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Commercial Clerk  
Standing Committee on Public Administration  
Legislative Council  
Parliament House, GPO Box A11, PERTH WA 6837

I am writing in response to the Standing Committee request for submissions on the issue of property rights as it relates to fishing Licences and in particular reference (c) and (d) of the inquiry.

- (c) recognises the property rights of government-issued licences and authorities including commercial fishing;
- (d) asserts that fair and reasonable compensation must be paid to the owner of private property if the value of the property is diminished by a government encumbrance or resumption in order to drive as public benefit;

The proposed development of the Ocean Reef Marina will directly remove through dredging and consequential silting of Burns Beach reef platform at least 9 tonnes annually of the abalone grounds fished by commercial and recreational divers on this reef platform. This level of impact estimated during the environmental assessment processes by the EPA is at best an estimate with considerable uncertainty as to the extent of silting and loss of grounds north of the proposed development site and impacts on visibility preventing commercial fishing during construction.

It is against this back ground of proposed development by the Joondalup City Council, a significant period of environmental assessment and progression of the development by now the State Government through Land Corp, which the Roei Abalone licence holders have and will be injuriously affected by the development in a number of ways as follows:

- The inability to sell their authorisations to fish due to the uncertainties of future development impacts without significant discounting during the ten or so years the project has been under consideration.
- The loss of visibility and inability to access the reef north of the development due to sediment plumes associated with the development.
- The expected direct loss of productive grounds as a result of the development both immediate and consequentially post development silting of reef platform.

The West Coast Roei Abalone managed fishery licence value has already suffered under the threat of the proposal to build a boating marina atop of the most significant area of the metropolitan fishery in terms of productivity and commercial value. The Marmion Marine Park area of Burns Beach is without exception the most productive 3.5 kilometres of coastal reef for Roei abalone in Western Australia. It represents about 40% of the fishery of Area 7 being the area from Cape Bouvarde to Moore River. The other productive grounds are found at Garden Island and Triggs Beach with the remainder of the area of the fishery, unproductive.

Abalone can only be found on reef platforms. Uncertainty around the future of this commercial fishing licence has been significantly affected on the licence value to the market. The proposed way forward for compensation of loss to this proposal draws little confidence from the affected licence owner fishermen. The west coast roei abalone fishery is about to enter into this area of an adjustment to fishing access. The proposed construction of the Ocean Reef Marina will cause a reduction of fishing access for the West Coast Roei Abalone Fishery with an associated requirement to reduce harvest levels (quota) to ensure resource sustainability.

The west coast roei abalone fishery is about to enter into this area of compensatory adjustment as a consequence of expected loss in fishing access with the proposed construction of the Ocean Reef Marina. It has been decided by the office of the Minister for Fisheries that a compensation process is appropriate for the loss of fishery access and that a Voluntary Fisheries Adjustment Scheme (VFAS) is the mechanism to facilitate this process under the Fisheries Adjustment Schemes Act 1987. Whilst appreciating the Minister's intervention in this matter, there is still a long uncertain pathway yet to proceed.

On advice received to date through DPIRD, the way forward to consider this matter offered very little confidence to the affected licence holders that the process will be fair and just. To date we have been informed that a committee has been selected but we are not privy to the names or the experience of the committee members. We are also told the process will follow an established protocol and while we can submit to the committee, we will not be involved in discussion on a number of unresolved issues around the expected effects of this construction upon the fishing grounds.

Expected outcomes and effects upon the abalone fishery were published in the early environmental review published in November 2016 by Joondalup Council (the then proponent) have been recognised by EPA and government departments. This has been challenged consistently by industry, supported not with science but with historical fact from previous constructions. We believe that without the opportunity to be party to the compensation process these factors while still being ignored will conclude to a very poor outcome for the rights of the property owners, the fisherman.

To go forward:

1. An affected license holder representative either needs a place in the committee or at the very least opportunity to discuss with the committee as the issues progress.
2. Industry needs to be listened to, to further recognise the level of effects on the fishery unrecognised in the environmental review. The statements in the initial environmental review simply ignore the experiences of past construction.
3. Industry's view gets cast off as anecdotal evidence but remember anecdotal evidence from a reliable source is the evidence until science has the knowledge to refute it.

