FROM: IAN FOSKETT

SANDY BEACH NORTH RESIDENTIAL SUBDIVISION CONCEPT PLAN MODIFICATION
MP 05_0083 MOD 7

I strongly object to this Modification 7 for the following reasons.

1. **Ecological Sustainable Development (ESD):** This development, that now wants to include Stages 6, 2 & 1 East and allow the cats and dogs of 280 homes, does not address the critical issues surrounding ESD. Hearnes Lake and its surrounding wetlands contain a rich diversity of estuarine habitats, including **mangroves, salt marsh and fringing sedge lands**. The location of this proposed urban development is on a low lying floodplain and wetland area leaving it vulnerable to inundation from **floods, sea level rise, storm surge, rising water tables and coastal recession.** To allow development and to encourage people to buy land and build homes in this subdivision would be irresponsible to say the least. **State Government guidelines** including ESD are in place to prevent development in such areas.

   ESD, specifically the **Precautionary Principle,** states that where there is a risk of serious harm or damage to the environment, life, and property, it is the responsibility of the developer to demonstrate that those **risks** have been **adequately assessed** and that the mitigating measures designed to address the risks are implemented to avoid them. This development lacks adequate risk assessment in relation to its future inhabitants, existing residents and to the areas fragile environment containing Endangered Ecological Communities (EEC's).

2. **Flooding:** With the addition of Stage 6, 2 & 1 east, this now expanded development on fill reduces precious catchment capacity and is located in an area where the risk of inundation is so high. With Hearnes Lake entrance berm heights predicted to increase along with sea level rises and storm intensities, there is a critical **need for a comprehensive flooding analysis** to be undertaken that incorporates 2d computer flood modelling of the catchment with the proponents proposed development and designed drainage infrastructure. The proponent must be able to **demonstrate** that this development is **safe from flooding** and will have **no detrimental impact on existing homes** including those in Pine Crescent, Maple Road and Ti-Tree Road. **Flooding levels will increase** with time when coupled with the predicted ravages of **sea level rise, coastal recession and increased storm intensity.**

   According to the laws of **Environmentally Sustainable Development,** Government has a **duty of care**, to ensure that this proposed subdivision will not place property and people at risk of inundation. The last flood study undertaken on Hearnes Lake and its 6.8km² catchment was carried out by **Antony Tod Partners in 1982** using one dimensional computer modelling. This limited study doesn't include the two large RMS box culverts that deliver a huge volume of storm water from the catchment on the western side of the highway that will impact this development. The 2006 Hearnes Lake Process Study carried out by WBM, to describe the hydrodynamic behaviour of the lake and catchment, relied on Tod's limited one dimensional results thus rendering them **unrealistic and inaccurate.**

   The **morphological changes** at the entrance of Hearnes Lake during flood events can be critical in determining **design peak flood levels.** The changing entrance shape as the scour develops changes the channel conveyance properties, which can significantly impact peak water levels attained in the system during a flood. The assessment of flooding behaviour for the lake requires the consideration of

catchment rainfall-runoff process, in addition to the morphodynamics of the entrance berm and channel configuration and adjacent coastal conditions. These influences during flood events can be critical in determining design peak flood levels attained in the system during a flood.

The primary mechanism leading to elevated flood levels in the lake are related to the ability of the entrance berm to scour**. Berm height** is the key variable that defines the threshold water level for berm over topping and initiation of major scour. The **peak flood level** is often heavily influenced by the specific berm level at any given time, as this sets the time for the erosion process to start. The time to scour and the scour rate is dependent on the total volume of sand that needs to be removed by the scour process. Current Coastal Hazards Study 2010 mapping of Hearnes raises serious questions in that the inundation map it adopts a berm height of 4.4m AHD when records show that heights of **5.7m AHD** were achieved in 1973. (refer to table 1. below) With changes in entrance berm processes from the predicted sea level rise and changes to coastal storm intensity a net **upward and landward shift in berm profiles is expected** at the entrance in the coming years.

