

REPORT OF GENERAL MANAGER

SHOALHAVEN RIVER NATURAL RESOURCE AND FLOODPLAIN MANAGEMENT COMMITTEE

WEDNESDAY, 24 AUGUST 2011

STRATEGIC PLANNING AND INFRASTRUCTURE

1. Shoalhaven Heads Entrance Management

File 9825E

PURPOSE OF THE REPORT

To inform the Committee of recent community request to investigate the permanent opening of Shoalhaven Heads entrance and subsequent request to prepare a report on options for opening the entrance at Shoalhaven Heads.

RECOMMENDED that the report on Shoalhaven Heads Entrance Management be received for information.

COMMUNITY STRATEGIC PLAN

Objective: 2.1 A city that protects, values and cares for the Shoalhaven environment

Strategy: 2.1.1 Ensure that the ecological and biological environments of the Shoalhaven are protected and valued through careful management

Objective: 2.3 A community that seeks to reduce global warming impacts and increase our ability to adapt to the effects and impacts of climate change

Strategy: 2.3.1 responsibly manage community exposure to natural hazards and resulting risks

DELIVERY PROGRAM

Activity: 2.1.1.14 Develop, implement and review Estuary Management Program

Activity: 2.3.1.6 Ensure that expert flood and coastal advice is considered in land use zoning, development applications and policy development process

OPTIONS AND IMPLICATIONS

Option 1:

Receive the report for information

Option 2:

Recommend to Council that the Committee supports the existing Shoalhaven River Entrance Management Plan which endorses the maintenance of a dry notch at 2m AHD and emergency opening procedures when a flood is imminent.

Option 3:

The Committee support a review of the recently adopted Estuary Management Plan, Flood Risk Management Plan and Entrance Management Plan with a view to adopt an Entrance Management Plan that endorses a permanent entrance opening.

REPORT DETAILS

Introduction:

At Council's meeting on 19 April 2011, Cllr Ward presented a petition containing approximately 140 signatures requesting Shoalhaven City Council and the NSW Government work together to provide a permanent solution to re-open the Shoalhaven River mouth at Shoalhaven Heads to the ocean.

A further petition containing approximately 922 signatures was tabled at the Council meeting on 16 August 2011. Council resolved (MIN11.795):

- a) Council prepare a report on options for opening Shoalhaven Heads***
- b) That this report include canvassing private sector sand extraction options***
- c) The report referred to in part (a) be placed on public exhibition for 28 days and public comment be sought***
- d) The report referred to in part (a) be presented to the Shoalhaven Heads Community Forum for comment***
- e) The report referred to in part (a) include discussion on what State Government agencies would need to be consulted in relation to the opening of Shoalhaven Heads***

Background:

Two hundred years ago the main entrance and the natural mouth of the Shoalhaven River was at Shoalhaven Heads. This entrance is now intermittent following the construction in 1822 of the Berry's Canal link between the Shoalhaven River and the Crookhaven River, to the south. Shoalhaven Heads is opened by the occurrence of floods and subject to closure by natural onshore oceanic processes. Normal flows

presently reach the ocean at Crookhaven Heads via Berrys Canal, which has a more protected and permanent entrance due to the headland.

The excavation of Berry's Canal has probably had the greatest impact on the riverine system. Firstly, it created a second entrance for the Shoalhaven River at Crookhaven Heads, but the process also caused significant erosion/sedimentation in the lower reaches. Berry's Canal is now several hundred metres wide in some parts and continually expanding whilst the original entrance at Shoalhaven Heads experiences significant sedimentation and only opens every few years. It should be noted however, that the entrance at Shoalhaven Heads was not a permanently open channel at the time of European settlement (the canal was dug to create a navigable ocean/river passage).

"In December 1986, the University of NSW, Water Research Laboratory was engaged by the Public Works Department to undertake a comprehensive 'Shoalhaven River Entrance study'. This study compiled information from previous studies related to the opening of Shoalhaven Heads and investigated further the feasibility of a permanent open entrance at Shoalhaven Heads, the study noted that maintaining an open entrance at Shoalhaven Heads would only be possible if Berrys canal was closed. The study further noted that the open entrance could migrate in both directions which could threaten the township, and that bank protection would be required. In addition the closure of Berrys canal would require the rebuilt of the entrance breakwater at Crookhaven heads in order to maintain the navigation depth and would have significant negative impact on oysters leases. The cost (at august 1986) was evaluated at \$20,400,000. This option was presented to the community and led to a general agreement that the canal should not be closed and a visible notch should be maintained at the entrance to Shoalhaven Heads."