4. The short term disruption to the fishery during construction due to an expected total loss of underwater vision will have a significant effect on our ability to fish. We cannot simply shift our effort to other areas as this will cause further detrimental effect upon the fishery. This is not a simple reduction in fishing access as in the declaration of a marine park sanctuary area. It is a complex issue with significant unknown outcomes that need to be addressed.
5. I think the VFAS process will fall short of offering fair compensation for the loss of property rights of the license owners in this fishery.

Clearly the Fisheries Adjustment Schemes Act 1987 was not designed to properly deal with this issue. Classically it is a case example that falls within the terms of reference (c) and (d) of this Inquiry. If the project had been a private developer, there would have been no certainty that licence holders interests would have been taken into account.

To our knowledge, the Act itself provides no obligation on the State in relation to this matter in which compensation is to be determined. However an expansion in the scope of the Fisheries Adjustment Schemes Act, 1987 to broaden its remit will help address the situation for future cases where the fishing industry is excluded for the purposes defined by reference (d) and injurious affection through loss of resource access can be demonstrated.

In situations like this one would also expect parties affected by the development decision and injuriously affected would be part of the negotiation noting that there are potentially a number of solutions that can be adopted. I would very much like to meet with members of the committee to further enlarge on my submission and to address any arising questions.

JOHN BRINDLE

PRESIDENT

WEST COAST ABALONE ASSOCIATION

July 26 2019

Attached Abalone submission to PER for Ocean Reef



On behalf of West Coast Abalone Divers Association

Submission to the EPA on the PER for the proposed Ocean Reef Marina (November 2016)

Copied to the City of Joondalup and Department of Fisheries

## **Opening Statement**

1. The position presented is the West Coast Abalone Divers Association's response to the PER.
2. The association is impressed by the level of work progressed by the Council and its consultant's in the development of the PER document and associated appendices.
3. The association does not have the resources to undertake a major critical analysis of the PER documentation or the research undertaken in support of its findings but will endeavour to work with the proponent and the EPA to resolve a way forward in the context of those findings. The association will meet at any reasonable time with any of the parties to help clarify or add to the understanding of this submission.
4. For this reason and other commercial considerations, the association's response today will touch upon issues of principle covering four aspects: a general commentary on the PER findings; areas requiring attention by the proponent and EPA, changes to be sought to the accompanying environmental management plan and detail on the approach to mitigation and offsets based on commercial considerations as the development impacts on the commercial roei abalone industry.

## **General Commentary**

1. The association recognises the professionalism and standing of the scientists and engineers commissioned to develop the PER and associated supporting documentation.
2. The association does not entirely accept the findings as presented in relation to the projected impact on abalone stocks as its members continue to have the belief the impacts of the development will be greater than that projected by the PER documentation. This belief is founded on the industry experience of past coastal developments on abalone stocks, the infancy of much of the science in essentially the dynamics of the environment in the near shore reef zone and increasing scientific awareness in other jurisdictions on the sensitivity of abalone species to human induced changes to environmental conditions. The principal drivers of losses occur principally through failure of abalone gill structures to cope with fine sediments and reduction in effectiveness of reef surfaces to facilitate recruitment of abalone veliger larvae apart from direct sediment suffocation of habitat.
3. The lack of past monitoring programs to assess the impact of coastal development and particularly on abalone post development event has meant there continues to be

considerable uncertainties as to the drivers of such abalone stock depletions. It is pleasing to note, on this occasion the PER points to a need for a more complete monitoring program on the impacts of development on the reef habitat and abalone stocks in particular at least five years post construction. Hopefully this will provide insights as to the drivers of losses based on scientific observation and further assessment should the development proceed and impacts observed greater than that projected spatially within the PER. Ideally offsets should include scientific assessment of the impact of dispersed sediments on abalone rather than simply monitoring.

