



OUT16/50220

LBL Review
Regulatory Reform and Advice Branch
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Dear Review Team

Comment on the issues paper for the review of EPA's Load-Based Licensing scheme

The Department of Primary Industries (DPI) has reviewed the issues paper and supporting documentation regarding the current review of EPA's Load-Based Licensing (LBL) scheme and provides the following comments with further detail provided at Attachment A. Please note that comments from Department of Industry – Lands (Forests) have also been included for your consideration.

General comments

- DPI supports heightened efforts to reduce pollutant loads. Poor water quality is a significant stressor upon the Marine Estate and freshwater ecosystems. The Marine Estate Management Authority's recently published Threat and Risk Assessment (TARA) Framework identifies poor water quality as a major issue.
- DPI is concerned about the impact of stormwater from urban areas upon aquatic ecosystems and encourages the EPA to consider options for bringing Council stormwater outfalls into the system, or otherwise ensuring that effective programs are in place to ensure improvement in stormwater outflows.
- Biological Oxygen Demand (BOD) in coastal catchments should be given a higher priority given that BOD is generally the major cause of fish kills from black water events in estuaries or weather events in enclosed waters.
- DPI requests more information in relation to how discharges into coastal waterways impacted by acid sulphate runoff are dealt with.
- DPI would like to highlight the importance of water quality (and its protection) to aquaculture and would like to highlight the effectiveness of the Sustainable Aquaculture Strategies for oyster aquaculture developed by NSW DPI in relation to managing water quality.
- While there is scope to consider offsets within a LBL scheme, the technical suitability, and the costs and benefits of doing so should be more thoroughly tested across major pollutant types.
- It is recommended that the scheme be reviewed every 5 years to ensure it maintains its effectiveness in light of rapid developments in technologies and potential changes in the types of pollutants and loads.

- DPI supports the concept of effluent re-use and green offsets, provided Best Management Practice (BMP) guides are developed for these activities and any third party effects are understood and managed. It is recommended the improved utilization of effluent be targeted in areas such as Solitary Islands and other Critical Zones of impact.
- Section 4.4 – Revenue recycling. DPI supports both Option 1 and Option 2, however notes that Option 2 should extend to funding projects beyond LBL premises. This would give the most flexibility and incentives to EPA and/or licensees to consider local and holistic approaches for the mitigation of pollutants.

Fees

- DPI supports the polluter pays approach, however it should be recognised that costs need to send a proportional incentive to direct polluters to invest in cleaner technology.
- It is recommended that a review of the fee model be undertaken to confirm that the fees charged once a threshold is met accurately reflect the damage caused by the pollution and also offer enough incentive for polluters to mitigate their emissions.
- It is suggested that by decoupling the administration and LBL fees (that currently gives an effective discount on LBL fees when lower than the administration fees), the EPA could set a more effective price signal to all licensees.
- Before major changes to LBL fees are made, DPI requests a consultation period with agencies such as EPA, DPI and NSW Health.

Water quality - assessable pollutants and scheduled activities

- In relation to assessable pollutants covered by the scheme, DPI recommends a balanced approach that ensures pollutants of environmental, economic and community concern are kept under the scheme and those that aren't are removed. This will assist in reducing the complexity of the system and remove unnecessary fees for lower priority pollutants.
- In relation to scheduled activities, DPI recommends that option 3 be retained, but the list of scheduled activities be reviewed and refined to ensure that the highest priority polluters are captured. Options 1 and 2 could cause additional compliance costs and questionable benefit to the community if additional industries are unnecessarily captured.