Crookhaven Heads is maintained permanently open by a rock training wall and provides commercial and recreational boating access to the estuary.

Key Issues:

EXISTING REPORTS

For a number of years, experts, local residents and Council have debated the relative merits of maintaining a permanent open entrance at Shoalhaven Heads. This has been the subject of several reports summarised below:

- 1984: The Shoalhaven River Entrance Management Report by the Public Works Department recommended that a "dry notch" be constructed at the entrance area. The purpose of the notch was to dispense with the need to mechanically open the river when a flood arrived. A level of 2m AHD was recommended for the notch.
- 1986: The Shoalhaven River Entrance Study was undertaken by the Water Research Laboratory for the Public Works Department. The study supported the ongoing maintenance of the notch and made recommendations in regard to making the community more aware that Council was doing the work.
- 1999: The Independent Inquiry by the Healthy Rivers Commission of NSW into the Shoalhaven River System, concluded that:

- The establishment of a permanently open entrance and the closure of Berry's Canal should not be pursued or further investigated. Major attempted intervention would cost a great deal, is unlikely to resolve perceived problems and is very likely to create new problems and uncertainties; and
- The "dry notch" should be maintained at approximately the 2m AHD level to afford some flood protection to low-lying areas in the vicinity of the Heads (either by natural breaching or by allowing easier mechanical opening in emergency situations).

An extract of the report is provided in Attachment 'A'.

- The Lower Shoalhaven Floodplain Risk Management Study and Plan adopted in 2007, concluded that, the possible opening of the entrance during times of flood is only one floodplain risk management measure and therefore needs to be considered in terms of the legal, social, environmental and economic requirements as well as the relative merits compared to other potential solutions. The Plan recommended that an ecologically sustainable entrance management plan for flood mitigation be developed.
- Council's Shoalhaven River Entrance Management Plan (2006) following consideration of flood risks and environmental, recreational and scenic values, recommended the maintenance of a dry notch at 2m AHD at all times and emergency opening procedures when flood is imminent.
- Council's Shoalhaven River Estuary Management Study and Plan (2008) recommends to maintain a regime of minimal intervention in the opening and closing of the entrance at Shoalhaven Heads. A number of highly valued ecological communities occur adjacent to Shoalhaven Heads (beach and estuary) and the area also provides safe recreational waters. Both of these values could be compromised by a permanently or frequently open entrance.
- 2011: The Lower Shoalhaven River Climate change review noted that Flood modification measures such as dredging the Shoalhaven River entrance channel or other channel works are likely to be cost prohibitive and would introduce many environmental issues that would need to be addressed. The review noted that in other areas, measures considered are a "Thames" style barrage to prevent elevated ocean levels from entering. Unfortunately such a barrier is unlikely to be successful for all events as the same meteorological event that produces elevated ocean levels (storm surge) also produces intense rainfall causing flooding. Thus a barrier would provide little benefit in such a scenario on the Shoalhaven River.

PAST COMMUNITY CONSULTATION

In recent years, the opening of Shoalhaven Heads entrance has been the subject of extensive community consultation through the development and public exhibition of the Lower Shoalhaven River Flood Risk Management Plan, Estuary Management Plan and Entrance Management Plans.

ASSESSMENT OF POTENTIAL BENEFITS OF A PERMANENT OPEN ENTRANCE

Estuary Health/Water Quality

During the last two years, water quality monitoring data on Chlorophyll A and Turbidity have shown that the health of the Shoalhaven River is good. This is confirmed by the NSW Government State of the Catchment Reporting 2010. Other open systems on the south coast such as the Clyde River have similar or lower conditions to the Shoalhaven River.

Fisheries

A previous presentation to the Committee by a NSW Fisheries officer demonstrated that monitoring data shows that fish stocks have not decreased in the Shoalhaven River system. NSW DPI website advises that fish stocks in open systems are not automatically better than in closed systems.

