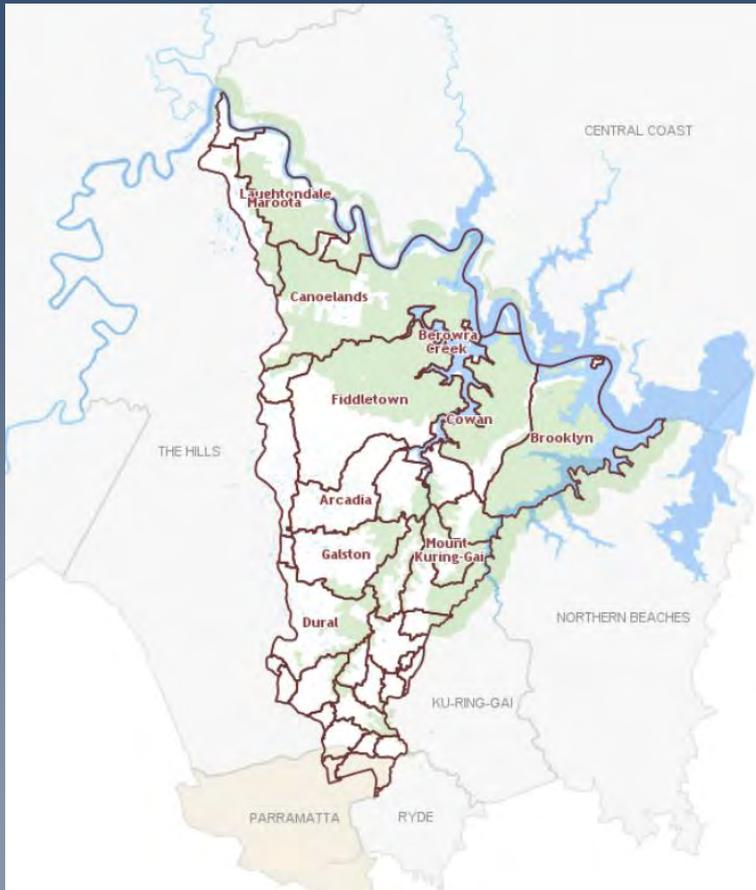


# Environmental Management in Hornsby Shire

*now and on the horizon*

Dr Peter Coad  
Manager, Natural Resources  
Hornsby Shire Council

# The Hornsby Shire



- Growing Population (currently 170,563)
- 2011 & 2021 an additional 6,075 private dwellings
- 10% Urban
- 70% National Park/Reserves
- 30% Rural and open space

# Bushland

- 70% of the Shire is Bushland
  - 52% managed by NPWS
- 1000+ native plant species
  - 26 threatened plant species
  - 9 Endangered Ecological Communities
- 338 native vertebrate species
  - 42 threatened animal species



