds, which may place them above the predicted design flood extents (1). Ten (10) properties may be affected by over floor flooding in a 1% AEP (5.68m) event, which become completely inundated by a PMF.

Isolation

2.2.220 The community is affected by floods as low as 1.78m on the Taree Traffic Bridge Gauge, and consequences can occur quickly, with Dumaresq Island Road and Newtons Road becoming inundated around 3.2m (2).

2.2.221 A peak height of 4.5m (Taree Traffic Bridge) was recorded in June 2011, with Newtons Road and River Road during this event (1).

Characteristics of flooding

2.2.222 Dumaresq Island is a LFI (low lying area) surrounded by the Manning River and is susceptible to fast flowing flood waters (9).

Flood Mitigation Systems

2.2.223 There are no known flood mitigation systems in Dumaresq Island.

Dams

2.2.224 There are no known consequences in Dumaresq Island of Bootawa dam failure.

Other Considerations

2.2.225 No other considerations have been identified for Dumaresq Island.

PAMPOOLAH AND BOHNOCK

2.2.226 Pampoolah and Bohnock are located south east of Taree City, on the southern bank of the Manning River (MAP 12 -). They are agricultural areas consisting of approximately 84 properties. It has a population of approximately 360, with 39% of the population are aged 55 or older (8).

Cultural and Linguistic Diversity

2.2.227 Pampoolah and Bohnock have 4 identified Aboriginal and/or Torres Strait Island residents with no residents identified that are unable to speak English (8).

Schools and childcare centres

2.2.228 There are no schools or childcare centres identified as at known risk of flooding and/or isolation.

Facilities for the aged and/or infirm

2.2.229 There are no identified facilities are at known risk of flooding and/or isolation.

Utilities and Infrastructure

2.2.230 There are no identified utilities at known risk of flooding and/or isolation.

Classification of Floodplain

2.2.231 The sector is characterised by both LFI and RRA with areas of farmland that are easily inundated. The area is made up of low density rural properties. In previous events, the residents were largely independent and required little support (1).

Inundation

2.2.232 Pampoolah utilises flood warnings from the Bureau for the Taree Traffic Bridge gauge (Table 10).

2.2.233 Pampoolah and Bohnock may be inundated from 1.8m. 37 properties are inundated in a 5% flood. The majority (84 properties) inundated by a 1% AEP event (5.68m).

2.2.234 Pampoolah can have flood depths exceeding 1.3m in a PMF, occurring after isolation (at 4.5m) (9).

2.2.235 Streets susceptible to flooding are identified in Section 2.4.

Isolation

2.2.236 Pampoolah becomes isolated at 4.5m when Manning River Drive closes at Cubba Cubba Creek and then Dawsons River Bridge (9).

2.2.237 In 2011 (4.5m at Taree), Old Bar Road was closed, causing isolation (1).

2.2.238 Isolation of the sector area is normally of short duration (3-5 days) and resupply into the area may not be required as it is not unusual for the residents to be independent (2).

Characteristics of flooding

2.2.239 Flooding in the area occurs due to Manning River floods and local overland flooding. The area has advance notification of impending riverine flooding due to the lag time of around 36 hours from river rise in Gloucester to water arrival. Localised rainfall will produce overland flooding of farmland earlier (2).

2.2.240 Pampoolah can have flood depths exceeding 1.3m in a PMF, occurring after isolation at 4.5m (9).

Flood Mitigation Systems

2.2.241 There are no identified flood mitigation systems.

Dams

2.2.242 There are no known consequences of Bootawa dam failure in the Pampoolah area.

Other Considerations

2.2.243 See Taree for nearby community events.

OLD BAR AND WALLABI POINT

2.2.244 Old Bar and Wallabi Point are both relatively large urban areas in the lower Manning River Valley (MAP 13 -).

2.2.245 Old Bar has a population of 4272 and Wallabi Point has a population of 545 (8).

Cultural and Linguistic Diversity

2.2.246 Old Bar and Wallabi Point have 152 and 19 identified Aboriginal and/or Torres Strait Islander residents respectively. Old Bar has three residents that have identified they speak English not very well or not at all, and potentially another four that did not state their proficiency. Wallabi Point has three residents have that identified they speak English not very well or not at all (8).

Schools and childcare centres

2.2.247 There are no schools or childcare centres identified as at known risk of flooding and/or isolation from Old Bar.

Facilities for the aged and/or infirm

2.2.248 There are no facilities identified as at known risk of flooding and/or isolation from Old Bar.

Utilities and Infrastructure

2.2.249 The substations on Wallabi Point Rd and the cnr Manning Point Rd and Bohnock Rd that supply the Wallabi Point sewerage treatment works at Wallabi Point, the settlement ponds and supply to Old Bar and surrounding areas (13).

2.2.250 Caravan Parks are listed in Volume 3, Chapter 4 of this Local Flood Plan (SES Caravan Park Arrangements).

Classification of Floodplain

2.2.251 A HFI in a 5% and 1% flood, becoming RRA to a HFI area in a PMF (1).

Inundation

2.2.252 The community does not have a specific flood gauge. There are gauges monitoring the levels of the Manning and its tributaries at Taree Traffic Bridge gauge, Croki, Dumaresq Island and Farquhar Inlet. However there is limited information available on heights relating to Old Bar.

2.2.253 The community remains predominantly flood free in events up to and including the PMF (1).

2.2.254 In the 2011 flood, no dwellings were flooded, however properties in Berady Lane, Broadoaks Road, Hina Close, Kolinda Drive, Manning Point Road, Red Gum Road and Sarah Close reported minor flooding of secondary structures and yards (1).

2.2.255 Road closures which can be expected with major flooding include (1):

a. Manning River Drive (up to 11 hours) from 4.33m on the Taree traffic bridge gauge.

b. Old Bar Road – near Berady Creek (up to 11 hours) from 4.5m on the Taree traffic bridge gauge.

c. Glenthorne Road, Glenthorne from 2.2m on the Taree traffic bridge gauge.

Isolation

2.2.256 The area may become isolated during events as frequent as the 5% AEP as a result of flooding in the vicinity of the evacuation route along Old Bar Road (1).

Characteristics of flooding

2.2.257 The town of Old Bar is relatively flood free, however may become isolated during flooding. Old Bar is also subject to flash flooding and coastal inundation and erosion, as identified in Section 2.3 of this Volume (2).

Flood Mitigation Systems

2.2.258 The entrance to Racecourse Creek is trained using gabions (11).

Dams

2.2.259 There are no known consequences in Old Bar and Wallabi Point of Bootawa dam failure.

Other Considerations

2.2.260 Christmas and Easter holiday periods are considered peak seasons for tourism and cause a seasonal increase in population of up to 60% (10).

2.2.261 Old Bar Beach Festival is held in October.

2.2.262 Old Bar is susceptible to coastal erosion and is a recognised Coastal Erosion Hot Spot and Authorised Location (12). See the Coastal Erosion Section of this Volume of the Local Flood Plan for further information.

GLENTHORNE

2.2.263 Glenthorne is located on the southern bank of the Manning River immediately downstream of Taree, with has Cubba Cubba Creek to the South (MAP 14 -). It has a population of 263 (1). The majority of the community is rural properties.

Cultural and Linguistic Diversity

2.2.264 Sixteen (16) persons in Glenthorne that are identified as Aboriginal and/or Torres Strait Islander. Three (3) persons in Glenthorne have identified that they do not speak English well or at all (8).

Schools and childcare centres

2.2.265 There are no schools and childcare centres identified as at known risk of flooding and/or isolation.

Facilities for the aged and/or infirm

2.2.266 There are no facilities identified as at known risk of flooding and/or isolation.

Utilities and Infrastructure

2.2.267 There are no identified utilities and infrastructure are at known risk of flooding.

2.2.268 Caravan Parks are listed in Volume 3, Chapter 4 of this Local Flood Plan (SES Caravan Park Arrangements).

Classification of Floodplain

2.2.269 LFI, with dwellings located isolated mounds until around 4.5m, thereafter becoming inundated (1).

Inundation

2.2.270 The Glenthorne community utilises the warnings provided by the Bureau for Taree Traffic Bridge Gauge. Classification of flooding at Taree Bridge Gauge is summarised in Table 10.

2.2.271 A number of flood prone properties in Glenthorne may become inundated from around 1.8m (1). Inundation to property and secondary structures was reported for 8 properties, up to 2m in Glenthorne Road, Old Punt Road and River Road (1).

2.2.272 Complete inundation occurs at 5.43m (1).

2.2.273 Streets susceptible to flooding (although depths and durations are unspecified and variable) are (1);

a. Glenthorne Road, Glenthorne from 2.2m on the Taree traffic bridge gauge.

b. Old Punt Road, Glenthorne (24-36 hours) occurring below 4.5m on the Taree traffic bridge gauge.

c. River Road (under Martin Bridge), Glenthorne (24-48 hours) occurring below 4.5m on the Taree traffic bridge gauge.

Isolation

2.2.274 Local road closures occur from 3.5m, isolating the majority of properties.

Characteristics of flooding

2.2.275 The floodwaters have been identified as slow moving in historical floods (1), however larger floods are possible and may have variable velocities.

Flood Mitigation Systems

2.2.276 There are no known flood mitigation systems in Glenthorne.

Dams

2.2.277 There are no known consequences in Glenthorne of Bootawa dam failure.

Other Considerations

2.2.278 Refer to Taree for events in the area.

2.3 SPECIFIC RISK AREAS – COASTAL EROSION

Macquarie Coastal Waters

OLD BAR

2.3.1 Beach erosion occurs as a consequence of a combination of elevated ocean water levels, winds, tides, rips, storm surge and waves. Beach erosion has threatened development and beach amenity along Old Bar beach, particularly adjacent to Lewis Street, where some dwellings have been demolished subsequent to storm events. Dwellings at the southern end of Diamond Beach are also at risk of beach erosion (13).

2.3.2 Seaward yards (and building footprints of dwellings already demolished) on properties on the seaward side of Lewis Street (totalling 14, plus Meridian Resort) are at risk (11).

2.3.3 Council infrastructure may also be at risk, such as the stormwater outlet near Taree Old Bar SLSC, beach access ways and the southern end of Pacific Parade roadway at Old Bar (11) (13).

2.3.4 Council monitors beach conditions from significant wave heights of 3-5m and above with tides exceeding 1.8m. The likelihood of erosion is communicated to NSW SES for wave heights exceeding 5m. NSW SES is notified when a significant erosion scarp recedes landward toward property boundaries by Council or if there is an increase in storm threat from the Bureau (13).

2.4 ROAD CLOSURES

2.4.1 Table 14 lists roads liable to flooding in the Greater Taree City area, major locations are shown on the community maps (MAP 2 - to MAP 14 -).

Table 14: Roads liable to flood closures in Greater Taree City LGA.

Road	Closure location (and map reference (18))	Consequence of closure	Alternate Route	Indicative Gauge Height
Tiri Road	Tiri (Knorrit Flat 9334-3-n 768 145)	Mount George to Gloucester	No	After 5.6m at Mt George
Nowendoc Road	McQueen's (Kerriki 9334-4-s 108 916)	Mount George to Nowendoc	No direct access. A large (over 100km) detour may provide access may be available via Knodingbul Road and Oxley Highway depending on adjacent river basin flooding.	
Kimbriki Road	Charity Creek (Bundook 9332-3-s 274 698)	No access between Mt George and Burrell Creek	No	
Buckett's Way	Deans Creek (Taree 9334-2-s 446 652)	No access between Tinonee and Taree	No	3.2- 3.68m Taree Gauge
	Swamp Oak Creek (Taree 9334-2-s 442 651)	Access between Tinonee and Burrell Creek	No	From 3.2m Subject to local environmental variables such as local overland flooding etc.
	Pegleg Creek (Taree 9334-2-s 430 656)	No access between Tinonee and Burrell Creek	No	From 3.2m Subject to local environmental variables such as local overland flooding etc.
	Other small creek crossings	Access routes to Tinonee	No	Subject to local environmental variables such as local overland flooding etc.
Manning River Drive	Cubba Cubba and Stitts Creeks (Taree 9334-2-s	Road closed between Taree South and Taree	No	4.5m Taree Gauge

Road	Closure location (and map reference (18))	Consequence of closure	Alternate Route	Indicative Gauge Height
	493 673)	North (southern entrance)		
	Dawson River Bridge, Cundletown (9434-3-s 530 709)	No access between Taree and Cundletown. **Isolating Taree.**	No	4.63m Taree gauge
Railway Street Underpass	(Taree 9334-2-s 494 699)	Access between Taree. Localised closure	Limited, until inundation of Muldoon Street	3.5m Taree gauge
Pultney Street and Victoria Street	To Chapmans Car Park (Taree 9334-2-s 488 687)	Localised closure, and evacuation route closure for businesses in this vicinity. Car Park fills with water.	Yes, via parallel streets	4.0m Taree gauge
Victoria Street	Browns Creek (Taree 9334-2-s 489 694)	Road Closed between Cundletown and Taree	Yes, via Wingham Road until Muldoon Road is cut (height undetermined but before 4.5m).	4.33m Taree gauge
Hogan's Road	Upper Lansdowne (Bobin 9334-1-s 511 906)	Limited access between Lansdowne and Upper Lansdowne/Comboyne	Upper Lansdowne Rd may also be inundated at Crittenden's Bridge; Detour available via the Pacific Hwy	5.01m Lansdowne gauge
Upper Lansdowne Road	Crittenden's Bridge, Lansdowne River (Bobin 9334-1-s 491 884)	Affecting access between Cundletown/Melinga and Comboyne	Detour available via the Pacific Hwy	4.37m Lansdowne gauge
Mount Coxcombe Road	Upper Lansdowne (Bobin 9334-1-s 483 928)	Rural properties isolated on Mount Coxcombe Road (around 30)	No	4.37m Lansdowne gauge
Wingham Road	Cedar Party Creek (Wingham 9334-2-n 306 409)	No northerly access between Taree and Wingham	No	10m Wingham gauge
River St	McDonnell Ave and Kendall reserve	Evacuation route for residents along River Street, including St Pauls Hostel	No	2.38m Taree

Road	Closure location (and map reference (18))	Consequence of closure	Alternate Route	Indicative Gauge Height
Tinonee Road	Bight Bridge, Wingham (Taree 9334-2-s 404 7431)	Road Closed between Wingham and Tinonee	Limited (pending on Bootawa Dam Road)	5m AHD Wingham Gauge
Comboyne Road	Killabakh Creek (Bobin 9334-1-s 430 891)	Wingham to Comboyne	No	10 - 10.3m Wingham
Bulga Road	Bobin Bridge, Dingo Creek (Bobin 9334-1-s 317 919)	No access north of Wingham to Elands	No	10m Wingham
Nowendoc Road Wingham	Peter Garrett Bridge	No access between Wingham and Nowendoc	No	10m Wingham
Gloucester Road	Dingo Creek (Wingham 9334-2-n 375 732)	No access between Wingham and Gloucester	No	10m Wingham
Pacific Highway	Ghinni Ghinni Bridge (Cundletown 9434-3-s 581 726)	Cundletown and Coopernook	No	Due to new highway old Ghinni Ghinni bridge has been demolished new bridge sits substantially higher than old bridge.
Harrington Road	Humpty Bridge, Cattai Creek (Coopernook 9434-3-N 646 744)	No access between Coopernook and Harrington. **Harrington isolated**	Pending 4WD access via Crowdy Bay Rd.	1.5m Harrington gauge (approximation as it is impacted by localised flooding)
Croki Road	Croki	Evacuation route closed for Croki	No	1.5m Croki gauge
Manning Point Road Bohnock	Neville Weiley Bridge	Road closes isolating Oxley Island, Mitchell Island and Manning Point for 24-72 hours	No	1.8m Taree gauge
North Moto Road		No access between Moto and Coopernook or Lansdowne. Moto Potentially isolated.	No	4.37 Lansdowne gauge

Road	Closure location (and map reference (18))	Consequence of closure	Alternate Route	Indicative Gauge Height
Failford Road	Bungwahl Creek (Nabiac 9331-1-n 502 493)	Affecting access between Nabiac and Tuncurry	No	
Edinburgh Drive Taree West	Figtree Bridge	No access between Taree and Taree Estate. **Isolating Taree Estate** (31 houses) and Andrew Reserve (est. 1000 persons)	No	4.3m Taree gauge
Old Bar Road	Berady Creek - Half Chain Road (Cundletown 9343-3-s 547 647)	No access between Old Bar/Bohnock and Glenthorne. **Isolating Old Bar and Bohnock**	No	4.5m Taree gauge
George Gibson Drive	Between Coopernook and Croki	Affecting access between Croki and Coopernook	Alternate access may be available	1.8m Croki
Glenthorne Road	Glenthorne	Isolating Glenthorne residential properties	No	2.2m Taree gauge
Macquarie Street	Near Coopernook	Restricting road access into and out of Coopernook	Alternate access may be available	3.07m Croki

2.4.2 Other streets susceptible to flooding and closure (although depths and durations are unspecified and variable) for a 4.5m (**Taree traffic bridge gauge**) flood are (1);

a. Albert Lane, Taree
b. Albert Street, Taree
c. Amaroo Drive, Taree
d. Bayview Crescent, Taree (30 hours)
e. Bent Street, Taree
f. Beeton Parade, Taree (24 hours)
g. Berady Lane, Taree
h. Bligh Street, Taree (northern and southern sections)
i. Bushland Drive, Taree
j. Boyce Street, Taree

k. Chatham Avenue, Taree (30 hours)
l. Commerce Street, Taree (southern end)
m. Cornwall Street, Taree (eastern section)
n. Cowper Street, Taree
o. Crescent Avenue, Taree
p. Davis Street, Taree
q. Deb Street, Taree
r. Douglas Street, Taree
s. Edinburgh Drive, Taree (2 weeks)
t. Florence Street, Taree
u. Gipps Street, Taree
v. Glenthorne Road, Glenthorne (24-96 hours)
w. High Street (Browns Creek), Taree (24 hours)
x. Kanangra Drive, Taree (72 hours)
y. Lawson Crescent, Taree
z. Muldoon Street, Taree
aa. Mackay Street, Taree
bb. Macquarie Street, Taree
cc. Manning River Drive, Taree
dd. Old Punt Road, Glenthorne (24-36 hours)
ee. Pioneer Street, Taree
ff. Pulteney Street, Taree
gg. Queens Place, Taree
hh. Railway Street, Taree
ii. Railway Parade, Taree
jj. River Road (under Martin Bridge), Glenthorne (24-48 hours)
kk. River Street, Taree
ll. Stevenson Street, Taree
mm. Stevenson Lane, Taree (eastern section)
nn. Victoria Street, Taree
oo. Witbread Street, Taree (near Browns Creek crossing)
pp. Albert Street, Cundletown
qq. Arkana Avenue, Cundletown
rr. Ferry Lane, Cundletown (several days)

ss. High Street, Cundletown

tt. Kundle Kundle Road, Kundle Kundle (several days)

uu. McDonnell Avenue, Cundletown

vv. Moto Road, Moto (several days)

ww. Oakdale Road, Cundletown

xx. Old Lansdowne Road, Cundletown

yy. Park Avenue, Cundletown

zz. Princes Street, Cundletown

aaa. River Street, Cundletown

bbb. Terry Lane, Cundletown

ccc. Barton Street, Croki

ddd. Coralville Road (across Big Swamp), Coralville (96 hours)

eee. Croki Road, Jones Island

fff. Crowdy Bay Road, Coralville

ggg. Ferry Road, Croki

hhh. North Moto Road, Moto (1 week)

iii. Old Bridge Road (1 week)

jjj. South of North Croki to Coopernook

kkk. Pacific Highway (intersection of Barton Street), Jones Island (96 hours)

lll. Manning River Drive (up to 11 hours)

mmm. Wariba Road (up to 11 hours)

nnn. Old Bar Road – near Berady Creek (up to 11 hours)

ooo. Glenthorne Road, Glenthorne

ppp. Alans Lane, Oxley Island

qqq. Beach road, Mitchells Island

rrr. Cowans Lane, Oxley Island (48-96 hours)

sss. Jobson Lane, Mitchells Island

ttt. Layton Road, Oxley Island (48 hours)

uuu. Lauries Lane, Oxley Island

vvv. Manning Point Road (at Teatree Lane and Factory Road and between Cowans and Poulsons Lane) – for up to 3 days

www. Pampoolah Road, Pampoolah (24-72 hours)

xxx. Pelican Bay Road, Mitchells Island – up to 1.5m

yyy. Ruprechts Road, Mitchells Island

zzz. Weeks Lane, Oxley Island

aaaa. Woodlands Road, Pampoolah (24-72 hours)

2.4.3 From the 2011 flood, road closures for a 12.24m (at **Wingham gauge**) event, include (1);

a. Appletree road, Wingham

b. Belbowrie Bridge, Wingham (12 hours to several days)

c. Bight Bridge, Wingham (24 hours)

d. Cedar Party Bridge, Wingham (several hours to 24 hours)

e. Combined Street, Wingham

f. Comboyne Street, Comboyne (16 hours)

g. Flett Street Bridge, Wingham

h. Gloucester Road, Gloucester

i. Dingo Creek Bridge (Gloucester Road) (12-18 hours)

j. Mortimer Street, Wingham

k. Primrose Street (Combined Street intersection and near Coles), Wingham (18 hours)

l. Punt Road to Tinonee (72 hours)

m. Queen Street, Wingham

n. Ruth Street, Wingham

o. Stoney Creek Bridge, Wingham (24 hours)

p. Tinonee Road, Wingham (12-72 hours)

q. Wingham Road (at Tinonee Road and Wingham Brick Works), Wingham

r. Wynter Street, Wingham (48 hours)

s. Bootawa Road, Bootawa

t. Bootawa Dam Road, Bootawa

u. Bucketts Way, Deans Creek

v. Careys Road (at Bobo Creek), Hillville (24-120 hours)

w. Claxton Street, Tinonee

x. Hillville Road, Hillville

y. Marylands Close, Hillville

z. Mondrook Bridge, Mondrook

aa. Purfleet Roundabout, Purfleet

bb. River Street, Tinonee

cc. Tinonee Road at Timber Bridge, Tinonee

dd. Tinonee Road and Wingham Road intersection, Tinonee

2.4.4 In the Lansdowne area (4.37m at **Lansdowne gauge**);

a. Cicolini Close (96 hours)
b. Henry's Lane, Lansdowne
c. Hogans Road Causeway
d. Koppin Yarratt Road, Upper Lansdowne (48-72 hours)
e. Lansdowne Road, Lansdowne (72-48 hours)
f. Mt Coxcomb Road, Lansdowne (at bridges)
g. Mudfords Lane, Upper Lansdowne (hours to 2 days)
h. Nellies Bridge, Lansdowne
i. North Moto Road to Lansdowne and Coopernook (30-120 hours)
j. Paynes Lane, Upper Lansdowne (72 hours)
k. Putta Road, Upper Lansdowne (2 hours)
l. Upper Lansdowne Road (Crittenden Bridge) (5 days)

2.4.5 At 1.5m (Harrington) the following roads may be closed (1);

a. Bakers Road, Harrington (isolating 6 houses)
b. Coralville Bridge, Coralville (isolating 10 houses)
c. Crowdy Bay Road, Coralville
d. Forest Road, Harrington (at Bridge)
e. Harrington Road (at Cattai Creek and Clunes Lane)
f. Rutile Road (Gully Creek and Bakers Road)
g. Manning Point Road (48 hours)
h. Main Street, Manning Point (48 hours)
i. Banksia Crescent, Manning Point (48 hours)

2.5 SUMMARY OF ISOLATED COMMUNITIES AND PROPERTIES

2.5.1 Table 15 lists communities liable to isolation and potential periods of isolation. Information presented here is based on historical and design events and does not reflect the duration of isolation expected in larger possible and extreme events.

Table 15: Potential Periods of Isolation for communities in the Greater Taree City LGA during a Moderate to Major flood (1).

Note: The Greater Taree area is in close proximity to the river's dual entrance, therefore flood durations and heights are strongly influenced by tidal fluctuations water flowing in and out of the entrances (~ indicates approximation).

Town / Area (River Basin)	Population/ Dwellings	Flood Affect Classification	Approximate period isolation.	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	NOTES
Wingham (10m Wingham)	5313 persons (350 in Wingham Peninsula)	Rising Road Access (RRA) to a High Flood Island (HFI) (Wingham Peninsula is a Low Flood Island (LFI))	3-5 days									Resupply is unlikely; however if resupply of the local stores is required it will be in accordance with the NSW SES MNR Resupply Incident Action Plan. Rural properties may be isolated for weeks but are generally self-sufficient. Wingham Peninsula is a LFI, therefore does not require resupply as it will already be evacuated.
Tinonee (~3.2m Taree)	1052 persons	HFI	3-4 days									Resupply unlikely to be required. If resupply is

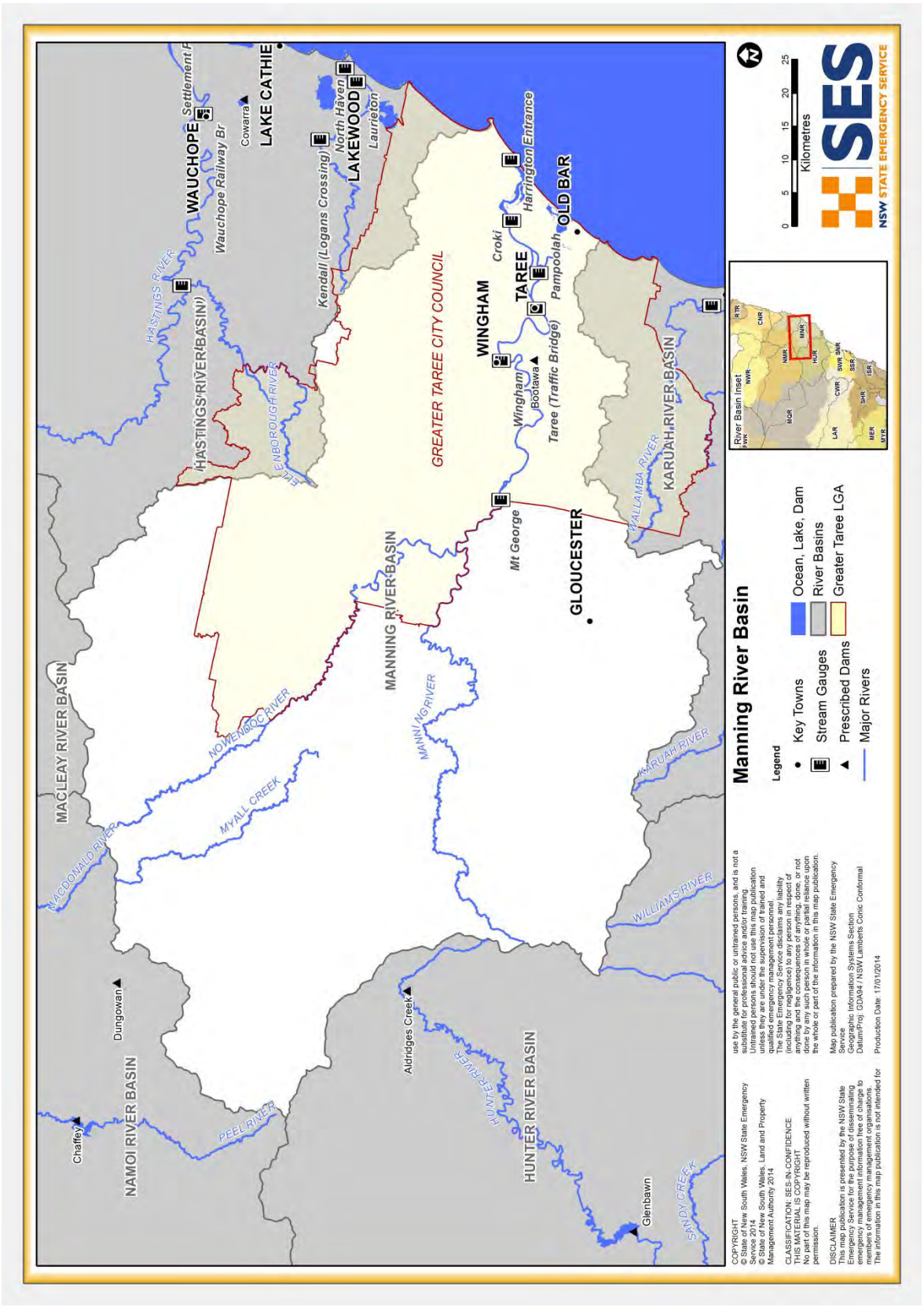
Town / Area (River Basin)	Population/ Dwellings	Flood Affect Classification	Approximate period isolation.	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	NOTES
												required it will be in accordance with the NSW SES MNR Resupply Incident Action Plan.
Taree (~4.63m Taree)	~7000 persons	RRA to a HFI	3-4 days									Resupply unlikely to be required. If resupply is required it will be in accordance with the NSW SES resupply
Old Bar (~4.5m Taree)	4272 persons	RRA to a Trapped Perimeter Area (TPA) after 4.5m	3-4 days									If resupply is required beyond 4.5m, it will be in accordance with the NSW SES MNR Resupply Incident Action Plan
Oxley Island, Mitchells Island (~1.8m Taree)	746 persons (301 and 445 respectively)	HFI and LFI	3-4 days									Low density rural properties with minimal access routes. The residents are largely independent and require little

Town / Area (River Basin)	Population/ Dwellings	Flood Affect Classification	Approximate period isolation.	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	NOTES
												support during events.
Manning Point (~1.8m Taree; 1.9 Harrington)	220 persons (plus seasonal tourists).	HFI in minor floods; LFI above 2.4m at Harrington gauge	3-4 days									Becomes a LFI in a moderate flood (from around 2.4m Harrington gauge). It is unlikely that the sector would require a resupply in larger floods as the sector would be subject to an evacuation order.
Harrington/Crowdy Head (~1.4m Harrington)	2479 persons (2258 and 221 respectively)	HFI. LFI in a PMF	3-4 days									Becomes a LFI in a PMF. Resupply of neighbourhood shopping centre may be required, which is to be in accordance with the NSW SES MNR Resupply Incident Action Plan

Town / Area (River Basin)	Population/ Dwellings	Flood Affect Classification	Approximate period isolation.	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	NOTES
Dumaresq Island (~2.2m Taree)	72 persons	HFI to 4.5m, after which becoming a LFI	3-4 days									Resupply unlikely in smaller frequent floods as durations are short and the community is generally self-sufficient. In larger floods, it becomes a LFI. If resupply is required it will be in accordance with the NSW SES MNR Resupply Incident Action Plan.
Cundletown (9.7m PMF Taree)	55 persons	RRA. HFI in a PMF	3-4 days									Resupply is not required in most events as not isolated until PMF. If resupply is required it will be in accordance with the NSW SES MNR Resupply Incident Action Plan

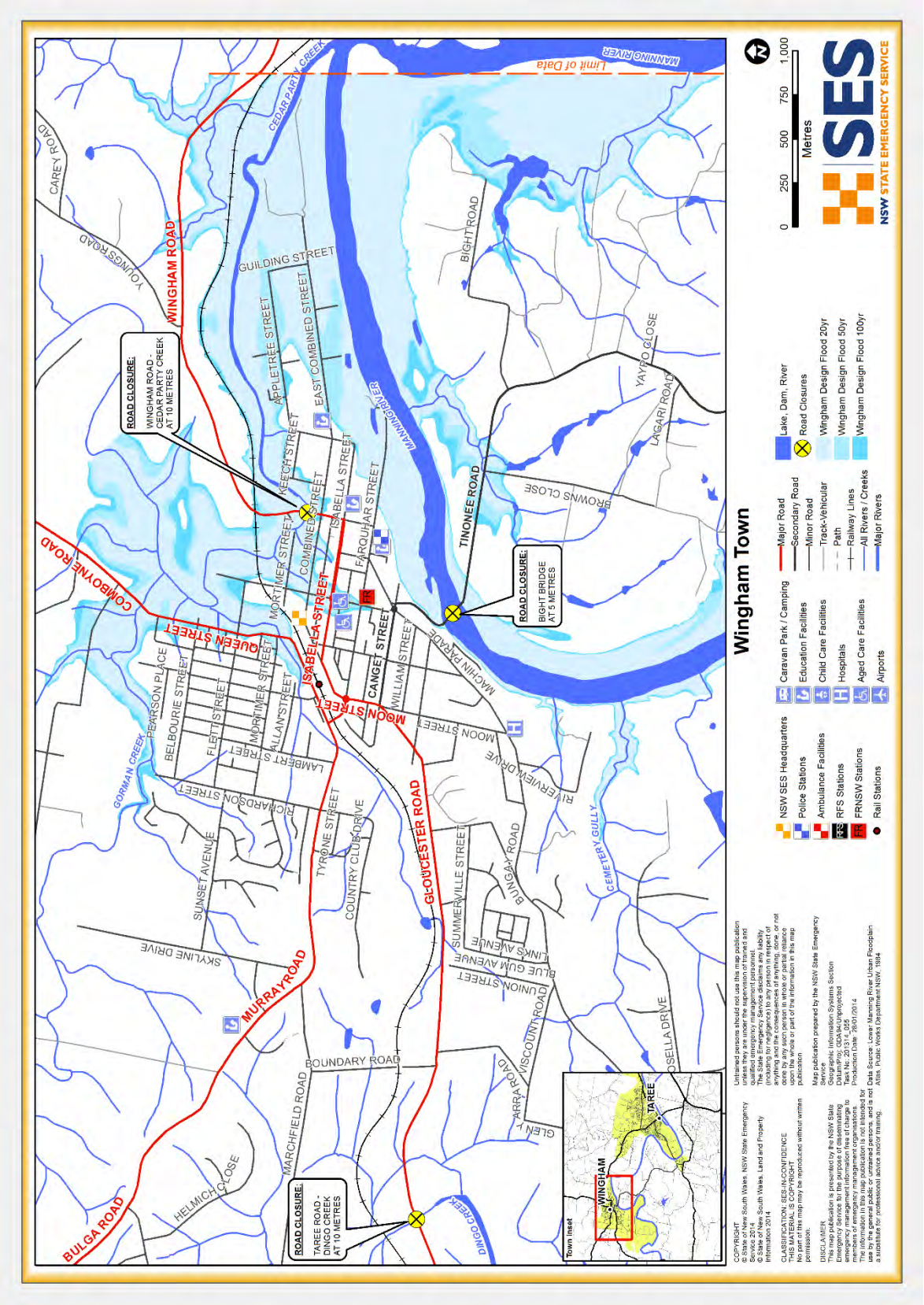
Note: Periods of isolation are a guide only. Liaison with the Local Controller and communities/residents involved is essential during periods of potential.

