



CENTRAL COAST ICOLLS WEED & ENCROACHMENT MAPPING

Location: Cockrone, Avoca, Terrigal and Wamberal Coastal Lagoons, Central Coast Council LGA

Date: 2020-2021

Client: Central Coast Council

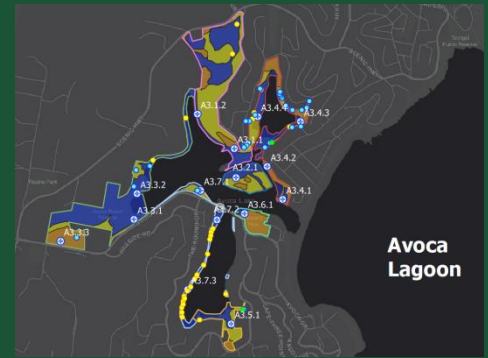
Site Description:

The Central Coast contains four Intermittently Closed and Open Lakes and Lagoons (ICOLLS) of the seventy distributed along the coastal fringe of NSW. The four coastal lagoons are Wamberal, Terrigal, Avoca and Cockrone Lagoon and form significant geographic features within the Central Coast Council (CCC) Local Government Area (LGA). These areas contain high value natural resources and provide a wide range of benefits to a diverse range of recreational users within the local community and abroad.

ICOLLS are shallow bodies of water formed by high energy wave activity pushing sand into estuary mouths creating barriers or berms and generally occurring within smaller catchments that experience less than average rainfall. These unique barrier estuaries are highly dynamic systems tolerant of significant fluctuations in hydrological, thermal and saline regimes when subject to evaporation, catchment influx or oceanic input. As such they support many significant ecological communities, high biodiversity and threatened species by providing connective habitat linkages, amongst a modified urban matrix.

Although tolerant of environmental extremes, ICOLLS suffer low tolerance to external pressures attributed to human activities and are historically subject to significant hydrological changes, urban development, vegetation removal, fragmentation, and resultant eutrophication, sedimentation and pollutants.





Project Objectives .

- To delineate and quantitatively and qualitatively assess each of the nineteen ICOLL sites.
- Develop a scoring matrix and for each site assessed, provide a Health Score and Recovery Potential.
- Prioritise sites and provide recommendations to assist the future direction of bush regeneration funding and management.
- Prepare mapping layers showing prioritisation of sites, weed density and distribution and disturbances within the sites.
- Prepare mapping layers confirming previous and identifying new encroachments

Description of Works

- Literature review of the Tuggerah Lakes Wetland Management Plan 2009 (TLWMP) and Tuggerah Lakes Wetland Condition Assessment, Mapping Update 2020 (TLWCAMU) and the Coastal Zone Management Plan for Gosford Coastal Lagoons 2015 (CZMPGCL)
- Desktop review of the relevant government databases to identify threatened flora and fauna species within the sites.
- Desktop aerial satellite and photo imagery interpretation of vegetation communities, impacts and encroachments.
- Field survey of the four ICOLLs, employing a combination of rapid assessment data points (RADPs) to ascertain native vegetation condition, weed density and distribution, ground truthing wetland sites via random meander and collating handheld GPS records with GIS mapping software.
- Further review of current encroachments and ground truthing of potential encroachments were included in field surveys

Outcomes Achieved

- Delineate 19 separate parcels of land surrounding the lagoons into homogenous management units or 'sites' to streamline council resources using similarities in land use, ecological values, impacts and disturbances.
- Assessment and photo point monitoring of 44 RADPs to inform a quantitative Health Score and qualitative Recovery Potential from several ecological and landscape factors.
- Site prioritisation and disturbance mapping and reporting, providing recommendations to focus future funding and management decisions
- Weed density and distribution mapping of approximately 200Ha of diverse and sensitive habitat. Identifying and reporting >110 weed species including any priority weeds and biosecurity threats
- Encroachment mapping and risk rating of 61 Habitat, 40 Structural and 6 Storage disturbances identified within private and public lands adjoining the ICOLLs