4. The association is aware of the current practice in water supply management to maximise water extraction for aquifer replenishment for future Perth water consumption. This practice would have the effect of concentrating sewage residues and adding to the risk of human waste products impacting on nearshore water quality standards as the Ocean Reef Marina construction places it much closer to the Ocean Reef Sewage Pipeline outlet. This risk clearly falls upon the proponent and any mitigation strategy to address this issue should experience post construction of the marina demonstrate a water quality problem near shore or in the marina itself, needs to be factored into the business case for the proposed development.
5. The association is aware of developing bipartisan political support for the Ocean Reef project and the likelihood of Government funded backing for the project at some time into the future. The metropolitan abalone industry has already been financially blighted by this proposed development created by the uncertainties as to the likely impacts of the development on abalone stocks reflected in lack of market interest for commercial abalone authorisations and consequential ongoing injurious affection.
6. The Association understands that the current proponent for the marina development, the City of Joondalup, will at some future time seek to transfer that role to LandCorp on behalf of the Western Australian Government or some other Western Australian Government led hybrid organisation involving private developers. It is in this context issues around compensation as offsets to the proposed development are discussed as part of this submission within a proven process defined by the Fisheries Adjustment Schemes Act 1987.
7. The timing to reach a commercial settlement and its future cost is impacted by value of the product to abalone licence holders influenced by exchange rates, the now ongoing development of a higher valued domestic fresh market for live abalone and fishermen propensity to reach a commercial settlement among an aging group of licence holders and diver operators.
8. For these reasons, amongst others, the association are seeking certainty and would prefer a negotiated commercial outcome so that the commercial development risks are managed by the proponent rather than the affected commercial fishermen. Such an approach also creates an opportunity for the proponent to provide for the future beneficial use of the residual abalone stocks on the Burns Beach shoreline reefs post development.

### **Comments on the PER requiring attention**

1. The Association is not in a position financially or technically to comment on the veracity of the ocean modelling and associated sediment and nutrient plume projections undertaken by the consultants. The recent scientific work on the impacts of dredging, modelling etc. undertaken over the last three years by the Western Australian Marine

Science Institution (WAMSI) is perhaps the most recent contemporary science conducted in Western Australia. Officers from the Office of the EPA are familiar with that work and the Proponent should refer the PER and associated documents to relevant researchers for further comment before the EPA adopts a final assessment position. It is most likely most of this work is yet to be published and the outcomes most likely unknown to M. P. Rogers and Associates, the NSW based review team or the Strategen consultancy. This work although primarily undertaken off the Pilbara coast may provide new insights to modelling of relevance to this project and add confidence to the future final assessment by the EPA, noting potentially risks to habitat in the adjoining marine park. This science by WAMSI has resulted from investment of tens of millions of dollars and been described as exceptional.

2. The PER takes very little account of past experience or history of development of marinas and other coastal developments on habitat change or loss of abalone stocks outside the footprint of construction within the metropolitan region or off the south west of Western Australia. (The experience of Port Geographe near Busselton is not a shining example of the success of pre-assessments.) The lack of post development assessment and reporting is acknowledged as the possible main reason so there is a tendency not to learn from past experience. The association has already referred to the experience in other developments including Hillarys, Two Rocks, the initial Ocean Reef, Mindarie and various pipeline works such as the Ocean Reef outfall. Little account of these impacts can be found in the documentation except for a brief statement in the appendices to the diver's claims (see Appendix 4, No.2 BMT Oceanica, Roe's Abalone Environment Sensitivity p25).
3. The association members have provided the following historical perspectives concerning their experience from marina construction :
  - a. The construction of Two Rocks marina was the first recognised loss of abalone fishing grounds post construction of a marina. To the immediate North of Two Rocks marina the shoreline reef extended for approximately 600 to 700 metres. This area was fished by a number of industry members until the collapse of these abalone stocks post the marina construction.
  - b. The area under the current Ocean Reef harbour footprint and to the near North of the existing Ocean Reef harbour breakwater supported a commercial harvest of approximately 3 tonne per annum before construction. This area today, up to the break in the reef structure yields about 300kgs per annum since the marina was constructed.
  - c. During the environmental investigations for the Mindarie Quay project the above information was conveyed to the environmental consultants by industry members and noted in the report for the Smith Corporation. The expected pre-assessment outcome of this construction was projected as a loss of abalone habitat for approximately 200 metres north. Experience has shown the abalone habitat was altered with substantial reduction in abalone numbers from a commercial sense across the full extent of that reef system, approximately 1km long. A recent comment from a long term industry member was that they attempted to fish the area for about 3 years post construction but discontinued fishing due to a lack of abalone. This area has never returned to healthy abalone stock numbers.
  - d. The Ocean Reef Marina development now being planned is significantly larger than any of the previous constructions and the lessons of the past appear to be being simply ignored. The more anecdotal evidence gathered from fishermen, the more the association members are convinced that the primary devastation of adjacent abalone stocks (beyond the shadowing impact of the groyne structure after construction), is immediate and primarily caused by fine silts through a

number of biological mechanisms from the breakwater construction outside the footprint of construction.