MAP 1 - MANNING RIVER BASIN MAP



MAP 2 - WINGHAM TOWN MAP

Note: Flood extent mapping is not comprehensive for this area and should be interpreted with caution.

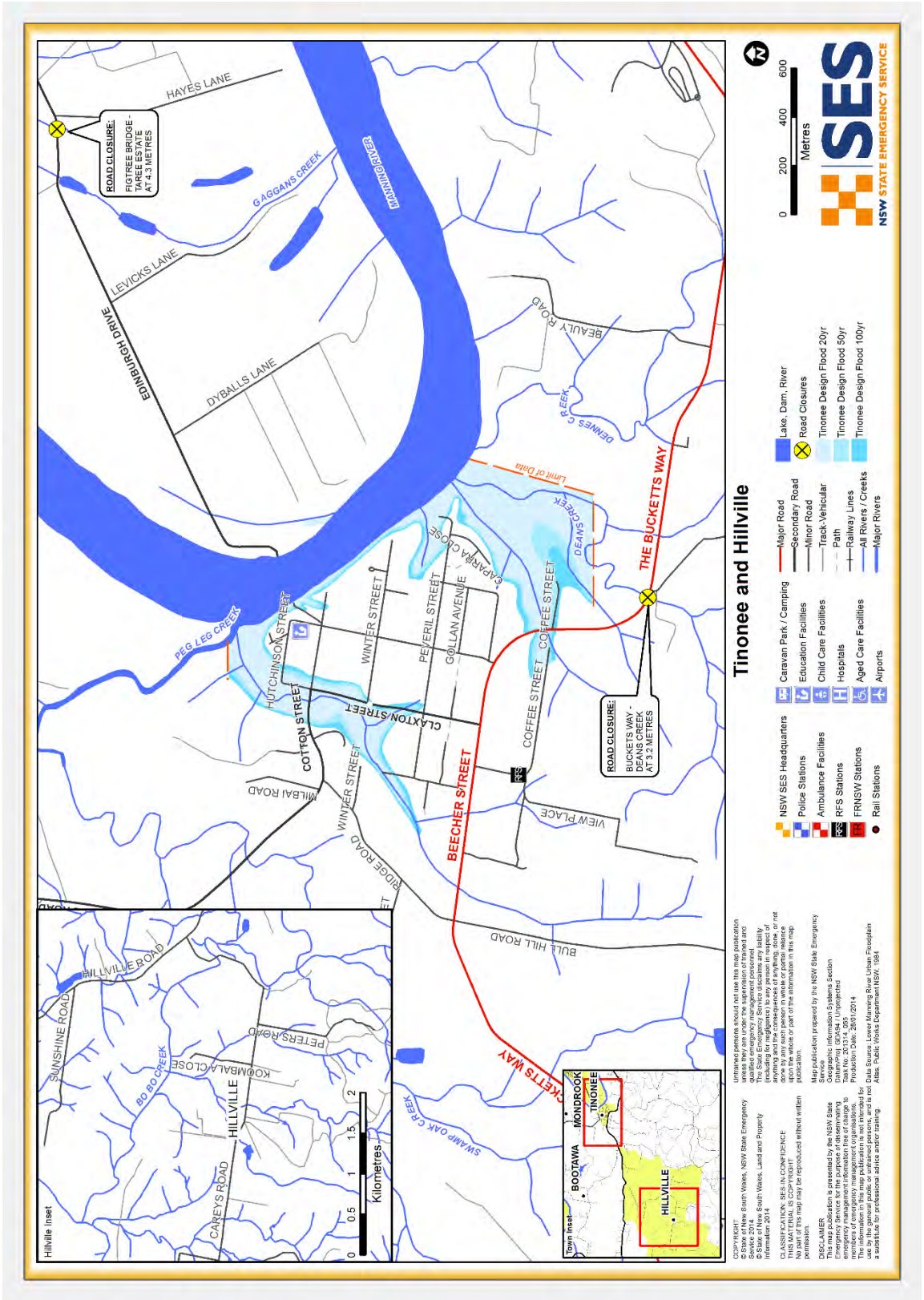


MAP 3 - TAREE AND GLENTHORNE TOWN MAP

Note: Flood extent mapping is not comprehensive for this area and should be interpreted with caution.

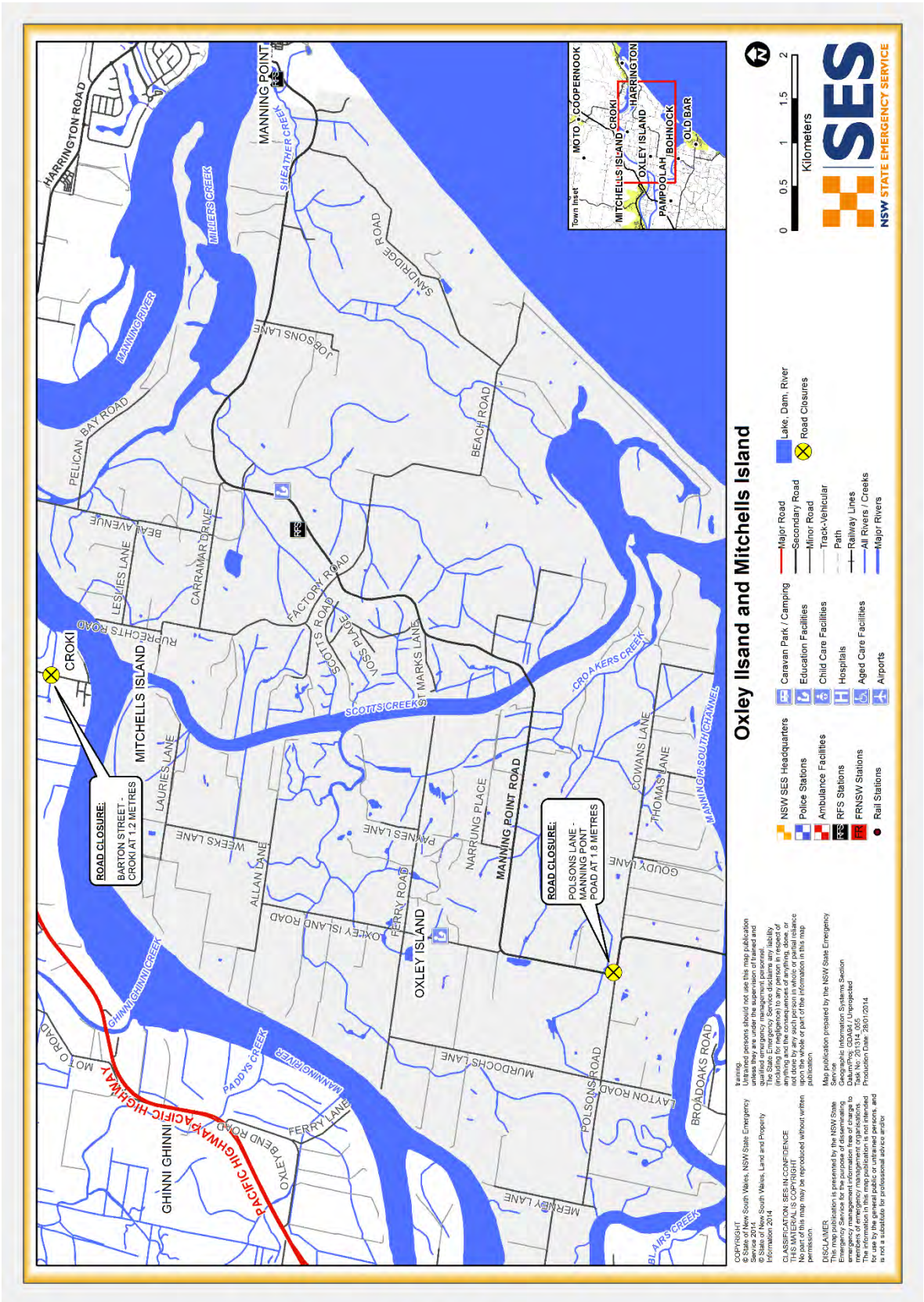
MAP 4 - TINONEE AND HILLVILLE TOWN MAP

Note: Flood extent mapping is not comprehensive for this area and should be interpreted with caution.



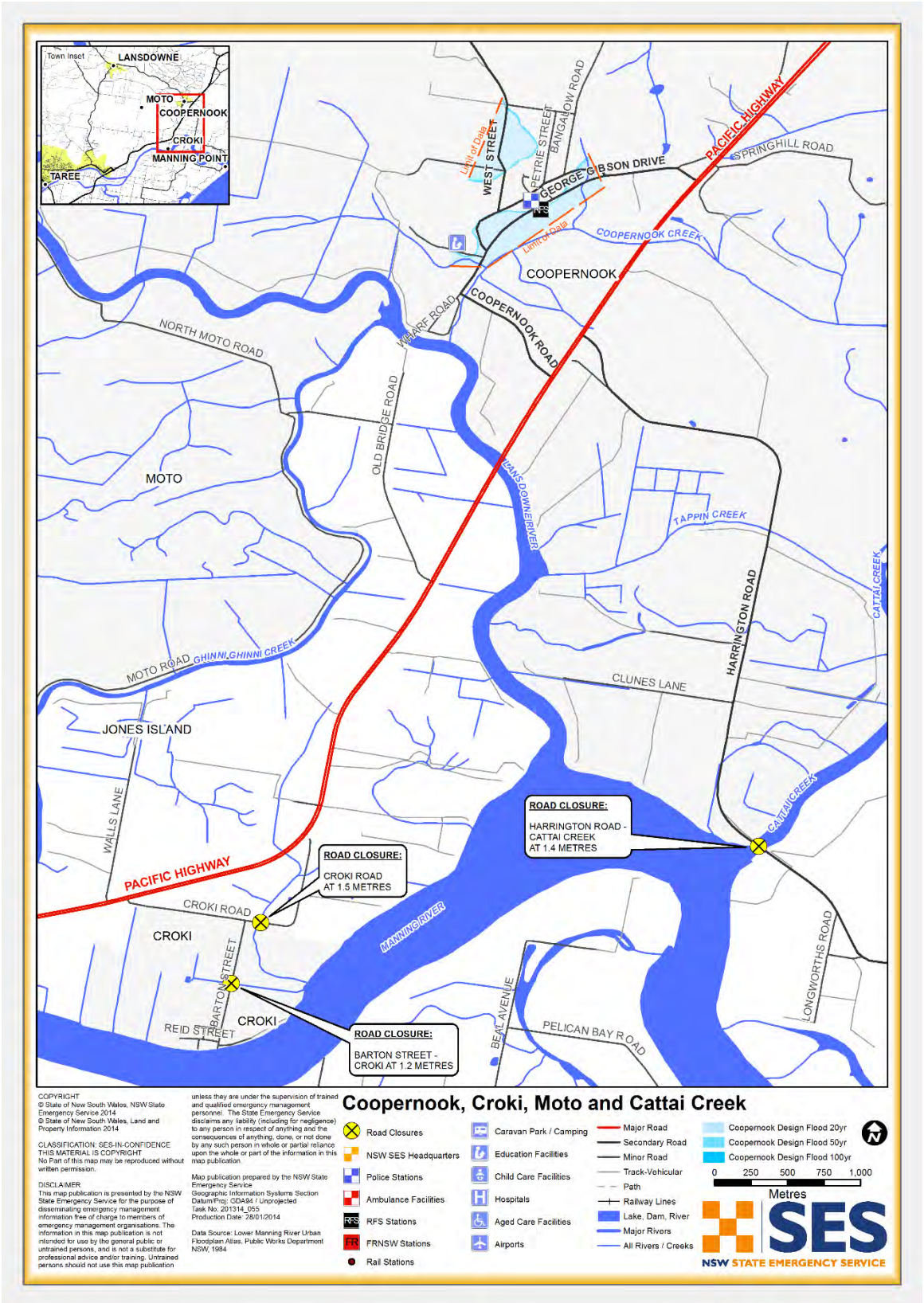
MAP 5 - OXLEY AND MITCHELL ISLAND TOWN MAP

Note: Digital flood extent mapping is not available for incorporation into this map.



MAP 6 - JONES ISLAND, CROKI AND COOPERNOOK TOWN MAP

Note: Flood extent mapping is not comprehensive for this area and should be interpreted with caution.



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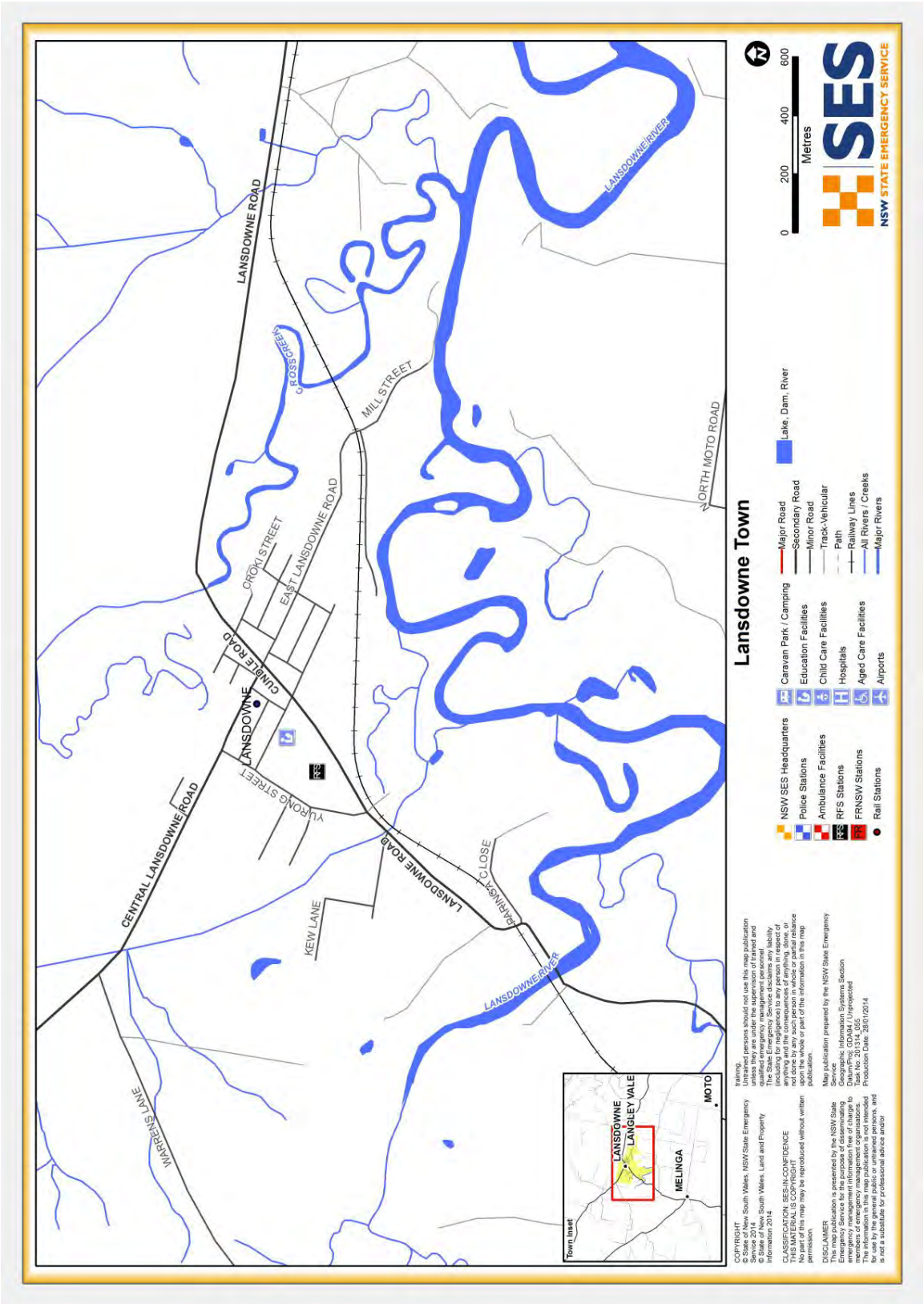
Geographic Information Systems Section
Datum/Proj: GDA94 / Unprojected
Task No. 201314_055
Production Date: 28/01/2014

Data Source: Lower Manning River Urban Floodplain Atlas, Public Works Department NSW, 1984

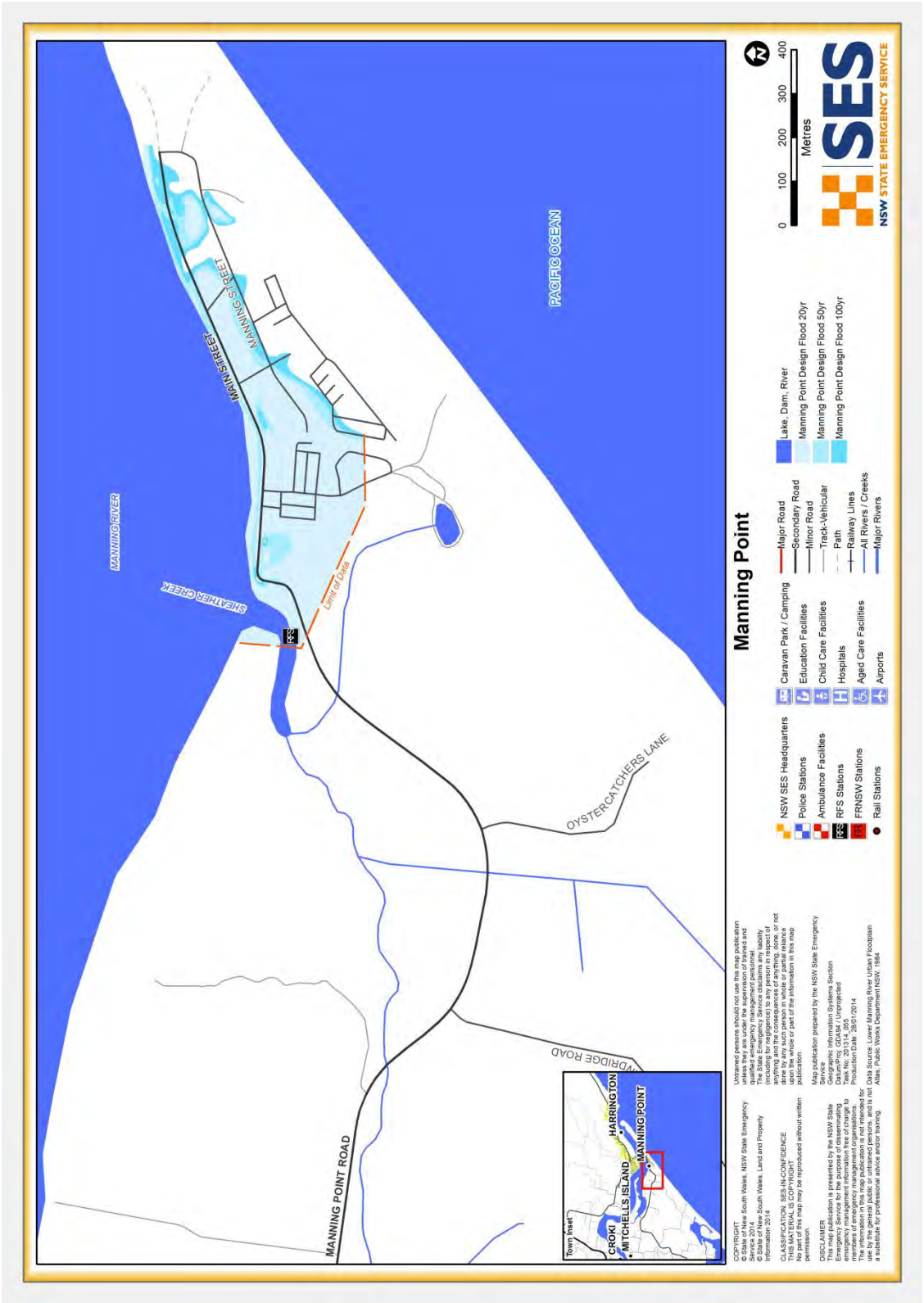
MAP 7 - LANSDOWNE TOWN MAP

Note: Digital flood extent mapping is not available for incorporation into this map.



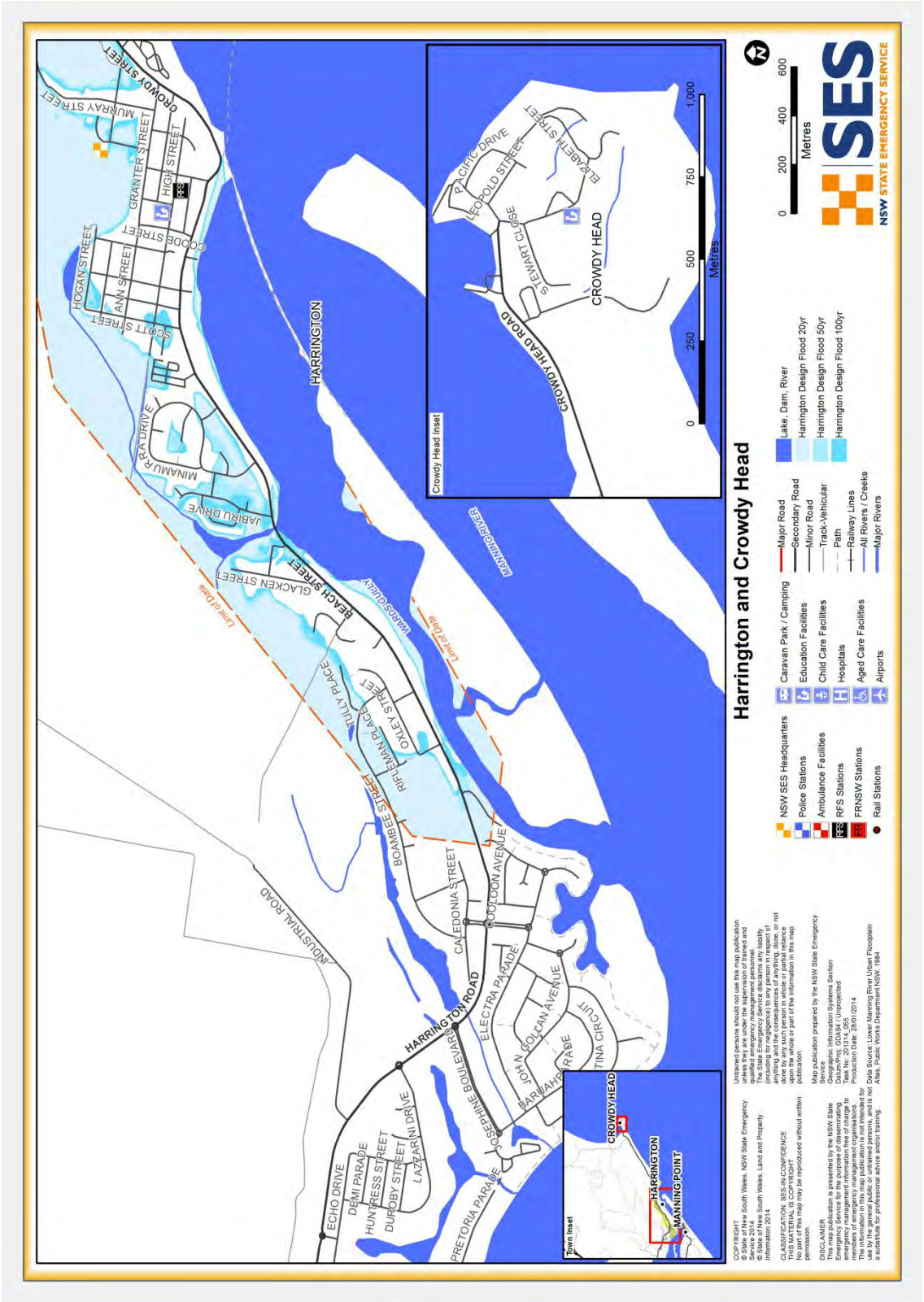
MAP 8 - MANNING POINT TOWN MAP

Note: Flood extent mapping is not comprehensive for this area and should be interpreted with caution.



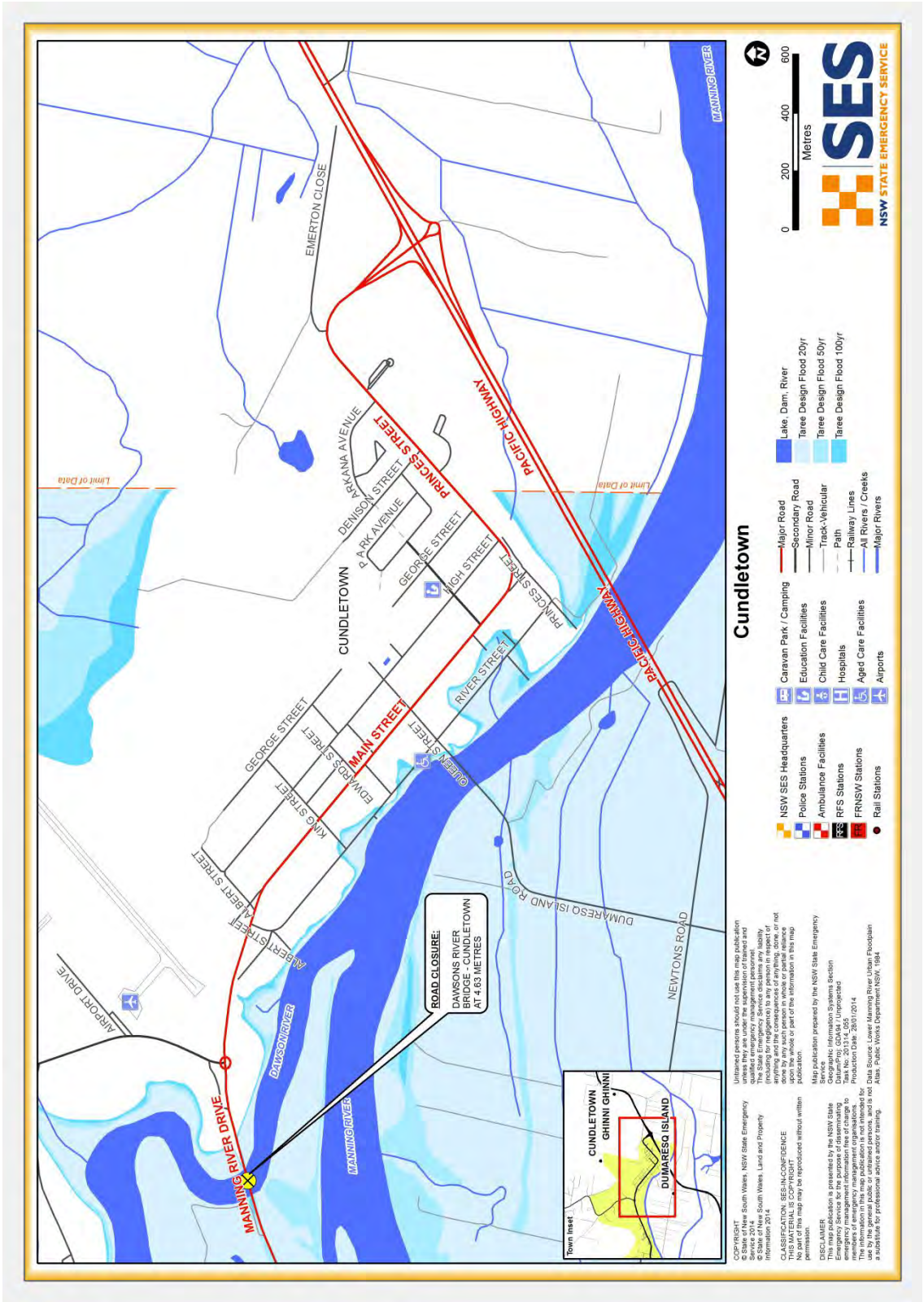
MAP 9 - HARRINGTON AND CROWDY HEAD TOWN MAP

Note: Flood extent mapping is not comprehensive for this area and should be interpreted with caution.