Critical Zones

- DPI recommends improved utilization of effluent be targeted in areas such as Solitary Islands and other Critical Zones of impact.
- It is recommended that a review of Critical Zones is undertaken to ensure intermittently closed and open lakes and lagoons (ICOLLs), Marine Park waters, threatened species habitat, Recreational Fishing Havens and aquaculture estuaries are included and/or elevated in importance within the system
- DPI supports the proposed Option 2 for Critical Zones. Further refinement of the critical zones based on catchment characteristics, coupled with catchment specific weightings will focus the EPA's regulatory resources on prioritised areas.
- Section 4.2.2 seeks specific feedback on how Critical Zone weightings could be used. DPI supports increased weightings for target pollutants due to their particular importance, based on the cost of damage to the environment (where it can be determined) and if that is not able to be determined, abatement costs. This hierarchy is proposed to ensure that limiting impacts on environments are incorporated into the cost of pollution rather than just abatement costs. Embedding

the cost to the environment into the scheme will form a signal to improve pollution abatement technology in addition to the signal delivered to individual polluters to implement known abatement technologies.

Local Water Utilities

- Any modifications to the LBL scheme should take into account the significant differences between Local Water Utilities (LWUs). These differences relate to their location as well as their scale and operating characteristics and should be considered to ensure the scheme is designed (with other regulatory tools) to drive the desired performance for the environment.
- It is suggested that by decoupling the administration and LBL fees (that currently gives an effective discount on LBL fees when lower than the administration fees), the EPA could set a more effective price signal to all licencees.
- DPI suggests that a more holistic approach, especially that which links a refined catchment based critical zone approach with catchment based load limits, could better inform LWU planning and alternate investment options and better focus pollution reduction.

Consideration of advancements

DPI suggests that new developments/advancements in technology and knowledge could be considered in reviewing the LBL scheme. For example, new developments in sensor technology could be explored in the context of the pollutants being regulated through the scheme (e.g. quantifying impacts and monitoring to detect improvements/deterioration over time). Experimental economics could also be applied in relation to the design and evaluation of market-based instruments

Department of Industry – Lands (Forests)

Dol – Lands notes that in relation to wood fires, the focus on emissions should be on poorly operated or maintained wood heaters, rather than wood heaters in general.

In operating wood heaters particulate emissions can be minimised through:

- Updated installation and operation of wood heaters compliant with related Australian Standard (AS);
- Utilisation of appropriate wood for use;
- Education of owners regarding operation.

Dol - Lands does not support a process to 'upgrade' domestic wood heaters unless required to meet AS and in conjunction with other initiatives as listed above and on p17.

DPI appreciates the opportunity to comment on the issues paper and looks forward to being consulted further during the LBL scheme review process.

Yours sincerely



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Detailed DPI comments – EPA LBL scheme review

DPI Agriculture

The design of the any new LBL scheme could be informed by experimental economics. Market-based instruments (MBIs) can be an efficient mechanism for improving environmental outcomes (e.g. producing environmental goods such as biodiversity, or native vegetation, water quality) by introducing economic incentives to encourage changes in management practices. Reeson and Nolles (2009) described how the methodology of experimental economics can be used to design and evaluate market-based instruments for natural resource management. This is now used routinely in Australia and could be applied to test designs of a new LBL scheme.

Rapid developments in sensor technology are having a wide range of implications for different sectors of the economy. These developments should be explored in the context of the pollutants being regulated through the LBL scheme. Some of these advances offer the prospect of better understanding pollution loads, environmental damages, fee setting and transaction costs associated with monitoring and reporting. This could complement a sound science-based research program which presumably is already in place for all of the pollutants currently covered.

While there is scope to consider offsets within a LBL scheme, the technical suitability, and the costs and benefits of doing so should be more thoroughly tested across major pollutant types.

It is recommended that the scheme be reviewed every 5 years to ensure it maintains its effectiveness. With rapid developments in technologies, potential changes in the types of pollutants and loads, the LBL Scheme should be subject of a regular review cycle to ensure that the scheme is efficient in meeting its objectives. This scheme operates in an environment where change can occur rapidly in terms of pollution emission, impacts and technology.

DPI Agriculture recommends a review of the fee model to confirm that the fees charged once a threshold is met accurately reflect the damage caused by the pollution and also offer enough incentive for polluters to mitigate their emissions.