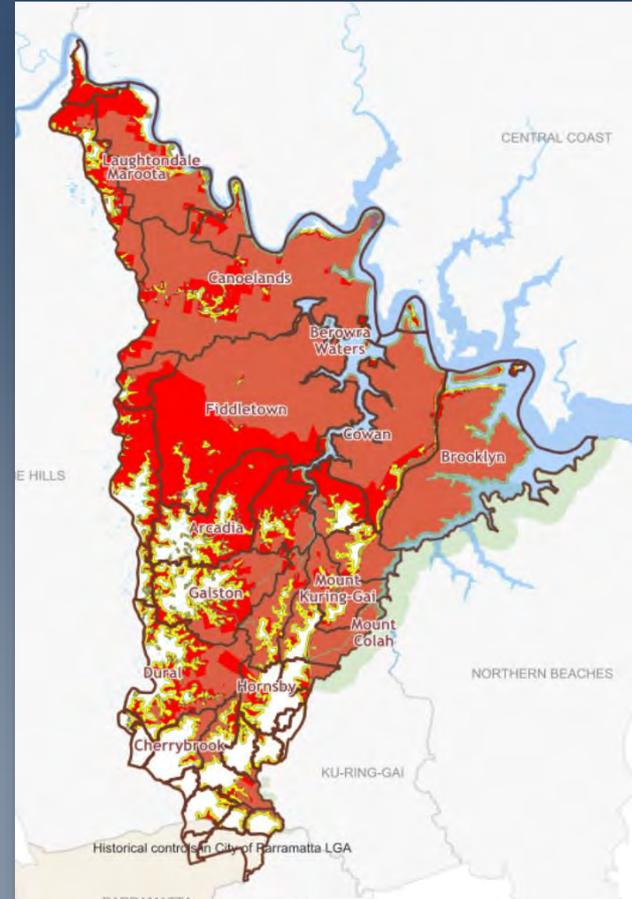
# Waterways

- Total 1,329kms
  - Unnamed 944km
  - Hawkesbury River 55km
  - Berowra Creek 36km
  - Colah Creek 19km
  - Marramarra Creek 17km
  - Cowan Creek 16km



# Bushfire

- Greater Sydney is one of the most bush fire-prone areas in Australia.
- Within Hornsby Shire 34% of properties are in Bushfire prone land
  - 19,804 properties
  - 41,352ha



# Issues

- Lack of understanding
  - Complex ecosystems, cause and effect, 'significance'
- Natural hazards
  - Exacerbated by climate change threatens infrastructure, life, property and conservation
- Human health
  - Poor water quality, loss of biodiversity/trees, etc
- Competing demands
- Vandalism
- Governance
- Uncertainty

# Key Principals

- Respect
- Sustainability/Conservation
- Strategic goals
- Impact avoidance, minimisation, mitigation and offsets
- Planning framework
- Public domain
- Acceptable risk to life & property
- Cost-benefit
- Financial
- Legal and regulatory
- Community support

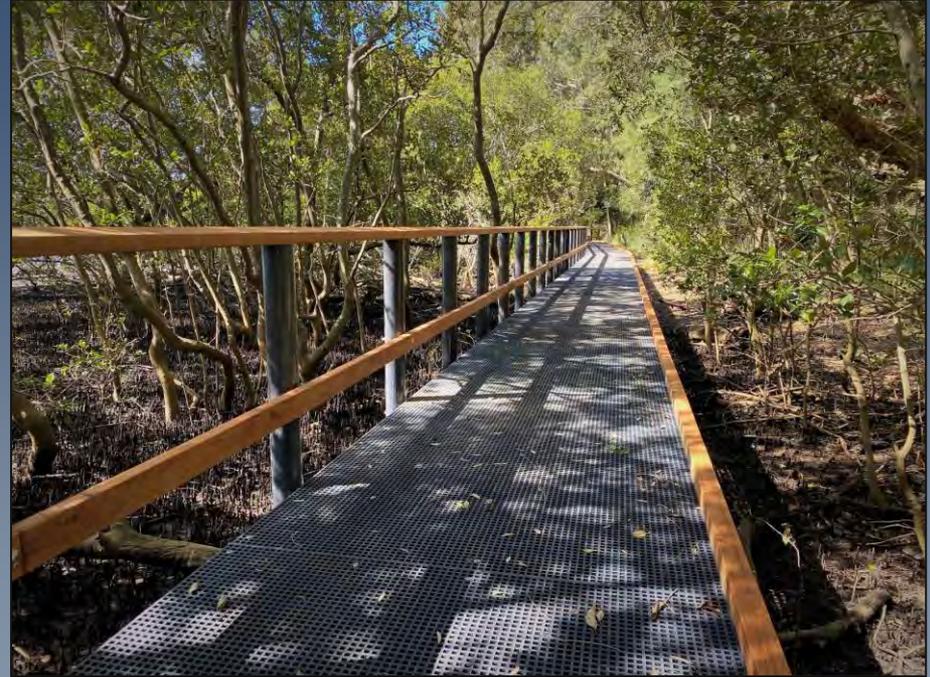
# What does this mean?

