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OCEANWATCH
FOR THE FUTURE OF OUR MARINE ENVIRONMENT

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Ms Liz Livingstone
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Dear Liz

Submission - Draft State-Wide Standards and Targets Consultation Paper

This letter sets out our comments relating to the Draft State-wide Standards and Targets Consultation Paper (the Paper) developed by the Natural Resources Commission (NRC). Ocean Watch Australia Ltd (Ocean Watch) is an environmental, non-government organisation sponsored by the commercial seafood industry to represent the environmental interests of industry with respect to protecting and restoring fish habitats, improving water quality and promoting sustainable fisheries.

We welcome this opportunity to comment on the overarching standards and targets that may govern the direction Catchment Management Authorities (CMAs), State agencies, local government and others will take in managing our natural resources over the next 10 years. We appreciate the complexities in managing natural resources to balance social, environmental and economic factors and are generally very supportive of the NRC on its efforts to date in developing standards and targets. There are however, a number of areas where further refinement and clarification is required. The attachment to this letter sets out our comments and suggestions for improvement.

As you are aware, over the last year Ocean Watch has been actively working to integrate the NSW commercial fishing industry into regional natural resource management (NRM) processes. Following on from the November 2005 Coastal and Marine Workshop organised by Coastcare, Ocean Watch and the Nature Conservation Council, we have continued to engage with the CMAs and others on coastal and marine issues. The pressures on coastal and marine resources, due mainly to increasing population pressures are real and it is critical that adequate resources are directed to managing these areas to the best of our capabilities. To achieve this, it is therefore fundamental that the NRM standards and targets set seek to deliver improvements where possible in the management of our coastal and marine resources, rather than maintaining the status quo. The past has shown a reactive approach to managing these resources, with the result being continued losses of fish habitat areas and generally decreasing fish stocks. The next 10 years will therefore, be crucial for managing these resources and it is time for a proactive approach to addressing issues impacting of coastal and marine environments. The targets set therefore, need to be strategic, measurable, achievable, realistic and tangible as they relate to coastal and marine

environments. Without stretch targets, we will see little improvement with respect to managing coastal and marine resources.

Ocean Watch is committed to ensuring adequate attention is being given by the NRC, CMAs, State Agencies and local councils to coastal and marine resources to ensure adequate fish habitat for the long-term sustainability of our commercial fishing industry. Please do not hesitate to contact me on (02) 9660 2262 should you wish to discuss any of our comments.

Yours sincerely

Anissa Lawrence
Executive Officer
Ocean Watch Australia Ltd

NRC Draft State-wide Standards and Targets Consultation Paper
Comments from Ocean Watch Australia Ltd

State-wide standards

Ocean Watch is generally supportive of the approach taken by the NRC to develop state-wide standards. We support process-based standards to allow regional flexibility, but also consistent levels of quantity and rigour in NRM across NSW. As the NRC have appropriately stated, the suite of standards developed needs to promote adaptive management so as to drive continuous improvement.

NRM within NSW has tended historically to be reactive, with tradeoffs that generally have favoured the economic values of the resources rather than balancing these against social and environmental values. This has often been due to the fundamental problem of poor NRM knowledge management, particularly scientific and social information, to promote transparent decision-making. Ocean Watch believes that the standards being proposed by the NRC can promote a more transparent NRM decision-making framework for our coastal and marine resources and we would welcome their adoption by CMAs, State agencies, local councils and academics.

The processes for which state-wide standards are proposed are suitable, however we recommend that an additional standard be developed for ensuring adequate consideration of cumulative impacts from decisions (that is, the impacts of numerous decisions on catchments across all scales). Most local decisions, particularly relating to land-use planning, are made in isolation of other developments underway or proposed within a catchment. A standard addressing cumulative impact assessments would force decision makers to consider the "big picture" and also align with land use planning, vegetation and water reforms underway. As stated above, it is critical when considering trade-offs for environmental, social and economic values within a catchment, that decision makers take a balanced and transparent approach. Cumulative impact assessment would work to achieve this by providing the necessary information on the pressures being placed on the catchment, its river, estuarine and coastal environments.

2.3 1 Investment planning and prioritisation

- This standard aims to "ensure transparent and increasingly informed investment decisions which contribute to the environmental, social and economic health of NSW" (Table 2.1). We recommend that this objective be extended to also ensure that there is a balance between these conflicting values and priorities.

- We suggest that the element "application of best available information" include an additional action to not only evaluate and document the potential of a program to create new knowledge or fill a gap in existing data, but also to consider synergies between the program and others.