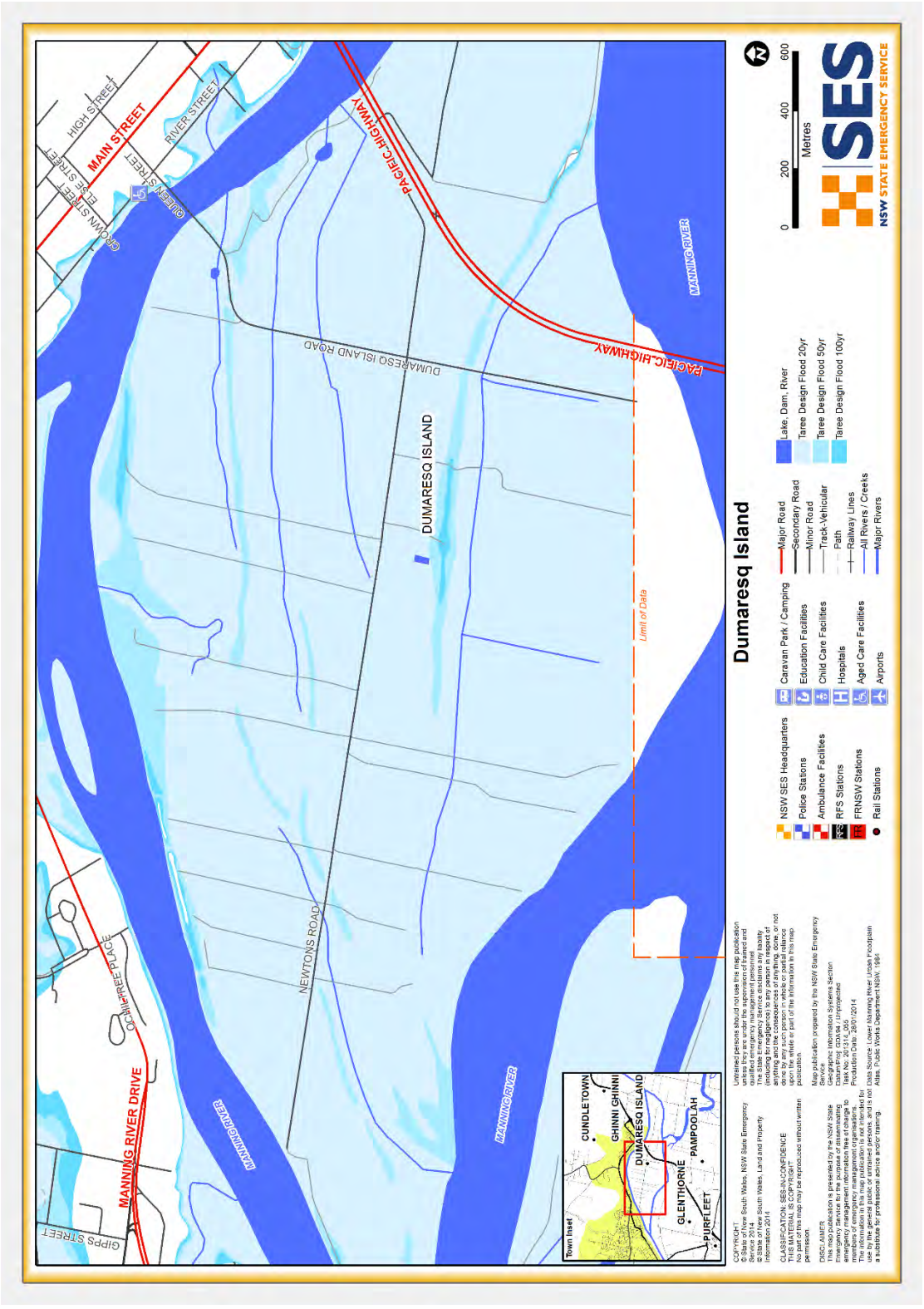
MAP 10 - CUNDLETOWN TOWN MAP

Note: Flood extent mapping is not comprehensive for this area and should be interpreted with caution.



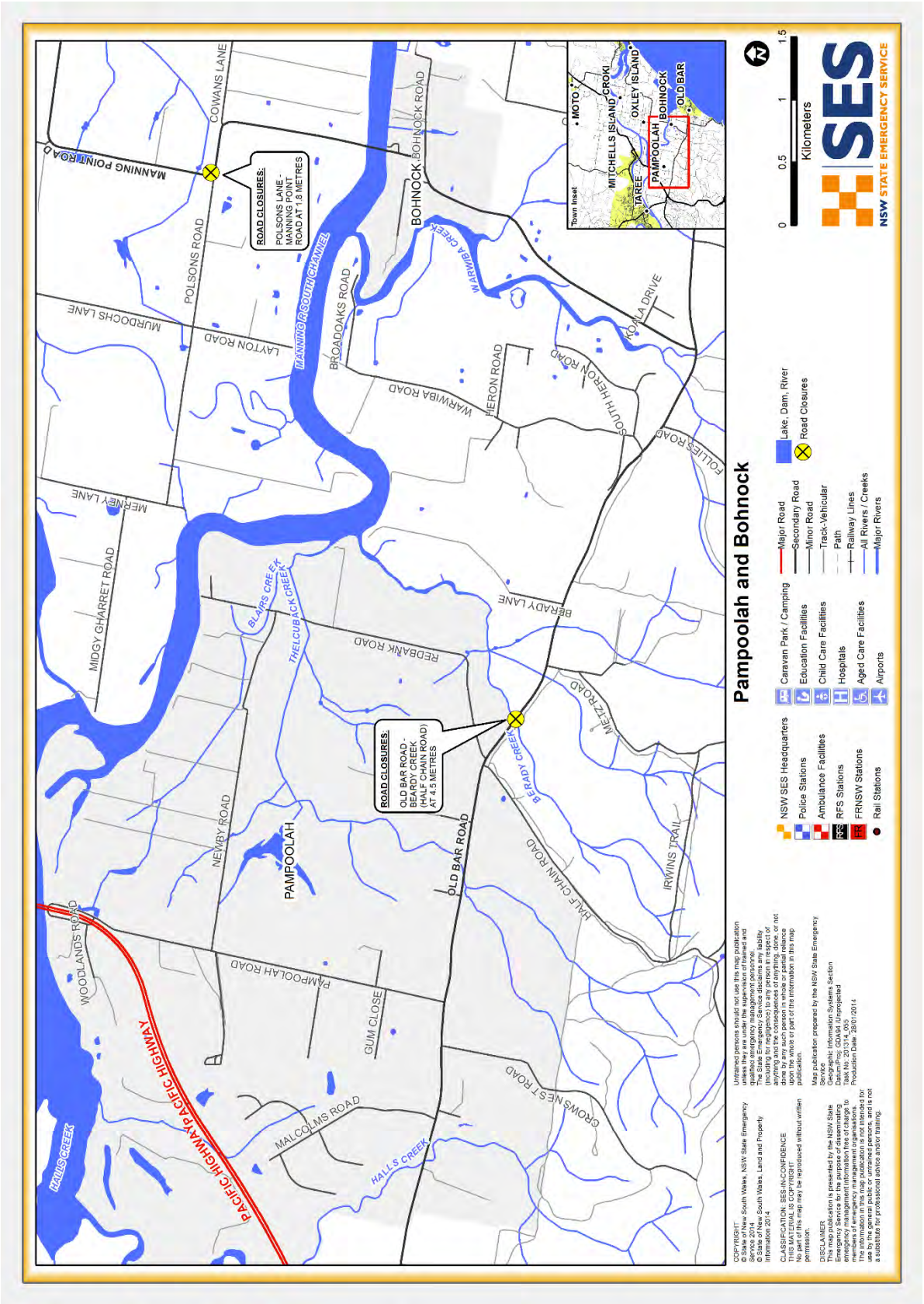
MAP 11 - DUMARESQ ISLAND TOWN MAP

Note: Flood extent mapping is not comprehensive for this area and should be interpreted with caution.



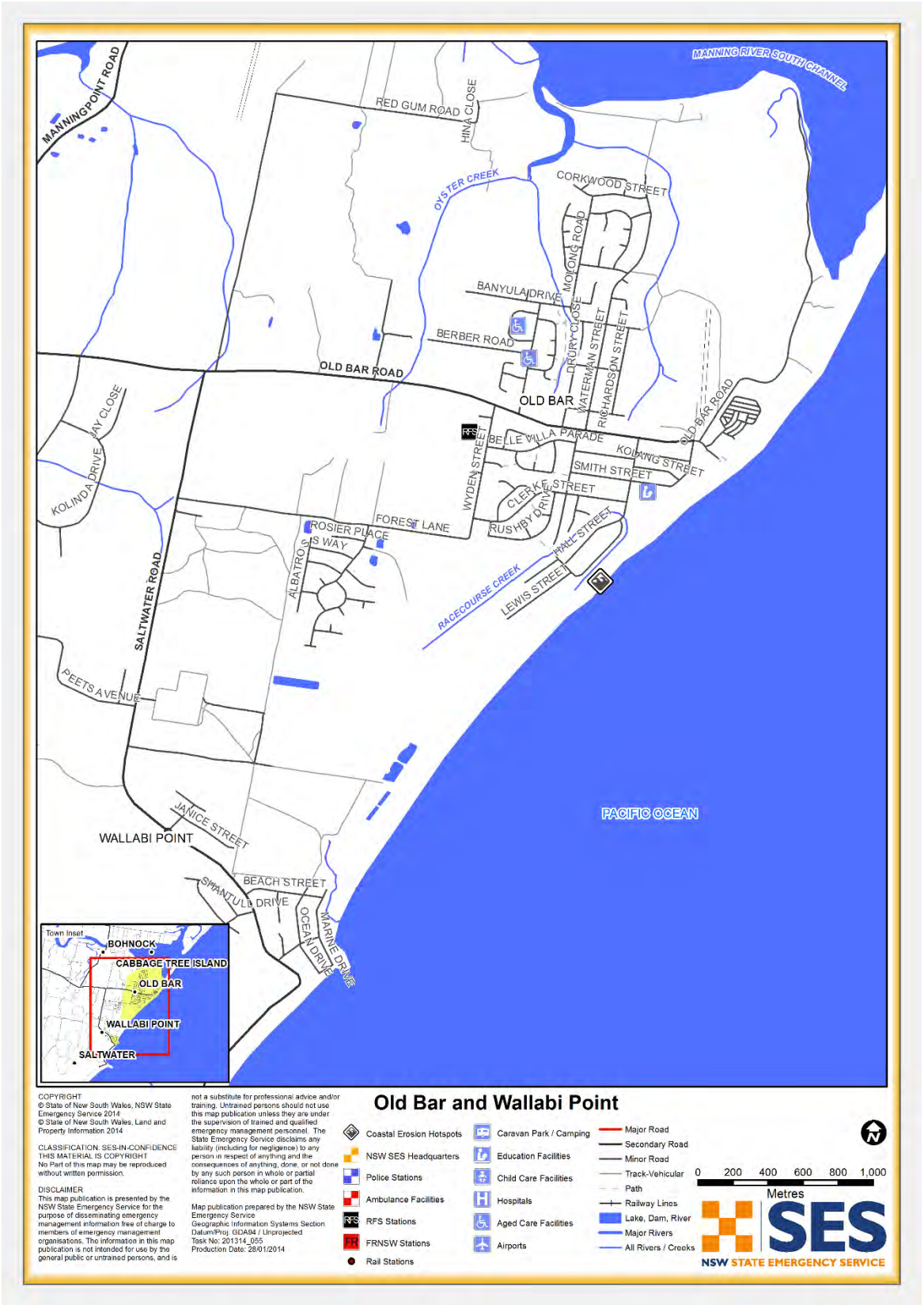
MAP 12 - PAMPOOLAH AND BOHNOCK TOWN MAP

Note: Digital flood extent mapping is not available for incorporation into this map.



MAP 13 - OLD BAR AND WALLABI POINT TOWN MAP

Note: Digital flood extent mapping is not available for incorporation into this map.



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SES RESPONSE ARRANGEMENTS FOR GREATER TAREE CITY

Volume 3 of the Greater Taree City Local Flood Plan

CONTENTS

Chapter 1: Flood Warning Systems and Arrangements

Chapter 2: SES Locality Response Arrangements

Chapter 3: SES Dam Failure Arrangements

Chapter 4: SES Caravan Park Arrangements

VERSION LIST

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

Description	Date

AMENDMENT LIST

Suggestions for amendments to this Volume should be forwarded to:

The Greater Taree Local Controller

NSW State Emergency Service

P.O. Box 1011, TAREE NSW 2430

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

Amendment Number	Description	Updated by	Date

GREATER TAREE CITY: FLOOD WARNING SYSTEMS AND ARRANGEMENTS

Chapter 1 of Volume 3 (NSW SES Response Arrangements for Greater Taree City) of the Greater Taree City Local Flood Plan

Last Update: December 2014

AUTHORISATION

Greater Taree: Flood Warning Systems and Arrangements has been prepared by the NSW State Emergency Service (NSW SES) as part of a comprehensive planning process.

Approved

Manager Emergency Risk Management

Date: 21/10/14

Approved

NSW SES Mid North Coast Region Controller

Date: 11/12/14

Tabled at LEMC Date:

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AUTHORISATION 1

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2. DISSEMINATION OPTIONS FOR NSW SES FLOOD INFORMATION AND WARNING PRODUCTS 5

1. GAUGES MONITORED BY THE NSW SES TAREE CITY LOCAL HEADQUARTERS

Table 1: Gauges monitored by the NSW SES Taree Local Headquarters

Gauge Name	Type	AWRC No.	Bureau Gauge No.	Stream	Flood level classification			Special Reading Arrangements	Owner
					MIN	MOD	MAJ		
Lansdowne	Telemeter	208015		Lansdowne River	-	-	-		
Dingo Creek	Manual	208017		Dingo Creek	-	-	-		
Dingo Creek (Munyaree Flat)^	Telemeter	208019		Dingo Creek	-	-	-		
Forbesdale	Telemeter	208006		Gloucester River	-	-	-		
Forbesdale (Faulklands)	Manual	208008		Gloucester River	-	-	-		
Campbell's No 1	Manual	208021		Manning River	-	-	-		
Doon Ayr^	Telemeter	208003		Gloucester River	-	-	-		
Cundleflat	Manual	208900		Manning River	-	-	-		
Mount George^	Telemeter	208901		Manning River	5.5	7.6	10.6		
Killawarra	Telemeter	208004		Manning River	-	-	-		
Wingham*‡^	Telemeter	208400		Manning River	4.88	8.88	11.88		
Taree[1] (Traffic Bridge)^ * ‡	Telemeter	208410		Manning River	1.78	2.38	3.68		
Rocks Crossing	Telemeter	208005		Manning River	-	-	-		
Croki*^	Telemeter	208404		Manning River	-	-	-		
Harrington Entrance*^	Telemeter	208425		Manning River	1.9	2.2	2.8		

Gauge Name	Type	AWRC No.	Bureau Gauge No.	Stream	Flood level classification			Special Reading Arrangements	Owner
					MIN	MOD	MAJ		
Manning Point	Telemeter	208406		Manning River	-	-	-		
Farquhar Inlet^	Telemeter	208415		Manning River	-	-	-		
Dumaresq Island Bridge^	Telemeter			Manning River	-	-	-		

Notes: [1] Taree (Traffic Bridge) is located 200m upstream of Martin Bridge.

The Bureau of Meteorology provides flood warnings for the gauges marked with an asterisk (*).

NSW SES Local Flood Advices are provided for the gauges marked with a single cross (†).

The NSW SES holds a Flood Intelligence Card for the gauges marked with a double cross (‡).

2. DISSEMINATION OPTIONS FOR NSW SES FLOOD INFORMATION AND WARNING PRODUCTS

The NSW SES Mid North Coast Region Headquarters distributes NSW SES Flood Bulletins, NSW SES Evacuation Warnings and NSW SES Evacuation Orders to the following regional media outlets and agencies:

Television Stations:

Station	Location
Prime TV	Port Macquarie
Prime TV	Taree
Ten Northern	Taree
NBN TV	Port Macquarie
NBN TV	Taree

Radio Stations:

Station	Location	Frequency	Modulation
Primary			
ABC Mid North Coast	Port Macquarie	95.5	FM
ABC Mid North Coast	Port Macquarie	756	AM
Secondary			
STAR FM	Port Macquarie	102.3	FM
2 MC	Port Macquarie	100.7	FM
MAX FM	Taree	107.3	FM
2RE	Taree	1557	AM
Easy Listening	Port Macquarie	531	AM
2TLP	Taree	(Ngarralinyi)	AM

Newspapers:

Name	Location
Wingham Chronicle	Wingham
Manning River Times	Taree

GREATER TAREE CITY: NSW SES LOCALITY RESPONSE ARRANGEMENTS

Chapter 2 of Volume 3 (NSW SES Response Arrangements for Greater Taree City) of the Greater Taree City Local Flood Plan

Last Update: December 2014

AUTHORISATION

NSW SES Locality Response Arrangements in Greater Taree City has been prepared by the NSW State Emergency Service (NSW SES) as part of a comprehensive planning process.

Approved

Manager Emergency Risk Management

Date: 30/10/14

Approved

NSW SES Mid North Coast Region Controller

Date: 11/12/14

Tabled at LEMC

Date:

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SECTOR OVERVIEW

These Sectors provide further detail of the planned response strategies within Communities in the Greater Taree City LGA.

Sector	Community	Sector Basis	Approximate total Number of properties within Sector[1]	Estimated no. of Properties potentially at risk of inundation
1	Wingham Central (Wingham Gauge – Bight Bridge)	High Flood Island from 10m, with rising road access to the evacuation centre located on the high flood Island	1000	25 houses and 11 businesses in a 15.3m flood (1%) 93 properties in a 22.3m flood (PMF)
2	Wingham Peninsula (Wingham Gauge – Bight Bridge)	Up to 100 year ARI at 15.3m rising road access to the PMF at 22.3m then overland refuge area on a low flood island	60	25 houses in a 12.7m flood (5% AEP) 45 houses in a 15.3m flood (1% AEP) 60 houses in a 22.3m flood (PMF)
3	Taree West (Taree Traffic Bridge Gauge)	Rising road access to 4.30m thereafter low flood island	30	13 houses in a 4.63m flood 21 houses in a 5.68m flood (1% AEP) 25 in a 9.7m flood (PMF)
4	Taree Central (Taree Traffic Bridge Gauge)	Rising road access to a high flood island in a PMF at 9.70m	6990	54 houses in a 4.63m flood (5% AEP) 66 houses and 100 businesses in a 5.68m flood (1% AEP) More than 227 houses in a 9.7m flood (PMF)
5	Tinonee (Taree Traffic Bridge Gauge)	High flood island	436	4 houses from a 5% AEP flood 5 up to a 4.5m flood.

[1] Properties with dwelling based on Land and Property Information 10cm GSD aerial photography (2013), Census (2011), Manning River Post Flood Study (2013), Wingham Flood Study (2011) and NSW Digital Cadastral Database (2014)

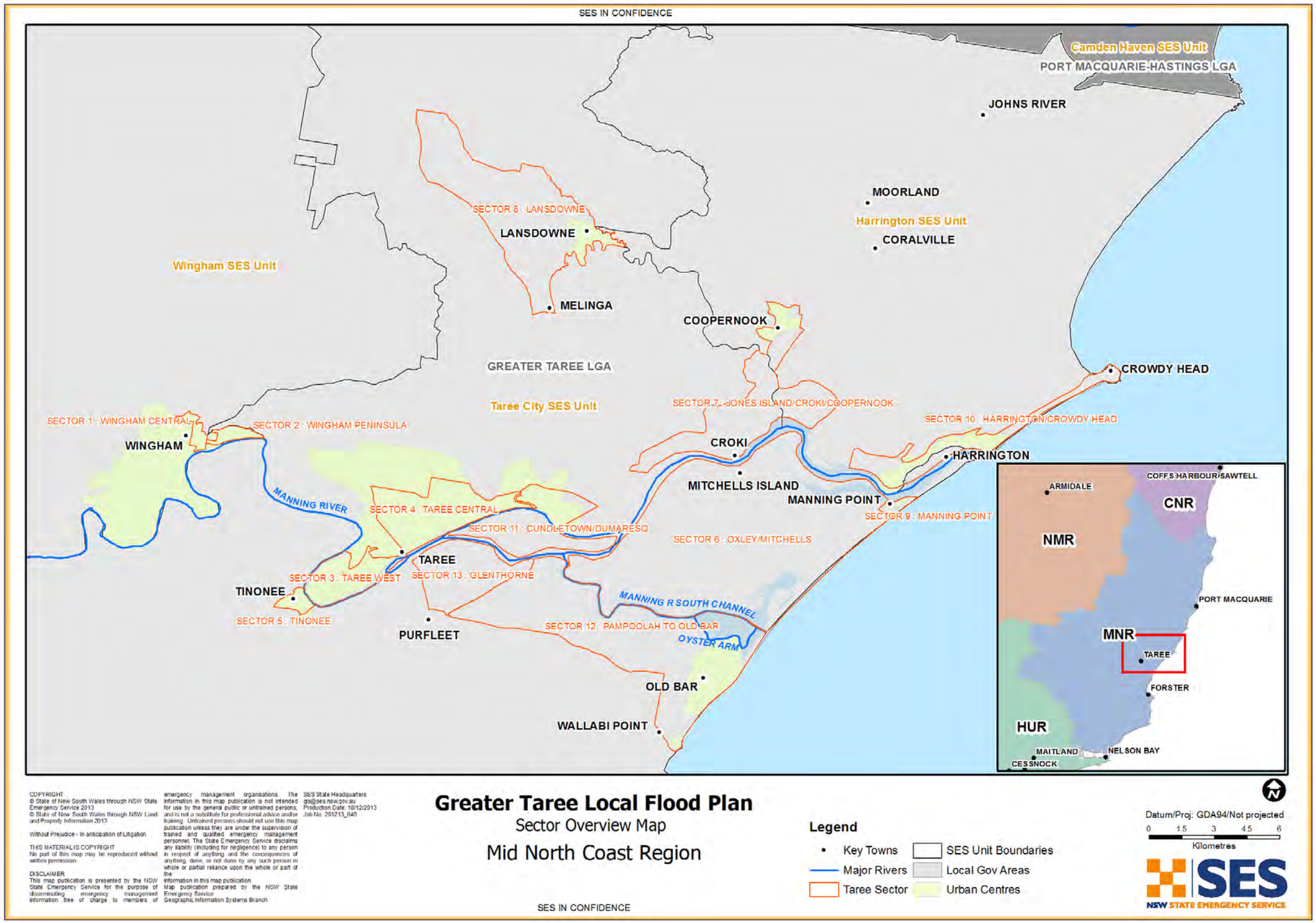
Sector	Community	Sector Basis	Approximate total Number of properties within Sector[1]	Estimated no. of Properties potentially at risk of inundation
				Numbers not available for larger floods up to a PMF (9.7m), but are likely to be larger
6	Oxley/Mitchells Islands (Taree Traffic Bridge Gauge)	The sector is characterised by both low and high flood islands with areas of farmland inundated. The sector is predominantly low density rural properties with minimal access routes from 1.80m - therefore becoming overland refuge areas.	119 Oxley 199 Mitchells	15 in a 5% AEP flood (4.63m) 41 in a 2% AEP flood (5.36m) 68 houses in a 1% AEP flood (57 Oxley, 11 Mitchells) (5.68m) Numbers not available for a PMF (9.7m), but are likely to be larger
7	Jones Island, Croki, Coopernook (Croki Gauge)	Croki is classified as a low flood island from the 5% floods at 2.46m. Coopernook is classified as a rising road access area to the 5% AEP at 2.46m then becoming an area with an overland escape route in a PMF.	228 Coopernook 114 Moto/Croki	All of Croki from 2.46m (5% AEP) Between Lansdowne and Coopernook 11 in a 5% AEP flood (2.46m) 43 in a 2% AEP flood (2.87m) 70 in a 1% AEP flood (3.07m)
8	Lansdowne (Lansdowne Gauge)	Rising Road Access for floods up to and including the PMF at 12.10m	244	10 in a PMF (12.1m)
9	Manning Point (Taree Traffic Bridge Gauge and Harrington Gauge)	Up to 100 year ARI event at 5.68m on the Taree Gauge - overland refuge area on a high flood island In a PMF at 9.70m on the Taree Gauge- low flood island	159	Relating to the Harrington Gauge: 23 in a 5% AEP flood (1.89m) 51 in a 2% AEP flood (2.1m) 56 in a 1% AEP flood (2.26m) All properties in a PMF (2.9m)
10	Harrington/Crowdy	High flood island up to a	1328	16 in a 5% AEP flood

Sector	Community	Sector Basis	Approximate total Number of properties within Sector[1]	Estimated no. of Properties potentially at risk of inundation
	Head (Harrington Gauge)	100 year ARI event at 2.26m. In a PMF at 5.40m only a small area remains flood free thus classifying the area as a Low Flood Island	Harrington 140 Crowdy Head	(1.89m) 60 in a 2% AEP flood (2.1m) 87 in a 1% AEP flood (2.26m) Numbers not available for a PMF (2.9m), but are likely to be larger; potentially up to 1328
11	Cundletown/Dumaresq (Taree Traffic Bridge Gauge)	Cundletown – rising road access up to a PMF at 9.70m Dumaresq Island – up to a 20 year ARI at 4.63m overland refuge to higher ground then a low flood island to PMF at 9.70m	785 Cundletown 26 Dumaresq Island	10 in 1% AEP (5.68m) and up to 26 in Dumaresq Island Cundletown: 7 in a 5% AEP flood (5.68m) 17 in a 2% AEP flood (5.36m) 24 in a 1% AEP flood (2.26m) Values unavailable for the PMF (9.7m)
12	Pampoolah to Old Bar (Taree Traffic Bridge Gauge)	Indirectly affected area with rising road access from 4.63m to the PMF at 9.70m when the sector becomes isolated.	146 Pampoolah 1990 Old Bar 230 Wallabi Point	37 in a 5% AEP flood (4.63m) 67 in a 2% AEP flood (5.36m) 84 in a 1% AEP flood (5.68m) The area is completely inundated in a PMF
13	Glenthorne (Taree Traffic Bridge Gauge)	Low Flood Island, with dwellings located on isolated mounds until around 4.50m, thereafter becoming inundated	111	111 from 4.5m (below the 5% AEP) The area becomes entirely inundated at this height

Table 1: Overview of Sectors in the Greater Taree City LGA.

Properties with dwelling based on Land and Property Information 10cm GSD aerial photography (2013), Census (2011), Manning River Post Flood Study (2013), Wingham Flood Study (2011) and NSW Digital Cadastral Database (2014)

Map 1: Greater Taree Sector Overview Map



1. WINGHAM CENTRAL SECTOR

Refer to Volume 2: Hazard and Risk in Greater Taree City for more information about this Sector/Community.

Sector Description	This sector comprises of the Wingham Township bordered by Stoney Creek to the North, Cedar Party Creek to the East and the Manning River to the South. The Wingham Township is the second largest urban center in the Council area and is at the upper limit of tidal influences on the Manning River. Access roads and the rail line to this sector may become impassable during major floods resulting in the isolation of approximately 4963 people for 3-5 days, depending on rainfall and river flow.		
Hazard	Inundation and isolation from- • Flash flooding from Stoney Creek and Cedar Party Creek • Riverine flooding from the Manning River (backwater flooding)		
Flood Affect Classification	High Flood Island from 10m, with Rising Road Access to the evacuation centre located on the High Flood Island up to and including the PMF.		
At risk properties	25 houses and 11 businesses in a 15.3m flood (1%) 93 properties in a 22.3m flood (PMF)	**Total number of properties within Sector/Community**	1000
Sector Control	**Command –** The Greater Taree Incident Controller will remain in Command of all evacuations in the local area. **Control –** The Wingham SES Incident Controller will control all evacuations in this sector. **Coordination -** The Wingham SES Unit will conduct evacuations in this sector and coordinate supporting agencies.		
Key Warning Gauge Name:- Wingham	**Minor:** 4.88m	**Moderate:** 8.88m	**Major:** 11.88m

(208902) (Bight Bridge, Longitude 152.3667°E Latitude 31.8750°S)			

General Strategy	• Manage operations in response to predicted heights indicating likely consequences that pre-empt appropriate actions.
	• Issue of early warning of flood level impacts and potential isolation.
	• Evacuation of at risk population:
	  ○ Self-evacuation to friends/family outside the impact area.
	  ○ Establishment of an Assembly Area/Evacuation Centre in accordance with the Welfare Services Functional Area Coordinator.
	• Resupply in accordance with NSW SES Greater Taree Local Flood Emergency Sub Plan.		

Key Risks / Consequences	• The Manning River can be expected to rise quickly. During the flood of 1978 rates of rise as high as 1.5m per hour occurred at Wingham and upstream. Flooding since this event has been in the order of 0.5m per hour. • The sector may become isolated for 3-5 days from 10.00m due to the flooding of Cedar Party Creek Bridge to the East, Dingo Creek Bridge to the West and Peter Garret (Stoney Creek) Bridge to the North. • Low lying properties may start to inundate from 10.30m. • Lower sections of Wingham Court Nursing Home may start to inundate from 12m. **Note:** Potential high rates of rise within Stoney Creek, Cedar Party Creek and Manning River present high likelihood of flood rescue operations.		