*.....some highlights from the last quarter  
(Nov 22 to Feb 23)*

# Bushland Management

- 24 development sites with offset works applied through vegetation management and landscape plans
- 91 sites with active bush regeneration contracts
- “Protecting our Forest” campaign activities in the Mall, libraries and at native plant giveaways
- Biobanking sites (Dog pound creek, Upper Pyes creek, New Farm Road, Arcadia and Waitara Creek) with active management
- 18 Walking trail upgrades, with 540m of trail upgrades
- Pyes Creek elevated walkway
- 920 residential properties received plants at the autumn native plant giveaways held at Warada Ngurang Community Nursery.
- 4,771 plants were given away. 8,721 plants were produced at the Nursery
- 66 Bushcare sites were maintained

# Brooklyn Boardwalk Upgrade





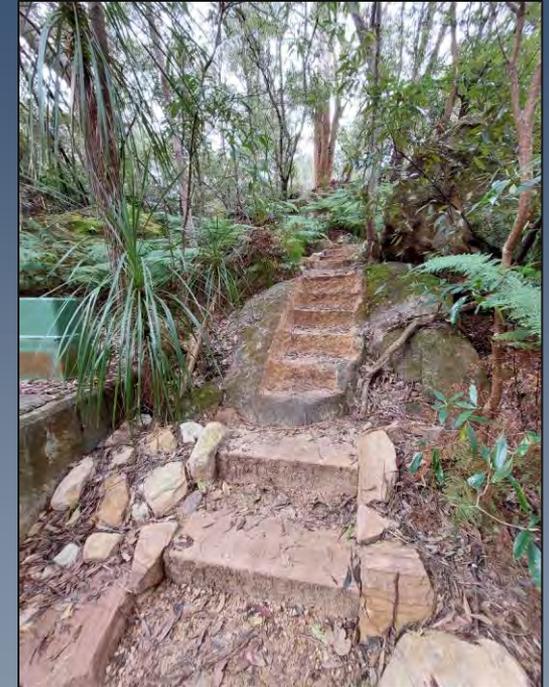
# Ginger Meggs Loop and Trackhead Upgrade



# McKell Park, Brooklyn Bush Tracks



# Larool Creek, Thornleigh Walking Track Upgrades



# Beecroft (Chilworth) Reserve Walking Track Upgrades



# Quarter Sessions Road Lookout



Quarter Sessions Road Lookout



# Pyes Creek Bridge (Linking Cherrybrook & Dural)



# McKell Park, Brooklyn



# Current Bushfire Management Activities

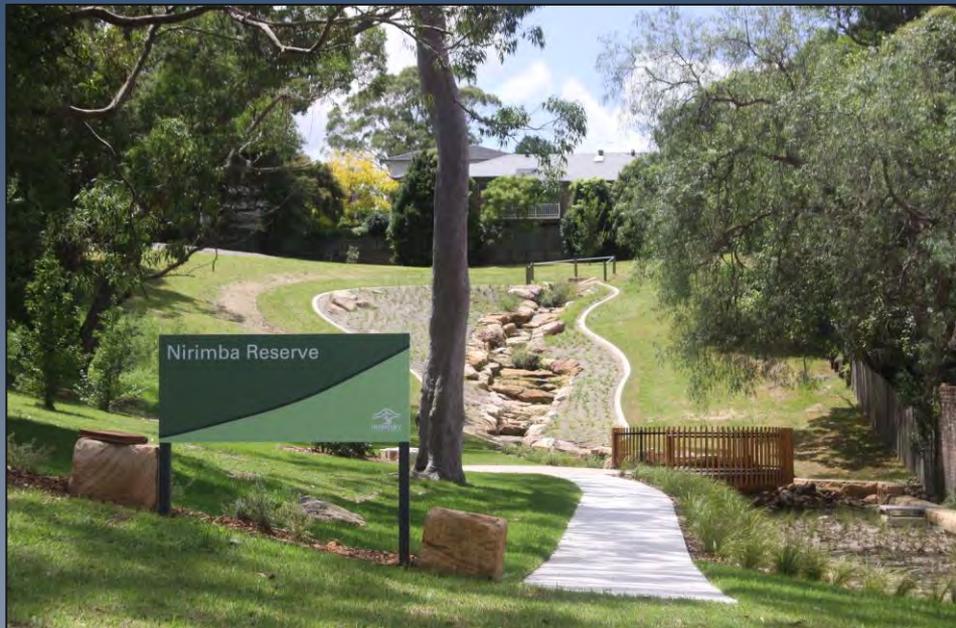
- 6ha of Asset Protection Zones were managed
- Fire trail inspections & maintenance completed
  - Upgrade works to Ginger Meggs firetrail
- Street meetings at Hopeville Park, Frederick Street and Lisgar Road
- Hazard reduction burning, APZ, fire trail maintenance prioritised for the next 4 years within the new district plan