4. This failure to adequately take into account evidence of past marina development history is also reflected in the calculation of losses of viable benthic inshore reef habitat in estimating impacts of the current Ocean Reef proposal in the scope of the Marmion Marine Park. It would appear accumulative losses from all coastal developments within the Marmion Marine Park have not been taken into account and perhaps it should. The current definition of benthic habitat is quite broad. Ideally calculation of impacts should be based on specific habitat types within the macro algae category. The association contends that if all past inshore reef accumulative losses are taken into account along with this proposal, losses would exceed 18% for this habitat type in the Marmion Marine Park( refer p. xi PER). A loss of abalone stocks and their replacement with other gastropods and chitons in terms of ecosystem function does not in the view of the association constitute the same values in the retention of a benthic reef community and should be regarded as a loss of habitat as a result of the Ocean Reef Development. Experience elsewhere in the fishery suggests loss of abalone and affected habitat will not automatically evolve to other algae/ wrack grazers occupying the same reef niche as abalone. Both of these issues should be matters for further guidance by the EPA.
5. The importance of the Burns Beach reef system for roei abalone in the metropolitan region must be fully taken into account. It is the most prolific roei abalone habitat and in the regional context has come to be perhaps the most significant reef system that supports a viable reef ecology inclusive of roei abalone currently existing in Western Australia. It is noted virtually all stocks north of the Moore River of roei abalone have been impacted and lost by the marine heat event between 2010-2012, to the point the fishery has been closed with little likelihood of roei abalone stock recovery. This area of loss extends along scattered reef platforms between Moore River and the northern limits of the species along the Zuytdorp Cliffs north of Kalbarri.
6. The association draws to the attention of the EPA the conclusions of Appendix 4, No.2 (*BMT Oceanica: Strategen Environmental Consultants Pty Ltd: Roe's Abalone Environmental Sensitivity, p31*). In essence there is such substantial uncertainty as to how reef ecology will respond to development and consequential environmental change pressure both short term and in the longer term, that predictive capability particularly on the effects of the proposed Ocean Reef Marina Development on abalone stocks at best is an educated guess ( the association's view of these findings). The real risks sit around a history of past developments not being assessed post development and a lack of capability to model within a reef, ocean and ecosystem processes let alone the absence of understanding in the key drivers of loss of abalone stocks through sedimentation, failing in recruitment, physical damage to larvae, smothering of chemical signature for recruitment, loss of productivity of juveniles and adults long term, etc. supported by data. To quote further from page 31,: "The Burns Beach Reef ecosystem is a complex interactive system within which it is hard to define the potential impacts from changes in inputs, since there are many feedback mechanisms that may compensate for one change or multiply another." The association is of the view the residual risks of the assessment undertaken within the PER on abalone stocks not being accurate remains significant with the only mitigation open to the abalone industry is requiring an adaptive management approach to both management of the environmental risks of the sediment plume during construction and in early financial compensation as a cost to development prior to construction with early agreement between Government and the industry on approach to be applied.