Information and Warnings	NSW SES Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Mid North Coast Region will issue timely, relevant and tailored information to the public in the following formats:
	• NSW SES Bulletins
	  ○ Flood Watch
	  ○ Flood Warning
	  ○ Equipment, Livestock and Aquaculture Warnings
	  ○ Media Release such as– Isolation Warnings
	• Evacuation Warning		

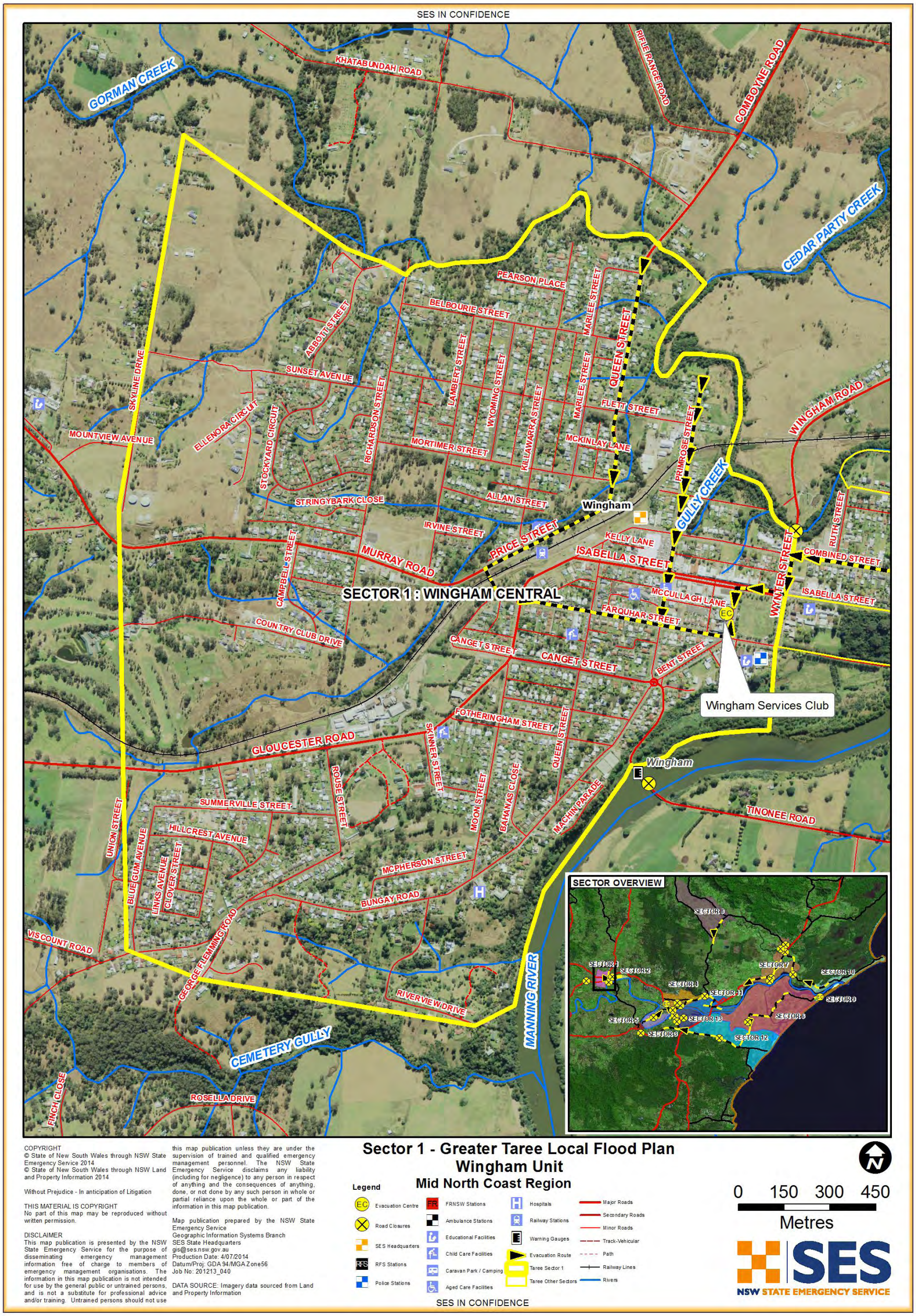
	• Evacuation Order • All Clear • Emergency Alert • Standard Emergency Warning Signal (SEWS) • Sequenced door knocking • Media briefing • Interagency LEMC briefings • Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.
Property Protection	**Specific property protection measures:** The following institutions and facilities may require evacuation. • Wingham Court Nursing Home (Lower Level Units) (104 residents)
	Assistance with property protection: NSW SES will monitor rising flood waters and provide the following assistance for flood-threatened properties where time and resources permit - • Relocation of personal property for at risk locations • Relocation of livestock in consultation with Local Land Services • Relocate moveable at risk public assets • Control surface water through sandbagging • Monitor integrity of dwellings surrounded by flood waters Storage facilities are available commercially or at the Wingham Showground in exigent circumstances.
	Protection of essential infrastructure: Greater Taree City Council (Roads), Mid Coast Water (Water / Sewerage) and Essential Energy (Electricity) have responsibility for preparing and implementing emergency response arrangements for the protection of essential infrastructure within the sector. This includes: • The Pad substation supplying part of the CBD and Wingham Services Club and the pole substation supplying Wingham Fire Station and Police Station. • The Pump stations at Wingham Road and Primrose St.
Evacuation and/or	**Wingham Gauge (208902):**

Isolation Triggers	• **Prediction to reach and/or exceed 10m** – If this level is predicted Cedar Party Creek Bridge to the East, Dingo Creek Bridge to the West and the Peter Garret (Stoney Creek) Bridge to the North may close causing the sector to be isolated for 3-5 days. Persons wishing to travel into or out of the sector will need to leave prior to this height. Access within the sector, including the evacuation centre and shops is still available. • **Prediction to reach and/or exceed 10.50m** – If this level is predicted evacuations may be required for properties in Mortimer Street East, Combined Street, Queen Street North and Primrose Street. • **Prediction to reach and/or exceed 12.70m** – If level is predicted evacuations may be required for Wingham Court Nursing Home (lower level hostel units), low lying parts of Isabella Street and Flett Street. Failure of essential services or persons who are not prepared for isolation may prompt evacuation requirements.
Sequencing of evacuation	Evacuation sequencing will prioritized based on risk at the triggers for identified properties and/or locations. 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 from impacted properties. These properties would be dealt with on a case by case basis in conjunction with NSW Police and the Welfare Services Functional Area Coordinator. It is anticipated that evacuation will take approximately 6 hours. Field teams should not waste time dealing with people who are reluctant or refuse to comply with an evacuation order and should be referred to the LEMO.
Evacuation Routes	As per the sector map - evacuation routes to the evacuation center locations are bounded by the intersections of Queen Street (North), Price Street, Moon Road, Farquhar Street, Bent Street, Isabella Street, Wynter Street and Combined Street Wingham.
Evacuation Route Closure	Evacuation routes within the sector to the evacuation center are flood free. Where due to extreme conditions evacuation routes are compromised alternate routes via higher ground are accessible via rising road access.

Method of Evacuation	• Evacuations should reflect the principles outlined in Evacuation Planning Handbook (1) • Self-evacuation by private transport to the evacuation center • With assistance of NSW SES or emergency services to the evacuation center • At risk residents will be advised via warnings issued and or door knocks from emergency services personnel advising of evacuation details and arrangements
Evacuation Centre	The following facilities may be used as evacuation centers at the direction of the Welfare Services Functional Area Coordinator: • Wingham Services Club – Primary • Wingham Town Hall – Secondary
Large scale evacuations	Large scale evacuations would be unlikely in this sector. As the majority of the sector is located above the PMF.
Rescue	The Wingham SES Unit located within the sector will undertake all Flood Rescue Operations in accordance with the responsibilities outlined in the Flood Emergency Sub Plan.
Resupply	It is unlikely the sector will require resupply for the 3-5 days of isolation. Where resupply is required to the sector it will be in accordance with the Greater Taree Local Flood Emergency Sub Plan.
Aircraft Management	**Helicopter Landing Points:** Suitable landing points are located at: • Central Park, Wingham • Wingham High School • Wingham Showground • Wingham Sporting Complex Landing sites within the sector will be dependent on the prevailing conditions and operational requirements. The final decision rests with the Pilot.
	Airports: The sector is serviced by the Taree Airport at Taree (S 31 53.3 E 152 30.8). Access to this airport is lost at 10m, when the sector becomes isolated. Taree Airport details include:

	• Fixed wing aircraft including C-130, Dash –8 and Saab 340 models. • Paved runway with landing lights. Refuelling facilities are available. • The northern third of the airport is susceptible to flooding; however, the remainder is still useable by STOL aircraft.
Other	

1.1. WINGHAM CENTRAL SECTOR MAP



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Sector 1 - Greater Taree Local Flood Plan
Wingham Unit
Mid North Coast Region

Legend
- Evacuation Centre
- Road Closures
- SES Headquarters
- RFS Stations
- Police Stations
- FRNSW Stations
- Ambulance Stations
- Educational Facilities
- Child Care Facilities
- Caravan Park / Camping
- Aged Care Facilities
- Hospitals
- Railway Stations
- Warning Gauges
- Evacuation Route
- Taree Sector 1
- Taree Other Sectors
- Major Roads
- Secondary Roads
- Minor Roads
- Track-Vehicular
- Path
- Railway Lines
- Rivers

0 150 300 450
Metres

NSW STATE EMERGENCY SERVICE

SES IN CONFIDENCE

2. WINGHAM PENINSULA SECTOR

Refer to Volume 2: Hazard and Risk in Greater Taree City for more information about this Sector/Community.

Sector Description	This sector is the entire Wingham Peninsula bordered by Cedar Party Creek to the North, the Manning River to the South East and the Wingham Township by West Apple Tree Street, Rowley Street and Isabella Street. The sector is predominantly rural residential with a population of approximately 350 people. Being at the confluence of Cedar Party Creek and the Manning River this sector is particularly hazardous. Much of the sector is low lying with flood depths across the sector possibly exceeding 1m and flowing quicker than 1m per second. Evacuation routes out of the sector will close early in an event, depending on rainfall and river flow.		
Hazard	Inundation and isolation from- • Cedar Party Creek • Manning River		
Flood Affect Classification	• Up to 100 year ARI (1% AEP, approximately 15.3m) Rising Road Access • PMF 22.3m – Overland Refuge Area and Low Flood Island		
At risk properties	25 houses in a 12.7m flood (5% AEP) 45 houses in a 15.3m flood (1% AEP) 60 houses in a 22.3m flood (PMF)	**Total number of properties within Sector/Community**	60
Sector Control	**Command –** The Greater Taree Incident Controller will remain in Command of all evacuations in the local area. **Control –** The Wingham SES Incident Controller will control all evacuations in this sector.		

	Coordination - The Wingham SES Unit will conduct evacuations in this sector and coordinate supporting agencies.		
Key Warning Gauge Name - Wingham (Bight Bridge, Longitude 152.3667°E Latitude 31.8750°S)	**Minor:** 4.88m	**Moderate:** 8.88m	**Major:** 11.88m
General Strategy	• Manage operations in response to predicted heights indicating likely consequences that pre-empt appropriate actions • Issue of early warning of flood level impacts and potential isolation • Establishment of an evacuation center • Evacuation of at risk population • Relocate at risk livestock • Identification of a suitable helicopter landing zone		
Key Risks / Consequences	• **Prediction to reach and/or exceed** 10.00m –the sector may become isolated and may remain isolated up to 3 days. Cedar Party Creek Bridge to the East, Dingo Creek Bridge to the West and Peter Garret (Stoney Creek) Bridge to the North may close causing the isolation. • **Prediction to reach and/or exceed** 11.20m - over-floor flooding in the sector commences and laneways on the peninsular may close due to rising water • **Prediction to reach and/or exceed** 12.70m –large sections of the sector are flooded – evacuation routes lost. Evacuation of the sector is to be completed prior this height **Note:** The Manning River can be expected to rise quickly. During the flood of 1978 rates of rise as high as 1.5m per hour occurred at Wingham and upstream. In more recent floods it has been in the order of 0.5m per hour. There is potential for high rates of rise and fast flow rates from Cedar Party Creek and the Manning River. This presents a high likelihood of flood rescue operations being required.		
Information and Warnings	NSW SES Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Mid North Coast Region will issue timely, relevant and tailored information to the public in the following formats: • NSW SES Bulletins		

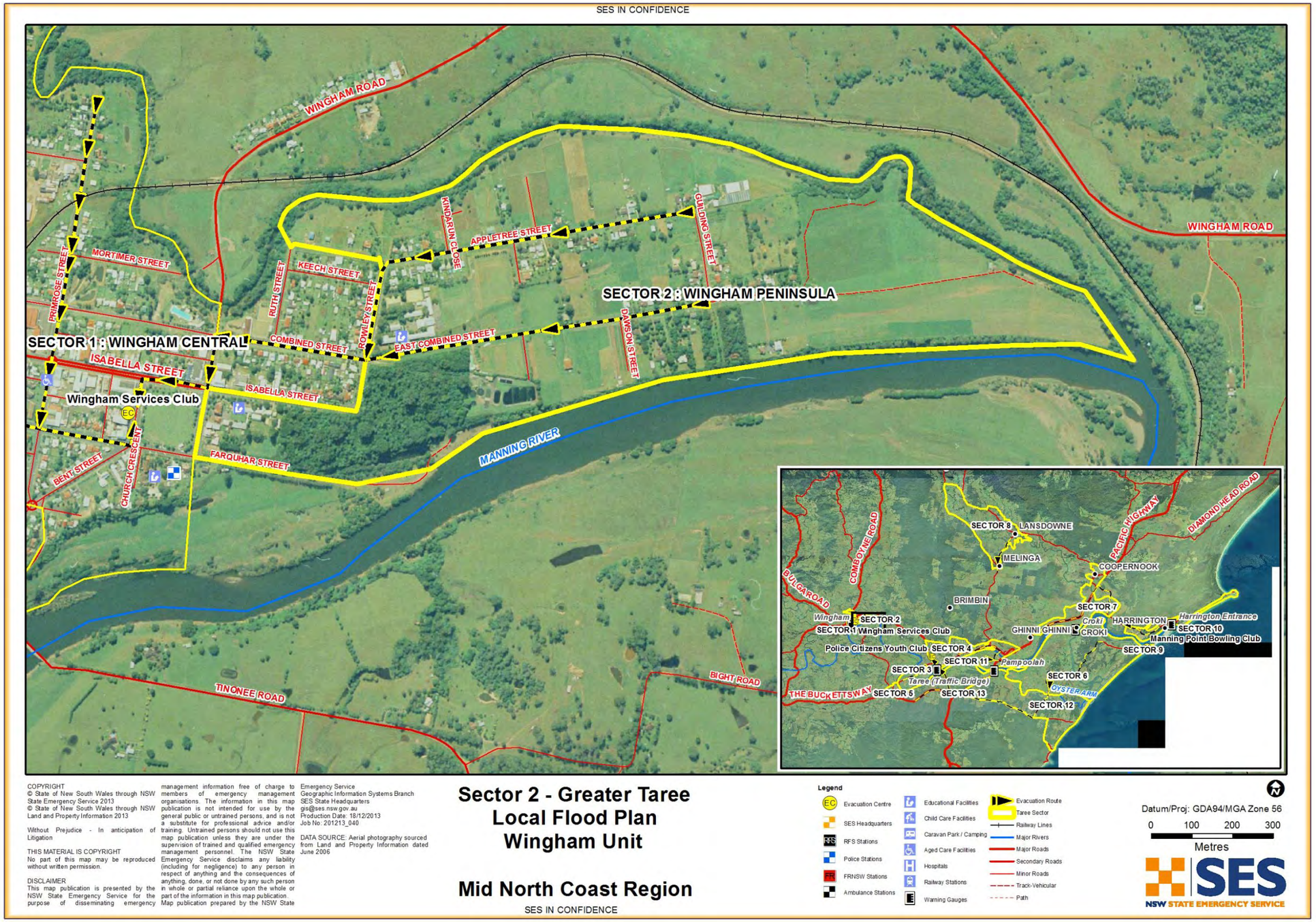
	○ Flood Watch ○ Flood Warning ○ Equipment, Livestock and Aquaculture Warnings ○ Media Release such as– Isolation Warnings • Evacuation Warning • Evacuation Order • All Clear • Emergency Alert • Standard Emergency Warning Signal (SEWS) • Sequenced door knocking • Media briefing • Interagency LEMC briefings • Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.
Property Protection	**Assistance with property protection:** NSW SES will monitor rising flood waters and provide the following assistance for flood-threatened properties where time and resources permit - • Relocation of personal property for at risk locations • Relocation of livestock in consultation with Local Land Services • Relocate moveable at risk public assets • Control surface water through sandbagging • Monitor integrity of dwellings surrounded by flood waters. Storage facilities are available commercially or at the Wingham Showground in exigent circumstances.
	Protection of essential infrastructure: Greater Taree City Council (Roads), Mid Coast Water (Water / Sewerage) and Essential Energy (Electricity) have responsibility for preparing and implementing emergency response arrangements for the protection of essential infrastructure within the sector including: • The Substation supplying the Sewerage Treatment Works at Combined St. • The Sewerage Treatment Works itself and pump station on Coroma Pl.

Evacuation and/or Isolation Triggers	This sector has a flood classification of rising road access to a **low flood island** in a PMF at 22.30m – Evacuations in this sector are to be conducted incrementally as predicted flood heights become known and the impact extent established. **All evacuations are to be completed prior to 12.70m** **Wingham gauge (208902)** • **Prediction to reach and/or exceed** 10m –Cedar Party Creek Bridge to the East, Dingo Creek Bridge to the West and the Peter Garret (Stoney Creek) Bridge to the North may close causing the sector to be isolated from all but the Wingham Central Sector, were an evacuation centre will be located at the direction of the Welfare Services Coordinator if required. • **Prediction to reach and/or exceed** 10.30m –evacuations may be required for properties within the sector. • **Prediction to reach and/or exceed** 11.20m –over-floor flooding in the sector commences and laneways on the peninsular may close. • **Prediction to reach and/or exceed** 12.70m –large sections of the sector are flooded – evacuation routes lost. Failure of essential services or persons who are not prepared for isolation may prompt evacuation requirements.
Sequencing of evacuation:	Evacuation sequencing will be as per the triggers for identified at risk properties: 1. The low lying properties in Guilding St, Mortimer St, Combined St, Queen St North, Primrose St and West Appletree St. 2. The remainder of the sector must be evacuated by 12.7m. In most floods, the evacuation tasks will only involve a small number of people from impacted properties. These properties would be dealt with on a case by case basis in conjunction with NSW Police and the Welfare Services Functional Area Coordinator. It is anticipated that evacuation will take approximately 6 hours. Field teams should not waste time dealing with people who are reluctant or refuse to comply with an evacuation order and should be referred to the LEMO.
Evacuation Routes	**From Wingham Peninsula:** • Apple Tree St to Wingham Central Sector • Combined St to Wingham Central Sector.

Evacuation Route Closure	Individual houses located on Wingham Peninsula may lose access to evacuation routes incrementally as water levels rise, due to the flooding of laneways leading from houses to evacuation routes Evacuation routes from Wingham Peninsula are expected to be closed at ~12.70m.
Method of Evacuation	• Evacuations should reflect the principles outlined in Evacuation Planning Handbook (1) • Self-evacuation by private transport to the evacuation center • With assistance of NSW SES or emergency services to the evacuation center • At risk residents will be advised via warnings issued and or door knocks from emergency services personnel advising of evacuation details and arrangements.
Evacuation Centre	• *The following facilities may be used as evacuation centres (at the direction of The Welfare Services Functional Area Coordinator):* o Wingham Services Club - Primary o Wingham Town Hall - Secondary
Large scale evacuations	In a large or full evacuation - required from approximately 12.70m. Evacuees will be moved to the evacuation assembly area and or center identified by the NSW SES Incident Controller in consultation with the Community Services Functional Support Area. Evacuations will be conducted incrementally as the flood height predictions become known and the impact extent established. Evacuations will be staged- **Stage 1:** Evacuation of the elderly, sick and frail as well as families with young children. Evacuation will be by way of road along higher ground to the nominated assembly point or center – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 2:** Evacuation of all persons not required for emergency operations. Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be

	utilized. **Stage 3:** Full evacuation of the sector (including emergency service personnel). Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized NSW Police will be responsible for security of evacuated areas Population densities within the sector would not exceed capacity of the surrounding evacuation centers and services.
Rescue	The Wingham SES Unit will undertake all Flood Rescue Operations in accordance with the responsibilities outlined in the Flood Emergency Sub Plan.
Resupply	It is unlikely the sector will require resupply as it will be subject to an evacuation order. If resupply is required to the sector it will be in accordance with the Greater Taree Local Flood Emergency Sub Plan.
Aircraft Management	**Helicopter Landing Points:** Suitable landing points are located at: • Wingham High School • Central Park, Wingham • Wingham Showground • Wingham Sporting Complex. Landing sites within the sector will be dependent on the prevailing conditions and operational requirements. The final decision rests with the Pilot.
	Airports: The sector is serviced by the Taree Airport at Taree (S 31 53.3 E 152 30.8). Access to this airport is lost at 10m, when the sector becomes isolated. Taree Airport details include: • Fixed wing aircraft including C-130, Dash –8 and Saab 340 models. • Paved runway with landing lights. Refuelling facilities are available. • The northern third of the airport is susceptible to flooding, however, the remainder is still useable by STOL aircraft.
Other	

2.1. WINGHAM PENINSULA SECTOR MAP



3. TAREE WEST SECTOR

Refer to Volume 2: Hazard and Risk in Greater Taree City for more information about this Sector/Community.

Sector Description	This sector (also referenced as Taree Estate) is located west of the Taree township and is predominantly low lying rural land on a meander bend of the Manning River. Residences within the lower lying areas are generally positioned on raised earthworks. The majority of the sector is flood prone and likely to experience high hazard flooding consisting of deep fast flowing flood waters.		
Hazard	Inundation and isolation from the Manning River		
Flood Affect Classification	Rising Road Access to 4.30m thereafter Low Flood Island		
At risk properties	13 houses in a 4.63m flood 21 houses in a 5.68m flood (1% AEP) 25 in a 9.7m flood (PMF)	**Total number of properties within Sector/Community**	30
Sector Control	**Command –** The Greater Taree Incident Controller will remain in Command of all evacuations in the local area. **Control –** The Taree City SES Incident Controller will control all evacuations in this sector. **Coordination -** The Taree City SES Unit will conduct evacuations in this sector and coordinate supporting agencies.		
Key Warning Gauge Name – Taree Traffic Bridge (Longitude = 152.4550°E Latitude =-31.9200°S)	**Minor:** 1.78m	**Moderate:** 2.38m	**Major:** 3.68m
General Strategy	• Manage operations in response to predicted heights		

	indicating likely consequences that pre-empt appropriate actions • Issue of early warning of flood level impacts and potential isolation • Establishment of an evacuation centre • Evacuation of at risk population • Relocation of at risk livestock • Identification of a suitable helicopter landing zones
Key Risks / Consequences	• **Prediction to reach and/or exceed** 1.80m –low lying areas begin to inundate relocation of equipment and livestock may be required • **Prediction to reach and/or exceed** 3.68m –flooding commences to impact upon properties within the sector, properties at risk of over floor flooding – evacuations will be required from this height • **Prediction to reach and/or exceed** 4.30m - road access to the sector closes. **Note:** Water flowing through this sector can be deep and fast flowing. In 1978 the rate of rise was ~0.4m per hour

Information and Warnings	NSW SES Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Mid North Coast Region will issue timely, relevant and tailored information to the public in the following formats:
	• NSW SES Bulletins
	  ○ Flood Watch
	  ○ Flood Warning
	  ○ Equipment, Livestock and Aquaculture Warnings
	  ○ Media Release such as– Isolation Warnings
	• Evacuation Warning
	• Evacuation Order
	• All Clear
	• Emergency Alert
	• Standard Emergency Warning Signal (SEWS)
	• Sequenced door knocking
	• Media briefing
	• Interagency LEMC briefings
	Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.

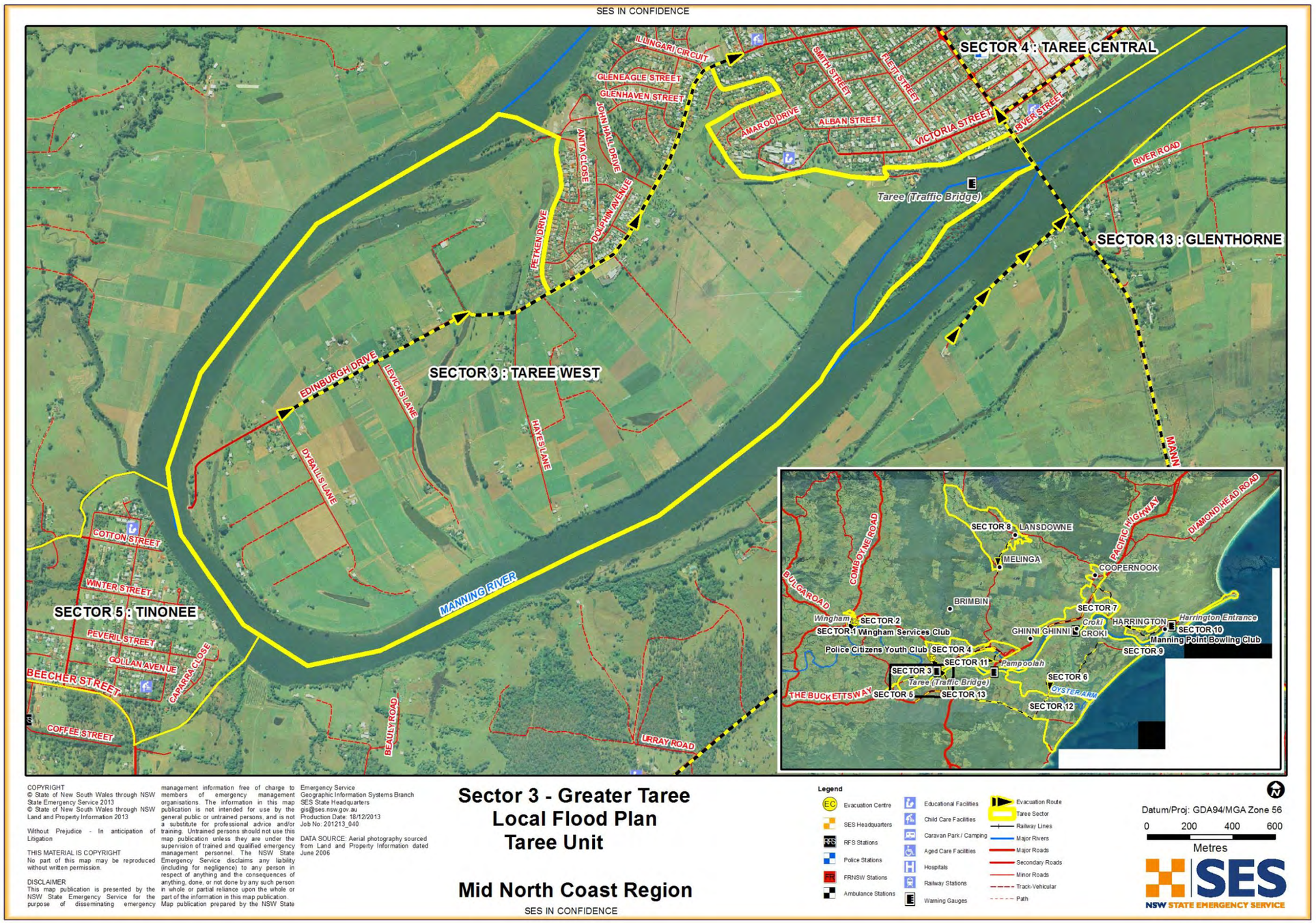
Property Protection	**Assistance with property protection**: NSW SES will monitor rising flood waters and provide the following assistance for flood-threatened properties where time and resources permit - • Relocation of personal property for at risk locations • Relocation of livestock in consultation with Local Land Services • Relocate moveable at risk public assets • Control surface water through sandbagging • Monitor integrity of dwellings surrounded by flood waters
	Protection of essential infrastructure: Greater Taree City Council (Roads), Mid Coast Water (Water / Sewerage) and Essential Energy (Electricity) have responsibility for preparing and implementing emergency response arrangements for the protection of essential infrastructure within the sector: • Edinburgh Dr Pole Sub
Evacuation and/or Isolation Triggers	This sector has a flood classification of rising road access up to 4.30m then a **low flood island** – Evacuations in this sector are to be conducted incrementally as predicted flood heights become known and the impact extent established. **All evacuations are to be completed prior to 4.30m**. The effects on this sector are dependent on **tidal influences**. Tidal levels will need to be identified at the onset of main Manning River flooding. Taree Traffic Bridge Gauge (208410) • **Prediction to reach and/or exceed 3.68m** – If this level predicted flooding commences to impact upon properties within the sector, properties at risk of over floor flooding – evacuations will be required from this height • **Prediction to reach and/or exceed 4.30m** – If this level predicted the only road access to the sector closes at the Figtree Bridge evacuations to be completed prior to this height Failure of essential services or persons who are not prepared for isolation may prompt evacuation requirements.
Sequencing of evacuation	Evacuation sequencing will be as per the triggers for identified at risk properties.