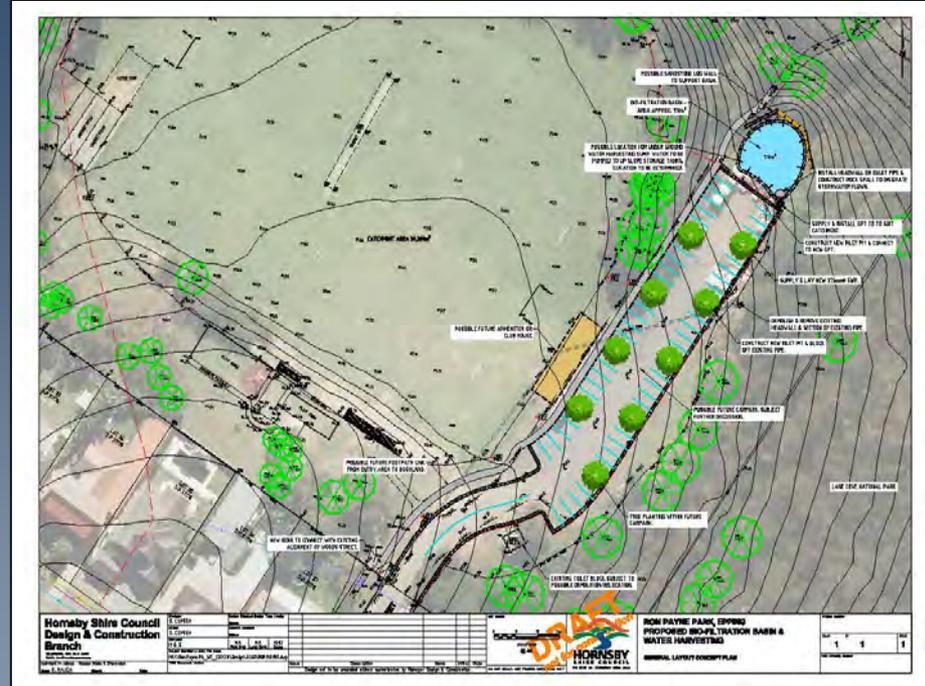
# Current Catchment Management Activities

- 63 Gross Pollutant Traps maintained and serviced
  - 79 tons of material removed
- 94 Stormwater improvement devices had priority weed removal
  - *Salvinai molesta* outbreak within Cherrybrook lakes
- 27 Nurseries, florists and aquariums inspected
- Hawkesbury Coastal Management Program with 7 partner Councils to continue by implementing stage 3 of 4.