- The element "risk management" supportive guidance should include the Australian Standard on risk management *AS/NZ 4360 Risk Management* and its risk assessment methodology be adopted consistently across CMAs, State agencies, local councils and other NRM decision makers. This methodology can be applied across all risk categories and scales.

2.3.2 Coordination

- This standard must give priority to communication across regions, and between and within government agencies. Within the element "development of NRM partnerships", engagement with grass roots industries such as commercial fishing will be a crucial factor to achieving this.

- Reference materials should also include relevant Commonwealth and State NRM legislation and plans such as Threat Abatement Plans, Recovery Plans and National Plans of Action for threatened species, Water Sharing Plans etc. These will provide opportunity for understanding of issues across institutional and geophysical scales.

2.3.3 Socio-economic assessment

- Reference materials should also include relevant information and statistics relating to commercial and recreational fishing and aquaculture (and related support service industries), all being primary industries reliant on NRM. The Environmental Impact Statements being produced for Fisheries Management Strategies in NSW are likely to provide limited socioeconomic information. It is imperative that these industries receive adequate recognition as primary producers to reduce any bias that may result from a land based farming focus.

2.4 Responsibilities for applying state-wide standards

To achieve the targets as proposed within NSW it will be imperative that not only the CMAs apply all standards, but that all State agencies, local governments and others also apply these standards. Without transparent and effective transfer of information between and within State agencies, CMAs and local councils and a unified and coordinated approach to managing our natural resources, targets will not be achievable. The NRC has a unique opportunity to remove the silo mentality currently operating within some layers of government with respect to NRM and Ocean Watch would welcome the NRC to drive this necessary change within government for the benefit of sustainable NRM with NSW. Without this coordination and unity, the government is wasting precious resources and using ineffective methods to manage complex systems and processes occurring within the environment, particularly within coastal and marine areas.

It is concerning to Ocean Watch that there has been limited recognition by the NRC of the role of local councils in regional and localised NRM. Local councils are a key stakeholder in the delivery of NRM targets, particularly as they relate to land-use planning and to that end must be included within the scope of the NRC to guide and influence local councils in local environmental planning. Partnerships between CMAs, local councils and government agencies are imperative to achieving resource condition targets and management action targets referred to in Section 3.1.1

State-wide targets

Ocean Watch is supportive of the approach taken to develop state-wide targets and note that overall the targets are relatively comprehensive in addressing critical issues within NRM, particularly relating to those issues that are fundamental for sustainable fishery resources, namely fish habitat and water quality/quantity. We suggest, however, that there are a number of areas for improvement and accordingly provide comments/suggestions to address these areas.

We are generally supportive of "maintain or improve" targets rather than quantitative targets. It is imperative however, that the targets set provide "stretch" goals for CMAs and others to work towards, otherwise we believe there will be a tendency to maintain the "status quo" rather than better our management of natural resources. As is stated in 3.1.3, maintaining the current state of natural resources is a minimum benchmark and that improvement is desirable where realistic. Ocean Watch would like to see NSW aiming for improvement more so than maintaining the current state of play. The aspirational goals set provide a broad, solid, long-term base from which to build and therefore, it would be disappointing should the medium and short term targets being set provide little more than lip service to this goal. To this end, while all short and medium term targets must be simple, measurable, achievable, realistic and time defined, they should also aim for improvements.

There are many synergies between the proposed targets and in reality, the linkages between these targets, along with a holistic perspective of the catchment and its natural systems will need to be taken into account in any monitoring and performance assessments against targets.

3.1.2 Use of asset classes for resource condition targets and their fit with other frameworks

The NRC has stated that the State of the Environment reporting themes "atmosphere" and "human settlement" are considered outside the scope of the task of developing state-wide targets. Ocean Watch disagrees with this statement. Both need to be factored into the targets developed. Population pressure is most likely the number one pressure for our coastal and marine environments. Likewise, climate change is already starting to impact on coastal and marine environments. To that end, it is imperative that targets set incorporate an underlying appreciation of these issues.

3.1.5 Identifying more explicit state-wide priorities

The suggestion of State priorities being expressed as explicit state-wide trade-offs is provided by NRC. Ocean Watch is concerned that this approach may actually result in a loss of biodiversity, rather than sustaining biodiversity, particularly in the aquatic environments. Commercial fishing, a primary industry reliant on the aquatic environment has suffered greatly from regional land-use planning tradeoffs and the resulting cumulative impacts on fish habitat for many years. Diversity occurs at a local scale and it is important that some protection of aquatic biodiversity occurs across all regions so as to reduce cumulative losses across the State. The aquatic environment is a complex system that cannot be partitioned.