	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 from impacted properties. These properties would be dealt with on a case by case basis in conjunction with NSW Police and The Welfare Services Functional Area Coordinator. It is anticipated that evacuation will take approximately 6 hours. Field teams should not waste time dealing with people who are reluctant or refuse to comply with an evacuation order and should be referred to the LEMO.
Evacuation Routes	Via Edinburgh Drive to the Taree Central Sector evacuation centres.
Evacuation Route Closure	Individual houses within this sector may lose access to evacuation routes due to flooding of laneways leading from houses to the main evacuation route. The evacuation route in this sector closes at 4.30m.
Method of Evacuation	• Evacuations should reflect the principles outlined in Evacuation Planning Handbook (1) • Self-evacuation by private transport to the evacuation center • With assistance of NSW SES or emergency services to the evacuation center • At risk residents will be advised via warnings issued and or door knocks from emergency services personnel advising of evacuation details and arrangements.
Evacuation Centre	The following facilities may be used as evacuation centres (at the direction of The Welfare Services Functional Area Coordinator): • Club Taree – Primary • Taree High School – Secondary.
Large scale evacuations	In a large or full evacuation - Evacuees will be moved to the evacuation assembly area and or center identified by the NSW SES Incident Controller in consultation with the Community Services Functional Support Area. Evacuations will be conducted incrementally as the flood height

	predictions become known and the impact extent established. Evacuations will be staged. **Stage 1:** Evacuation of the elderly, sick and frail as well as families with young children. Evacuation will be by way of road along higher ground to the nominated assembly point or center – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 2:** Evacuation of all persons not required for emergency operations. Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 3:** Full evacuation of the sector (including emergency service personnel). Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized. NSW Police will be responsible for security of evacuated areas. Population densities within the sector would not exceed capacity of the surrounding evacuation centers and services.
Rescue	The Taree SES Unit will undertake all Flood Rescue Operations in accordance with the responsibilities outlined in the Flood Emergency Sub Plan.
Resupply	It is unlikely the sector will require resupply as it will be subject to an evacuation order. If resupply is required it will be in accordance with the Greater Taree Local Flood Emergency Sub Plan.
Aircraft Management	**Helicopter Landing Points:** • Taree Aerodrome. Landing sites within the sector will be dependent on the prevailing conditions and operational requirements. The final decision rests with the Pilot.
	Airports: The sector is serviced by the Taree Airport at Taree (S 31 53.3 E

	152 30.8). • Fixed wing aircraft including C-130, Dash –8 and Saab 340 models. • Paved runway with landing lights. Refuelling facilities are available. • The northern third of the airport is susceptible to flooding; however, the remainder is still useable by STOL aircraft. Road access to Taree Airport can be lost at ~4.63m Airport operations are limited from 5.43m with floodwaters reducing the length of the runway.
Other	

3.1. TAREE WEST SECTOR MAP



4. TAREE CENTRAL SECTOR

Refer to Volume 2: Hazard and Risk in Greater Taree City for more information about this Sector/Community.

Sector Description	This sector comprises the lower parts of the Taree Central Business District and the residential / business areas of the lower end of Browns Creek. During a 100 year ARI (1% AEP, approximately 5.70m) the lower parts of Taree CBD can be impacted by high hazard flooding with low points inundated to a depth of 3.00m impacting ~80 properties. In the lower end of Browns Creek over floor flooding to a depth of 2.00m impacts ~80 properties. The sector is broadly bounded by the Dawson River to the North, Manning River to the East, Commerce Street and Wingham Road to the South and Bushland and Kanangra Drives to the West. The majority of the sector is located on high ground with only the low lying areas adjacent to the Manning River, Browns Creek and Dawson River subject to flooding. Evacuation from this sector is possible throughout the PMF (9.70m) to high ground - the sector can become isolated in a 20 year (5% AEP) ARI at 4.63m.		
Hazard	Riverine flooding and isolation from – • Browns Creek • Dawson River • Manning River		
Flood Affect Classification	Rising Road Access to a High Flood Island in a PMF at 9.70m.		
At risk properties	54 houses in a 4.63m flood (5% AEP) 66 houses and 100 businesses in a 5.68m flood (1% AEP)	**Total number of properties within Sector/Community**	6990

	More than 227 houses in a 9.7m flood (PMF)		
Sector Control	**Command –** The Greater Taree Incident Controller will remain in Command of all evacuations in the local area. **Control –** The Taree City SES Incident Controller will control all evacuations in this sector. **Coordination -** The Taree City SES Unit will conduct evacuations in this sector and coordinate supporting agencies.		
Key Warning Gauge Name – Taree Traffic Bridge (Longitude = 152.4550°E Latitude =-31.9200°S)	**Minor:** 1.78m	**Moderate:** 2.38m	**Major:** 3.68m
General Strategy	• Manage operations in response to predicted heights indicating likely consequences that pre-empt appropriate actions • Issue early warning of flood level impacts • Establishment of an evacuation centre • Evacuation of at risk population • Establishment of a helicopter landing zone at the Taree Aerodrome.		
Key Risks / Consequences	• **Prediction to reach and/or exceed** 1.80m – properties bordering Queen Elizabeth Park along the Manning River commence inundation • **Prediction to reach and/or exceed** 3.50m – low lying properties near Browns Creek and Dawson River commence inundation evacuations maybe required • **Prediction to reach and/or exceed** 3.68m – low lying properties across the sector progressively commence to become inundated (including over floor flooding at higher flood levels) evacuations maybe required • **Prediction to reach and/or exceed** 4.33m – Manning River Drive (main route through sector) is cut at Browns Creek • **Prediction to reach and/or exceed** 4.50m – Manning River Drive at Cubba Cubba Creek (southern entrance to the sector) may close • **Prediction to reach and/or exceed** 4.63m – Manning River Drive at Dawson's River (northern entrance to the		

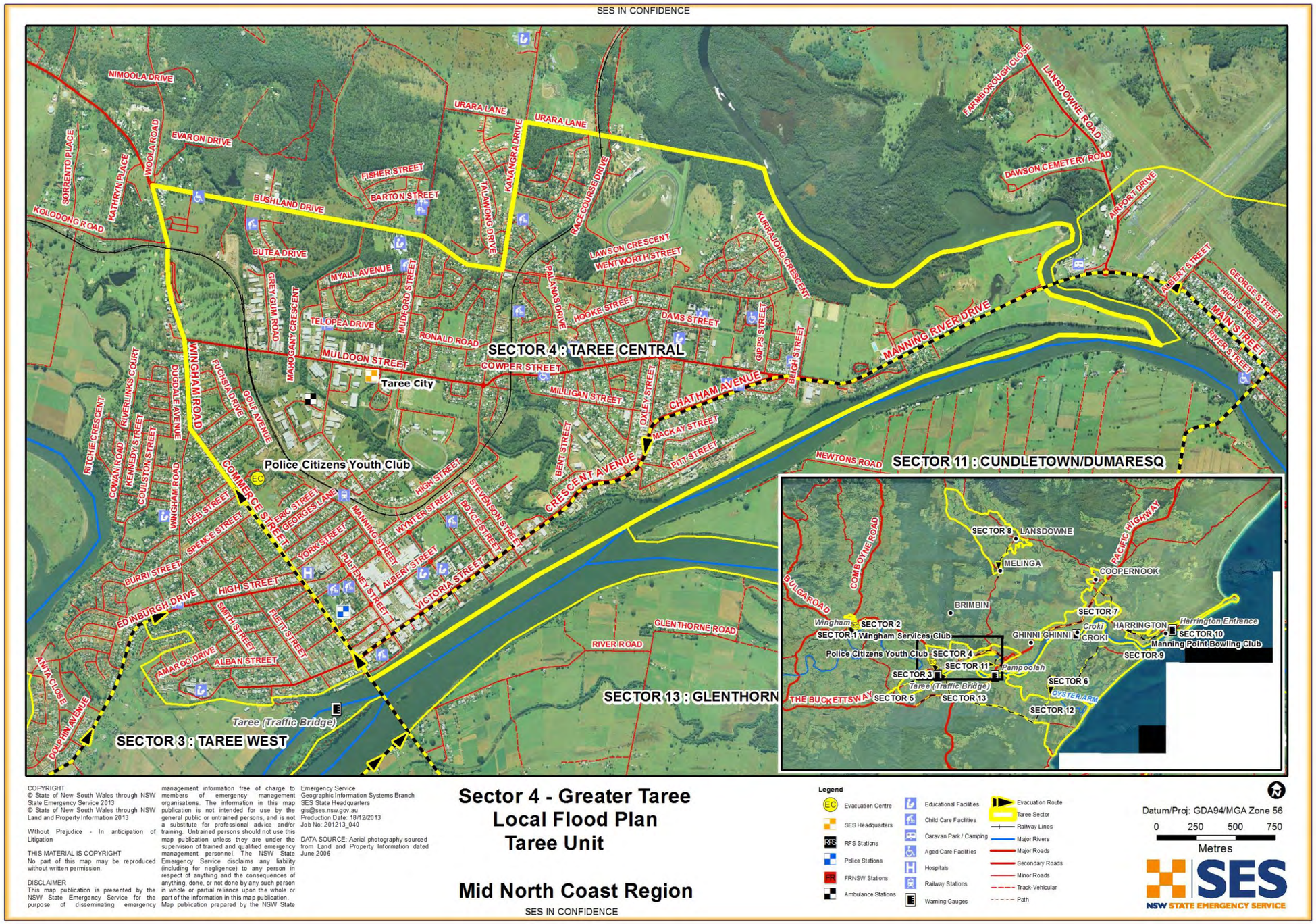
	sector) may close leading to isolation • **Prediction to reach and/or exceed** 4.68m – the Ambulance Depot in Marathon Street may be affected by flood water and may require evacuation • **Prediction to reach and/or exceed** 5.43m – flooding affects operations at Taree Aerodrome restricting runway length.
Information and Warnings	NSW SES Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Mid North Coast Region will issue timely, relevant and tailored information to the public in the following formats: • NSW SES Bulletins o Flood Watch o Flood Warning o Equipment, Livestock and Aquaculture Warnings o Media Release such as– Isolation Warnings • Evacuation Warning • Evacuation Order • All Clear • Emergency Alert • Standard Emergency Warning Signal (SEWS) • Sequenced door knocking • Media briefing • Interagency LEMC briefings • Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.
Property Protection	**Assistance with property protection:** NSW SES will monitor rising flood waters and provide the following assistance for flood-threatened properties where time and resources permit - • Relocation of personal property for at risk locations • Relocate moveable at risk public assets • Control surface water through sandbagging • Monitor integrity of dwellings surrounded by flood waters.

	Protection of essential infrastructure: Greater Taree City Council (Roads), Mid Coast Water (Water / Sewerage) and Essential Energy (Electricity) have responsibility for preparing and implementing emergency response arrangements for the protection of essential infrastructure within the sector: • Pole Subs • Zone Subs • Padsubs • Depot • Ground Subs
Evacuation Triggers	• **Prediction to reach and/or exceed** 3.50m – low lying properties near Browns Creek and Dawson River commence inundation evacuations maybe required in Florence St, Beeton Parade, Bent St and Cornwall St. • **Prediction to reach and/or exceed** 3.68m – low lying properties across the sector progressively commence to become inundated (including over floor flooding) evacuations maybe required in Cresent Ave, Railway St, Drury Ln, Edinburgh Dr • **Prediction to reach and/or exceed** 4.00m – From this height flooding is predicted to commence near low lying properties and businesses in Taree CBD in the vicinity of Victoria Street and Pulteney Street. From this height onwards evacuations may be required in the area. • **Prediction to reach and/or exceed** 4.68m – the Ambulance Depot in Marathon Street may require evacuation. Failure of essential services or persons who are not prepared for isolation may prompt evacuation requirements.
Sequencing of evacuation	Evacuation sequencing will be as per the triggers for identified at risk properties. 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 from impacted properties. These properties would be dealt with on a case by case basis in conjunction with NSW Police and The Welfare Services Functional Area Coordinator. It is anticipated that evacuation will take approximately 6 hours. Field teams should not waste time dealing with people who are reluctant or refuse to comply with an evacuation order and should be referred to the LEMO.

Evacuation Routes	Manning River Drive to Commerce Street to the evacuation centre located on the high ground above PMF (9.70m).
Evacuation Route Closure	Evacuation routes can be compromised from 4.33m – however rising road access detours are available determined by the prevailing conditions.
Method of Evacuation	• Evacuations should reflect the principles outlined in Evacuation Planning Handbook (1) • Self-evacuation by private transport to the evacuation center • With assistance of NSW SES or emergency services to the evacuation center. At risk residents will be advised via warnings issued and or door knocks from emergency services personnel advising of evacuation details and arrangements.
Evacuation Centre	The following facilities may be used as evacuation centres (at the direction of The Welfare Services Functional Area Coordinator)- • Club Taree – Primary • Taree High School – Secondary.
Large scale evacuations	In the event that evacuee numbers exceed the Taree evacuation centre capability, evacuees will be transported to alternate evacuation centres as determined by The Welfare Services Functional Area Coordinator – dependent upon prevailing conditions.
Rescue	The Taree SES Unit will undertake all Flood Rescue Operations in accordance with the responsibilities outlined in the Flood Emergency Sub Plan.
Resupply	It is unlikely the sector will require resupply due to the likely duration of flooding. Where resupply is required to the sector it will be in accordance with the Greater Taree Local Flood Emergency Sub Plan.
Aircraft Management	**Helicopter Landing Points:** The primary landing point is located at the Taree Aerodrome. If required operational landing points are also located at: • Rear of VRA/SES at Muldoon St, Taree GR 487704 (Taree

	9334-2-S) • Mid North Coast SES Region Headquarters, (Site adjacent) Arkwright Cres, Taree GR 456726 (Taree 9334-2-S) • NPWS Depot, Hargraves Dr, Taree GR 455723 (Taree 9334-2-S). Landing sites within the sector will be dependent on the prevailing conditions and operational requirements. The final decision rests with the Pilot.
	Airports: The sector is serviced by the Taree Airport at Taree (S 31 53.3 E 152 30.8). • Fixed wing aircraft including C-130, Dash –8 and Saab 340 models. • Paved runway with landing lights. Refuelling facilities are available. • The northern third of the airport is susceptible to flooding, however, the remainder is still useable by STOL aircraft. Road access to Taree Airport can be lost at ~4.63m. Airport operations are limited from 5.43m with floodwaters reducing the length of the runway.
Other	

4.1. TAREE CENTRAL SECTOR MAP



5. TINONEE SECTOR

Refer to Volume 2: Hazard and Risk in Greater Taree City for more information about this Sector/Community.

Sector Description	Located to the south west of Taree on the Manning River the sector comprises the township of Tinonee. A small number of low lying properties (~5) may be impacted by over floor flooding in a 100 year ARI (1% AEP, approximately 4.50m) event. The sector may become isolated as a result of flooding on the Buckets Way and the Tinonee Road from 3.20m.		
Hazard	Riverine flooding and isolation from- • Manning River and associated feeder creeks		
Flood Affect Classification	High Flood Island		
At risk properties	4 houses from a 5% AEP flood 5 up to a 4.5m flood. Numbers not available for larger floods up to a PMF (9.7m), but are likely to be larger	**Total number of properties within Sector/Community**	436
Sector Control	**Command –** The Greater Taree Incident Controller will remain in Command of all evacuations in the local area. **Control –** The Taree City SES Incident Controller will control all evacuations in this sector. **Coordination -** The Taree City SES Unit will conduct evacuations in this sector and coordinate supporting agencies.		
Key Warning Gauge Name – Taree Traffic Bridge (Longitude = 152.4550°E	**Minor:** 1.78m	**Moderate:** 2.38m	**Major:** 3.68m

Latitude =-31.9200°S)			
General Strategy	• Manage operations in response to predicted heights indicating likely consequences that pre-empt appropriate actions • Issue early warning of flood level impacts • Establishment of an evacuation centre • Evacuation of at risk population • Identification of a suitable helicopter landing zone.		
Key Risks / Consequences	• **Prediction to reach and/or exceed** 5.00m – on the **Wingham Flood Gauge** access to Wingham via Tinonee Road is cut at the Bight Bridge Wingham • **Prediction to reach and/or exceed** 3.20m – at the Taree Traffic Bridge Gauge inundation of the Buckets Way commences in the vicinity of Deans Creek Road Deans Creek cutting access East toward Taree • **Prediction to reach and/or exceed** 3.68m – on the Taree Traffic Bridge Gauge properties in Cappara Street, Claxton Street and Buckets Way impacted by water and require monitoring • **Prediction to reach and/or exceed** 4.50m – on the Taree Traffic Bridge Gauge properties in Claxton Street, Buckets Way, Winter Street and Hutchinson Street may be flooded. Large numbers of roads in and around the sector may close potentially isolating the sector.		

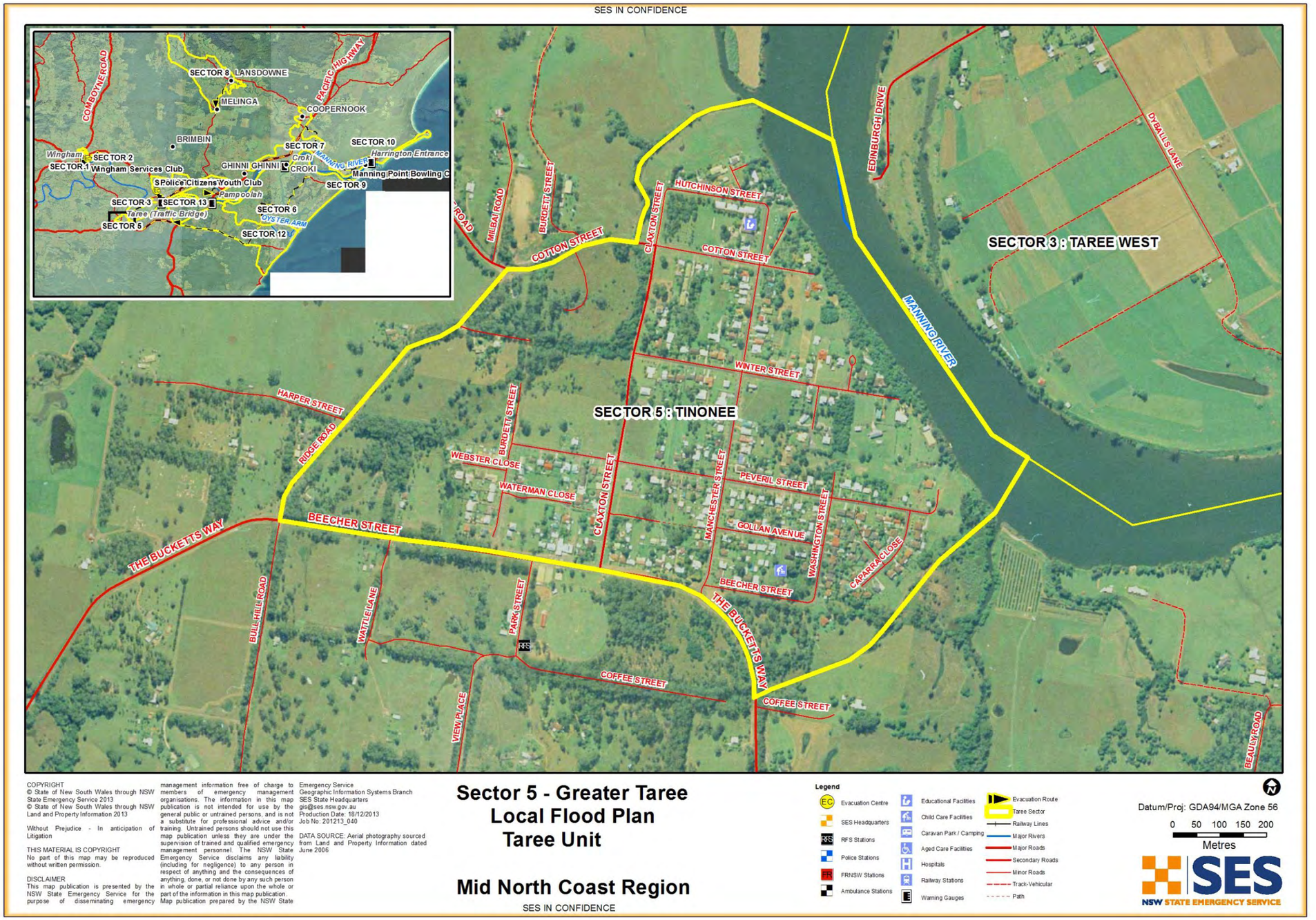
Information and Warnings	NSW SES Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Mid North Coast Region will issue timely, relevant and tailored information to the public in the following formats:
	• NSW SES Bulletins
	  ○ Flood Watch
	  ○ Flood Warning
	  ○ Equipment, Livestock and Aquaculture Warnings
	  ○ Media Release such as– Isolation Warnings
	• Evacuation Warning
	• Evacuation Order
	• All Clear
	• Emergency Alert
	• Standard Emergency Warning Signal (SEWS)
	• Sequenced door knocking
	• Media briefing		

	• Interagency LEMC briefings • Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.
Property Protection	**Assistance with property protection:** NSW SES will monitor rising flood waters and provide the following assistance for flood-threatened properties where time and resources permit - • Relocation of personal property for at risk locations • Relocation of livestock in consultation with Local Land Services • Relocate moveable at risk public assets • Control surface water through sandbagging • Monitor integrity of dwellings surrounded by flood waters
	Protection of essential infrastructure: Greater Taree City Council (Roads), Mid Coast Water (Water / Sewerage) and Essential Energy (Electricity) have responsibility for preparing and implementing emergency response arrangements for the protection of essential infrastructure within the sector: • Tinonee Pole Subs
Evacuation Triggers	• **Prediction to reach and/or exceed** 3.68m – on the Taree Traffic Bridge Gauge, low lying properties in Cappara Street, Claxton Street and Bucketts Way impacted by water and may require evacuation • **Prediction to reach and/or exceed** 4.50m – on the Taree Traffic Bridge Gauge, properties in Claxton Street, Bucketts Way, Winter Street and Hutchinson Street may require evacuation. Failure of essential services or persons who are not prepared for isolation may prompt evacuation requirements.
Sequencing of evacuation	Evacuation sequencing will be as per the triggers for identified at risk properties. 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 from impacted

	properties. These properties would be dealt with on a case by case basis in conjunction with NSW Police and The Welfare Services Functional Area Coordinator. It is anticipated that evacuation will take approximately 6 hours. Field teams should not waste time dealing with people who are reluctant or refuse to comply with an evacuation order and should be referred to the LEMO.
Evacuation Routes	High Flood Island refuge within sector.
Evacuation Route Closure	Routes out of the sector close at- • Tinonee Road to Wingham closes at the Bight Bridge – From 5.00m on the **Wingham Flood Gauge** • Buckets Way to Taree closes at Deans Creek – From 3.20m on the Taree Traffic Bridge Flood Gauge • Buckets Way may close at various low creek crossings from 4.50m on the Taree Traffic Bridge Flood Gauge.
Method of Evacuation	• Evacuations should reflect the principles outlined in Evacuation Planning Handbook (1) • Self-evacuation by private transport to the evacuation center • With assistance of NSW SES or emergency services to the evacuation center • At risk residents will be advised via warnings issued and or door knocks from emergency services personnel advising of evacuation details and arrangements.
Evacuation Centre/Assembly Point	The following facilities may be used as evacuation centres (at the direction of The Welfare Services Functional Area Coordinator)- • Club Taree – Primary • Taree High School – Secondary The Tinonee Public School, Manchester St (Taree 9334-2-s GR 445667) is suitable for use as an evacuation assembly point.
Large scale evacuations	Due to the population density and small number of at risk properties it is unlikely a large scale evacuation will be required.

Rescue	The Taree SES Unit will undertake all Flood Rescue Operations in accordance with the responsibilities outlined in the Flood Emergency Sub Plan.
Resupply	It is unlikely the sector will require resupply due to the likely duration of flooding. Where resupply is required to the sector it will be in accordance with the Greater Taree Local Flood Emergency Sub Plan.
Aircraft Management	**Helicopter Landing Points:** Suitable landing points are located at: • Tinonee Public School, Manchester St, Tinonee GR 445667 (Taree 9334-2-S) • Tinonee Oval, The Bucketts Way, Tinonee GR 442658 (Taree 9334-2-S) Landing sites within the sector will be dependent on the prevailing conditions and operational requirements. The final decision rests with the Pilot.
	Airports: The sector is serviced by the Taree Airport at Taree (S 31 53.3 E 152 30.8). • Fixed wing aircraft including C-130, Dash –8 and Saab 340 models. • Paved runway with landing lights. Refuelling facilities are available. • The northern third of the airport is susceptible to flooding, however, the remainder is still useable by STOL aircraft. Road access to Taree Airport can be lost at ~4.63m Airport operations are limited from 5.43m with floodwaters reducing the length of the runway.
Other	

5.1. TINONEE SECTOR MAP



6. OXLEY/MITCHELLS ISLANDS SECTOR

Refer to Volume 2: Hazard and Risk in Greater Taree City for more information about this Sector/Community.

Sector Description	This sector includes Oxley Island and Mitchell's Island excluding the village of Manning Point. The Islands are joined by narrow bridges on the Manning Point Road at Bohnock and Scott's Creek. The two Islands in this sector are comprised of rural properties with some high ground that is completely flood free. In the floodway areas the hazard is high, characterised by fast flowing floodwaters and long evacuation distances that will close early. In excess of 50 properties may be affected by over floor flooding in a 100 year (1% AEP) ARI event at 4.63m		
Hazard	Riverine flooding and isolation from- • Manning River • Scott's Creek (joining the north and south arms of the Manning River) Coastal erosion can impact this sector at the point of the second entrance to the Manning River at the south east end of Mitchel's Island and along the coastal strip of Mitchell's Island		
Flood Affect Classification	The sector is characterised by both low and high flood islands with areas of farmland that are easily inundated. The area is made up of low density rural properties with minimal access routes therefore becoming overland refuge areas.		
At risk properties	15 in a 5% AEP flood (4.63m) 41 in a 2% AEP flood (5.36m) 68 houses in a 1% AEP flood (57 Oxley, 11 Mitchells) (5.68m) Numbers not available for a PMF (9.7m), but	**Total number of properties within Sector/Community**	119 Oxley 199 Mitchells

	are likely to be larger		
Sector Control	**Command –** The Greater Taree Incident Controller will remain in Command of all evacuations in the local area. **Control –** The Taree City SES Incident Controller will control all evacuations in this sector. **Coordination -** The Taree City SES Unit will conduct evacuations in this sector and coordinate supporting agencies.		
Key Warning Gauge Name – Taree Traffic Bridge (Longitude = 152.4550°E Latitude =-31.9200°S)	**Minor:** 1.78m	**Moderate:** 2.38m	**Major:** 3.68m
General Strategy	• Manage operations in response to predicted heights indicating likely consequences that pre-empt appropriate actions • Issue early warning of flood level impacts • Establishment of an evacuation centre • Evacuation of at risk population • Identification of suitable helicopter landing zones		
Key Risks / Consequences	• **Prediction to reach and/or exceed** 1.80m – low lying parts of Manning Point Road may be inundated with water closing the evacuation route out of the Sector– evacuations, rescues and resupply may be required for isolated rural properties. • **Prediction to reach and/or exceed** 5.68m – approximately 57 properties may be flooded above floor level on Oxley Island		

Information and Warnings	NSW SES Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Mid North Coast Region will issue timely, relevant and tailored information to the public in the following formats:
	• NSW SES Bulletins
	  ○ Flood Watch
	  ○ Flood Warning
	  ○ Equipment, Livestock and Aquaculture Warnings
	  ○ Media Release such as– Isolation Warnings
	• Evacuation Warning		

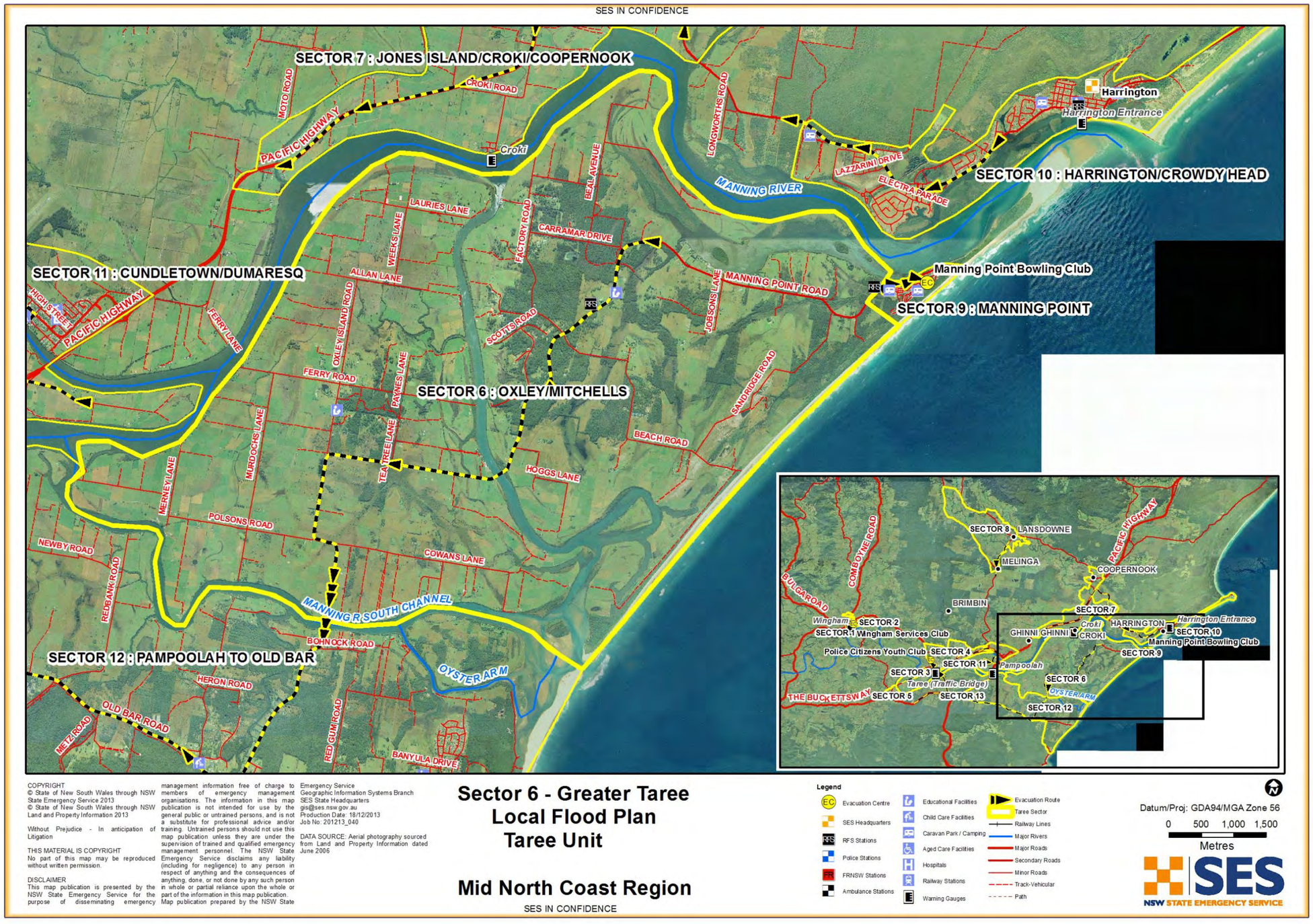
	• Evacuation Order • All Clear • Emergency Alert • Standard Emergency Warning Signal (SEWS) • Sequenced door knocking • Media briefing • Interagency LEMC briefings • Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.
Property Protection	**Assistance with property protection:** NSW SES will monitor rising flood waters and provide the following assistance for flood-threatened properties where time and resources permit - • Relocation of personal property for at risk locations • Relocation of livestock in consultation with Local Land Services • Relocate moveable at risk public assets • Control surface water through sandbagging • Monitor integrity of dwellings surrounded by flood waters
	Protection of essential infrastructure: Greater Taree City Council (Roads), Mid Coast Water (Water / Sewerage) and Essential Energy (Electricity) have responsibility for preparing and implementing emergency response arrangements for the protection of essential infrastructure within the sector.
Evacuation Triggers	**This sector has a flood classification characterized by isolated rural properties in both high and low flood islands. Evacuations in this sector are to be managed as predicted flood heights become known and the impact extent established. Evacuations from isolated properties located in low flood island classified areas need to be completed prior to 1.80m.** **Prediction to reach and/or exceed** 1.80m – low lying parts of Manning Point Road and rural laneways/roads within the sector may be inundated with water closing the evacuation route out of the Sector and causing isolation as heights increase– evacuations from isolated rural properties may be required from this height onward

	Failure of essential services or persons who are not prepared for isolation may prompt evacuation requirements.
Sequencing of evacuation	Evacuation sequencing will be as per the triggers for identified at risk properties. 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 from impacted properties. These properties would be dealt with on a case by case basis in conjunction with NSW Police and The Welfare Services Functional Area Coordinator. It is anticipated that evacuation will take approximately 6 hours. Field teams should not waste time dealing with people who are reluctant or refuse to comply with an evacuation order and should be referred to the LEMO.
Evacuation Routes	Manning Point Road to Old Bar / Taree Note: Low lying sections of these roads are susceptible to flash flooding
Evacuation Route Closure	Evacuation routes will begin to close from 1.80m and will be subject to tidal influences
Method of Evacuation	• Evacuations should reflect the principles outlined in Evacuation Planning Handbook (1) • Self-evacuation by private transport to the evacuation center • With assistance of NSW SES or emergency services to the evacuation center • At risk residents will be advised via warnings issued and or door knocks from emergency services personnel advising of evacuation details and arrangements
Evacuation Centre/Assembly Point	The following facilities may be used as evacuation centres (at the direction of The Welfare Services Functional Area Coordinator)- • Club Taree – Primary • Taree High School – Secondary The Oxley Island Hall (Oxley Island Road) and the Mitchel's Island Hall (Manning Point Road) are suitable as evacuation assembly

	points.
Large scale evacuations	In a large or full evacuation - Evacuees will be moved to the evacuation assembly area and or center identified by the NSW SES Incident Controller in consultation with the Community Services Functional Support Area. Evacuations will be conducted incrementally as the flood height predictions become known and the impact extent established. Evacuations will be staged- **Stage 1:** Evacuation of the elderly, sick and frail as well as families with young children. Evacuation will be by way of road along higher ground to the nominated assembly point or center – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 2:** Evacuation of all persons not required for emergency operations. Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 3:** Full evacuation of the sector (including emergency service personnel). Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized NSW Police will be responsible for security of evacuated areas Population densities within the sector would not exceed capacity of the surrounding evacuation centers and services.
Rescue	The Taree SES Unit will undertake all Flood Rescue Operations in accordance with the responsibilities outlined in the Flood Emergency Sub Plan.
Resupply	It is unlikely the sector will require resupply due to the likely duration of flooding. Where resupply is required to the sector it will be in accordance with the Greater Taree Local Flood Emergency Sub Plan.
Aircraft Management	**Helicopter Landing Points:** • Taree Aerodrome

	Landing sites within the sector will be dependent on the prevailing conditions and operational requirements. The final decision rests with the Pilot.
	Airports: The sector is serviced by the Taree Airport at Taree (S 31 53.3 E 152 30.8). • Fixed wing aircraft including C-130, Dash –8 and Saab 340 models. • Paved runway with landing lights. Refuelling facilities are available. • The northern third of the airport is susceptible to flooding, however, the remainder is still useable by STOL aircraft. Road access to Taree Airport can be lost at ~4.63m Airport operations are limited from 5.43m with floodwaters reducing the length of the runway.
Other	

6.1. OXLEY/MITCHELLS SECTOR MAP



7. JONES ISLAND, CROKI, COOPERNOOK SECTOR

Refer to Volume 2: Hazard and Risk in Greater Taree City for more information about this Sector/Community.