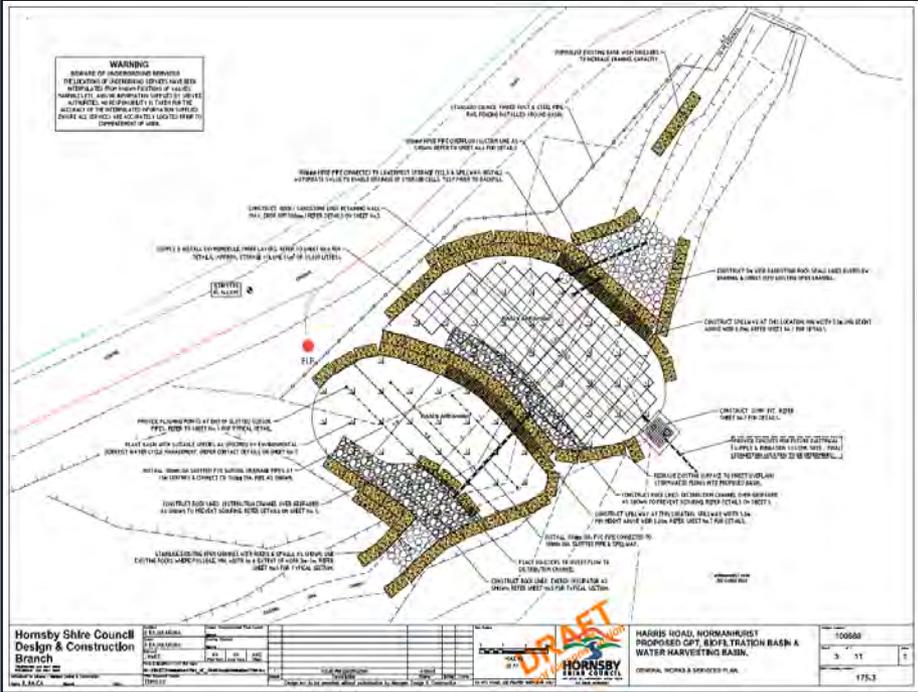
# Nirimba Reserve Biofiltration Basin and Creekline Remediation, North Epping



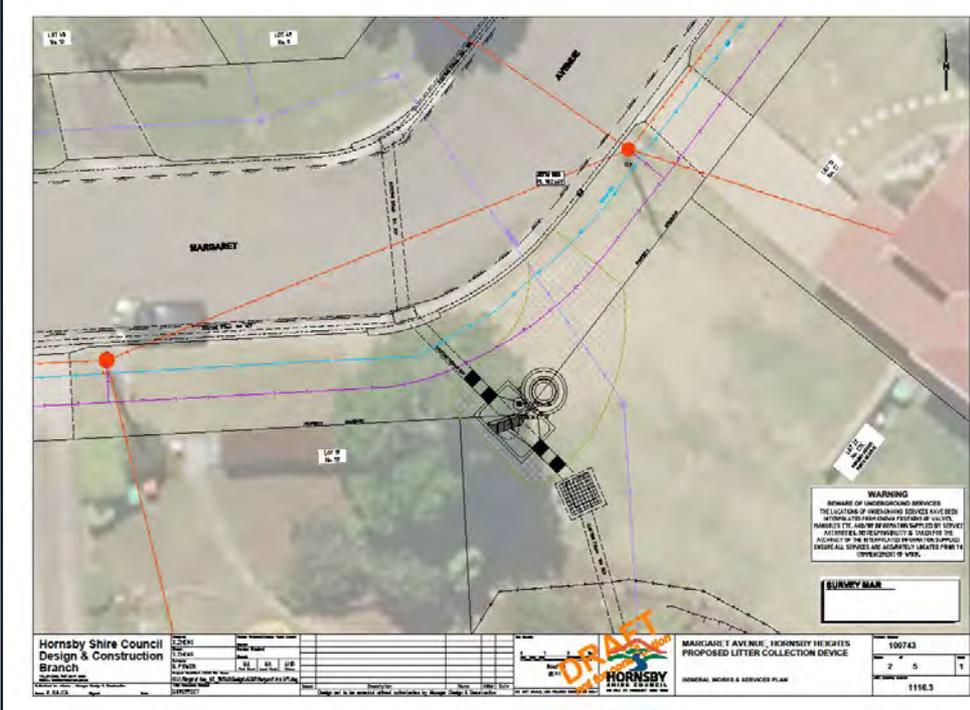
# Ron Payne Park, North Epping Biofiltration