Table 3.2 Draft state-wide targets and indicators and Appendix 1

The following comments are provided to refine and clarify the proposed targets and related indicators in Table 3.2 and the rationale provided in Appendix 1.

- The **aspirational goal** is very land focused and should be expanded to incorporate aspects that relate to sustainable river, estuarine and marine environments that balance environmental, social and economic values.

- **Target 1: Native vegetation cover** – It is unclear as to whether this target includes freshwater and marine aquatic vegetation, wetlands and swamps. This target needs refining and the definition of native vegetation expanded to incorporate these important vegetation types.

- **Target 2: Seagrass, saltmarsh and mangroves** – This target should be amended. Mangroves, saltmarsh and seagrass are three very distinct vegetation types, both in nature and extent and it is not possible to combine them to collectively measure "no net loss" of these species. These species are all essential for healthy estuarine environments and viable fish populations and therefore, we should be aiming for improvement rather than maintaining the status quo. Ocean Watch suggests the wording of the target be amended accordingly to separate out each vegetation type, taking into account the following comments.

  The extent of seagrass across NSW varies depending on estuary conditions and the physical location. Where conducted, research has shown there to have been significant losses to seagrass over the years in NSW. This is thought to be the result of deteriorating water quality and elevated turbidity through increased sedimentation and pollution from agriculture, urban and industrial areas. Poor management and regulation of development, dredging and boating practices have also all contributed to seagrass demise. While seagrass is protected under the *Fisheries Management Act 1994,* habitat is still being lost due to inappropriate development decisions that do not consider cumulative impacts on aquatic environments. With changes to tidal regimes and sea level rises predicted through climate change, continued pressure on our water resources and increased expansion of urban and industrial areas along the NSW coast, seagrass habitat is likely to continue to decline. Seagrass habitats are essential for healthy estuarine environments and viable fish communities to support the industries that rely on them and therefore, we should be aiming for a target for seagrass that results in an increase in coverage over time.

  Appendix 1 incorrectly states that exotic species have impacted on the extent of seagrass. Ocean Watch assumes that this statement refers to *Caulerpa taxifolia.* Based on our discussions with the Department of Primary Industries (DPI) and from a review of the latest literature on Caulerpa, there is no evidence to suggest that it has encroached on native seagrass beds.

  Saltmarsh, an endangered ecological community under the *Threatened Species Conservation Act 1995,* is under constant and increasing pressure. Where research has been undertaken in some estuaries, large losses found have been the result of agricultural, industrial and urban expansion and encroachment. Increased nutrients and sedimentation in estuaries have also resulted in mangrove encroachment that has contributed to saltmarsh community demise. Again, saltmarsh is fundamental for healthy estuaries and viable fish populations and therefore we should be looking to improve the coverage of saltmarsh over time. The target should be amended to reflect this.

Mangrove coverage, where data is available, appears to be healthy and has been increasing over time. This has been due to increased nutrient loads and sedimentation in estuaries. It is unclear however, whether this is a trend occurring across all catchments as research has not been undertaken across the State. There is also evidence showing that mangroves are encroaching landwards onto saltmarsh areas. Therefore, we need to assess baseline data before a target of "improve" or "no net loss" can be set. A target that is suitable for one catchment may not be suitable for another, particularly in densely populated areas where nutrient loads in rivers are high, for example in the Hawkesbury River. We recommend the NRC seek discussion with the DPI on this issue, however, suspect that it is likely, given the scientific data available that a target of "no net loss" will be suitable for mangroves.

Appendix 1 states that "the natural extent of mangrove communities in NSW is under threat from increased urbanisation in the coastal zone". Mangroves are protected under the *Fisheries Management Act 1994* and it is illegal to clear mangroves. This statement should be amended to reflect this.

While the indicator set for seagrass, saltmarsh and mangroves is suitable however, Ocean Watch questions the viability of being able to measure performance, given this will require ongoing mapping which is very expensive. We understand that DPI has recently undertaken an aerial mapping exercise for these habitat communities and this data will obviously act as a good baseline. The cost/resource implications going forward however, to update mapping need to be considered by the NRC.

An additional point to note in using "extent" of coverage as an indicator, particularly in relation to seagrass beds, is that seagrass coverage fluctuates between seasons. It would therefore, be important for any mapping exercise to factor this in and possibly undertake such an exercise in the same months as the baseline survey. Performance measurement by the CMAs and NRC would also need to consider this.