Table1.

Table 3-2 Summary of Berm Heights from Photogrammetric Measurements

Entrance Berm							
Year	C1	C2	C3	C4	C5	C6	C7
1943	1.795	1.008	0.702	**2.623**	1.125	1.228	1.208
1964	2.673	3.691	**3.982**	3.691	1.945	1.521	1.614
1973	4.634	**5.745**	3.973	4.661	2.402	3.426	4.654
1996	3.354	2.155	1.659	2.507	3.158	**3.643**	2.576
2000	1.621	1.89	1.745	**3.099**	1.591	1.406	1.512
2004	2.224	1.966	2.038	**3.103**	1.142	1.266	1.473
Max per chainage	**4.634**	**5.745**	**3.982**	**4.661**	**3.158**	**3.643**	**4.654**
Min per chainage	1.621	1.008	0.702	2.507	1.125	1.228	1.208

In addition it's dangerous indeed to rely on a predicted reduction in rainfall in the catchment when in 2007 the NSW Government Dept. of Environment & Climate Change, Floodplain Risk Management Guidelines clearly recommend that Councils **allow for increased rainfall intensities to the order of 30%**. I have seen a 2D model of the Hearnes Lake area of the flood extent of a 100year 2 hour storm event, with an ocean level of only 3.1m and a berm at only 2m. Based on that model nobody in their right mind would ever consider building houses in Hearnes Lake even at 4.1m AHD. The principles of ecological sustainable development (ESD) within the Coastal Policy (specifically the precautionary principle) requires more where there is a **risk of serious harm or damage to the environment, life, and property.**

This subdivision will become the responsibility of the Coffs City Council and, if approved without a comprehensive flood study being undertaken, could **impact on Councils Budgets** into the future. Rate payers are already paying millions of dollars extra in rates (and insurance) to fix existing flooding and drainage problems from past developments on filled in swamps. Residents of low lying properties in Woolgoolga are well versed about flooding impacts, the result of **irresponsible planning decisions.** This development in Hearnes Lake is no different. Haven't we learned anything?

(See Photos 1 & 2 below: Flooding Rear of Pine Cres. 26/01/2012)


Photos 1 & 2 Flooding at Rear of Pine Cres. Australia Day 2012

3. **Modification 7 is inconsistent with Coffs Council's LEP 2013 (Clause 7.3.3)**

   LEP 2013 (Clause 7.3.3) states that Development consent **must not be granted** to development on land to which this clause applies unless the consent authority is satisfied that the development:

   (a) is compatible with the **flood hazard** of the land, and

   (b) is not likely to significantly adversely affect flood behaviour resulting in detrimental increases in the **potential flood affectation of other development or properties**, and

   (c) incorporates appropriate measures to **manage risk to life from flood**, and

   (d) is not likely to **significantly adversely affect the environment** or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses, and

