

# Lake Conjola: Chronology of Entrance Management

Conjola Community Association – June 2019

## CHRONOLOGY OF LAKE CONJOLA MANAGEMENT - events, reviews, publications

Time	Event / Document
1985	Estuarine Inventory for NSW – NSW Fisheries. Conjola classified as a <b>Barrier Lagoon, little infilling, open to the sea</b> <a href="https://www.lakeconjola.org/estuary-and-entrance-management.html">https://www.lakeconjola.org/estuary-and-entrance-management.html</a>
1985-94	Entrance Open (refer to Isabelle Ghetti/Ken Dodimead Data)
1995-97	Entrance Closed (refer to Isabelle Ghetti/Ken Dodimead Data)
1998	<ul style="list-style-type: none"> <li>• Estuary Management Plan (Gutteridge, Haskins &amp; Davey P/L, &amp; WBM)</li> <li>• Recommended development of Floodplain Study, protection of seagrass,...</li> <li>• Develop Entrance Mgt Policy</li> </ul>
1998	Council opened entrance on southern side, major flood in Aug 1998 , ancient dune on south side severely eroded (refer Warwick Papworth video - <a href="https://www.youtube.com/watch?v=r3M9qg86mfQ">https://www.youtube.com/watch?v=r3M9qg86mfQ</a> )
1999	Lake Conjola Entrance Study : Patterson Britton & Partners – very comprehensive Study and still valid today – refer <a href="https://www.lakeconjola.org/estuary-and-entrance-management.html">https://www.lakeconjola.org/estuary-and-entrance-management.html</a> Key Points:- <ul style="list-style-type: none"> <li>• TBA</li> </ul>
1999	Dredging Entrance; build dune to inhibit wave washover – refer to MHL REF 1161 Report for detail <a href="https://www.lakeconjola.org/estuary-and-entrance-management.html">https://www.lakeconjola.org/estuary-and-entrance-management.html</a> <ul style="list-style-type: none"> <li>• 9500m<sup>3</sup> sand removed from ebb channel – refer to Fig 4 in MHL1161</li> <li>• <b>Entrance remained open for 11-12 years</b></li> </ul>
2001	Council accepted PBP 1999 Recommendations for Entrance Mgt, and published a Newsletter outlining the plan to progress – eg commissioning MHL to develop an Entrance Mgt Policy ref <a href="https://www.lakeconjola.org/estuary-and-entrance-management.html">https://www.lakeconjola.org/estuary-and-entrance-management.html</a>
2003	<ul style="list-style-type: none"> <li>• Lake Conjola Entrance Management Plan MHL 1159 Ref:- <a href="https://www.lakeconjola.org/estuary-and-entrance-management.html">https://www.lakeconjola.org/estuary-and-entrance-management.html</a></li> <li>• Lake Conjola Entrance Dredging Mgt Works REF – MHL 1161. Ref: <a href="https://www.lakeconjola.org/estuary-and-entrance-management.html">https://www.lakeconjola.org/estuary-and-entrance-management.html</a></li> <li>• Development of Decision Support Tool <b>M2</b> by MHL to actively manage the entrance – refer to paper presented at Coastal Conference – “Simplified Science” (McLean). States tidal inflow is restricted to 20% of ocean tide.</li> </ul>
2004	Little Terns Breeding Review – Conjola a minor breeding colony
2005	Aust Govt Study (Breen): Biodiversity Assessment of Bateman Shelf Bio Region. Conjola defined as a <b>wave dominated estuary</b> (numerous references) Ref: <a href="https://www.lakeconjola.org/uploads/7/1/4/6/7146148/2005_biodiversity_along_batemans_coast.pdf">https://www.lakeconjola.org/uploads/7/1/4/6/7146148/2005_biodiversity_along_batemans_coast.pdf</a> Key Points in report in reference to Lake Conjola: <ul style="list-style-type: none"> <li>• Low ecological importance</li> <li>• 0.5km<sup>2</sup> of seagrass – over 10% of total surface area</li> <li>• Approx. 0.1km<sup>2</sup> of saltmarsh</li> <li>• No areas of critical habitat for Little Terns under the Act</li> <li>• Moderate conservation value (noted as modified)</li> </ul>
2006	Wave over-wash caused minor flooding (paper “Ocean driven flooding of a coastal lake 2006 – (Callaghan et al)”)
2007	Lake Conjola Flood Study – BMT WBM. Described as an <b>estuarine lake</b>
2008	Conjola District Sewerage Scheme commissioned
2010	OEH State of the Catchments – Estuaries and Coastal Lakes – <b>Conjola not classified as an ICOLL</b> , but many estuaries are classified as an ICOLL

