



## EXECUTIVE SUMMARY

The Hawkesbury-Nepean River system is a major social, environmental and economic asset for the state of New South Wales. This extensive estuary system encompasses the Hawkesbury-Nepean River, Pittwater, Brisbane Water and Broken Bay, which span the Greater Sydney and Hunter - Central Coast regions. Together, these provide a stunning natural environment, areas of cultural significance, a multitude of social and recreational benefits, and are a key contributor to the regional economy.

In accordance with the NSW Coastal Management Framework, management of the estuary system and its tributaries will be guided by a Coastal Management Program (CMP). The six (6) councils that border the tidal waterways of the system have agreed to work together through Stage 1 of an integrated, whole of system CMP. The councils are:

- |                           |                            |
|---------------------------|----------------------------|
| ■ Central Coast Council   | ■ Hornsby Shire Council    |
| ■ Hawkesbury City Council | ■ Ku-ring-gai Council      |
| ■ The Hills Shire Council | ■ Northern Beaches Council |

The purpose of the CMP is to set the long-term strategy for the coordinated management of the system and its catchment. The CMP seeks to achieve the objectives of the *Coastal Management Act* through a program that will identify coastal management issues, pressures, and risks - and the actions required to address these issues in a strategic and integrated way.

This Scoping Study represents the first of five stages in the CMP Process. As per the requirements of the NSW Coastal Management Manual, this study has reviewed the history of managing the river system, developed a shared understanding of the current situation, and identified the strategic path of the remaining CMP stages, which include:

- Stage 2: A detailed assessment of risks, vulnerabilities and opportunities;
- Stage 3: Identification and evaluation of management actions;
- Stage 4: Preparation, exhibition and adoption of the CMP; and

- Stage 5: Implementation, monitoring and evaluation

### [Values of the Hawkesbury-Nepean River System](#)

The Hawkesbury-Nepean River system includes a diverse range of natural environments, including aquatic ecosystems that span both marine and freshwater, and terrestrial ecosystems that include the riparian zone and catchment systems. The system possesses significant biodiversity and conservation value, and contains a vast array of freshwater and coastal wetlands - including mangrove forests, seagrass beds, and saltmarshes. These habitats support a diverse assemblage of ecosystems, including a number of endangered ecological communities and over 130 vulnerable and threatened species.

Land use across the wider Hawkesbury-Nepean catchment is diverse. The majority of the catchment (more than 70%) comprises undeveloped bushland and national parks, with agricultural use and forestry also prominent across the upper catchment. Areas of high intensity urban development are common across the lower catchment, particularly within the Greater Sydney and Central Coast regions, with isolated pockets in the upstream catchments. The Hawkesbury-Nepean Catchment also provides drinking water for 5 million people across Greater Sydney, and the upstream catchment also provides for local rural water supplies (for example Goulburn, Bowral and Lithgow).

The system and its catchment provide spectacular scenic amenity and a vast array of recreational opportunities to both the local community and its visitors. It contains some of the most popular and heavily trafficked waterways in the state, largely as a result of its proximity to Sydney and Central Coast. There are over 100,000 boat licence holders in the Hawkesbury River, Pittwater and Brisbane Water region and over 40,000 registered recreational vessels.

The estuary is also a significant contributor to the "blue economy" of the Greater Sydney and Central Coast regions. It supports the aquaculture (oysters farming), commercial fishing and tourism industries, and provides substantial economic value in the form of its ecosystem services.



### **Pressures and Threats Facing the Estuary**

A first-pass risk assessment has been undertaken as part of this Scoping Study, which has identified that the river system is facing a number of pressures that threaten its environmental, social and economic values. Many of these threats will increase over the coming decades due to population growth within the catchment and the impacts of climate change. These pressures range from smaller localised issues, up to larger scale, system-wide threats that will require a coordinated and collaborative management approach.

Coastal inundation and sea level rise represent a significant issue over future planning horizons for a number of low-lying communities and critical infrastructure across the Brisbane Water, Pittwater and the Hawkesbury River estuaries. Many of these communities will be exposed to permanent inundation, or an increased frequency of temporary inundation associated king tides and coastal and catchment flooding.

Catchment runoff and urban stormwater discharge are a major source of water quality issues at various locations across the study area. Water quality has also historically been affected by runoff associated with agricultural activities across the catchment and point source discharges from waste water treatment facilities. These water quality issues across the system can affect estuary health and aquatic ecosystems, recreational amenity and the local aquaculture industry.

Other key threats include the disturbance of riparian and aquatic habitat, and the presence of invasive species and diseases. Blooms of harmful algal species have historically occurred across both the upper and lower Hawkesbury River, with associated environmental, social and economic impacts.