The Healthy Rivers Commission report (1999) noted that “when Shoalhaven Heads are open, large oceanic fish use the area and are targeted by recreational fishers. When the Heads are closed, large areas of intertidal flats, seagrasses and invertebrates provide an important habitat for both juvenile and adult fish. It follows that entrance conditions have implications for commercial and recreational fisheries in the lower Shoalhaven estuary. Consistent with the recently announced Government policy for Aquatic Habitat Management, NSW Fisheries advised that the natural variation in entrance conditions through time provides the best conditions for fisheries over the long-term (Lugg 1998). The Commission concludes that no further consideration should be given to maintaining a permanent opening at Shoalhaven Heads.”

In addition, Berry’s Canal provides for fish passage between the Shoalhaven River and the ocean.

Flood Risks

Under existing conditions, a permanently open entrance may lower flood levels for catchment runoff dominated events but may raise them for ocean dominated events. The risk of ocean dominated event will be accentuated in future under an open entrance condition if sea level rise occurs.

The maintenance of a dry notch and emergency opening procedures adopted by the Shoalhaven River Entrance Management Policy significantly decrease the flood risks. In addition, Council has been requesting through DCP 106 a number of control measures to be put in place on all new developments in flood prone areas. The risk to life is further reduced by education and evacuation planning currently undertaken.

NSW STATE AGENCIES POSITION

OEH

The Office of Environment and Heritage calls for Entrance Management Policy to be informed by Estuary and Flood Risk Management Study and Plans and community consultation. The process followed by Council so far is in line with OEH’s position. Any amendment to the existing policy will need to follow a similar process.

NSW DPI

NSW DPI Fish Habitat Management Policies and Guidelines for the Management of ICOLLs are:

- Any proposals for artificial opening of ICOLLs must seek the approval or concurrence of I&I NSW under the Fisheries Management Act 1994;
- The Department supports minimal interference with ICOLL entrance barriers and advocates natural processes being allowed to operate to the greatest extent possible;
- The Department does not support the artificial opening of an ICOLL unless the proponent (i.e. Council or other agency) can demonstrate that the social, environmental and economic benefits greatly outweigh any potential adverse impacts; and
- The Department supports using estuary management plans and environmental assessment processes to analyse the issues relating to opening a particular ICOLL, and to develop an entrance management plan or entrance management policy. Proposals for artificial openings which are to be carried out according to a formulated entrance management plan or policy are more likely to be approved by I&I NSW.

CROWN LANDS

The entrance at Shoalhaven Heads is Crown Land. A proposal for a permanent entrance opening will require land owner approval. Crown Lands indicated that a request for land owner approval will need to be endorsed by Council's policy position accompanied by an environmental impact assessment of the proposed activities. Crown Lands indicated that it endorses the existing Entrance Management Plan as it is based on a State Government endorsed process.

It is considered highly unlikely that proposals for permanent entrance opening would receive support from State Government Agencies, given this would be contrary to the Entrance Management Policy they have endorsed.

Resourcing Implications – Financial, Assets, Workforce:

Council went through a State Government endorsed process to develop an Entrance Management Plan that is sustainable and strikes a suitable balance between social and environmental impact. Before Council could consider the idea of investigating permanent entrance management options, a review of the existing Entrance Management Policy is required. This would require reviewing the Estuary Management Plan and Flood Risk Management Plan. These Plans have been adopted recently and their review is currently not resourced.

Community, Environment (ESD), Economic and Governance Impact:

The Estuary, Flood and Entrance Management Plans have been the subject of extensive community consultation and all endorsed the maintenance of a 2m AHD dry notch and emergency opening procedures.

A permanent entrance opening would have environmental impacts on endangered shorebird species populations and other fauna and flora in the estuary. A permanent entrance opening would also change the risks in regard to flooding and would increase the risks from coastal flooding as it would allow a greater penetration of oceanic storms in the estuary. Council has demonstrated good governance so far by developing an Entrance Management Plan based on sound technical studies and considerate of environmental and social impacts.

CONCLUSION

The current Entrance Management Policy which endorses the maintenance of a dry notch and emergency opening operations when a catchment flood is imminent has been based on extensive technical analysis and community consultation. State Government Agencies endorse the process by which the Entrance Policy has been developed.

Before Council could progress any permanent entrance management options, a review of the existing Entrance Management Policy is required. This would require reviewing the Estuary Management Plan and Flood Risk Management Plan. These Plans have been adopted recently and their review is currently not resourced.