# Lake Conjola: Chronology of Entrance Management

Conjola Community Association – June 2019

Time	Event / Document
2011 - Mar	Entrance closed, 300mm rain, water level 1.32, tide 1.86, Council intervened, Flooding
2012 - Mar	Entrance closed, 220mm rain, water level 1.34, wave over wash, Flooding
2012- Jun	Entrance closed, 100mm rain, water level 1.43, intense ECL, Flooding
2012	Draft Entrance Mgt Policy – 3 trigger levels inc. holiday trigger level; significant number of comments from CCA Review were largely ignored by Council
2013 – Apr	Entrance closed, 200mm rain, water level 1.27, ECL, Flooding
2013 – Jun	Entrance closed, 260mm rain, water level 1.42, ECL, Flooding
2013	<ul style="list-style-type: none"> <li>• Lake Conjola re-classified as an ICOLL without any evidence/reference</li> <li>• Refer to OEH Catalogue of NSW Estuaries to understand the estuaries that are classified as ICOLLS, and how Conjola is atypical to these</li> <li>• Lake Conjola Interim Entrance Mgt Policy adopted – removal of Holiday Trigger not supported by Conjola Community</li> </ul>
2014 – Mar	Entrance open, 200mm rain, water level 1.12, Ocean surge, NO Flooding
2014 – Mar	Shoalhaven-wide Dredging Feasibility Study – Peter Spurway
2014 – Aug	Entrance closed, 200mm rain, water level 1.39, ECL, Flooding
2014 – Aug	Sea Level Rise Policy – Whitehead & Associates
2015 – Aug	Entrance closed, +300mm rain, water level 2.14, ECL (forecast 5 days), serious flooding
2015	Lake Conjola Estuary Plan Review - published
2015 - Mar	Dredging REF – Royal Has Koning DHV - published
2016 – Apr	Dredging commenced (inc plan/objective document)
2016 – Jun	Entrance closed – 300mm rain, water level 1.49, ECL, 6m swell
2016 - Jul	Entrance open – 50mm rain, water level 1.31, No flooding, 6m wave surge
2017 – Mar	Entrance open – 434mm rain, water level 0.77, NO flooding
2018 – Apr	Entrance Closed
2018 – Dec	Lake level 0.97m, Crown Lands approved licence to open the entrance; Council intervened on north side, but channel not to spec (under IEMP App C); entrance closed after 21 hours
2019 – Jan	<ul style="list-style-type: none"> <li>• Second channel dug but Council did not remove channel plug after advice from Fisheries possibility the risk of a fish-kill</li> <li>• Council Dev &amp; Env Meeting agreed IEMP is a failure - &amp; to review the Policy</li> <li>• CCA CCB Meeting – around 100 in attendance, 150 apologies, support motion to open the entrance</li> </ul>
2019 – Feb	<ul style="list-style-type: none"> <li>• Council D&amp;E Meeting motion resolved to open the entrance; Mayor &amp; 2 Green Councillors leave meeting before debate</li> <li>• Workshop with over 40 attending (MP, Councillors, Directors, staff, Community) agree IEMP has failed, and to stand alone CMP for Conjola</li> </ul>
2019 – Mar	<ul style="list-style-type: none"> <li>• Community funded water sampling by GETEX P/L</li> <li>• Community meeting with Russ Pigg, KC, Mayor, KG – appln to open lake rejected</li> </ul>
2019 – Apr	<ul style="list-style-type: none"> <li>• Heavy rain 22 Apr; surface flooding; water level on MHL = 0.93m</li> <li>• Ground is saturated, localised water pooling around homes</li> <li>• Meeting with Council – requesting intervention</li> </ul>
2019 – 30May	<ul style="list-style-type: none"> <li>• Shelley Hancock statement to Parliament – tentative licence to open the entrance</li> </ul>
2019 – Jun	<ul style="list-style-type: none"> <li>• Mayor prepares brief for Minister Pavey but not delivered (review wording in the brief – errors, change of position by the mayor writ policy, impact)</li> <li>• ,,BUT despite what appears to be a “change of heart”, Council place restrictions on the request to Crown – eg limited to a one-off “dig”, constrained by IEMP (a failed policy) (??); question whether ebb channel is included in scope of licence</li> <li>• 12 Jun water level is 0.92; licence to open approved without community review of conditions, works commence 13 Jun</li> </ul>

# Lake Conjola: Chronology of Entrance Management

Conjola Community Association – June 2019

Time	Event / Document
	<ul style="list-style-type: none"><li>• 14 Jun – Council brief the community – will remain on site until the job done</li><li>• 19 Jun 19 - Entrance opened mid-spit</li><li>• 29 Jun 2019 – water level is 0.37m</li></ul>

## CLASSIFICATION OF LAKE CONJOLA – A BARRIER ESTUARY, NOT AN ICOLL

Why do OEH, Fisheries, and Shoalhaven Council (Environmental Services), classify Lake Conjola as an ICOLL (Intermittently Closed and Open Lake or Lagoon) when reports by respected organisations, including NSW OEH, Australian Government, NSW Fisheries, and various consultants engaged by Council refute the classification? Further, the biodiversity and commercial fishery activity within the Lake provides evidence that it is not an ICOLL.