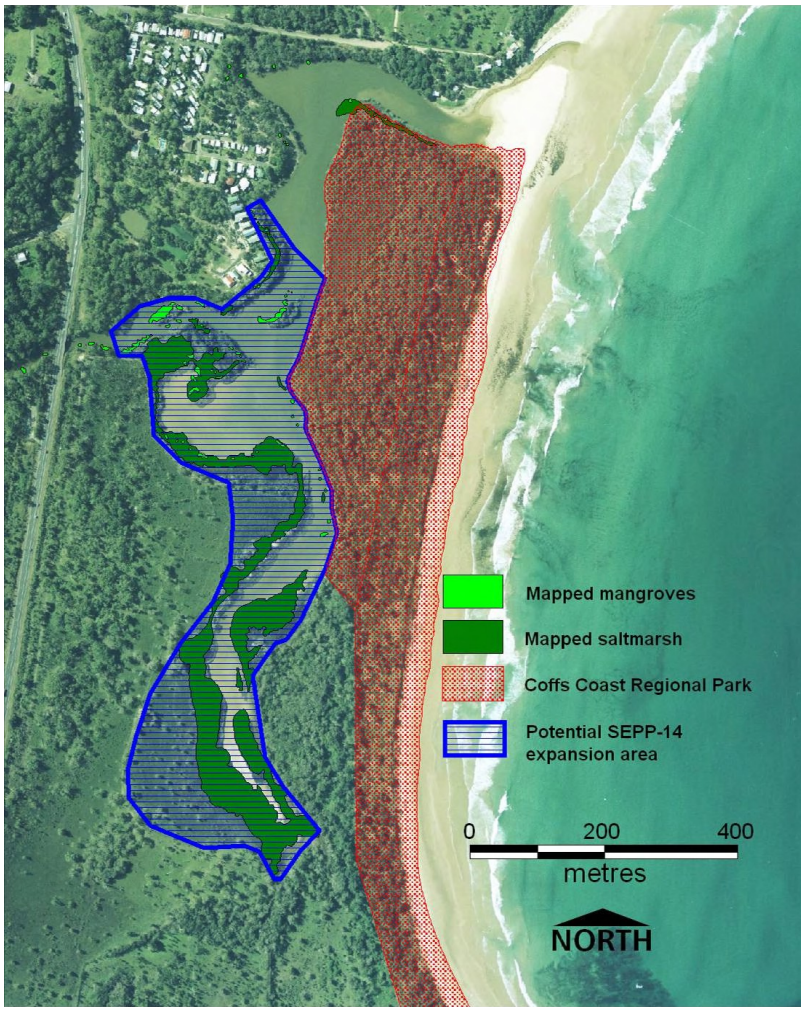
   (e) is not likely to result in **unsustainable social and economic costs to the community as a consequence of flooding.**

4. **Environment:** This Modification 7 with the addition of Stages 6, 2 and 1east, does nothing to protect a frail environment from the impacts that a development of this size will have. Hearnes Lake is an **environmentally significant ICOLL**, an intermittently open and closed lake or lagoon that **contains a remarkable diversity of terrestrial and aquatic ecosystems,** including many locally rare, threatened and migratory species, such as the **Little Tern** and vulnerable **marine turtles**, a significance recognised by the inclusion of both estuarine and marine waters **within the Solitary Islands Marine Park (SIMP).** Flat Top Point located to the immediate north of Hearnes Lake entrance contains the highest diversity of marine life within the SIMP and is commensurably afforded the highest level of protection.

   The Hearnes Lake Estuary Processes Study states that a 'scientific assessment also suggests that **maintenance of the Lake's ecosystems should receive**

priority above development, if aiming to achieve **long term sustainability** of both the environment and economy of Hearnes Lake. Careful management to **preserve the existing natural features**, in terms of their ecological benefit as well as their aesthetic appeal, will be needed'.

Throughout NSW approximately **60% of coastal wetlands have been lost** through draining, filling for agriculture and urban development (DLWC, 2001). Many wetland habitat areas within Coffs Harbour LGA are **protected under the State Environment Planning Policy SEPP-14.** Two of these areas, containing mangroves and salt marshes, occur just outside the catchment area, one to the north and one to the south of Hearnes Lake.



DPI Mapping of Possible SEPP-14 Expansion Area at Hearnes Lake

Within the Hearnes Lake estuary, **4.93 ha of salt marsh** was identified in 1997 (DLWC, 2001). Salt marsh communities found in the Upper North Coast region include sea rush and bare twig-rush (CHCC, 2000). Coastal salt marsh has recently been listed as a **Vulnerable Endangered Ecological Community** under the NSW Threatened Species Conservation Act 1995.