Sector Description	This sector includes the communities of Croki, Coopernook, Moto, and Mambo Island. The sector is predominantly rural holdings with small villages at Croki and Coopernook. Croki is a small village located approximately 10klms north east of Taree. It has a population of ~60 people. The entire village is located in a high hazard area and may become completely inundated during a 20 year (5% AEP) ARI event at 2.46m. Evacuation routes from this area are low-lying and are likely to close early. Coopernook is a small village located approximately 25klms north of Taree. The village of Coopernook is predominantly located outside of the PMF (5.90m) range. Lower lying areas of Coopernook will be inundated – however extensive inundation of the surrounding rural lands occurs first.		
Hazard	Riverine flooding and isolation from- • Lansdowne River • Manning River.		
Flood Affect Classification	Croki is classified as a low flood island in the 5% AEP at 2.46m up to the PMF at 5.90m. The entire village is located in a high hazard area and may become completely inundated during major floods. Moto is classified as a low flood island in the 5% AEP at 2.46m up to the PMF at 5.90m. The area is located in a high hazard area and may become completely inundated during major floods. Coopernook is classified as rising road access area up to a 1% AEP at 3.07m then becoming an area with an overland escape route up to the PMF at 5.90m.		
At risk properties	All of Croki from 2.46m (5% AEP) Between Lansdowne and	**Total number of properties within Sector/Community**	228 Coopernook 114 Moto/Croki

	Coopernook 11 in a 5% AEP flood (2.46m) 43 in a 2% AEP flood (2.87m) 70 in a 1% AEP flood (3.07m)		
Sector Control	**Command –** The Greater Taree Incident Controller will remain in Command of all evacuations in the local area. **Control –** The Taree (Croki) and Harrington (Jones Island and Coopernook) SES Incident Controller will control all evacuations in this sector. **Coordination -** The Taree and Harrington SES Unit will conduct evacuations in this sector and coordinate supporting agencies. At the point the Harrington Unit becomes isolated in Harrington, operations management and evacuations for the entire sector revert to the Taree SES Unit.		
Key Warning Gauge Name – Croki (Longitude = 152.593°E Latitude = -31.878°S)	**Minor:** N/A	**Moderate:** N/A	**Major:** N/A
General Strategy	• Manage operations in response to predicted heights indicating likely consequences that pre-empt appropriate actions • Issue early warning of flood level impacts • Establishment of an evacuation centre • Evacuation of at risk population • Identification of suitable helicopter landing zones		
Key Risks / Consequences	• **Prediction to reach and/or exceed** 1.20m – road access to Croki starts to be inundated leading to closure at 1.50m and isolation - Evacuations may be required • **Prediction to reach and/or exceed** 1.40m – water starts to impact Harrington Road potential loss of access to Harrington – depth and velocity need to be monitored • **Prediction to reach and/or exceed** 1.50m – flooding is likely to properties in Croki evacuations may be required • **Prediction to reach and/or exceed** 1.80m – flooding commences in low lying parts of George Gibson Drive		

	impacting access to Coopernook – assistance with evacuation may be required • **Prediction to reach and/or exceed** 2.46m – most of Croki is flooded – over floor flooding and isolation is likely – assistance with evacuation may be required • **Prediction to reach and/or exceed** 2.87m – Pacific Highway near Harrington Road may be affected by flooding • **Prediction to reach and/or exceed** 3.07m – Coopernook may become isolated if Macquarie Street closes

Information and Warnings	NSW SES Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Mid North Coast Region will issue timely, relevant and tailored information to the public in the following formats:
	• NSW SES Bulletins
	  ○ Flood Watch
	  ○ Flood Warning
	  ○ Equipment, Livestock and Aquaculture Warnings
	  ○ Media Release such as– Isolation Warnings
	• Evacuation Warning
	• Evacuation Order
	• All Clear
	• Emergency Alert
	• Standard Emergency Warning Signal (SEWS)
	• Sequenced door knocking
	• Media briefing
	• Interagency LEMC briefings
	• Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.

Property Protection	**Assistance with property protection:** NSW SES will monitor rising flood waters and provide the following assistance for flood-threatened properties where time and resources permit - • Relocation of personal property for at risk locations • Relocation of livestock in consultation with Local Land Services • Relocate moveable at risk public assets • Control surface water through sandbagging • Monitor integrity of dwellings surrounded by flood waters.

	Protection of essential infrastructure: Greater Taree City Council (Roads), Mid Coast Water (Water / Sewerage) and Essential Energy (Electricity) have responsibility for preparing and implementing emergency response arrangements for the protection of essential infrastructure within the sector: • Coopernook Zone Hub
Evacuation and/or Isolation Triggers	**Croki and Moto have flood classifications of low flood islands from 2.46m – Evacuations are to be conducted incrementally as predicted flood heights become known and the impact extent established.** ➢ **All evacuations in Croki are to be completed prior to 1.50m when the evacuation routes are lost** ➢ **All evacuations in Moto are to be completed prior to 2.46m when the area is inundated** • **Prediction to reach and/or exceed** 1.20m – road access to Croki starts to be inundated leading to closure at 1.50m and isolation - Evacuations may be required • **Prediction to reach and/or exceed** 1.50m – flooding is likely to properties in Croki evacuations may be required • **Prediction to reach and/or exceed** 1.80m – flooding commences in low lying parts of George Gibson Drive impacting access to Coopernook – assistance with evacuation may be required • **Prediction to reach and/or exceed** 2.46m – Most of Croki is flooded – over floor flooding and isolation is likely – assistance with evacuation may be required • **Prediction to reach and/or exceed** 3.07m – Coopernook may become isolated if Macquarie Street closes. Failure of essential services or persons who are not prepared for isolation may prompt evacuation requirements.
Sequencing of evacuation	Evacuation sequencing will be as per the triggers for identified at risk properties. 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 from impacted properties. These properties would be dealt with on a case by case basis in conjunction with NSW Police and The Welfare Services Functional Area Coordinator.

	It is anticipated that evacuation will take approximately 6 hours. Field teams should not waste time dealing with people who are reluctant or refuse to comply with an evacuation order and should be referred to the LEMO.
Evacuation Routes	The primary evacuation route for this sector is the Pacific Highway • From Croki, Barton St, Croki Rd then to Pacific Hwy. • From Coopernook George Gibson Drive to Macquarie Street to High Ground.
Evacuation Route Closure	The Pacific Highway is largely flood free both North and South. Water may impact the Pacific Highway in the vicinity of the intersection with Harrington Road from 2.87m. Croki - Barton Street and Croki Road are affected by flood water from 1.20m. Coopernook - George Gibson Drive is affected by flood water from 1.80m.
Method of Evacuation	• Evacuations should reflect the principles outlined in Evacuation Planning Handbook (1) • Self-evacuation by private transport to the evacuation center • With assistance of NSW SES or emergency services to the evacuation center.
Evacuation Centre	Evacuees will need to be transported to the evacuation centres in Taree. The following facilities may be used as evacuation centres (at the direction of The Welfare Services Functional Area Coordinator)- • Club Taree – Primary • Taree High School – Secondary.
Large scale evacuations	In a large or full evacuation - required in Croki from approximately 2.46m. Evacuees will be moved to the evacuation assembly area and or center identified by the NSW SES Incident Controller in consultation with the Community Services Functional Support Area. Evacuations will be conducted incrementally as the flood height

	predictions become known and the impact extent established. Evacuations will be staged- **Stage 1:** Evacuation of the elderly, sick and frail as well as families with young children. Evacuation will be by way of road along higher ground to the nominated assembly point or center – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 2:** Evacuation of all persons not required for emergency operations. Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 3:** Full evacuation of the sector (including emergency service personnel). Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized. NSW Police will be responsible for security of evacuated areas. Population densities within the sector would not exceed capacity of the surrounding evacuation centers and services.
Rescue	The Harrington / Taree SES Unit will undertake all Flood Rescue Operations (dependent upon who has sector Command) in accordance with the responsibilities outlined in the Flood Emergency Sub Plan.
Resupply	It is unlikely the sector will require resupply due to the likely duration of inundation. Where resupply is required to the sector it will be in accordance with the Greater Taree Local Flood Emergency Sub Plan.
Aircraft Management	**Helicopter Landing Points:** • Taree Aerodrome Landing sites within the sector will be dependent on the prevailing conditions and operational requirements. The final decision rests with the Pilot.
	Airports:

	The sector is serviced by the Taree Airport at Taree (S 31 53.3 E 152 30.8). • Fixed wing aircraft including C-130, Dash –8 and Saab 340 models. • Paved runway with landing lights. Refuelling facilities are available. • The northern third of the airport is susceptible to flooding; however, the remainder is still useable by STOL aircraft. Road access to Taree Airport can be lost at ~4.63m on the Taree Traffic Bridge Gauge. Airport operations are limited from 5.43m on the Taree Traffic Bridge Gauge with floodwaters reducing the length of the runway.
Other	

7.1. JONES ISLAND, CROKI, COOPERNOOK SECTOR MAP

8. LANSDOWNE SECTOR

Refer to Volume 2: Hazard and Risk in Greater Taree City for more information about this Sector/Community.

Sector Description	This sector includes the township of Lansdowne and adjacent rural areas. Flood depths within the sector are expected to be less than one metre with low flow velocity. This sector is only moderately inundated by events up to the PMF at 12.10m; with the area around Hampton Court most flood prone. The township of Lansdowne is relatively flood free		
Hazard	Riverine flooding and isolation from the- • Lansdowne River • Cross Creek		
Flood Affect Classification	Rising Road Access for floods up to and including the PMF at 12.10m		
At risk properties	10 in a PMF (12.1m)	**Total number of properties within Sector/Community**	244
Sector Control	**Command –** The Greater Taree Incident Controller will remain in Command of all evacuations in the local area. **Control –** The Harrington SES Incident Controller will control all evacuations in this sector. **Coordination -** The Harrington SES Unit will conduct evacuations in this sector and coordinate supporting agencies. At the point the Harrington Unit becomes isolated in Harrington operations management and evacuations for this sector revert to the Taree SES Unit.		
Key Warning Gauge Name – Lansdowne (Longitude = 152.512°E Latitude = -31.788°S)	**Minor:** N/A	**Moderate:** N/A	**Major:** N/A
General Strategy	• Manage operations in response to predicted heights		

	indicating likely consequences that pre-empt appropriate actions • Issue early warning of flood level impacts • Establishment of an evacuation centre • Evacuation of at risk population • Identification of a suitable helicopter landing zone
Key Risks / Consequences	• **Prediction to reach and/or exceed** 4.37m – roads within the sector may start to close (some rural roads may close earlier) • **Prediction to reach and/or exceed** 11.00m – flooding in vicinity of properties in Hampton Court and Yurong Street – property protection may be required • **Prediction to reach and/or exceed** 12.10m – flooding in vicinity of properties in Central Lansdowne Road, Lansdowne Road and Taree Street – property protection may be required

Information and Warnings	NSW SES Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Mid North Coast Region will issue timely, relevant and tailored information to the public in the following formats:
	• NSW SES Bulletins
	  ○ Flood Watch
	  ○ Flood Warning
	  ○ Equipment, Livestock and Aquaculture Warnings
	  ○ Media Release such as– Isolation Warnings
	• Evacuation Warning
	• Evacuation Order
	• All Clear
	• Emergency Alert
	• Standard Emergency Warning Signal (SEWS)
	• Sequenced door knocking
	• Media briefing
	• Interagency LEMC briefings
	• Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.

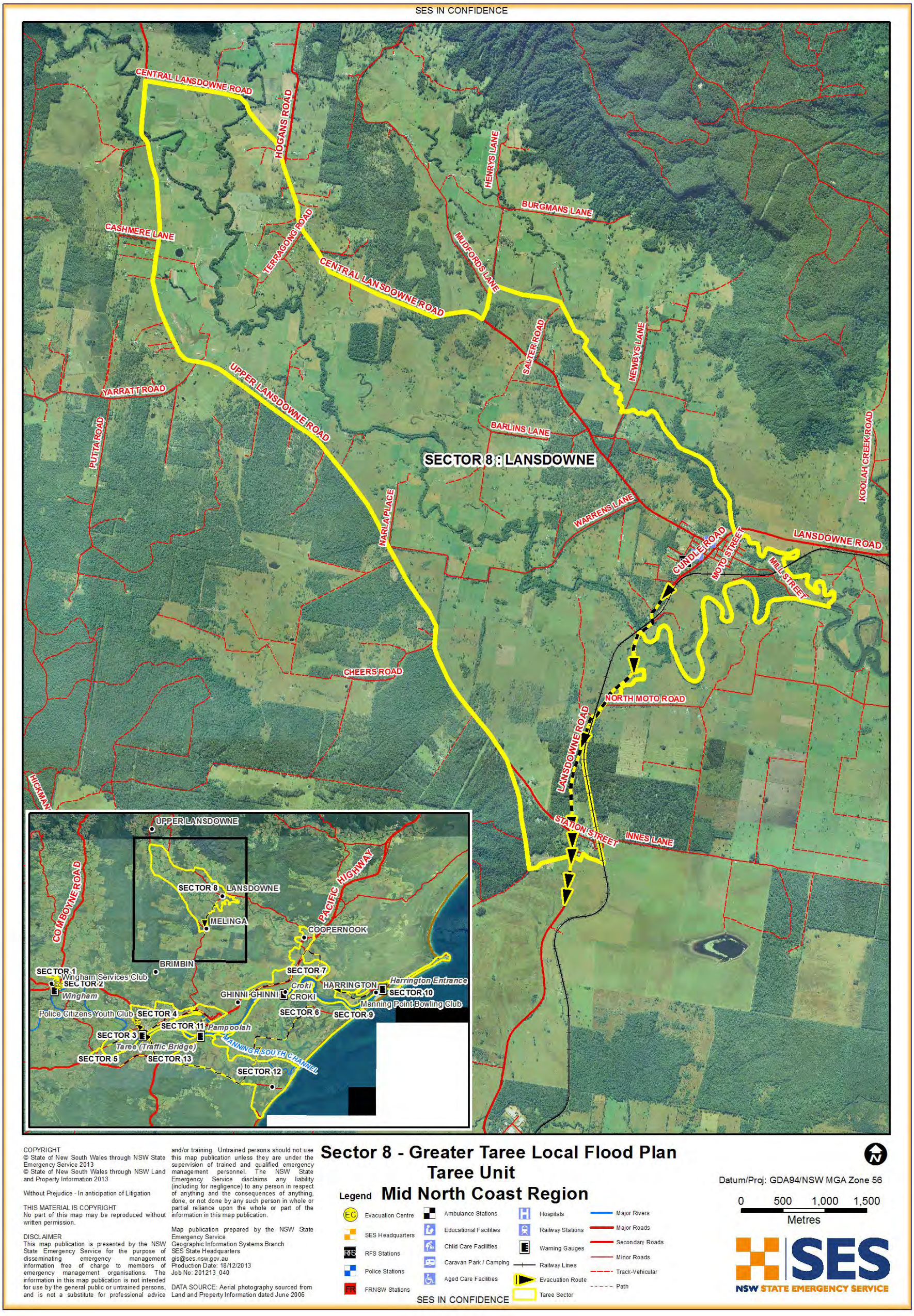
Property Protection	**Assistance with property protection:** NSW SES will monitor rising flood waters and provide the following assistance for flood-threatened properties where time and resources permit - • Relocation of personal property for at risk locations • Relocation of livestock in consultation with Local Land Services • Relocate moveable at risk public assets • Control surface water through sandbagging • Monitor integrity of dwellings surrounded by flood waters
	Protection of essential infrastructure: Greater Taree City Council (Roads), Mid Coast Water (Water / Sewerage) and Essential Energy (Electricity) have responsibility for preparing and implementing emergency response arrangements for the protection of essential infrastructure within the sector.
Evacuation Triggers	**Prediction to reach and/or exceed** 4.37m – roads within the sector may start to close (some rural roads may close earlier) individual rural properties may become isolated – evacuations may become necessary. Failure of essential services or persons who are not prepared for isolation may prompt evacuation requirements.
Sequencing of evacuation	Evacuation sequencing will be as per the triggers for identified at risk properties. 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 from impacted properties. These properties would be dealt with on a case by case basis in conjunction with NSW Police and The Welfare Services Functional Area Coordinator. It is anticipated that evacuation will take approximately 6 hours. Field teams should not waste time dealing with people who are reluctant or refuse to comply with an evacuation order and should be referred to the LEMO.
Evacuation Routes	The Lansdowne Road – North and South
Evacuation Route Closure	The evacuation route may be affected by localised flooding in low lying areas – however access to high ground via upper Lansdowne

	road will remain up to and including the PMF at 12.10m.
Method of Evacuation	• Evacuations should reflect the principles outlined in Evacuation Planning Handbook (1) • Self-evacuation by private transport to the evacuation center • With assistance of NSW SES or emergency services to the evacuation center • At risk residents will be advised via warnings issued and or door knocks from emergency services personnel advising of evacuation details and arrangements.
Evacuation Centre/Assembly Point	Evacuees will need to be transported to the evacuation centres in Taree. The following facilities may be used as evacuation centres (at the direction of The Welfare Services Functional Area Coordinator)- • Club Taree – Primary • Taree High School – Secondary. The following facilities may be used as assembly points - • Lansdowne Bowling Club • Lansdowne Public School, Kundle Rd and Macquarie St.
Large scale evacuations	In a large or full evacuation, Evacuees will be moved to the evacuation assembly area and or center identified by the NSW SES Incident Controller in consultation with the Community Services Functional Support Area. Evacuations will be conducted incrementally as the flood height predictions become known and the impact extent established. Evacuations will be staged- **Stage 1:** Evacuation of the elderly, sick and frail as well as families with young children. Evacuation will be by way of road along higher ground to the nominated assembly point or center – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 2:** Evacuation of all persons not required for emergency operations.

	Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 3:** Full evacuation of the sector (including emergency service personnel). Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized NSW Police will be responsible for security of evacuated areas Population densities within the sector would not exceed capacity of the surrounding evacuation centers and services.
Rescue	The Harrington / Taree SES Unit will undertake all Flood Rescue Operations (dependent upon who has sector Command) in accordance with the responsibilities outlined in the Flood Emergency Sub Plan.
Resupply	It is unlikely the sector will require resupply due to the likely duration of inundation. Where resupply is required to the sector it will be in accordance with the Greater Taree Local Flood Emergency Sub Plan
Aircraft Management	**Helicopter Landing Points:** • Taree Aerodrome Lansdowne Sports Oval, Lansdowne GR 544834 (Coopernook 9434-3-N) Landing sites within the sector will be dependent on the prevailing conditions and operational requirements. The final decision rests with the Pilot.
	Airports: The sector is serviced by the Taree Airport at Taree (S 31 53.3 E 152 30.8). • Fixed wing aircraft including C-130, Dash –8 and Saab 340 models. • Paved runway with landing lights. Refuelling facilities are available. • The northern third of the airport is susceptible to flooding, however, the remainder is still useable by STOL aircraft. Road access to Taree Airport can be lost at ~4.63m on the Taree Traffic Bridge Gauge Airport operations are limited from 5.43m on the Taree Traffic

	Bridge Gauge with floodwaters reducing the length of the runway
Other	

8.1. LANSDOWNE SECTOR MAP



9. MANNING POINT SECTOR

Refer to Volume 2: Hazard and Risk in Greater Taree City for more information about this Sector/Community.

Sector Description	This sector includes the village of Manning Point with a population of approximately 220. The sector is located at the mouth of the Manning Rivers north arm. The sector may become inundated in a 20 year ARI (5% AEP) event at 4.63m on the Taree Gauge. In summer months (peak December to February) the population expands with a large tourist population. There are two large caravan parks with the sector. The evacuation route to this sector is low lying and crosses Oxley and Mitchel's Island sector. These routes close early at approximately 1.80m on the Taree Gauge, and are likely to be cut before properties are affected in the sector. Due to the low lying egress routes this sector may become isolated Flood free land, with sufficient area to provide refuge is available up to a 100 year (1% AEP) ARI event at 5.68m on the Taree Gauge. During a PMF at 9.70m there is insufficient ground for refuge.		
Hazard	Riverine flooding and isolation from the Manning River		
Flood Affect Classification	Manning Point is a low flood island and will require evacuation prior to 1.8m on the Taree Traffic Bridge Gauge (1).		
At risk properties	Relating to the Harrington Gauge: 23 in a 5% AEP flood (1.89m) 51 in a 2% AEP flood (2.1m) 56 in a 1% AEP flood (2.26m) All properties in	**Total number of properties within Sector/Community**	159

	a PMF (2.9m)		
Sector Control	**Command –** The Greater Taree Incident Controller will remain in Command of all evacuations in the local area. **Control –** The Taree City SES Incident Controller will control all evacuations in this sector. **Coordination -** The Taree City SES Unit will conduct evacuations in this sector and coordinate supporting agencies.		
Key Warning Gauge Name – **1. Taree Traffic Bridge** (Longitude = 152.4550°E Latitude =-31.9200°S) **2. Harrington** (Longitude = 152.688°E Latitude = -31.875°S)	**Minor:** 1.78m (1) 1.90m (2)	**Moderate:** 2.38m (1) 2.20m (2)	**Major:** 3.68m (1) 2.80m (2)
General Strategy	• Manage operations in response to predicted heights indicating likely consequences that pre-empt appropriate actions • Issue early warning of flood level impacts • Establishment of an evacuation centre • Evacuation of at risk population • Identification of a suitable helicopter landing zone		

Key Risks / Consequences	On the Taree Traffic Bridge Gauge-
	• **Prediction to reach and/or exceed** 1.80m (1) – –
	  • Manning Point Road (evacuation route) may close isolating the sector
	  • Properties in the sector commence inundation
	
	• **Prediction to reach and/or exceed** 4.63m (1) (5% AEP) – the sector may become inundated resulting in over floor flooding to properties.
	
	On the Harrington Gauge-
	• **Prediction to reach and/or exceed** 1.50m (2) – flooding commences in properties in Main Road, Banksia Close and at Weerona Caravan Park
	• **Prediction to reach and/or exceed** 1.90m (2) Manning Point Road inundated leading to isolation. Evacuations may		

	be required. • **Prediction to reach and/or exceed** 2.10m (2) – extensive flooding of Manning Point. Manning Point Road, Banksia Close and Manning Street flooded to a depth of up to a 1m. Evacuations will be required • **Prediction to reach and/or exceed** 2.37m (2) – extensive flooding of Manning Point only small areas predicted to remain flood free. Evacuations will be required

Information and Warnings	NSW SES Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Mid North Coast Region will issue timely, relevant and tailored information to the public in the following formats:
	• NSW SES Bulletins
	  ○ Flood Watch
	  ○ Flood Warning
	  ○ Equipment, Livestock and Aquaculture Warnings
	  ○ Media Release such as– Isolation Warnings
	• Evacuation Warning
	• Evacuation Order
	• All Clear
	• Emergency Alert
	• Standard Emergency Warning Signal (SEWS)
	• Sequenced door knocking
	• Media briefing
	• Interagency LEMC briefings
	• Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.