DPI Agriculture is interested in progressing the concept of effluent re-use and green offsets provided Best Management Practice (BMP) guides are developed for these activities and any third party effects are understood and managed. DPI has experience in development and promotion of nitrogen, phosphorous and run-off management via BMPs for example in the Hawkesbury Nepean. DPI Agriculture would support the increased utilization of recycled/effluent water depending on demand from industry provided that BMPs are developed and implemented to support the application of these waters. Additionally the improved utilization of effluent should be targeted in areas such as Solitary Islands and similarly 'critical zones' of impact.

With regard to the question on page 45 about which activities should be captured by the LBL scheme, DPI Agriculture prefers option 3 which is to keep the current basic structure but refine the LBL scheme so that the highest emitters are captured. Options 1 or 2, to extend the scheme to cover all licence holders, are likely to cause additional compliance costs and questionable benefit to the community if targeted industries are not significant polluters.

DPI Fisheries

Key DPI Fisheries concerns include:

- The relatively low importance placed on Biological Oxygen Demand (BOD) in coastal catchments.
 - This is reflected in the weightings (Appendix 3) of 1 given to BOD in enclosed waters and 0.5 in estuarine waters and in the critical area weightings in Appendix 4. Given that BOD is generally the major causes of fish kills from black water events in estuaries or weather events in enclosed waters, then only weighting BOD as a 1 or 0.5 pretty much ignores or even reduces the importance of the pollutant material and the potential effect on the waterway. Even if levels are sublethal from the discharge, this would reduce the resilience of the system to a natural event (e.g. Richmond River fish kills 2001 and 2008).
- It is unclear how the issue of discharges into coastal waterways impacted by acid sulphate runoff are dealt with.

- The loads take into account the level of metals in the discharge and, from viewing the critical zone weightings, it appears that the quality and composition of the receiving waters are not included as part of the assessment. In the case of acid receiving waters, the northern coastal catchments may have several waterways that are severely impacted by acid water discharges from acid sulphate hotspots. This water has the potential to react with any metal containing discharges and release the metals into a bioavailable state or the pH of the system may render the metals highly toxic to organisms.
- It is recommended that a review of 'critical zones' is undertaken to ensure intermittently closed and open lakes and lagoons (ICOLLs), Marine Park waters, threatened species habitat, Recreational Fishing Havens and aquaculture estuaries are included and/or elevated in importance within the system.
 - Critical Zones receive a rating that accounts for the sensitivity of a specific geographical area of NSW to a specific pollutant. The 'Overview and facts about load-based licensing' section (the Overview) notes that "Such weightings are used where there is a need to reduce pollutants released to the environment that may contribute to an adverse cumulative impact. Critical zones DO NOT include the majority of eastern drainage waters in NSW and all estuaries north and south of Sydney (see figure below taken from the Overview pg. 20).

The consequence is that it is 3 times less expensive for load base licences to discharge pollutants into these waters. The issues paper (115pp) presents some compelling statistics in support of the expansion of Critical Zones stating on pg. 46:

"- salt loads to water decreased by 99% in critical zones, but decreased by only 65% in non-critical zones

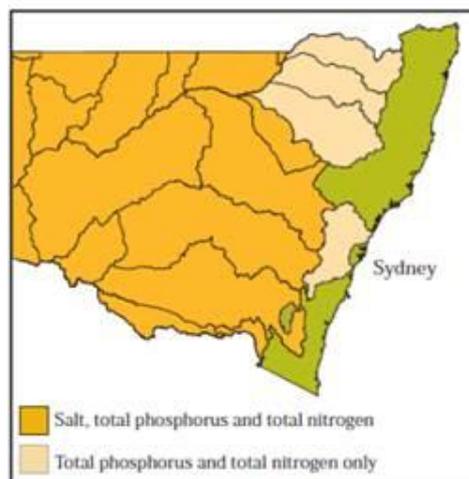
- nitrogen to water decreased by 19% in critical zones but rose by 10% in non-critical zones