- **Target 3: Riparian vegetation** – Riparian vegetation usually refers to vegetation along a river. In-stream emergent, submerged macrophytes and large woody debris are also essential elements for healthy estuarine environments and fish stocks. Under the *Fisheries Management Act 1994* both the removal of riparian vegetation and large woody debris are considered key threatening processes to some threatened fish species. None of the proposed targets appear to address these critical characteristic components and therefore, Ocean Watch suggests that this target be amended to include them.

  Appendix 1 raises the importance of encouraging connectivity of existing riparian vegetation to enhance biodiversity and improve water quality. It is important that the target reflect this. Currently, the target may encourage rehabilitation to highly degraded areas where minimal results will not be achieved without significant investment – which would be a waste of precious resources by agencies etc.

- **Target 4: Connectivity across terrestrial and aquatic ecosystems** – This target supports the work currently being undertaken by DPI to assess barriers to fish passage and rehabilitate priority areas across the State. Ocean Watch recommends that the proposed indicator be extended to cover all "watercourses" rather than just streams.

"In stream structures and other mechanisms that alter natural flow regimes of rivers and streams " are listed as a key threatening process under the *Fisheries Management Act 1994.* Target 4 focuses on "in stream" connectivity, but does not acknowledge the importance of connecting streams to floodplains and freshwater wetlands. These connections are also essential for maintaining healthy estuarine and river environments and for promoting aquatic biodiversity. There are a number of commercial saltwater fish species that migrate into freshwater during their lifecycle. Across NSW, extensive works have been undertaken to reduce this lateral connectivity through the installation of drains, floodgates and other flood mitigation works. This has prevented this migration of fish and also resulted in fragmentation of fish populations. By reconnecting these areas and allowing saltwater intrusion back onto floodplains and back swamps, not only will it allow fish migration for spawning, but it will also foster healthy habitats. The target therefore, should be expanded to encompass this lateral connectivity and the improvements that will result to aquatic environments from this. Any measure of performance relating to this will need to ensure that it encapsulates aquatic environments, rather than just terrestrial environments.

- **Target 5: Threatened species** - Ocean Watch does not believe that this target can be measured. The NRC should be looking to quantify the reduction in number of threatened species, populations and communities as a target rather than simply aiming to reduce the risk. The risk of something occurring is highly subjective. Without consistency and a quantitative risk assessment in this case, performance is left open to interpretation. It is important therefore, that performance indictors include a measure of the reduction in number of threatened species, populations and communities, including aquatic. As the proposed indicator stands, it is unclear what is meant by "priority".

  Ocean Watch is concerned with the little attention given by the NRC to marine biodiversity and we suggest that additional targets are developed for protecting aquatic biodiversity to encompass the development of representative systems of marine and freshwater areas by 2015, and to ensure no net loss of natural watercourses (for example, through continued draining of wetlands). While we acknowledge that there is limited data/mapping available for marine habitats and the effectiveness of NSW marine protected areas in promoting healthy biodiversity, indicators could include the extent of marine habitats (where available), fisheries productivity and the percentage of sanctuary zones in marine protected areas. Indicators to measure no net loss of natural watercourses could include the number of drains (km), streams and wetlands reopened to saltwater flushing.

  Appendix 1 states that increasing the extent and quantity of native vegetation will maintain and improve habitat and contribute to reducing the risk of species, populations and communities becoming threatened. This is incorrect for aquatic species, populations and communities and should be removed.

- **Target 6: Invasive species** – This draft target is very broad and Ocean Watch does not believe easy to measure with the indicators proposed. "Changes in extent/number of pressures on threatened native species and ecological communities" is perhaps better suited as an indicator for Target 5. How this would be measured is also questionable as it provides room for subjectivity in terms of what is considered a pressure. The other indicators proposed are more targets rather than indicators of performance. It would be more useful indicator to measure the extent/abundance of invasive species, the number of established invasive communities and the effectiveness of management controls.

Again, both the target and rationale in Appendix 1 are terrestrial focused. Invasive marine species are a threat to valuable primary industries such as commercial and recreational fishing and shipping. The rationale needs to be amended to reflect this.

The National System for the Management of Invasive Marine Species is currently being developed. Ocean Watch and DPI sit on the committee developing this system. The NRC should be aware of the timetable for implementation of this system and actions arising in the development of the target and also in monitoring and assessing performance going forward.