7. Beyond the shadowing effect of the groyne covered by the PER, the plume risks around phase I of the project, i.e. building of the new groynes, represents in view of the association the next greatest risk to the marine benthic reef environment and the Burns Beach abalone commercial and recreational and stocks north of the marina footprint. This view is held by the association given the outcomes reported within the PER and assuming the technology around the dredging curtain is successful in containing the sediment fines from internal excavation including excavation and dredging. The size and nature of sediment particles created will be influenced by the types of technologies used in the cutting and collection methodologies applied and need to be part of the consideration. Similarly the geology of the armour rock and infill material in groyne construction will have an important bearing on the extent of the visible plume and sediment and is anticipated to be a critical issue in the extraction and dumping of groyne infill. Mitigation of this risk must include, if practical, the prior washing down of armour rock and infill material to minimise as much as practical finer sediments entering the ocean when rock material for groyne infrastructure construction is dumped.
8. The infilling of the groynes with limestone on past experience adds another dimension to sediment plume with an expected loss of diver fishing visibility for commercial abalone fishing well beyond the 500 metre impact zone during the groyne construction, as the dredge curtain cannot be effectively deployed as per the inner waters of the enclosed harbour. The practical inability to fish will substantially reduce cash flow and incomes for the impacted commercial abalone divers. This impact is expected to occur over the period of construction and perhaps a shorter further period, as it will take time for sediments to sufficiently dissipate to allow fishing at the reef face for abalone. The continuous wave action especially at the reef face is likely to keep the accumulated finer sediment in suspension until ocean processes eventually disperses and dilutes these sediments.
9. The association is aware of the current practice in water supply management to maximise water extraction for aquifer replenishment for future Perth water consumption. This practice would have the effect of concentrating sewage residues and adding to the risk of human waste products (e.g. E.coli) impacting on nearshore water quality standards as the Ocean Reef Marina construction places it much closer to the Ocean Reef Sewage Pipeline outlet. This risk clearly falls upon the proponent and any mitigation strategy to address this issue should experience post construction of the marina demonstrate a water quality problem near shore or in the marina itself, needs to be factored into the business case for the proposed development. The association was unable to identify any assessment of this risk as part of this PER. These may be known to the EPA from past assessments of the Ocean Reef Sewage Outfall but it may not have factored in the changed geographical location of the proposed Ocean Reef Marina development or a substantially changed sewage content today or into the future. The factor of concern is the loss of ocean water quality due to human waste materials in the nearshore zone given the combined impact of increased concentration of waste material, changed proximity of the harbour development to the ocean outfall and any consequential seasonal changes in ocean circulation resulting from the proposed harbour development. The cost of mitigation post construction should it become an issue is likely to be substantial. The EPA should at least seek a preliminary view on this change in outfall risk.

## **Environmental Management Plans**

The plume risks to the commercial abalone industry are twofold.



Firstly that caused by the lack of visibility within the plume and the near shore reef areas and the resultant inability by divers to see and successfully harvest abalone. This is expected to be a key issue during Phase 1 and 2 of the construction period and will limit commercial harvesting capability and is expected to go well beyond the area of scope of impacts envisaged by the PER. In this outer zone, abalone stocks may well survive but not accessible until the residual effects of the plume created in construction fully dissipates. Monitoring this loss of visibility and ability to fish is seen as an essential requirement for the ongoing Environmental Management Plans as depending on the extent of this impact, it will have a direct impact on industry cash flow and viability over possibly a two year period.

Secondly that associated with the plume and concurrently caused by shifts in sediments, nutrient changes and loss in current speed leading to longer term losses in abalone stocks and habitat change and permanent losses attributed to reef removal substantially reflected in the PER. The financial loss to industry is permanent, significant to those affected.

In 2013/14 the commercial catch of roe's abalone taken from Burns Beach was 18.4 tonnes compared with a recreational take of 8.9 tonnes. This contrasts with the 10 years annual average position of 15.3 tonnes of commercial catch and 14.1 tonnes of recreational catch. Imposing the 500 metre impact on the industry diagram (p 169 of PER.), the loss to the commercial fishery would be 19% of the existing commercial abalone catch plus a further 13% lost due to the foot print excavation of the proposed marina. This represents on average an annual loss to the commercial sector fishery of 4.9 tonnes or using the same ratio of recreational catch, a total loss of 9.4 tonnes annually to both sectors. This compares favourably with the figure of 9.3 tonnes estimated in the PER which used essentially the same data supplied by the association with minor rounding differences.

In moving forward with this project assuming the direction this project proposal will ultimately take is that the EPA approval with conditions is forthcoming and with W.A. Government assistance, the business case succeeds, the association has proposed the following additional changes to the Environmental Management Plan.