# Normanhurst Oval - Biofiltration Basin and Stormwater Harvesting



# Margaret Avenue, Hornsby Heights GPT



# Where are we headed?

*...some emerging trends and technologies*

# Drone at Crosslands



# People movements (App tracking)



# Aerial spraying of weeds



# Compliance

 Facial recognition for fish Video Analysis 

**Location information**

Location  
North Harbour

Time  
10:30am

Vessel  
Jamie Lee

 Settings

**Current stream**



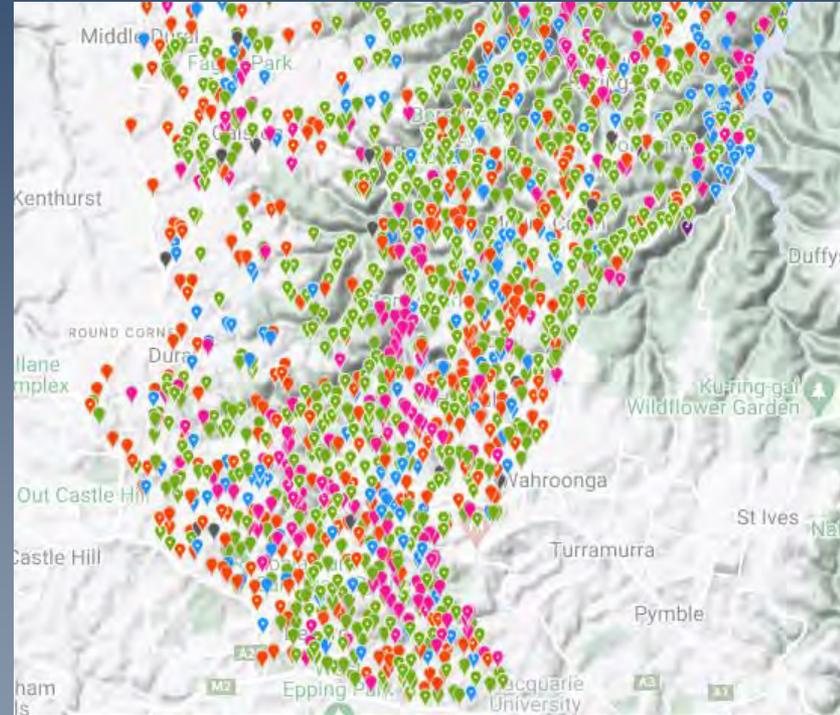
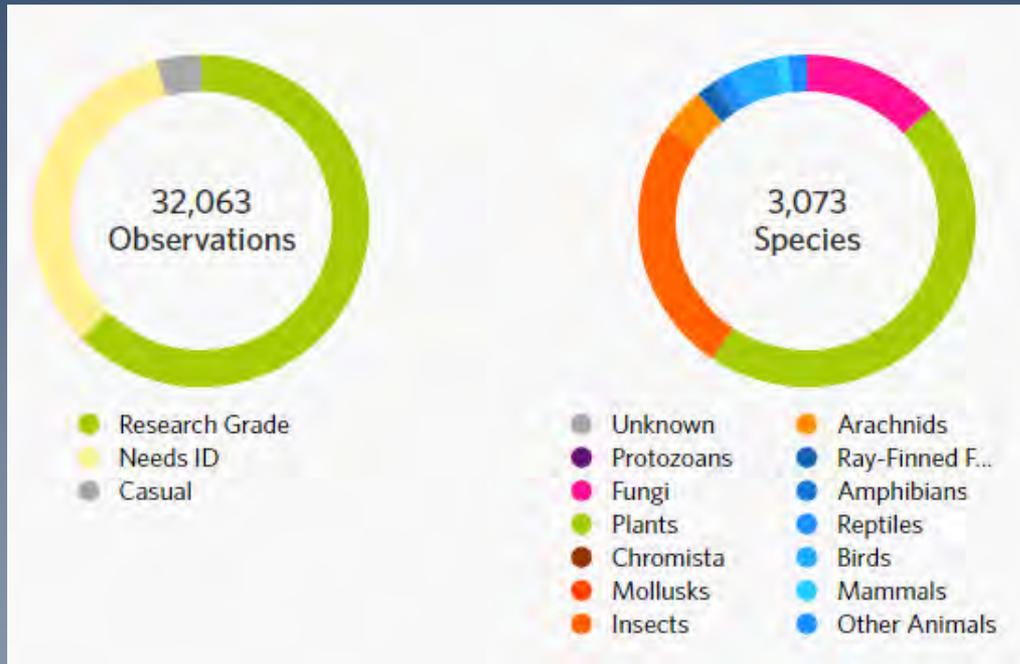
**Activities**