- **Target 7: Condition of rivers and wetlands** – The indicators for this target should be refined. Ocean Watch believes that the suggested indicators will not accurately measure changes in condition of rivers and wetlands over time. The Stressed Rivers Classification broadly focuses on riparian vegetation, hydrology and limited threatened species assessments for unregulated rivers. This indicator will provide little relevance therefore, to regulated rivers and wetlands. Changes in fish populations within a river are a good indicator of river health, as is water quality (whereby environmental factors such as dissolved oxygen and phosphates etc. are measured rather than public health related measures such as faecal coliforms). Changes in environmental water quality and the extent of wetland coverage may provide useful as an indicator for wetland health. NRC should refer to the work undertaken by the Healthy Rivers Commission (HRC) to incorporate their recommendations to develop relevant indicators for rivers and the wetland assessment work undertaken by Wetland Care Australia and CSIRO to develop indicators for wetlands.

- **Target 8: Condition of estuaries –** The National Land and Water Resources Audit (NLWRA) classification of estuaries is not a good indicator for estuarine condition in NSW as it uses a very broad scale of classification and is questionable as to its subjectivity in relation to assessments made. In some cases, assessments have been made without the use of any supporting scientific data. For example, under the NLWRA, oysters in an estuary would degrade the classification however, oysters actually improve water quality in an estuary. They are an indicator of estuarine health. Ocean Watch is concerned that the target proposed and related indicator make no reference to the HRC work undertaken, particularly the Oysters Report. The recommendations coming out of this report should be reviewed by the NRC and incorporated into the Target 8 for estuaries and Target 11 for marine waters. DPI is also developing a Sustainable Aquaculture Strategy for NSW that covers all oyster producing estuaries. The actions arising from this strategy should also be incorporated into the target and indicators developed for estuarine health. In addition, indicators of estuarine health should include environmental monitoring being undertaken by the NSW Oyster Industry, the Department of Environment and Conservation (EPA), local Councils and the NSW Food Authority.

  In some cases, fisheries productivity may also be a useful indicator of estuarine health and Ocean Watch encourages the NRC to discuss options with DPI.

- **Target 10: Condition of coastal lakes –** Ocean Watch supports the use of the HRC classification for coastal lakes as a target and the outcomes of the sustainability assessment for related indicators. It is important to note when setting indicators for coastal lake condition and subsequent monitoring of performance that the natural processes that occur relating to the intermittent opening and closing of lakes are considered. Management through continual opening of a lake may protect assets of local councils and property, however, may not always be of benefit to the lake in terms of aquatic biodiversity.

- **Target 11: Condition of marine waters –** Ocean Watch is supportive of a target to assess performance for coastal water quality. We suggest that indicators should also include environmental monitoring in coastal marine waters out to 3 nautical miles (not just along the shoreline as occurs now). To date, there has been limited research undertaken to assess the impact that deep ocean outfalls are having on marine biodiversity. Environmental monitoring would assist in understanding these impacts.

  Also, marine debris, a listed key threatening process under the *Environment Protection and Biodiversity Conservation Act 1999* is also a good indicator of marine water condition. Ocean Watch conducted a survey across 27 beaches in NSW using a scientifically robust methodology in 1996. By conducting ongoing surveys, performance in reducing marine debris could be measured. The surveys aim to identify the source of the debris to target actions to address problems.

- **Target 12: Productive capacity –** While the proposed target suggests the inclusion of relevant coastal issues such as acid sulphate soils (ASS) and erosion, the suggested indicators have a land based focus, mostly in relation to salinity and do not address the key issues for primary producers such as commercial fishermen. Salinity is not particularly an issue along coastal NSW. Rather ASS is the prominent cause of declines in productive capacity, particularly in the north of the State. Around 70% of all marine fish species spend some stage of their lifecycle in freshwater or within an estuary before moving out to sea. Fish kills in estuaries and rivers are a good indicator of potential ASS and other problems relating to water quality and should be used as an indicator to measure commercial fishing productive capacity lost.

  Changes to the extent and abundance of more acid tolerant vegetation species along and within streams, across floodplain drainage systems and in wetlands would also be a useful indicator.

  Acid levels are monitored across a number of ASS “hot spots“ and other coastal areas in NSW and these indicators should also be included to measure performance for this target. Ocean Watch recommends that the NRC hold discussions with DPI in relation to the monitoring being undertaken by them and a number of universities in relation to ASS.

- **Targets 14 and 15 relating to community -** Ocean Watch is concerned that the timing set for these targets is too long. These aspects are fundamental for the CMAs and others to meet all targets at regional and local levels. The actions required to achieve targets 14 and 15 need to be in place as soon as possible to ensure other targets are also met. CMAs are depending primarily on stakeholders to deliver their CAPs. Therefore, we suggest that the timing associated with the achievement of these targets be brought forward to 2008.