1. Table 5, p 11 EMP- During construction phase, reef visibility survey to be undertaken quarterly during Phase 1 and Phase 2 across Department of Fisheries transect sites (7 sites). (To assess ongoing ability for the abalone fishery to operate).
2. Table 7,p 15 EMP-The abalone abundance surveys to be undertaken by the Department of Fisheries using proven methodologies, all current transect sites on the Burns Beach reef, include those measures proposed by the EMP and to also report on ongoing changes in abalone biomass as part of the KPI for Management Target 2. These transects to be assessed quarterly during construction and annually for five years post construction.
3. As part of Marine pest risk management, any marine pests identified inside the harbour, to form part of the data collected as component of the Department of Fisheries annual transect assessment on the ongoing status of abalone stocks.
4. The Department of Fisheries research staff be the accountable authority for undertaking this monitoring survey work. (It is noted by the association that the Department of Fisheries have the necessary experience, data history and expertise to undertake this role and provide objectively independent assessment of changes to the abalone stocks over time on an ongoing basis expressed on a tonnage harvest yield and biomass basis).

## **Future Offset Arrangements relevant to the Commercial Abalone Fishery**

It is acknowledged by the association that the technical and commercial risks and ultimately commercial success of the proposed Ocean Reef development project currently sits with the City of Joondalup. Those risks include technical design failures and should they impinge on the environment and require further mitigation as a result of any implementation issues, they could result in further changes to business certainty for the commercial abalone operators. Overall risks for the City are likely to alter as the business case further develops and as commercial and government engagement and investment alters as the project further proceeds.

In comparison the overall risks carried by the commercial abalone industry are relatively small but substantially significant to their ongoing individual operations. They, the licenced owners are already blighted by the uncertainties created by the development planning process and seek to minimise both their future business risk as a result of this development proposal and on their investments.

The association members are not confident that the risks portrayed by the PER on abalone stocks and the fishery sufficiently address all impacts. Past history of previous developments and a failure to adequately understand those impacts of a similar developments have clearly influenced their belief values.

In approaching offset arrangements, the commercial reality is that their access rights to the resource due to the limited access fisheries management arrangements have a commercial value and permanent loss of a resource and therefore their annual harvest entitlement as it reduces to maintain overall resource sustainability affects future catch flow and asset values tied to fishing entitlements. Directly the greater the impact of this development has on abalone stocks and an ability to fish, the more significant the financial impact becomes. Uncertainty tied to long timelines resulting from planning and planning decisions has already impacted on exit strategies for some licence holders.

For this set of reasons the association are seeking support of the proponent and the EPA in their decision making, to take account of the development impacts on the commercial abalone industry. This issue could be dealt through offsets, gaining the support of Government and because of the elections, both major political parties, in supporting a commitment for a commercial settlement with the metropolitan commercial abalone sector as part of a decision to progress the Ocean Reef Development Project currently sponsored by the City of Joondalup.

There are two options proposed by the association as in principle approaches for commercial settlement as compensation for loss of abalone fishing income due to the Ocean Reef Marina development.

### **Option 1**

The proponent or some other party (government) acquire on the commercial market, access entitlements equivalent to the entire commercial abalone catch from Burns Beach prior to construction (long term 15.3 tonnes).

It would then be open to the purchaser to lease the quota (access entitlements) to commercial divers on an annual basis at a rate consistent and adjusted for measured impacts on the Burns Beach resource and overall reduction in the Total Allowable Commercial Catch harvested from the metropolitan abalone resource.

This would also provide the opportunity for future adjustments to the recreational abalone sector including a future option of having Burns Beach as an exclusive recreational fishery.

Clearly this option removes current and future risks from the commercial abalone sector as a result of the development and increases certainty for the proponent. With Government as the proponent, the provisions of the Fisheries Adjustment Schemes Act could be used to guide the development of a suitable scheme.

## **Option 2**

The proponent to work with the association to reach a commercial settlement under the Fisheries Adjustment Schemes Act 1987 to facilitate compensation for loss of commercial access as a result of the Ocean Reef Development.

The initial compensatory adjustment to be based on expected losses as specified in the PER, i.e. loss of abalone habitat as a result of inner harbour construction and projected loss of stock within 500 metres of 4.9 tonnes of abalone harvested annually . Work on the scheme to commence as soon as practical but before construction.

A second compensatory adjustment based on monitoring of the plume during construction and loss of abalone biomass and therefore annual harvest levels post construction estimated from the loss of biomass attributed beyond the 500 metre zone.