- phosphorous to water decreased by 55% in critical zones, but decreased by only 25% in non-critical zones"

Table A4b: Critical zones and weightings for water pollutants

Pollutant	Catchments in zone	Weighting
Salt	Benanee	3
Total phosphorus	Bulloo River	
Total nitrogen	Castlereagh	
	Condamine/Culgoa	
	Cooper Creek	
	Darling	
	Lachlan	
	Lake Bancannia	
	Lake Frome	
	Macquarie River	
	Moonie	
	Murray Riverina	
	Murray (Lower)	
	Murray (Upper)	
	Murrumbidgee	
	Paroo	
	Warrego	
Total phosphorus	Border Rivers	3
Total nitrogen	Gwydir	
	Hawkesbury-Nepean	
	Namoi	

Note: CZ equals 1 for salt, total phosphorous and total nitrogen discharged outside the areas listed in Table A4b and for all other water pollutants.



- The Overview notes that: "Consideration will be given to whether critical zones should be applied to some coastal areas." Because: "New data is also available on tidal flows and dilution or flushing capacity in coastal catchments that shows many coastal catchments in NSW have only intermittent connections to the ocean and consequently relatively poor flushing capacity."
- The Discussion Paper on pg. 13 seeks specific feedback on how Critical Zone weightings could be used. DPI Fisheries supports a default weighting for all pollutants which could be increased for each target pollutant. The increase could be based on the cost of damage to the environment (where it can be determined) and if that is not able to be determined, abatement costs. This hierarchy is proposed to ensure that limiting impacts on environments are incorporated into the cost of pollution rather than

just abatement costs. Embedding the cost to the environment into the scheme will form a signal to improve pollution abatement technology in addition to the signal delivered to individual polluters to implement known abatement technologies.

Poor water quality is a significant stressor upon the Marine Estate and freshwater ecosystems. The Marine Estate Management Authority's recently published Threat and Risk Abatement Framework (TARA) identifies poor water quality as a major issue. DPI Fisheries therefore supports heightened efforts to reduce pollutant loads.

DPI Fisheries is concerned about the impact of stormwater from urban areas upon aquatic ecosystems and encourage the EPA to consider options for bringing Council stormwater outfalls into the system.

It is understood that aquaculture (prawn and trout farms that hold discharge licences) are not to be included in the current round of LBL licensing and they will remain on volume discharge licences. DPI Fisheries has no issues with this at present. However, DPI Fisheries would like to highlight the importance of water quality (and its protection) to aquaculture.

NSW DPI has prepared Sustainable Aquaculture Strategies for land based and edible oyster aquaculture. The strategies include guidelines for sustainable aquaculture development and operation which are gazetted as an Aquaculture Industry Development Plan under the *Fisheries Management Act 1994*. The Strategies also put in place a planning framework for aquaculture (including water quality protection) that is supported by *State Environmental Planning Policy 62 (Sustainable Aquaculture)*.

On average, a farmed Sydney Rock Oyster will filter an estimated 0.25 ML of estuarine river water in its lifetime, removing large quantities of suspended material, chiefly nutrients bound in phytoplankton. This means that oysters are important in maintaining healthy estuaries, but in performing this role they are exceedingly vulnerable to poor estuarine water quality. In recognition of this dichotomous relationship, Chapter 3 of the NSW Oyster Industry Sustainable Aquaculture Strategy identifies the key water quality parameters necessary for sustainable oyster aquaculture and establishes a mechanism to maintain and where possible improve the environmental conditions required for sustainable oyster production.

DPI Water

DPI Water plays an important role in the regulation of Local Water Utilities (LWUs), specifically in relation to the approval of the construction and extension of dams, water and sewage treatment plants and recycled water schemes (under section 60 (s60) of the *Local Government Act 1993*).