Property Protection	**Specific property protection measures:** Property protection measures for the threat of coastal erosion involve 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 Greater Taree City Council is responsible for the activation of the Coastal Zone Management Plan – Emergency Action Plan.
	Assistance with property protection: NSW SES will monitor rising flood waters and provide the following assistance for flood-threatened properties where time and resources permit - • Relocation of personal property for at risk locations

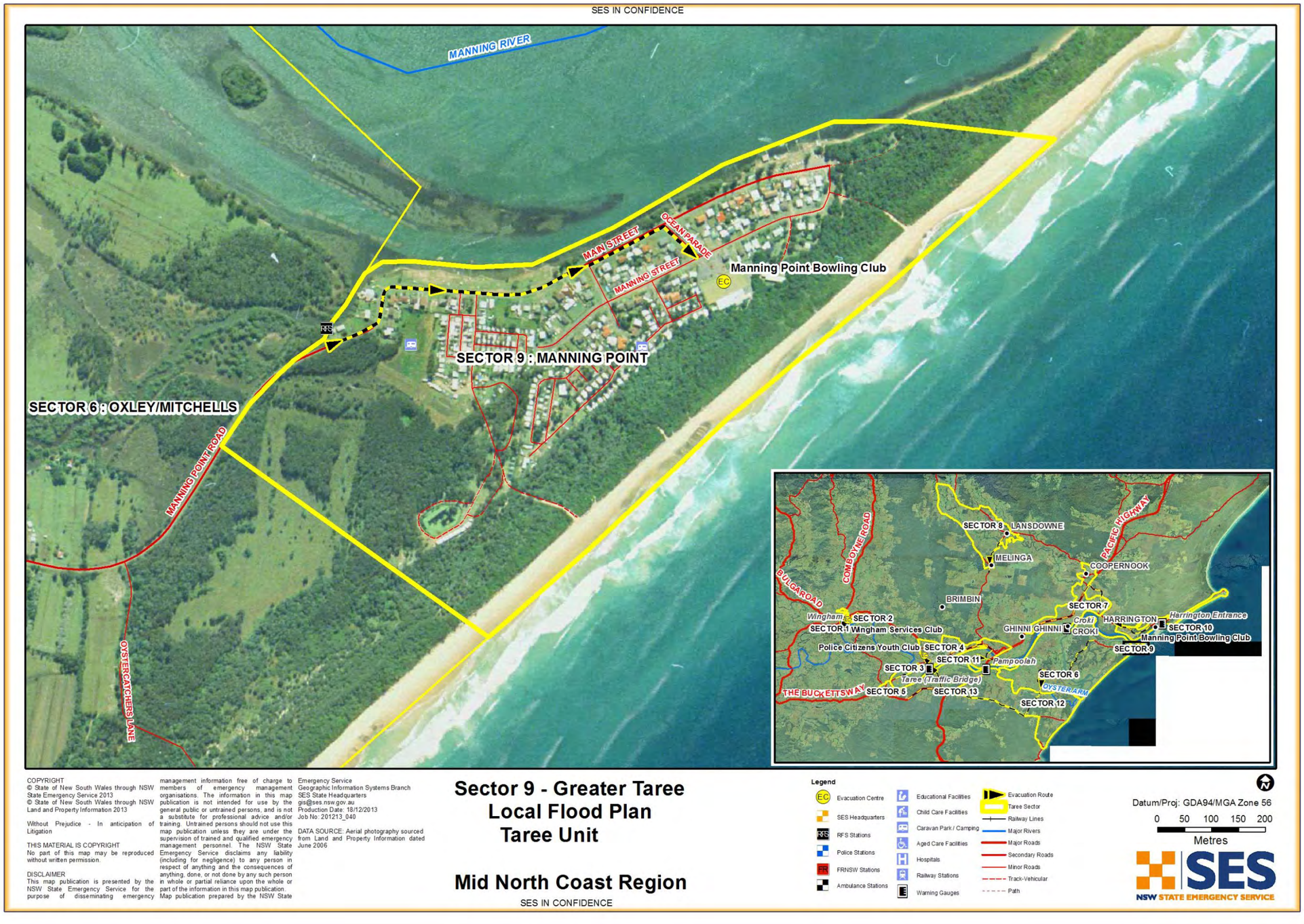
	• Relocation of livestock in consultation with Local Land Services • Relocate moveable at risk public assets • Control surface water through sandbagging • Monitor integrity of dwellings surrounded by flood waters
	Protection of essential infrastructure: Greater Taree City Council (Roads), Mid Coast Water (Water / Sewerage) and Essential Energy (Electricity) have responsibility for preparing and implementing emergency response arrangements for the protection of essential infrastructure within the sector: Ocean Parade Manning Point Pole Sub
Evacuation Triggers	**This sector has a flood classification of low flood island area, becoming inundated at 5.68m. Evacuations in this sector are to be conducted incrementally as predicted flood heights become known and the impact extent established. Road evacuation routes will be lost from 1.80m.** On the Taree Traffic Bridge Gauge- • **Prediction to reach and/or exceed** 1.80m (1) – properties in the sector commence inundation and the evacuation route becomes closed. • **Prediction to reach and/or exceed** 4.63m (5% AEP) (1) – the sector may become inundated resulting in over floor flooding to properties and evacuations will be required. On the Harrington Gauge- • **Prediction to reach and/or exceed** 1.90m (2) – most properties fronting Manning Point Road, Banksia Close and Manning Street may be inundated – Manning Point Road inundated leading to isolation. Evacuations will be required. • **Prediction to reach and/or exceed** 2.10m (2) – extensive flooding of Manning Point. Manning Point Road, Banksia Close and Manning Street flooded to a depth of up to a 1m. Evacuations will be required • **Prediction to reach and/or exceed** 2.37m (2) – extensive flooding of Manning Point only small areas predicted to remain flood free. Evacuations will be required

	Reconnaissance will be required in this area to assess when evacuations will become necessary. Failure of essential services or persons who are not prepared for isolation may prompt additional evacuation requirements. The following caravan parks may require evacuation at 1.5m at Harrington. • Manning Point Caravan Park, Manning St (800 person's peak occupancy). • Weerona Caravan Park, Main Rd (600 persons peak occupancy) - 19 permanent vans and 75 holiday vans
Sequencing of evacuation	Evacuation sequencing will be as per the triggers for identified at risk properties. 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 from impacted properties. These properties would be dealt with on a case by case basis in conjunction with NSW Police and The Welfare Services Functional Area Coordinator. It is anticipated that evacuation will take approximately 6 hours. Field teams should not waste time dealing with people who are reluctant or refuse to comply with an evacuation order and should be referred to the LEMO.
Evacuation Routes	Manning Point Road to Taree (noting closures at 1.9m on Harrington gauge and 4.5m on Taree Traffic Bridge Gauge)
Evacuation Route Closure	The Manning Point Road commences to become inundated from 1.80m (1) on the Taree Traffic Bridge Gauge at various locations
Method of Evacuation	• Evacuations should reflect the principles outlined in Evacuation Planning Handbook (1) • Self-evacuation by private transport to the evacuation center • With assistance of NSW SES or emergency services to the evacuation center • At risk residents will be advised via warnings issued and or door knocks from emergency services personnel advising of evacuation details and arrangements

Evacuation Centre/Assembly Point	The following facilities may be used as evacuation centres (at the direction of The Welfare Services Functional Area Coordinator)- • Club Taree – Primary • Taree High School – Secondary The Manning Point Bowling Club is appropriate for use as an evacuation assembly point.
Large scale evacuations	In a large or full evacuation - required from approximately 4.63m. Evacuees will be moved to the evacuation assembly area and or center identified by the NSW SES Incident Controller in consultation with the Community Services Functional Support Area. Evacuations will be conducted incrementally as the flood height predictions become known and the impact extent established. Evacuations will be staged- **Stage 1:** Evacuation of the elderly, sick and frail as well as families with young children. Evacuation will be by way of road along higher ground to the nominated assembly point or center – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 2:** Evacuation of all persons not required for emergency operations. Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 3:** Full evacuation of the sector (including emergency service personnel). Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized NSW Police will be responsible for security of evacuated areas Population densities within the sector would not exceed capacity of the surrounding evacuation centers and services.

Rescue	The Taree SES Unit will undertake all Flood Rescue Operations in accordance with the responsibilities outlined in the Flood Emergency Sub Plan.
Resupply	It is unlikely the sector will require resupply due to the likely duration of inundation. Where resupply is required to the sector it will be in accordance with the Greater Taree Local Flood Emergency Sub Plan
Aircraft Management	**Helicopter Landing Points:** • Taree Aerodrome • Manning Point Bowling Club Car park Landing sites within the sector will be dependent on the prevailing conditions and operational requirements. The final decision rests with the Pilot.
	Airports: The sector is serviced by the Taree Airport at Taree (S 31 53.3 E 152 30.8). • Fixed wing aircraft including C-130, Dash –8 and Saab 340 models. • Paved runway with landing lights. Refuelling facilities are available. • The northern third of the airport is susceptible to flooding, however, the remainder is still useable by STOL aircraft. Road access to Taree Airport can be lost at ~4.63m Airport operations are limited from 5.43m with floodwaters reducing the length of the runway
Other	

9.1. MANNING POINT SECTOR MAP



10. HARRINGTON/CROWDY HEAD SECTOR

Refer to Volume 2: Hazard and Risk in Greater Taree City for more information about this Sector/Community.

Sector Description	The Harrington sector is comprised of the Harrington Township and Crowdy Head Village.		
Hazard	Riverine flooding and isolation from – • Manning River • Lansdowne River • Cattai Creek • Overland flooding from 'The Big Swamp / Cattai Wetlands' to the West of the sector		
Flood Affect Classification	High Flood Island up to a 100 year (1% AEP) ARI event at 2.26m. In a PMF at 5.40m only a small area remains flood free thus classifying the area as a Low Flood Island in a PMF.		
At risk properties	16 in a 5% AEP flood (1.89m) 60 in a 2% AEP flood (2.1m) 87 in a 1% AEP flood (2.26m) Numbers not available for a PMF (2.9m), but are likely to be larger; potentially up to 1328	**Total number of properties within Sector/Community**	1328 Harrington 140 Crowdy Head
Sector Control	**Command –** The Greater Taree Incident Controller will remain in Command of all evacuations in the local area. **Control –** The Harrington SES Incident Controller will control all evacuations in this sector. **Coordination -** The Harrington SES Unit will conduct evacuations in this sector and coordinate supporting agencies.		
Key Warning Gauge Name – Harrington (Longitude = 152.688°E	**Minor:** 1.90m	**Moderate:** 2.20m	**Major:** 2.80m

Latitude = -31.875°S)			
General Strategy	• Manage operations in response to predicted heights indicating likely consequences that pre-empt appropriate actions • Issue early warning of flood level impacts • Establishment of an evacuation centre • Evacuation of at risk population • Identification of a suitable helicopter landing zone at the Taree Aerodrome.		
Key Risks / Consequences	• **Prediction to reach and/or exceed** 1.50m – Harrington Road may be inundated with flood waters isolating Harrington. Rural roads at Coralville and Crowdy Bay road to the north also closed. • **Prediction to reach and/or exceed** 1.90m – flooding commences in and around properties in Crowdy Street, Hogan Street, Nicholson Street, Jabiru Close, Minnamurra Drive, Beach Street, Terranora Avenue and Harrington Drive • **Prediction to reach and/or exceed** 2.10m – flooding commences in and around properties in Scott Street, Latham Street, Bangalee Place, Glacken Street, Manor Road and the Colonial Leisure Village Caravan park • **Prediction to reach and/or exceed** 2.26m – flooding commences in and around properties in Bluewater Drive - 83 properties potentially flooded over floor • **Prediction to reach and/or exceed** 2.37m – flooding of roads in the vicinity of Harrington Waters may commence • **Prediction to reach and/or exceed** 2.70m – flooding of Harrington Waters Housing Estate may commence.		

Information and Warnings	NSW SES Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Mid North Coast Region will issue timely, relevant and tailored information to the public in the following formats:
	• NSW SES Bulletins
	  ○ Flood Watch
	  ○ Flood Warning
	  ○ Equipment, Livestock and Aquaculture Warnings
	  ○ Media Release such as– Isolation Warnings
	• Evacuation Warning
	• Evacuation Order		

	• All Clear • Emergency Alert • Standard Emergency Warning Signal (SEWS) • Sequenced door knocking • Media briefing • Interagency LEMC briefings • Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.
Property Protection	**Specific property protection measures:** Note: Property protection measures for the threat of coastal erosion involve the relocation of readily moveable household goods and commercial stock and equipment. The SES is not responsible for planning or conduct of emergency beach protection works or other physical mitigation works. The Greater Taree City Council is responsible for the activation of the Greater Taree City Council Coastal Zone Management Plan – Emergency Action Plan.
	Assistance with property protection: NSW SES will monitor rising flood waters and provide the following assistance for flood-threatened properties where time and resources permit - • Relocation of personal property for at risk locations • Relocation of livestock in consultation with Local Land Services • Relocate moveable at risk public assets • Control surface water through sandbagging • Monitor integrity of dwellings surrounded by flood waters.
	Protection of essential infrastructure: Greater Taree City Council (Roads), Mid Coast Water (Water / Sewerage) and Essential Energy (Electricity) have responsibility for preparing and implementing emergency response arrangements for the protection of essential infrastructure within the sector: Industrial Drive Zone and Pole Subs

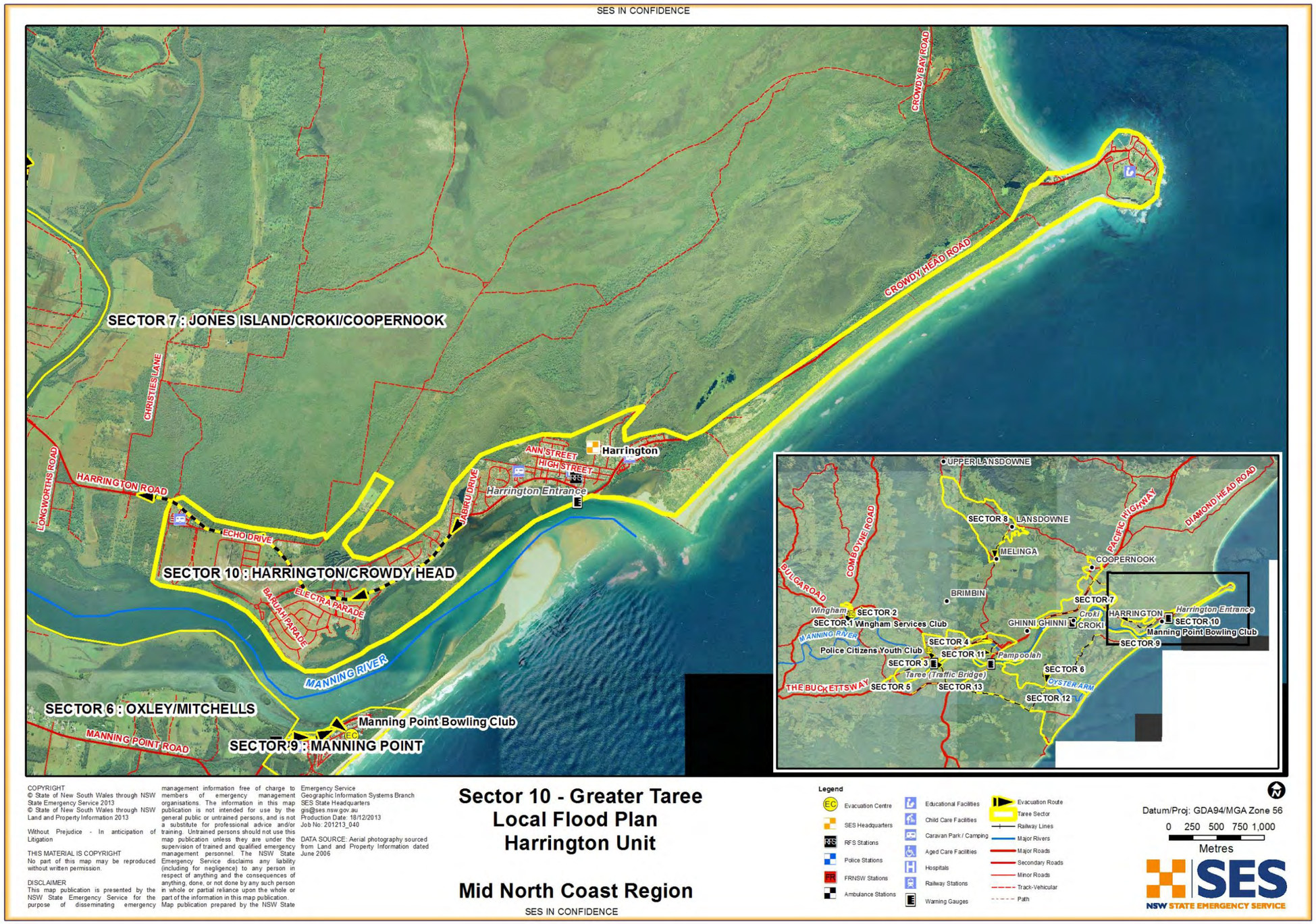
Evacuation and/or Isolation Triggers	**This sector has a flood classification of a high flood island up to 2.26m then progressively to a low flood island in a PMF at 5.40m. Evacuations in this sector are to be conducted incrementally as predicted flood heights become known and the impact extent established. Road evacuation routes will be lost from 1.50m. Evacuation can only be conducted by helicopter past this height.** • **Prediction to reach and/or exceed** 1.50m – Harrington Road may be inundated with flood waters isolating Harrington. Rural roads at Coralville and Crowdy Bay road to the north also closed. • **Prediction to reach and/or exceed** 1.90m – flooding commences in and around properties in Crowdy Street, Hogan Street, Nicholson Street, Jabiru Close, Minnamurra Drive, Beach Street, Terranora Avenue and Harrington Drive • **Prediction to reach and/or exceed** 2.10m – flooding commences in and around properties in Scott Street, Latham Street, Bangalee Place, Glacken Street, Manor Road and the Colonial Leisure Village Caravan park • **Prediction to reach and/or exceed** 2.26m – flooding commences in and around properties in Bluewater Drive - 83 properties potentially flooded over floor • **Prediction to reach and/or exceed** 2.70m – flooding of Harrington Waters Housing Estate may commence and evacuations may be required. Failure of essential services or persons who are not prepared for isolation may prompt evacuation requirements.
Sequencing of evacuation	Evacuation sequencing will be as per the triggers for identified at risk properties. 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 from impacted properties. These properties would be dealt with on a case by case basis in conjunction with NSW Police and The Welfare Services Functional Area Coordinator. It is anticipated that evacuation will take approximately 6 hours. Field teams should not waste time dealing with people who are reluctant or refuse to comply with an evacuation order and should be referred to the LEMO.
Evacuation Routes	The evacuation route is via Beach Street to Harrington Road to

	Taree.
Evacuation Route Closure	The evacuation route may close from 1.50m causing isolation.
Method of Evacuation	• Evacuations should reflect the principles outlined in Evacuation Planning Handbook (1) • Self-evacuation by private transport to the evacuation center • With assistance of NSW SES or emergency services to the evacuation center • At risk residents will be advised via warnings issued and or door knocks from emergency services personnel advising of evacuation details and arrangements.
Evacuation Centre/Assembly Point	The following facilities may be used as evacuation centres (at the direction of the Welfare Services Functional Area Coordinator)- • Club Taree – Primary • Taree High School – Secondary • Harrington Bowling Club (flooded in a PMF). The following facilities maybe used as evacuation assembly points- • Harrington Public School, High St, Harrington. • Harrington Public Hall, Cnr of Pilot St and Beach St, Harrington.
Large scale evacuations	In a large or full evacuation - required from approximately 5.40m. Evacuees will be moved to the evacuation assembly area and or center identified by the NSW SES Incident Controller in consultation with the Community Services Functional Support Area. Evacuations will be conducted incrementally as the flood height predictions become known and the impact extent established. Evacuations will be staged- **Stage 1:** Evacuation of the elderly, sick and frail as well as families with young children. Evacuation will be by way of road along higher ground to the nominated assembly point or center – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 2:** Evacuation of all persons not required for emergency operations.

	Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 3:** Full evacuation of the sector (including emergency service personnel). Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized NSW Police will be responsible for security of evacuated areas. Population densities within the sector would not exceed capacity of the surrounding evacuation centers and services. Evacuation centers in Taree, Laurieton and Port Macquarie may be established (dependent upon the need).
Rescue	The Taree SES Unit will undertake all Flood Rescue Operations in accordance with the responsibilities outlined in the Flood Emergency Sub Plan.
Resupply	It is unlikely the sector will require resupply due to the likely duration of inundation. Where resupply is required to the sector it will be in accordance with the Greater Taree Local Flood Emergency Sub Plan.
Aircraft Management	**Helicopter Landing Points:** • Taree Aerodrome Pilot Hill, Harrington GR 707735 (Coopernook 9434-3-N) Landing sites within the sector will be dependent on the prevailing conditions and operational requirements. The final decision rests with the Pilot.
	Airports: The sector is serviced by the Taree Airport at Taree (S 31 53.3 E 152 30.8). • Fixed wing aircraft including C-130, Dash –8 and Saab 340 models. • Paved runway with landing lights. Refuelling facilities are available. • The northern third of the airport is susceptible to flooding, however, the remainder is still useable by STOL aircraft. Road access to Taree Airport can be lost at ~4.63m on the Taree Traffic Bridge Gauge.

	Airport operations are limited from 5.43m on the Taree Traffic Bridge Gauge with floodwaters reducing the length of the runway.
Other	

10.1. HARRINGTON/CROWDY HEAD SECTOR MAP



11. CUNDLETOWN/DUMARESQ SECTOR

Refer to Volume 2: Hazard and Risk in Greater Taree City for more information about this Sector/Community.

Sector Description	This sector comprises the village of Cundletown north of Taree – and Dumaresq Island, a small island in the Manning River joined to the mainland by a bridge to the Cundletown village. Dumaresq Island and Glenthorne may be the first areas to require evacuations. These areas should be carefully monitored. Flooding begins at 1.78m and evacuation routes may close prior to property inundation. Most properties are built on raised ground or elevated floors. The village of Cundletown remains largely flood free to the PMF at 9.70m with Rising Road Access from the low lying areas adjacent to the Manning River in River Street. The village may become isolated during a 20 year (5% AEP) ARI event at 4.63m. Cundletown may require evacuations from River St progressively if river is expected to exceed 2.38m at Taree traffic Bridge Gauge (208410). Dumaresq Island is predominantly rural residential surrounded by the Manning River and is susceptible to deep fast flowing flood waters. Properties are affected early in flood events and will become isolated – the island is expected to be completely inundated during a 20 year (5% AEP) ARI event at 4.63m.		
Hazard	Riverine flooding and isolation from the Manning River		
Flood Affect Classification	Cundletown – Rising Road Access to an area of safe refuge on a high flood island from 4.63m up to a PMF at 9.70m Dumaresq Island – Overland Refuge to Higher Ground up to a 20 year ARI (5% AEP) event at 4.63m. Then a Low Flood Island to the PMF at 9.70m.		
At risk properties	10 in 1% AEP (5.68m) and up to 26 in Dumaresq Island Cundletown: 7 in a 5% AEP flood (5.68m)	**Total number of properties within Sector/Community**	785 Cundletown 26 Dumaresq Island

	17 in a 2% AEP flood (5.36m) 24 in a 1% AEP flood (2.26m) Values unavailable for the PMF (9.7m)		
Sector Control	**Command –** The Greater Taree Incident Controller will remain in Command of all evacuations in the local area. **Control –** The Taree City SES Incident Controller will control all evacuations in this sector. **Coordination -** The Taree City SES Unit will conduct evacuations in this sector and coordinate supporting agencies.		
Key Warning Gauge Name – Taree Traffic Bridge (Longitude = 152.4550°E Latitude =-31.9200°S)	**Minor:** 1.78m	**Moderate:** 2.38m	**Major:** 3.68m
General Strategy	• Manage operations in response to predicted heights indicating likely consequences that pre-empt appropriate actions • Issue early warning of flood level impacts • Establishment of an evacuation centre • Evacuation of at risk population • Identification of a suitable helicopter landing zone at the Taree Aerodrome		
Key Risks / Consequences	• **Prediction to reach and/or exceed** 1.80m – water begins to flow across roads on Dumaresq Island and low lying parts of George and River Streets Cundletown • **Prediction to reach and/or exceed** 3.20m – flooding commences in Newtons Road Dumaresq Island and River Street Cundletown • **Prediction to reach and/or exceed** 4.00m – If this height flooding predicted near properties Dumaresq Island, low lying areas of Cundletown in and around River Street and St Pauls Hostel Cundletown – evacuations may be required • **Prediction to reach and/or exceed** 4.50m – properties commence to be impacted by flood waters in Dumaresq Island, low lying areas of Cundletown in and around River Street and St Pauls Hostel Cundletown – evacuations may be required.		

Information and Warnings	NSW SES Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Mid North Coast Region will issue timely, relevant and tailored information to the public in the following formats:
	• NSW SES Bulletins
	  ○ Flood Watch
	  ○ Flood Warning
	  ○ Equipment, Livestock and Aquaculture Warnings
	  ○ Media Release such as– Isolation Warnings
	• Evacuation Warning
	• Evacuation Order
	• All Clear
	• Emergency Alert
	• Standard Emergency Warning Signal (SEWS)
	• Sequenced door knocking
	• Media briefing
	• Interagency LEMC briefings
	• Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.

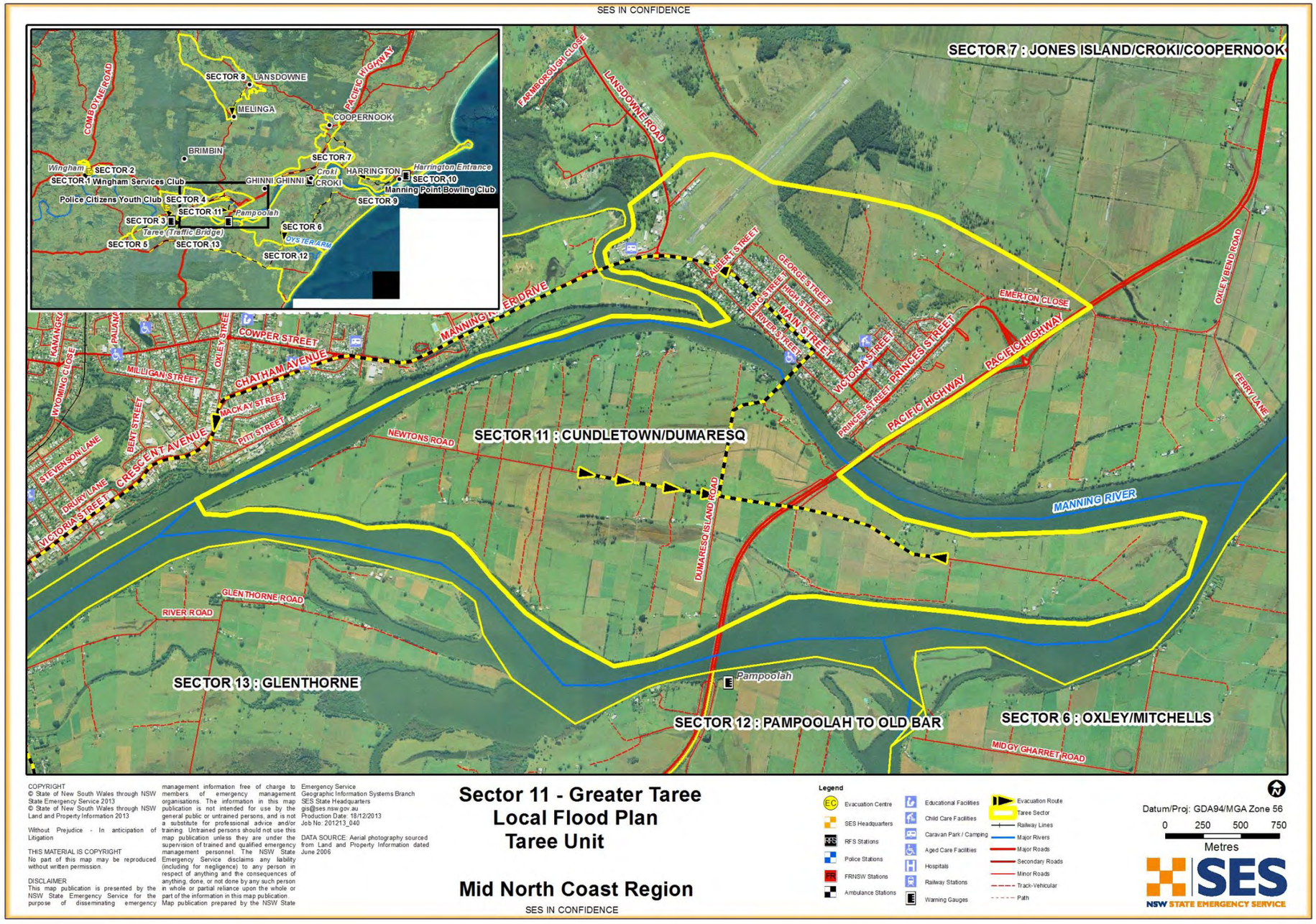
Property Protection	**Assistance with property protection:** NSW SES will monitor rising flood waters and provide the following assistance for flood-threatened properties where time and resources permit - • Relocation of personal property for at risk locations • Relocation of livestock in consultation with Local Land Services • Relocate moveable at risk public assets • Control surface water through sandbagging • Monitor integrity of dwellings surrounded by flood waters.
	Protection of essential infrastructure: Greater Taree City Council (Roads), Mid Coast Water (Water / Sewerage) and Essential Energy (Electricity) have responsibility for preparing and implementing emergency response arrangements for the protection of essential infrastructure within the sector: • Lansdowne Road Pole Sub

Evacuation and/or Isolation Triggers	**Dumaresq Island has a flood classification of overland refuge area to a high flood island up to 4.63m then a low flood island to the PMF at 9.70m. Evacuations on Dumaresq Island are to be conducted incrementally as predicted flood heights become known and the impact extent established. Road evacuation routes will be lost from 2.20m. Evacuations will need to be completed from before this height.** • **Prediction to reach and/or exceed** 2.20m – flooding commences in Newtons Road Dumaresq evacuation routes may close **Prediction to reach and/or exceed** 4.50m – properties commence to be impacted by flood waters in Dumaresq Island, low lying areas of Cundletown in and around River Street and St Pauls Hostel Cundletown – evacuations may be required Failure of essential services or persons who are not prepared for isolation may prompt evacuation requirements.
Sequencing of evacuation	Evacuation sequencing will be as per the triggers for identified at risk properties. 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 from impacted properties. These properties would be dealt with on a case by case basis in conjunction with NSW Police and The Welfare Services Functional Area Coordinator. It is anticipated that evacuation will take approximately 6 hours. Field teams should not waste time dealing with people who are reluctant or refuse to comply with an evacuation order and should be referred to the LEMO.
Evacuation Routes	Dumaresq Island – Newtons Road and Dumaresq Road to Cundletown/Taree Cundletown – Main Street to Manning River Drive to Taree
Evacuation Route Closure	Dumaresq Island evacuation routes start to close from 3.20m Cundletown evacuation routes are flood free to high ground in a PMF via Lansdowne Road – other potential evacuation routes may

	become closed from a 20 year (5% AEP) ARI event at 4.63m.
Method of Evacuation	• Evacuations should reflect the principles outlined in Evacuation Planning Handbook (1) • Self-evacuation by private transport to the evacuation center • With assistance of NSW SES or emergency services to the evacuation center At risk residents will be advised via warnings issued and or door knocks from emergency services personnel advising of evacuation details and arrangements
Evacuation Centre	The following facilities may be used as evacuation centres (at the direction of The Welfare Services Functional Area Coordinator)- • Club Taree – Primary • Taree High School – Secondary
Large scale evacuations	In a large or full evacuation - required from approximately 4.63m. Evacuees will be moved to the evacuation assembly area and or center identified by the NSW SES Incident Controller in consultation with the Community Services Functional Support Area. Evacuations will be conducted incrementally as the flood height predictions become known and the impact extent established. Evacuations will be staged- **Stage 1:** Evacuation of the elderly, sick and frail as well as families with young children. Evacuation will be by way of road along higher ground to the nominated assembly point or center – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 2:** Evacuation of all persons not required for emergency operations. Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 3:** Full evacuation of the sector (including emergency service personnel). Evacuation will be by way of road along higher ground

	– if access is impeded or blocked by water flood boats and helicopters may be utilized NSW Police will be responsible for security of evacuated areas Population densities within the sector would not exceed capacity of the surrounding evacuation centers and services.
Rescue	The Taree SES Unit will undertake all Flood Rescue Operations in accordance with the responsibilities outlined in the Flood Emergency Sub Plan.
Resupply	It is unlikely the sector will require resupply due to the likely duration of inundation. Where resupply is required to the sector it will be in accordance with the Greater Taree Local Flood Emergency Sub Plan.
Aircraft Management	**Helicopter Landing Points:** • Taree Aerodrome Landing sites within the sector will be dependent on the prevailing conditions and operational requirements. The final decision rests with the Pilot.
	Airports: The sector is serviced by the Taree Airport at Taree (S 31 53.3 E 152 30.8). • Fixed wing aircraft including C-130, Dash –8 and Saab 340 models. • Paved runway with landing lights. Refuelling facilities are available. • The northern third of the airport is susceptible to flooding, however, the remainder is still useable by STOL aircraft. Road access to Taree Airport can be lost at ~4.63m Airport operations are limited from 5.43m with floodwaters reducing the length of the runway
Other	

11.1. CUNDLETOWN/DUMARESQ SECTOR MAP



12. PAMPOOLAH TO OLD BAR SECTOR

Refer to Volume 2: Hazard and Risk in Greater Taree City for more information about this Sector/Community.