The study has also identified a number of emerging pressures that will increasingly affect the system over the coming decades. The Greater Sydney Regional Plan identifies a number of major development areas within the Hawkesbury-Nepean catchment that will house a significant population increase over the next twenty years. This will also include substantial industrial and commercial precincts – including the Western Sydney International Airport. This intensification of urban development across the catchment will result in a

significant increase in the urban and industrial discharges into the river system.

Another major challenge identified by the project stakeholders is the lack of coordination across the river system and catchment between the estuary councils, catchment councils, and state government agencies. This has historically resulted significant jurisdictional ambiguity across governance bodies, and a reduced ability to address system-wide issues and threats.

### **The Benefits of a CMP**

The stakeholder engagement activities undertaken as part of this scoping study demonstrated significant support for the development of a CMP across a broad range of local and state government agencies.

The CMP will provide an opportunity to develop a strategic, long-term approach to estuary and catchment management, and improve coordination across local governments and state government agencies. It provides an opportunity to link with local, regional and state planning initiatives, as well as programs and strategies across the upper catchment. Through this approach, the CMP can improve river health across not just the estuarine reach of the study area - but across the waterways and contributing catchment of the wider Hawkesbury-Nepean River system.

The CMP will provide a robust and defensible platform to secure funding from the NSW Government's Coastal and Estuary Grants Program and other potential funding sources, and support the implementation of projects that will provide tangible benefits to the local community right across the catchment. This is vital to ensure safe and sustainable access to the river system, protect public assets from current and future hazards, and maintain healthy ecosystems and biodiversity.

### **The Scope of the CMP**

The project steering committee has decided to adopt a system-wide approach to the CMP, in recognition of the fact that important physical and ecological processes extend across the waterways, catchment and foreshores of the Hawkesbury-Nepean River system. The study area of the CMP therefore includes the Hawkesbury-Nepean River system, the Brisbane Water Estuary, the Pittwater Estuary and





Broken Bay - as well as the wider contributing Hawkesbury-Nepean catchment.

This system-wide approach will provide a vehicle for the coordinated and strategic management of the river system, and create a program that can more effectively and efficiently address catchment scale issues, threats & risks. This approach can also foster alignment with regional and strategic planning initiatives.

Furthermore, there may be significant cost savings associated with this approach, compared to developing multiple CMPs for the each of the individual estuaries (Brisbane Water, Pittwater, and the Hawkesbury River). The system-wide CMP can harness economies of scale and provide a platform for attracting government and/or private funds to address larger (catchment scale) issues and threats.

### Governance

Governance of the estuary is multi-layered, with the waterways and foreshores owned and managed by a wide variety of stakeholders across multiple levels of government.

This scoping study has recommended a governance structure for the remaining stages of the CMP. The program should be led by a project steering committee, which will be comprised of the six estuary councils and the Department of Planning, Industry and Environment (DPIE). The steering committee will be supported by a series of advisory bodies comprising of relevant state government agencies, councils from the upper catchment, indigenous interest groups, and a community reference group. It is also recommended that the CMP implement a paid part-time project coordinator during Stage 2, in order to manage the project on a day-to-day basis and oversee the development and implementation of the program.

### Stakeholder and Community Engagement

The development of the CMP will include extensive engagement with the local community and user groups, relevant government agencies, and indigenous peoples.

As part of this Scoping Study, a Stakeholder and Community Engagement Strategy has been prepared for the remaining stages of the CMP development process. The strategy has been

prepared in accordance with the requirements of the NSW Coastal Management Manual.

### The Way Forward

This report has identified a number of studies required during Stage 2 to fill critical data gaps and inform sound management decisions.

A business case and forward plan for development of the five-staged program has also been developed, based on the requirements of the subsequent stages. It is estimated that the CMP will take around 2½ to 4 years to progress through Stages 2 through to 4. The fifth and final stage will involve the ongoing implementation of the program over a 10-year period thereafter.

The overall cost of developing the CMP will likely be in the range of \$1.0-1.7 million (Stages 2 to 4 inclusive), but will depend on a number of factors moving forward. The CMP is eligible for financial assistance from the NSW Coastal and Estuary Grants Program, administered by DPIE. Other funding sources should also be pursued.

**TABLE EX-1: CMP FORWARD PROGRAM**

Stage	Approx. Cost	Approx. Timing
Stage 2: Determine Risks, Vulnerabilities and Opportunities	\$580k-\$1.1m	15-24 months
Stage 3 – Response Identification and Evaluation	\$310-470k	9-15 months
Stage 4 – Finalise, Exhibit and Certify the CMP	\$120-230k	9-12 months
<b>Total</b>	<b>\$1.0-1.7m</b>	<b>2½ - 4 yrs</b>

Following approval and certification of the CMP at the completion of Stage 4, the CMP will be implemented in Stage 5 by the partner councils via the Integrated Planning and Reporting framework, and Community Strategic Plans. This framework will guide the implementation of the CMP and ensure all required monitoring and reporting is completed. It will also provide a framework for the review and assessment of CMP outcomes.