Event 1	Emperor	99%
Event 2	Coral Trout	99%
Event 3	Albacore Tuna	15%
Event 4	Snapper	9%
Event 5	Dolphinfish	2%
Event 6	Opalfish	1%
Event 4	Snapper	9%

# Vegetation mapping using satellite imagery



# Citizen science - iNaturalist



# eDNA Platypus monitoring



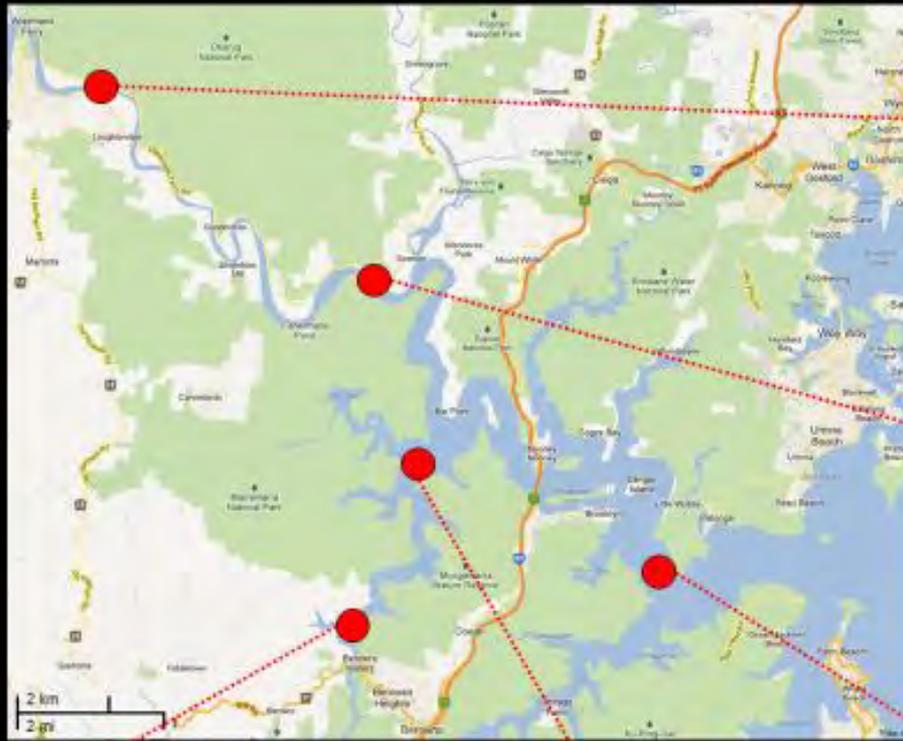
# Digital Twins



# Freshwater Monitoring



# Estuary Monitoring



Loughtondale



Courangra Point



Gonyah Point



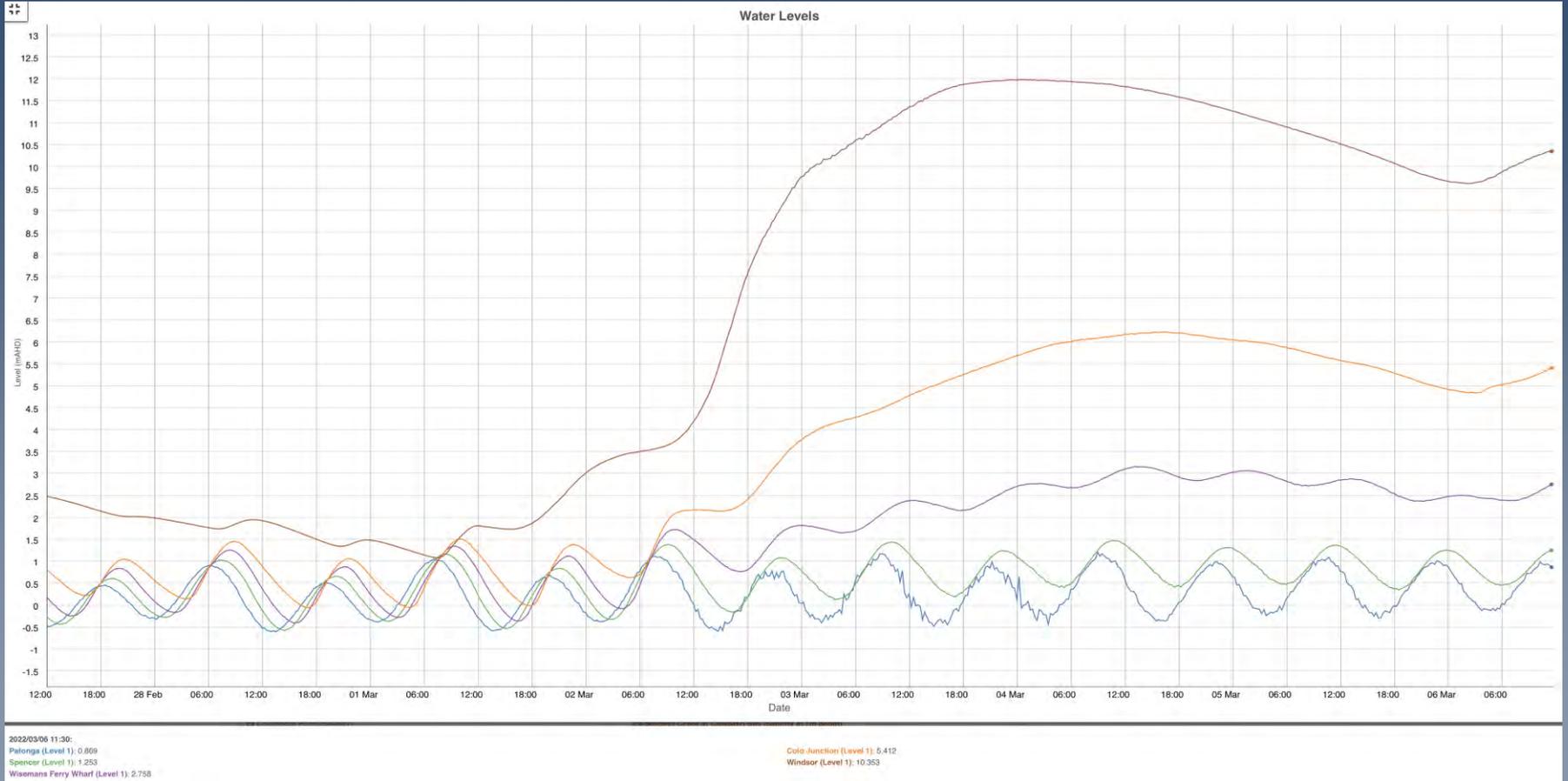
Berowra  
Waters



Bar  
Island

- Estuary Management
  - Coastal Management Plan with 6 Councils
- Catchment monitoring

# Emergency management





# Chat bots and AI

- What three questions will be asked of a Council environmental manager when speaking with a local environmental group within Hornsby Shire?
  - *"What are the Council's plans and timelines for addressing specific environmental issues within Hornsby Shire?"*
  - *"How can the local environmental group actively contribute to environmental initiatives and projects led by the Council?"*
  - *"What resources or support can the Council provide to assist the local environmental group in their own initiatives or campaigns?"*

# Chat bots and AI

- Answer these questions

- *"What are the Council's plans and timelines for addressing specific environmental issues within Hornsby Shire?"*
  - The Council's plans and timelines for addressing specific environmental issues within Hornsby Shire can vary depending on the nature and scale of each issue.....
- *"How can the local environmental group actively contribute to environmental initiatives and projects led by the Council?"*
  - The environmental manager may highlight various ways in which the local environmental group can actively contribute to environmental initiatives and projects led by the Council....

# Chat bots and AI

- *"What resources or support can the Council provide to assist the local environmental group in their own initiatives or campaigns?"*
  - The environmental manager might discuss the resources and support available from the Council to assist the local environmental group in their initiatives or campaigns. This support could include access to data or research, funding programs, technical assistance, or even guidance on navigating regulatory processes....

# Thank you

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