Sector Description	This sector comprises the villages of Wallabi Point and Old Bar. It includes the rural residential areas of Pampoolah, Bohnock and Cabbage Tree Island. Old Bar and Wallabi Point are coastal communities predominantly flood free up to and including the PMF at 9.70m – however in events from a 20 year (5% AEP) at 4.63m the evacuation route to Taree may close causing isolation. The areas surrounding Pampoolah and Bohnock are rural residential and subject to flooding and isolation at various heights throughout events commencing at 1.80m. Cabbage Tree Island is a small island in the south arm of the Manning River with a small number of residences. Access to the island is by boat only and it will require monitoring as it is subject to isolation and flooding – evacuations may be required.		
Hazard	Riverine flooding and isolation from the Manning River. The sector is also subject to coastal erosion impacts along the eastern coastal boundary and the south entrance to the Manning River at Old Bar.		
Flood Affect Classification	Indirectly Affected Area to the PMF at 9.70m when the sector becomes isolated with Rising Road Access Areas from approximately 4.63m.		
At risk properties	37 in a 5% AEP flood (4.63m) 67 in a 2% AEP flood (5.36m) 84 in a 1% AEP flood (5.68m) The area is completely inundated in a PMF	**Total number of properties within Sector/Community**	146 Pampoolah 1990 Old Bar 230 Wallabi Point

Sector Control	**Command –** The Greater Taree Incident Controller will remain in Command of all evacuations in the local area. **Control –** The Taree City SES Incident Controller will control all evacuations in this sector. **Coordination -** The Taree City SES Unit will conduct evacuations in this sector and coordinate supporting agencies.		
Key Warning Gauge Name – Taree Traffic Bridge (Longitude = 152.4550°E Latitude =-31.9200°S)	**Minor:** 1.78m	**Moderate:** 2.38m	**Major:** 3.68m
General Strategy	• Manage operations in response to predicted heights indicating likely consequences that pre-empt appropriate actions • Issue early warning of flood level impacts • Establishment of an evacuation centre • Evacuation of at risk population • Identification of a suitable helicopter landing zone at the Taree Aerodrome.		
Key Risks / Consequences	• **Prediction to reach and/or exceed** 1.80m – low lying areas around Pampoolah begin to inundate – evacuations may be required. • **Prediction to reach and/or exceed** 4.50m – Old Bar Road may close causing isolation. Access to Taree may also be lost at Cubba Cubba Creek at 4.50m, Manning River Drive (south entrance to Taree) and at 4.63m Dawson's River Bridge, Manning River Drive (north entrance to Taree) – access to Taree may close .		

Information and Warnings	NSW SES Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Mid North Coast Region will issue timely, relevant and tailored information to the public in the following formats:
	• NSW SES Bulletins
	  ○ Flood Watch
	  ○ Flood Warning
	  ○ Equipment, Livestock and Aquaculture Warnings
	  ○ Media Release such as– Isolation Warnings		

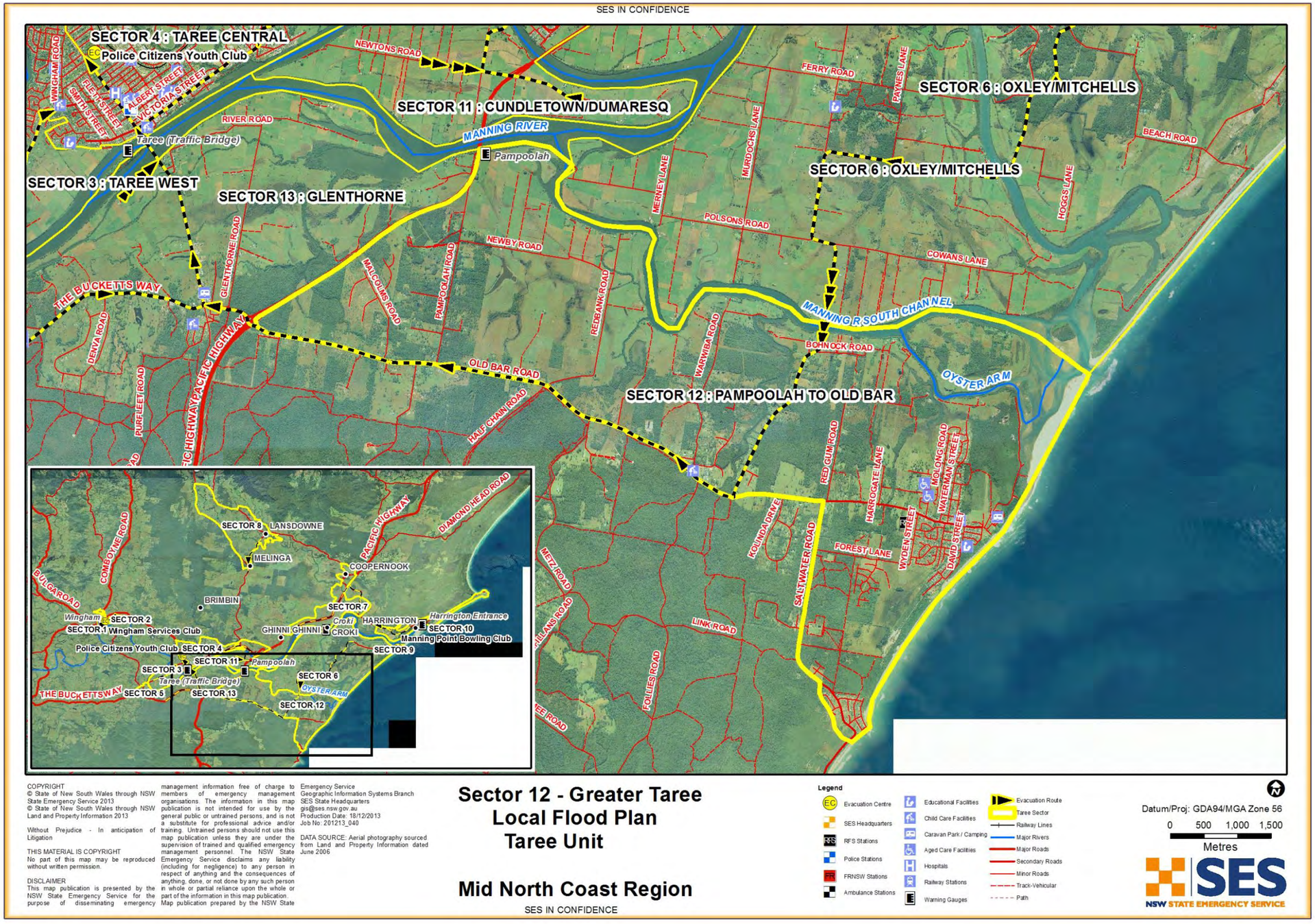
	• Evacuation Warning • Evacuation Order • All Clear • Emergency Alert • Standard Emergency Warning Signal (SEWS) • Sequenced door knocking • Media briefing • Interagency LEMC briefings • Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.
Property Protection	**Specific property protection measures:** Note: Property protection measures for the threat of coastal erosion involve the relocation of readily moveable household goods and commercial stock and equipment. The SES is not responsible for planning or conduct of emergency beach protection works or other physical mitigation works. The Greater Taree City Council is responsible for the activation of the Greater Taree City Council Coastal Zone Management Plan – Emergency Action Plan.
	Assistance with property protection: NSW SES will monitor rising flood waters and provide the following assistance for flood-threatened properties where time and resources permit - • Relocation of personal property for at risk locations • Relocation of livestock in consultation with Local Land Services • Relocate moveable at risk public assets • Control surface water through sandbagging • Monitor integrity of dwellings surrounded by flood waters.
	Protection of essential infrastructure: Greater Taree City Council (Roads), Mid Coast Water (Water / Sewerage) and Essential Energy (Electricity) have responsibility for preparing and implementing emergency response arrangements for the protection of essential infrastructure within the sector: • Bohnock Zone Sub • Wallabi Point Road Pole Subs

Evacuation Triggers	• **Prediction to reach and/or exceed** 1.80m – low lying areas around Pampoolah begin to inundate – evacuations may be required. **Pampoolah** will require monitoring to establish when evacuations will be required. Evacuations to Taree will need to be completed before the river at the Taree Traffic Bridge gauge (208410) exceeds 4.50m when access may be lost. Failure of essential services or persons who are not prepared for isolation may prompt evacuation requirements.
Sequencing of evacuation	Evacuation sequencing will be as per the triggers for identified at risk properties. 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 from impacted properties. These properties would be dealt with on a case by case basis in conjunction with NSW Police and The Welfare Services Functional Area Coordinator. It is anticipated that evacuation will take approximately 6 hours. Field teams should not waste time dealing with people who are reluctant or refuse to comply with an evacuation order and should be referred to the LEMO.
Evacuation Routes	Manning Point Road to Old Bar Road to Taree or Old Bar (depending on prevailing conditions and road closures)
Evacuation Route Closure	The evacuation route along Old Bar Road remains flood free to the PMF although some low lying areas may experience flash flooding closing the evacuation route periodically during events (near Berady Creek). Manning Point Road from Bohnock to Old Bar Road is subject to inundation in low lying areas and may close early in an event at approximately 4.50m.
Method of Evacuation	• Evacuations should reflect the principles outlined in Evacuation Planning Handbook (1) • Self-evacuation by private transport to the evacuation center. • With assistance of NSW SES or emergency services to the evacuation center.

	At risk residents will be advised via warnings issued and or door knocks from emergency services personnel advising of evacuation details and arrangements.
Evacuation Centre/Assembly Point	The following facilities may be used as evacuation centres (at the direction of The Welfare Services Functional Area Coordinator)- • Club Taree – Primary • Taree High School – Secondary Old Bar Club in Waterman Street Old Bar is suitable for use as an evacuation assembly point.
Large scale evacuations	In a large or full evacuation Evacuees will be moved to the evacuation assembly area and or center identified by the NSW SES Incident Controller in consultation with the Community Services Functional Support Area. Evacuations will be conducted incrementally as the flood height predictions become known and the impact extent established. Evacuations will be staged- **Stage 1:** Evacuation of the elderly, sick and frail as well as families with young children. Evacuation will be by way of road along higher ground to the nominated assembly point or center – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 2:** Evacuation of all persons not required for emergency operations. Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 3:** Full evacuation of the sector (including emergency service personnel). Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized NSW Police will be responsible for security of evacuated areas Population densities within the sector would not exceed capacity of the surrounding evacuation centers and services.

Rescue	The Taree SES Unit will undertake all Flood Rescue Operations in accordance with the responsibilities outlined in the Flood Emergency Sub Plan.
Resupply	It is unlikely the sector will require resupply due to the likely duration of inundation. Where resupply is required to the sector it will be in accordance with the Greater Taree Local Flood Emergency Sub Plan.
Aircraft Management	**Helicopter Landing Points:** • Taree Aerodrome • Old Bar Landing Ground GR 612630 (Cundletown 9434-3-S). This grass strip can be used for the landing of light aircraft and military aircraft up to the size of a C-130. • Bohnock GR 591649) (Cundletown 9439-3-S). This is a private grass strip. Landing sites within the sector will be dependent on the prevailing conditions and operational requirements. The final decision rests with the Pilot.
	Airports: The sector is serviced by the Taree Airport at Taree (S 31 53.3 E 152 30.8). • Fixed wing aircraft including C-130, Dash –8 and Saab 340 models. • Paved runway with landing lights. Refuelling facilities are available. • The northern third of the airport is susceptible to flooding, however, the remainder is still useable by STOL aircraft. Road access to Taree Airport can be lost at ~4.63m. Airport operations are limited from 5.43m with floodwaters reducing the length of the runway. A secondary grass airstrip is located at- Old Bar Landing Ground GR 612630. This grass strip can be used for the landing of light aircraft and military aircraft up to the size of a C-130.
Other	

12.1. PAMPOOLAH TO OLD BAR SECTOR MAP



13. GLENTHORNE SECTOR

Refer to Volume 2: Hazard and Risk in Greater Taree City for more information about this Sector/Community.

Sector Description	This sector is predominantly rural with a small residential area on the banks of the Manning River opposite the Taree township. The sector is bounded by the Manning River, Pacific Highway and Manning River Drive. Properties within this sector are susceptible to flooding and isolation due to the proximity to the River and the low lying terrain.		
Hazard	Riverine flooding and isolation from the Manning River.		
Flood Affect Classification	Low Flood Island, with dwellings located on isolated mounds until around 4.50m, thereafter becoming inundated.		
At risk properties	111 from 4.5m (below the 5% AEP) The area becomes entirely inundated at this height	**Total number of properties within Sector/Community**	111
Sector Control	**Command –** The Greater Taree Incident Controller will remain in Command of all evacuations in the local area. **Control –** The Taree City SES Incident Controller will control all evacuations in this sector. **Coordination -** The Taree City SES Unit will conduct evacuations in this sector and coordinate supporting agencies.		
Key Warning Gauge Name – Taree Traffic Bridge (Longitude = 152.4550°E Latitude =-31.9200°S)	**Minor:** 1.78m	**Moderate:** 2.38m	**Major:** 3.68m
General Strategy	• Manage operations in response to predicted heights indicating likely consequences that pre-empt appropriate		

	actions • Issue early warning of flood level impacts • Establishment of an evacuation centre • Evacuation of at risk population • Identification of a suitable helicopter landing zone at the Taree Aerodrome.
Key Risks / Consequences	• **Prediction to reach and/or exceed** 1.80m – low lying areas may begin to inundate • **Prediction to reach and/or exceed** 2.20m – properties in Glenthorne Road may begin to inundate, isolating rural properties • **Prediction to reach and/or exceed** 4.50m – access to Taree may be lost • **Prediction to reach and/or exceed** 5.43m – low lying areas in the sector may be completely flooded.

Information and Warnings	NSW SES Bulletins will localise the consequences of the Bureau products on the sector. NSW SES Mid North Coast Region will issue timely, relevant and tailored information to the public in the following formats:
	• NSW SES Bulletins
	  ○ Flood Watch
	  ○ Flood Warning
	  ○ Equipment, Livestock and Aquaculture Warnings
	  ○ Media Release such as– Isolation Warnings
	• Evacuation Warning
	• Evacuation Order
	• All Clear
	• Emergency Alert
	• Standard Emergency Warning Signal (SEWS)
	• Sequenced door knocking
	• Media briefing
	• Interagency LEMC briefings
	• Bureau products, such as Flood Watches and Flood Warnings, will include NSW SES safety advice.

Property Protection	**Assistance with property protection:** NSW SES will monitor rising flood waters and provide the following assistance for flood-threatened properties where time and resources permit -

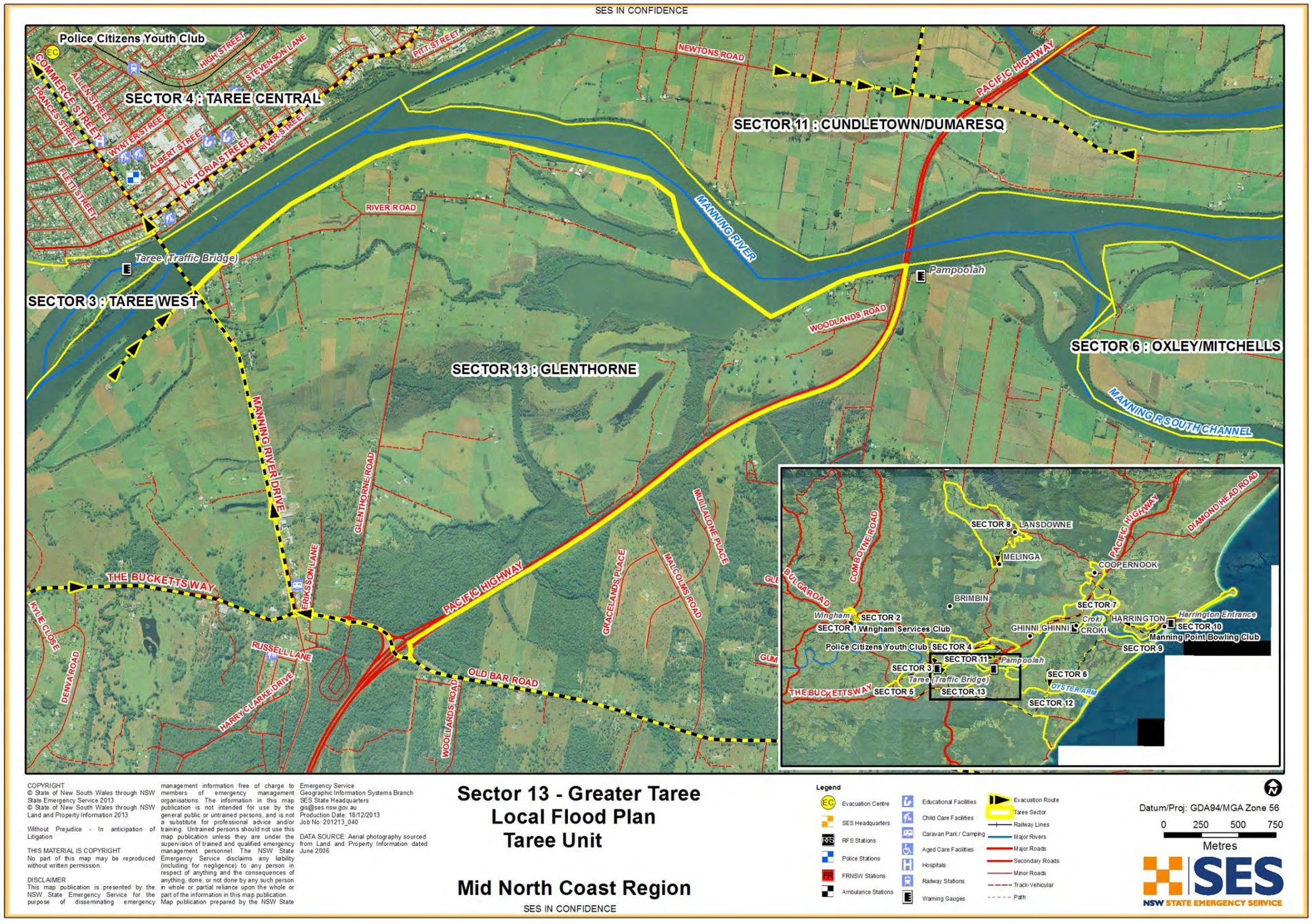
	• Relocation of personal property for at risk locations • Relocation of livestock in consultation with Local Land Services • Relocate moveable at risk public assets • Control surface water through sandbagging • Monitor integrity of dwellings surrounded by flood waters.
	Protection of essential infrastructure: Greater Taree City Council (Roads), Mid Coast Water (Water / Sewerage) and Essential Energy (Electricity) have responsibility for preparing and implementing emergency response arrangements for the protection of essential infrastructure within the sector.
Evacuation Triggers	**This sector has a flood classification of a low flood island up to and including the PMF at 9.70m. Evacuations are to be conducted incrementally as predicted flood heights become known and the impact extent established. Road evacuation routes will be lost from 2.20m with the majority of dwellings located on isolated mounds. Evacuations will need to be conducted by flood boat or helicopter from this height. Evacuations will need to be completed before 5.43m when the sector is completely inundated.** • **Prediction to reach and/or exceed** 1.80m – low lying areas may begin to inundate – leading to isolation evacuations may be required • **Prediction to reach and/or exceed** 2.20m – properties in Glenthorne Road may begin to inundate – evacuations may be required • **Prediction to reach and/or exceed** 5.43m - low lying areas of the sector will be completely flooded evacuations may be required. Failure of essential services or persons who are not prepared for isolation may prompt evacuation requirements.
Sequencing of evacuation	Evacuation sequencing will be as per the triggers for identified at risk properties. 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 from impacted properties. These properties would be dealt with on a case by case basis in conjunction with NSW Police and The Welfare Services

	Functional Area Coordinator. It is anticipated that evacuation will take approximately 6 hours. Field teams should not waste time dealing with people who are reluctant or refuse to comply with an evacuation order and should be referred to the LEMO.
Evacuation Routes	Manning River Drive and Pacific Highway to Taree.
Evacuation Route Closure	The southern and northern entrances to Taree via Manning River Drive may close at around 4.50m. The Pacific Highway remains flood free. Minor road closures may isolate rural properties from 1.80m.
Method of Evacuation	• Evacuations should reflect the principles outlined in Evacuation Planning Handbook (1) • Self-evacuation by private transport to the evacuation center • With assistance of NSW SES or emergency services to the evacuation center. At risk residents will be advised via warnings issued and or door knocks from emergency services personnel advising of evacuation details and arrangements.
Evacuation Centre	The following facilities may be used as evacuation centres (at the direction of the Welfare Services Functional Area Coordinator)- • Club Taree – Primary • Taree High School – Secondary.
Large scale evacuations	In a large or full evacuation - required from approximately 5.43m. Evacuees will be moved to the evacuation assembly area and or center identified by the NSW SES Incident Controller in consultation with the Community Services Functional Support Area. Evacuations will be conducted incrementally as the flood height predictions become known and the impact extent established. Evacuations will be staged- **Stage 1:** Evacuation of the elderly, sick and frail as well as families with young children. Evacuation will be by way of road along higher

	ground to the nominated assembly point or center – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 2:** Evacuation of all persons not required for emergency operations. Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized. **Stage 3:** Full evacuation of the sector (including emergency service personnel). Evacuation will be by way of road along higher ground – if access is impeded or blocked by water flood boats and helicopters may be utilized NSW Police will be responsible for security of evacuated areas Population densities within the sector would not exceed capacity of the surrounding evacuation centers and services.
Rescue	The Taree SES Unit will undertake all Flood Rescue Operations in accordance with the responsibilities outlined in the Flood Emergency Sub Plan.
Resupply	It is unlikely the sector will require resupply due to the likely duration of inundation. Where resupply is required to the sector it will be in accordance with the Greater Taree Local Flood Emergency Sub Plan.
Aircraft Management	**Helicopter Landing Points:** • Taree Aerodrome Landing sites within the sector will be dependent on the prevailing conditions and operational requirements. The final decision rests with the Pilot.
	Airports: The sector is serviced by the Taree Airport at Taree (S 31 53.3 E 152 30.8). • Fixed wing aircraft including C-130, Dash –8 and Saab 340 models. • Paved runway with landing lights. Refuelling facilities are available. • The northern third of the airport is susceptible to flooding, however, the remainder is still useable by STOL aircraft. Road access to Taree Airport can be lost at ~4.63m

	Airport operations are limited from 5.43m with floodwaters reducing the length of the runway
Other	

13.1. GLENTHORNE SECTOR MAP



GREATER TAREE CITY: NSW SES CARAVAN/TOURIST PARK ARRANGEMENTS

Chapter 4 of Volume 3 (NSW SES Response Arrangements for Greater Taree City) of the Greater Taree City Local Flood Plan

Last Update: December 2014

AUTHORISATION

The Greater Taree City NSW SES Caravan Park Arrangements have been prepared by the NSW State Emergency Service (NSW SES) as part of a comprehensive planning process.

Approved

Manager Emergency Risk Management

Date: 21/10/14

Approved

NSW SES Mid North Coast Region Controller

Date: 11/12/14

Tabled at LEMC

Date:

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

1.1 GENERAL

1.1.1 The following caravan parks are susceptible to flooding or isolation:

a. Riverside Caravan Park - Croki

b. East Ocean Shores – Manning Point

c. Weeroona Holiday Park – Manning Point

d. Dawson River - Cundletown

e. Colonial Holiday Park and Leisure Village - Harrington

f. Oxley Anchorage Caravan Park – Harrington

g. Big4 Caravan Park - Harrington

h. Lanis on the Beach – Old Bar (isolation)

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

1.2 ADVISING PROCEDURES

1.2.1 Caravan/ Tourist Park proprietors shall ensure that the owners and occupiers of caravans and other moveable dwellings are:

a. Made aware that the caravan/ tourist park is susceptible to flooding by:

- Providing written information to occupiers on the risk. The notice will confirm that the caravan/ tourist park is susceptible to flooding or isolation and indicate the flood liable land within the park.
- Ensuring the notice is displayed prominently throughout the park.

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

- Provide the Park Manager with a contact address and telephone number in case of an emergency
- Provide a key.
- Leave any mobile van in a condition allowing it to be towed in an emergency (i.e.: tyres inflated, jacks wound up, personal effects secured and annexes and lines for water, sewer, electricity and gas readily detachable, and maintained in proper working order).

c. Be 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/ moveable dwelling relocation.

1.2.2 The NSW SES Greater Taree City Local Controller will ensure that the Managers of caravan parks are advised of flood warnings and the details of any evacuation warnings or orders.

1.3 EVACUATION OF OCCUPANTS AND RELOCATION OF VANS AND OTHER MOVEABLE DWELLINGS

1.3.1 When an evacuation order is given, Caravan/ Tourist Park occupants should follow the flood evacuation procedures for the park under the direction of the caravan/ tourist park manager. This should include advice to:

a. Isolate power to their vans by unplugging all leads.

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

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

d. If self-evacuating, register their movements with the caravan/ tourist park manager upon leaving the park.

1.3.2 Where possible, vans and other moveable dwellings that can be moved will be relocated by their owners. Park managers will arrange for the relocation of other vans and moveable dwellings as required. Council and NSW SES personnel may assist if resources permit. Vans and other moveable dwellings are to be moved to the locations outlined in Tables 1 and 2 at the end of this Chapter, or to friends or relatives located in areas safe from flooding.

1.3.3 Caravan/ tourist park managers will:

a. Ensure that their caravan/ tourist park is capable of being evacuated in a reasonable time frame relevant to the risk associated with their location..

b. Advise the NSW SES Greater Taree City 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 any vans or moveable dwellings that have not been moved and are likely to be inundated.

d. Inform the NSW SES Greater Taree City Local Controller when the evacuation of the caravan park has been completed.

e. Provide the NSW SES Greater Taree City Local Controller with a register of people that have been evacuated.

1.4 RETURN OF OCCUPANTS AND VANS

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

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

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

Name	Address/Location description	Town/Sector	Sites	Risk	Evacuation route	Evacuation route closure	Van relocation location	Evacuation centre	Notes
Riverside Caravan Park	Reid Rd, Croki 6556 3274	Croki (Croki Gauge)	38 sites Peak @120 persons	Inundation commences at 1.50mts.	From Croki to Pacific Highway	Progressively from 1.20mts to 1.50mts	Park subeject to isolation from 1.20mts and inundation from 1.50mts – Vans to be relocated out of Croki via evacuation routes to Pacific Highway prior to 1.20mts	Designated Taree Evacuation Centre	Peak Christmas and Easter holidays
East Ocean Shores	32 Manning St, Manning Point 6553 2624	Manning Point (Taree Gauge)	149 sites Peak @600 persons	Inundation and isolation commences at 1.80mts	From Manning Point to Mitchell's Island - Taree	Manning Point Road to Taree 1.80mts	Park subject to isolation from 1.80mts with inundation at 4.63 – Vans to be relocated out of Manning Point via evacuation routes to Pacific Highway prior to 1.80mts	Designated Taree Evacuation Centre	Peak Christmas and Easter holidays
Weeroona Holiday Park	21 Main Rd, Manning Point 6553 2635	Manning Point (Taree Gauge)	233 sites Peak @932 persons	Inundation and isolation commences at 1.80mts	From Manning Point to Mitchell's Island - Taree	Manning Point Road to Taree 1.80mts	Park subject to isolation from 1.80mts with inundation commencing at 1.80mts – Vans to be relocated out of Manning	Designated Taree Evacuation Centre	Peak Christmas and Easter holidays

Name	Address/Location description	Town/Sector	Sites	Risk	Evacuation route	Evacuation route closure	Van relocation location	Evacuation centre	Notes
							Point via evacuation routes to Pacific Highway prior to 1.80mts		
Dawson River	1 Manning River Drive, Cundletown 6553 9237	Taree (Taree Gauge)	56 sites Peak @224 persons	Inundation commences from 2.40mts	To higher levels within the park	N/A – Access to high ground available	Park subject to inundation from 2.40mts – move vans to higher ground within the park	Designated Taree Evacuation Centre	Peak Christmas and Easter holidays

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

Name	Address/Location description	Town/Sector	Sites	Risk	Evacuation route	Evacuation route closure	Van relocation location	Evacuation centre	Notes
Oxley Anchorage Caravan Park	Beach Street, Harrington 6556 1250	Harrington (Harrington Gauge)	96 sites Peak @576 persons	Inundation commences @ 2.10mts and is inundated to 0.06mts at 2.26mts	Beach Street to Harrington	Harrington Road to Pacific Highway 1.50mts	Park subject to isolation from 1.50mts and inundation commences – vans to be evacuated progressively via the evacuation routes to the Pacific Highway initially or to high ground in Harrington once the Harrington Road is closed	Designated Harrington Evacuation Centre	Peak Christmas and Easter holidays
Colonial Holiday Park and Leisure Village	716 Harrington Road, Harrington 6556 3312	Harrington (Harrington Gauge)	78 sites Peak 468 persons	Inundation commences @1.90mts when evacuation warnings are issued up to 2.00mts	Harrington Road to Harrington or Pacific Highway	Harrington Road to Pacific Highway 1.50mts	Park subject to isolation from 1.50mts and inundation from 2.10mts - vans to be evacuated progressively	Designated Harrington Evacuation Centre	Peak Christmas and Easter holidays

Name	Address/Location description	Town/Sector	Sites	Risk	Evacuation route	Evacuation route closure	Van relocation location	Evacuation centre	Notes
				when evacuation orders are issued			via the evacuation routes to the Pacific Highway initially or to high ground in Harrington once the Harrington Road is closed		
Lanis On The Beach	Old Bar Road, Old Bar 6553 7274	Old Bar	200 sites Peak @1000 persons No permanents	Isolation	Old Bar Road to Pacific Highway	Old Bar Road from overland flooding @4.50mts	Park subject to isolation at 4.50mts – vans to be relocated via the evacuation routes to the Pacific Highway prior to this height.	Designated Old Bar / Taree Evacuation Centre	Peak Christmas and Easter holidays
Big4 Harrington Holiday Park	50 Crowdy Street Harrington 6556 1228	Harrington		Isolation	Harrington Road to Pacific Highway	Harrington Road to Pacific Highway 1.50mts	Park subject to isolation from 1.50mts	Designated Harrington Evacuation Centre	Peak Christmas and Easter holidays Park is NOT subject to

Name	Address/Location description	Town/Sector	Sites	Risk	Evacuation route	Evacuation route closure	Van relocation location	Evacuation centre	Notes
									inundation up to 1% AEP