The following is a list of reports/articles that that refute the classification the Lake is an ICOLL

### 1. Fisheries Bulletin 2 : Estuarine Inventory for NSW – NSW Fisheries, Sep 1985

Refer to

[https://www.lakeconjola.org/uploads/7/1/4/6/7146148/1985\\_estuarine\\_inventory\\_of\\_nsw\\_1985\\_fisheries.pdf](https://www.lakeconjola.org/uploads/7/1/4/6/7146148/1985_estuarine_inventory_of_nsw_1985_fisheries.pdf)

The document describes Lake Conjola as a “**Barrier Lagoon that is open to the sea with little infilling**”, with 0.5km<sup>2</sup> of seagrass

### 2. Estuaries and Coasts - Journal of the Coastal and Estuarine Research Federation - A comparison of fish assemblages and fisheries in intermittently open and permanently open coastal lagoons on the south coast of New South Wales, South-Eastern Australia – DA Pollard 1994

Abstract : “***In the permanently open lagoon, Lake Conjola***, dominant faunal elements of commercial or recreational fisheries importance included Girellidae, Clupeidae, Monacanthidae, Pomatomidae, Mugilidae, Sparidae, Sillaginidae, Gerreidae, Terapontidae, and Platycephalidae

### 3. BROADSCALE Biodiversity Assessment of the Batemans Shelf and Twofold Shelf Marine Bioregions – Marine Parks Authority (D.A. Breen, R.P. Avery and N.M. Otway 2005)

Refer to [https://www.lakeconjola.org/uploads/7/1/4/6/7146148/2005\\_biodiversity\\_along\\_batemans\\_coast.pdf](https://www.lakeconjola.org/uploads/7/1/4/6/7146148/2005_biodiversity_along_batemans_coast.pdf)

The document classifies Lake Conjola as a **wave dominated estuary**, similar to Minnamurra R, Shoalhaven R, St Georges Basin, Wagonga Inlet, and Moruya R, and classifies the Lake to be of low ecological importance.

Information used in this report was derived from:

- a broadscale atlas of NSW marine ecosystems and habitats
- existing broadscale scientific surveys of habitats, communities and species
- existing data, maps, aerial photographs, literature and conservation assessments
- new data coverages and analyses generated for this study
- ecological guidelines for reserve design
- discussions with scientists, managers and the community

### 4. State of the Catchments 2010: Southern Rivers Region - Estuaries & Coastal Lakes – NSW OEH

Refer to <https://www.environment.nsw.gov.au/research-and-publications/publications-search/state-of-the-catchments-2010-southern-rivers-region-estuaries-and-coastal-lakes>

# Lake Conjola: Chronology of Entrance Management

Conjola Community Association – June 2019

Lake Conjola is classified as a **Barrier Estuary**, along with 50 other estuaries. The classification is reported in The report classifies 110 estuaries as an ICOLL.

The report states that Estuaries in New South Wales can be classified into five main types with decreasing oceanic influence, viz:-

- *semi-enclosed embayments* (six in NSW) are characterised by marine waters with little freshwater inflow;
- *drowned river valleys* (13) have large, wide entrances and tidal ranges similar to oceans
- *barrier estuaries* (51) are rivers and lakes that are generally open to the ocean but are constricted at their entrances by sand from adjacent beaches. They are often associated with larger catchments, the flow from which assists in keeping the entrances open;
- *intermittent estuaries* (110) are creeks and lagoons that become closed to the ocean for extended periods of time. They often have small catchments, hence low river flows to keep entrances open. This is the largest group of estuaries in NSW with many located along the south coast; and
- *brackish lakes* (four) are generally connected to the ocean by a long creek and hence have extended flushing times, allowing freshwater inflows to dominate

The report also states that the Southern Rivers region has 102 estuaries, of which there are five embayments, one drowned river valley, 24 barrier rivers and lakes that are generally open, and 72 creeks and lagoons with intermittently open entrances.

## 5. Lake Conjola Estuary Management Plan Review 2015 (Final) – GHD

Reference - <http://doc.shoalhaven.nsw.gov.au/displaydoc.aspx?record=D15/357037>

The Shoalhaven City Council Plan states that Lake Conjola is classified as a **barrier estuary** with steep valley sides and a central basin that formed when the sea level rose and drowned the river valley. It is an immature estuary that has remained largely unaffected by fluvial deposition. (refer P38)

These are a subset of documents, theses, and reports that refer to Lake Conjola as a barrier estuary that is mostly open to the sea