To recognise the **regional importance of the Hearnes Lake wetlands area**, the mapped estuarine vegetation (recent **DPI mapping** see above) **must be included in SEPP-14 Coastal Wetlands**, which would require an amendment to SEPP-14. Of particular importance are the **extensive salt marsh areas** around the southern part of the lake, and the mangroves and salt marsh on the alluvial islands at the confluence of Double Crossing Creek. **Inclusion in SEPP-14 would significantly increase the conservation potential of these areas.**

According to research by the UCLA and U.S. Geological Survey on Pacific coastal wetlands, published this year, an **entire ecosystem type could be wiped out** by a rise in the sea level. The study revealed that Coastal marshes are able to adapt to sea level rise by **shifting inland through a process called transgression**, but the rocky, cliffy Pacific coastline as well as human development have prevented that from happening. This process is termed **'squeeze'**, leaving the marsh **vulnerable to extinction** with nowhere to go.

If the floodplain land around Hearnes Lake is filled with soil as is proposed it will effectively form a wall preventing the landward migration of the salt marsh (and mangroves) communities. This coastal squeeze will result in a **significant loss of salt marsh, a Vulnerable Endangered Ecological Community.**

During the Construction of Stages 6,5,4,3 & 2, **massive amounts of fill material** are proposed to be dumped around the perimeter of Hearnes Lake. It is a well known fact that **Erosion and Sediment Control** used to filter rainfall run-off from construction sites are virtually useless during the high rainfall events experienced in this region. This will **cause significant environmental damage** to the wetland by impacting on the health and biodiversity of aquatic life, including Salt Marsh, Mangroves, fish & prawn populations & breeding. **To allow the dumping fill material around a highly sensitive coastal lake is madness!** See photo 3. below showing an example of a typical construction site sediment fence taken weeks after a heavy rainfall event.

Photo 3. Typical Sediment fence after heavy rainfall. Seacrest Estate, Sandy Beach. 2018

Threatened Species Conservation Act 1995 Division 1. (37) clearly states that 'The whole or any part or parts of the area or areas of land comprising the **habitat of an endangered species, population or ecological community or critically endangered species or ecological community that is critical to the survival of the species, population or ecological community** is eligible to be declared under this Part to be the critical habitat of the species, population or ecological community'.

In my view this Modification 7 is clearly in breach of many, if not all, of the Division 1 – Preliminary 220A Objects in the Threatened Species Conservation Act 1995.

Threatened species conservation: Division 1 – Preliminary 220A Objects of Part The objects of this Part are as follows:

(a) to conserve biological diversity of fish and marine vegetation and promote ecologically sustainable development and activities,

(b) to prevent the extinction and promote the recovery of threatened species, populations and ecological communities of fish and marine vegetation,

(c) to protect the critical habitat of those threatened species, populations and ecological communities that are endangered,

(d) to eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities of fish and marine vegetation,

(e) to ensure that the impact of any action affecting threatened species, populations and ecological communities of fish and marine vegetation is properly assessed,

(f) to encourage the conservation of threatened species, populations and ecological communities of fish and marine vegetation by the adoption of measures involving co-operative management.

A fauna survey conducted by Conacher Travers found five species listed on the Threatened Species Conservation Act 1995; the Wallum Froglet, Black-necked stork, Osprey, Greater Broad-nosed Bat and the Eastern Freetail-bat. An additional threatened fauna species, the Glossy Black – cockatoo has previously been recorded on site. Cats and Dogs must be prohibited from all stages to protect such fauna.

5. **Objection to Stage 6, 4 and 3:** The majority of Stage 6 along with parts of stages 4 and 3 contain coastal floodplain and support the Endangered Ecological Community (EEC) of Swamp Sclerophyll Forest dominated principally by Broad-leaved Paperbark with scattered Swamp Mahogany and Swamp Oak known to be important koala and bird habitat and must be protected from cattle, slashing and development.

6. **Objection to Stage 5:** Coffs City Council's own environmental studies and assessments carried out in relation to land referred to as Stage 5, deem this land is **not suitable for residential development** because it also contains coastal floodplain, supports the EEC of Swamp Sclerophyll Forest and is preferable for conservation. CHCC recommend proposed zoning amendments for the subject land under the **Deferred Areas LEP Amendment No.8** (which is currently with the Minister for Planning and Environment (DPE).