These two in-principle directions (options) would need to involve the Department of Fisheries and potentially the support of the Minister for Fisheries as a representative of Government but more particularly in his role to initiate the evaluation of an adjustment scheme under legislation and other resource management decisions under fisheries legislation. The proponent, the abalone industry and Department of Fisheries ideally would need to reach a negotiated position on the way forward at the earliest opportunity.

The expected cost of compensation based on option 1 for the commercial abalone fishery is expected to be in the range of \$3.75-\$4.0m. Option 2 would be lower but at a minimum is likely to be in the range of \$1.25 to \$1.5m assuming the PER estimate of abalone losses prove correct. It will be higher if losses beyond 500metres of the development footprint are significant.

It is noted both these options do not take into account losses attributed to the recreational harvest of abalone from the marina development and consequential impacts of redirection in fishing effort by this sector into other areas of the abalone fishery. The latter likely resulting in the need for further consequential management action by the Department of Fisheries to ensure resource sustainability. Option 1 above provides the proponent the greatest flexibility and opportunity to manage the consequences of the Ocean Reef Marina development for both abalone recreational and commercial fisheries sectors.

Noting this background of potential impacts of the proposed marina development on the commercial abalone fishery, the association is seeking support from the EPA and the Proponent for the following additional mitigation strategies and offsets.

1. Whilst an adaptive management approach during construction is mentioned in section 8.2.6 of the PER to minimise the potential for impacts to marine fauna, measures to reduce the level of fines in the infill material especially during construction of the groynes is considered essential. Whilst not experienced in construction, a common sense mitigation approach could involve pre-washing or air blasting of rock material before the material is dumped in the sea during groyne construction. How this is to be achieved in the most cost effective way on site to prevent the silt wash tailings entering the ocean is a matter for engineering design. The more the silt and finer sediments are removed from the rock material before groyne construction, the lower the risks for marine fauna from construction.
2. The construction of the proposed Ocean Reef marina will concentrate existing recreational fishing effort on the remaining residual abalone reef and is expected to reduce the harvest take by the sector on the Burns Beach site by about a third (see p. 166 of the PER ). It is not a small impact as portrayed on p. 164 and recreational fishing pressure will over time flow over other areas of the metropolitan fishery. Experience post construction on the final impact of the development on abalone stocks will clarify the extent of the issue especially between 500-1500 metres from the development. It will take resources by the Department of Fisheries to manage the outcome to ensure stock sustainability. Option 1, if managed by the Department of Fisheries provides the greatest opportunity to manage the development consequences on the recreational sector through changes in resource management and future use of the residual Burns Beach abalone resource post development.
3. Tables 10-6 and 10-7 in the PER provide insufficient comfort to the Fishing Industry generally and to the abalone associations in particular. The wording in table 10-6 in relation to "Governance Arrangements" and "Financial Arrangements" do not sufficiently clarify an intent to compensate or commercially provide a financial offset, for the permanent loss of quota entitlement held by the commercial abalone fishing industry as a consequence of the Ocean Reef Marina Development (on the basis the project proceeds). The association argues it should. There is the strong likelihood that the Joondalup City Council in the longer term will no longer be the proponent. Despite three meetings with the Department of Fisheries and Joondalup City Council officials, whilst officials are sympathetic to the case, to date no specific action has been taken to provide a formal commitment. Noting LandCorp is now likely to become the proponent for the project on behalf of the Western Australian Government, to minimise ongoing injurious affection consequences of this planning process, a formal commitment to compensation as part of an offset is sought from the proponent to be included in any formal EPA advice. This would increase certainty for the commercial abalone quota holders and allow ongoing quota transactions to occur. If compensation cannot be represented as an offset, a concurrent commitment to compensation being provided by the proponent at the time of announcement by the Minister for Environment of the environmental approval for the project (assuming a positive EPA assessment) is sought.
4. The association proposes as a further offset to the loss of abalone stocks in the form of a cash contribution (approximately \$ 75,000) by the proponent to the Department of Fisheries. This to be used as a co-contribution to seek funding from the Fisheries Research and Development Corporation to fund a specific science led research project to obtain data at a reef level on the main drivers of abalone mortality during construction and post construction over a four year period. This proposed offset will help inform the EPA on

12 Jan. 2017

future risks and drivers of abalone mortality for assessment of other future coastal developments in south west Western Australia.