DPI Water has a process to approve these works which provides assurance to the community that the proposed infrastructure is fit for purpose and provide robust, safe and soundly based solutions that meet public health and environmental requirements.

In the assessment of s60 approvals for sewage treatment plants and recycled water schemes, consideration is given to the conditions of the environmental protection licence (EPL) or other regulatory instruments under the POEO legislation.

For some LWUs, the avoidance or reduction of LBL fees is a driver for improvements to effluent quality. For others, compliance with concentration and load limits as well as pollution reduction programs are more important drivers. Any modifications to the LBL scheme should take into account that there are profound differences between LWUs. These differences relate to their location as well as their scale and operating characteristics. There might not be a reasonable one size fits all model for the LBL scheme that is equitable for all water utilities but differences should be considered so that the scheme is designed (with other regulatory tools) to drive the desired performance for the environment.

There is an opportunity to drive more improvements to water utility effluent quality without significant modification to the current LBL scheme. By decoupling the administration and LBL fees (that currently give licencees an effective discount on LBL fees when lower than the administration fees), EPA could set a more effective price signal to all licencees.

Specific DPI Water comments

Section	Title	Comments
Section 4.2	Assessable pollutants	<p>DPI Water supports Option 2 to focus the scheme to pollutants of greatest concern, to reduce complexity and remove fees for the lower priority pollutants.</p> <p>For inland sewage treatment systems (STS), the focus on the reduction of nitrogen and phosphorus will concurrently reduce the BOD. Therefore the need to include BOD as a pollutant for inland sewage treatments systems is not required and more weighting could be given to N and P as pollutants to more efficiently and effectivity drive the reduction of pollutant loads.</p>
	Critical zones	<p>DPI Water supports Option 2. Further refinement of the critical zones based on catchment characteristics, coupled with catchment specific weightings will focus the EPAs regulatory resources on the prioritised areas.</p>
	General comments	<p>DPI Water suggests that a more holistic approach, especially that which links a refined catchment based critical zone approach (above) with catchment based load limits, could better inform LWU planning and alternate investment options and better focus pollution reduction.</p> <p>In some areas diffuse non-point source pollution may be contributing pollution more to the catchment than an STS, yet the point source is targeted for pollution reduction. The LBL scheme could be designed to be more flexible in the methods to achieve desirable environmental outcomes.</p>
Section 4.3.6	Weighted load discounts - recognising harm reduction	<p>DPI Water believes that effluent reuse is a harm reduction activity that is designed to reduce or eliminate LBL fees. Before major changes to LBL fees are made, DPI Water requests a consultation period with agencies such as EPA, DPI and NSW Health. This period would ensure that any proposed changes to the LBL fees which promote effluent reuse duly consider the unintended consequences to public health and/or increases in costs.</p> <p>LBL fees are a driver for LWUs seeking s60 approvals for recycled water schemes. Agricultural reuse is a low risk and low cost management strategy for effluent reuse and has been employed successfully in many locations to reduce LBL fees paid by LWUs.</p> <p>The limited opportunities the agricultural reuse in coastal areas, non-agricultural or urbanised areas has resulted in LWUs seeking approvals for alternate recycled water schemes such as urban irrigation of sporting fields, parks and gardens without thorough consideration of the higher public health risks and higher costs for treatment and/or onsite exposure controls.</p>
Section 4.4	Should there be some form of revenue recycling associated with the LBL scheme? If so, what should the revenue be used for?	<p>DPI Water supports both Option 1 and Option 2, however notes that Option 2 should extend to funding projects beyond LBL premises. This would give the most flexibility and incentives to EPA and/or licensees to consider local and holistic approaches for the mitigation of pollutants.</p> <p>For example: funds allocated to a wetland, riparian restoration or fencing could be a more effective investment to reduce nutrient loading than an STS upgrade. These projects could also provide additional benefits for the communities such as increased amenity as well as avoiding increased LWU bills to customers from increased power costs, carbon abatement or chemical costs.</p>