   The 2010 Concept Approval 'condition A6' states that **the proposed development of the land remain current, appropriate and reflective of the best use of the site.** In the Concept Approval, with respect to Stage 5, it states that it is subject to appropriate offset in order to develop. Current CHCC analysis of the land supports a

100% offset with the whole of Stage 5 being managed in accordance with a **Conservation Area Management plan.**

7. **Objection to Stage 1 and 2:** Mapping prepared by BMT WBM in 2011 for the Coffs Harbour Coastal Processes and Hazard Definition Study indicates that Stage 1 and Stage 2 of the proposed development will be significantly affected by both coastal inundation and coastal erosion/shoreline recession by 2100. **The proposed Stage 1 (East) &Stage 2 development would have detrimental impacts on the Coffs Coast Regional Park.** Sapphire Beach type development confirms these impacts where Occupants of residences have opened up the dunes east of their properties within the Regional Park to obtain private beach accesses. Modification 7 lacks any detail regarding **formalised** beach access.

Photo 4. Stand of mature Paperbark in Stage 1 East. impacted by proposed Modification 7 Development Footprint.

The maintenance of a healthy vegetation cover on the narrow coastal dune in the Coffs Coast Regional Park (CCRP) is imperative to managing the long term coastal recession of Hearns Lake Beach. This Modification 7 proposal plans to clear vegetation, which includes a mature Paperbark forest (see photo 4. above), in the S.E. Corner to the boundary of the CCRP (in some places) and is totally unacceptable.

Environmental Buffers must be in place to protect known EEC's. In 2006 the NSW State Government through the Department of Planning commissioned Sainty and Associates to identify high conservation lands at the Hearnes Lake lower catchment. The Sainty 'Constraints mapping' for Hearnes highlighted the need for an **50m environmental buffer behind the 3.5m AHD contour level**, must be used to achieve sustainable outcomes for biodiversity, estuarine and marine health. Based on Saintey's report and others, the Hearnes Lake Estuary Management Plan proposed to exclude development around the lake using a combination of the **two buffers to allow for natural expansion and contraction of the Lake, to allow for a rise in future sea-levels and to allow existing vegetation communities to migrate upslope without being inhibited by new infrastructure.** The vertical buffer is based on an assumed maximum entrance berm crest level plus an

allowance for future sea-level rise. A horizontal buffer will then extend 50 metres landward of this 3.5m contour limiting development to 35 lots (CHCC DCP 2008).

Planning & Environment must discount Cumberland Ecologies commentary and listen to the NSW **Scientific Committee's** final determination for floodplain EECs which states that they also occur on soils and landforms associated with Coastal Floodplains.

Cumberland's fame for messing with facts is borne out by the **NSW Land & Environment Court** in Motorplex (Australia) Pty Limited v Port Stephens Council (2007) NSWLEC 74, another case where Cumberland Ecology Dr Robinson, used the same argument as used here for this Sandy Beach North report. Justice Preston CJ ruled against Dr Robinson, finding **that EECs also occurred on soils and landforms associated with Coastal Floodplains.**

8. **Site Regeneration in opposition to more Lots:** The ongoing degradation of the subject land (including Stages 6, 5, 4, 3, 2 & 1) is in breach of Part A7 of the Concept Approval 2010 that prohibits the removal of vegetation. Evidence of **extensive tree felling** in the eastern area (Stage 1) between the beach reserve and the lake as well as **ground harrowing** over sensitive areas (Stage 6, 5 & 4) on the western side was recorded in October 2013 (see Photos 5 & 6 below) and reported to both CHCC and NSW Planning. To my knowledge no action was taken to penalise the owner for his criminal actions.

Photo 5. Clearing of 'Eastern Precinct' Trees

Photo 6. Ground Harrowing on West side.

Harrowing and slashing have continued on regular occasions since and coupled with the damage done by allowing **cattle** to roam freely over the site has resulted in **large areas of EEC's being badly degraded**. The proponent continues to claim that due to the degraded nature of the site its best use would be for wall to wall housing. Nothing could be further from the truth! If managed correctly **the whole site can be regenerated** to its former glory as an environmental buffer for a coastal lake, providing homes and shelter for a wide range of native fauna and flora and play a major roll in adding to this regions Bio-diversity. Refer to Photo 7. which shows healthy natural regeneration, of once grazing land, on the western side of Highway.

Photo 7. Example of natural regeneration of once grazing land opp. Hearnes Lake on west side of Hwy.

9. **Traffic: Modification 7** exacerbates the need for a comprehensive traffic study. The development site that now includes additional stages has no vehicular access other than using the existing streets of Ti-Tree Rd., Pine Cres. and Maple Rd. These streets are **narrow, have no kerb and gutter** (except Ti-Tree) and have intersections with Diamond Head Drive that have **poor visibility.** The vast number of trucks bringing in the huge quantities of fill and other heavy construction vehicles using these streets will have a catastrophic effect on air quality, road pavement, road safety, peace and quiet. **An additional 280 homes will equate to 1400 extra vehicle movements a day** competing for space on the above roads. This is totally unacceptable!

10. **To conclude**: In the original Concept Approval 2010, Schedule 2. A2 - specifically discounted development in Stages 6, 2 & parts of Stage 1 east of extension of Ti-Tree road on environmental grounds. These are the same areas included in this Mod. 7 for development. It's difficult to understand how Modification 7 is considered to be 'substantially the same' as the approved development when it's gone well beyond the original. In the Concept Approval 2010, Schedule 2. A6 - states any modification to extend the lapse date has to satisfy Director General that the project remains 'current, appropriate and reflective of the best use of site at the original lapsing date'. This requirement was not addressed when a 2 Year extension was granted to the developer, why?

    Climate Change is real! Storm intensities are increasing and sea levels are rising at ever faster rates. We are all witnesses to the devastation of thousands of poorly located homes over the past few years (Coffs & Brisbane areas to mention a few) and it seems we still haven't learned any lessons.

    There are many places for urban development to take place beyond the reach of EEC's, flooding, coastal recession, sea level rise and storm surge. It makes no sense other than to reinforce the knowledge that economies are based on building houses and to hell with any long term environmental and social consequences. Ecologically Sustainable Development requires an applicant to demonstrate that the

risks of serious harm or damage to the environment, life, and property, have been assessed and that mitigation measures can be implemented to avoid them.

The exceptional value of coastal habitats is widely recognised by Local, State and Federal Authorities. Furthermore, the retention of naturally vegetated areas in the coastal zone for the purposes of conservation is seen as the single most beneficial management action in maintaining coastal biodiversity (*NSW Government*). That Hearnes Lake has retained such an important role in the areas natural systems is testament to its resilience. To rehabilitate it as recommended in the *DCP* and *Draft Hearnes Lake Estuary Management Plan* with appropriate environmental zoning, would see the area become an even more important feature of our rapidly disappearing natural Coastal landscape.

Despite continued abuse by inappropriate human activity, the Hearnes Lake area still contains a remarkable diversity of terrestrial and aquatic ecosystems, a significance recognised by the inclusion of both estuarine and marine waters within the Solitary Islands Marine Park.

The Concept Approval for this highly contentious development was signed off by a corrupt Planning Minister, Mr. Tony Kelly in 2010. Our Northern Beaches Community is absolutely committed to saving Hearnes Lake and its environment from this type of over development in such an ecologically sensitive area. We are relying on NSW Planning & Environment to reject this re-hashed Modification No.1 from 2013 and to ask the developers to submit a new Development Application (under current laws) if Mod. 7 is what they want.

Thank you for giving me the opportunity to comment on this very important matter.