DSEWPaC/CERF Marine Biodiversity Hub Workshop Notes: Application of research on market-based instruments to achieve marine conservation outcomes.

Date and Location: 4th November, Lovett Tower, Woden
Attendees: Paul Garrett, Nathan Hannah, Nigel Routh, Steve Jackson, Nicole Middleton, Chris Murphy, Dave Johnson, Gareth Evans, Stefan Caddy-Retallic, Claudia Cooney (DSEWPaC), Nic Bax, Chris Wilcox, James Innes, Michaela Guest (CERF). Invited experts: Tony Smith (CSIRO), Keith Sainsbury (AFMA, Marine Stewardship Council), Bill Langford (RMIT), Sarah Jennings (UTas).

Outcomes
- The CERF Hub to work with DSEWPaC staff to further define issues where this workshop agreed the application of MBIs may provide improved conservation outcomes. These areas relate to:
    - protected species conservation (Species Conservation Section and Sustainable Fisheries Section, MD)
    - fisheries and protected species interactions (Sustainable Fisheries Section)
    - future scenario development and decision-making (Environment and Assessment Branch, AWD), and
    - management of marine protected areas through on and off-reserve approaches(MPA Futures Section).
- If successful in securing funding through the NERP, the Hub will establish a number of small working groups to refine research projects. If the Hub is unsuccessful in the NERP, the Hub Director would seek to have further discussions with the Senior Executive of DSEWPaC to ensure the continued engagement between scientists and managers to achieve improved conservation outcomes.
- Agenda, notes and where possible, presentations from this workshop will be made available through the CERF Marine Biodiversity Hub website: www.marinehub.org

Presentations and Discussion
Session 1: Marine Biodiversity Hub Overview. Nic Bax
- Research completed by the CERF Marine Biodiversity Hub to date includes the prediction of biodiversity. Predictions of biodiversity are probabilistic and include uncertainty of prediction.
- These predictions were used in marine bioregional planning.
- Probabilistic predictions provide the potential for a greater variety of management options to achieve declared goals, including integrated on- and off-reserve management.
- Market-based instruments have been examined as one of the options for managing marine biodiversity and advice was provided at DSEWPaC request on their potential to predict effort dislocation and provide alternatives to structural adjustment for marine reserves.
- There are future opportunities to explore the application of MBIs in marine conservation through an integrated approach to marine biodiversity

management, and improved management of listed marine species. These are two programs within the NERP bid.

Session 2: What is an incentive based measure? Chris Wilcox

- Globally, current approaches to managing biodiversity have not been successful in managing biodiversity decline.
- Market-based instruments offer an alternative to direct regulation of environmental impacts.
- MBIs incorporate the damage into the cost of production. i.e. the proponent pays the social/environmental cost of the activity.
- MBIs create an incentive for business to innovate and reduce impacts, can improve efficiency and cost effectiveness, and shift the burden of proof to private parties, focus on outcomes consistent with the EPBC Act.
- Different MBIs have different information requirements.

Issues/Questions
- The application of MBIs requires meaningful, quantifiable targets for the management of biodiversity.
- The application of MBIs need to consider the complete costs born by the regulator and the administrator including those additional costs that may be incurred during the transitional period.

Session 3: DSEWPaC context, objectives and challenges for the application of MBIs. Paul Garrett

- High-level drivers: EPBC Act, MNES, DSEWPaC Strategic Plan
- Relevant programs: Environmental assessment and approvals, MBP, Species conservation, Strategic assessment of fisheries, MPA management;
- MBIs considered part of the solution to halt the decline of biodiversity ;
- Challenge with how to apply MBIs and the cost of administering them.
- Challenge with gaining acceptability for the use of MBIs with DSEWPaC stakeholders-concern of legitimacy and effectiveness.

Issues/Questions
- Challenge with understanding the applicability of MBIs for small, data poor fisheries such as state managed fisheries.
- DSEWPaC need to establish clear objectives for successful use of MBIs.

Session 4: Managing marine fisheries: opportunities for the use of MBIs to achieve environmental and fisheries outcomes. Prof Keith Sainsbury

- MBIs can be powerful tools that must be used judiciously. MBIs are not the sliver bullet but one of a suite of tools needed to achieve desired outcomes.
- Challenges associated with the application of MBIs include – technical difficulties in predicting/measuring effect of MBI; interactions between multiple scales and

sectors subject to different MBIs; potential costs of transition, transaction and compliance of MBIs; changed distribution of costs and benefits; potential for politicisation and monopolies.

- Most methods need a combination of legislative, policy, and regulation
- Need to improve coherence of MBIs and align them with ESD goals of relevant sectors and develop autonomous rationalisation pathways across sectors, e.g. e.g. cross sectoral tradability of access/impact allocations.
- There are a wide range of MBIs and options for financing MBIs that have been used successfully and that may be transferred to other sectors/scenarios.

Issues/Questions
- MBIs may have role as temporary tool for changing a fishery's environmental impact.
- Need to bring together scientists, managers, economists and business.

Session 5: If offsets don't deliver no net loss, what parts of the policy are failing? Bill Langford

- It is often difficult to evaluate the effectiveness of policy/management decisions due to the sets of actions with sequential dependence, uncertainty in all steps, and the idiosyncrasies of local context.
- In the case of offsets policy, there is a sequential process (screen, assess, choose, restore, manage, protect) by which the policy is developed that can be modelled using uncertainty estimates to identify the components of the process likely to contribute to policy failure if not implemented properly.
- There are clear policy implications including resource allocation. E.g. in the example provided, protection was what really mattered, screening and assessment not worth refining, and restoration more important than screening and assessment.
- The applicability of offsets needs to be examined for each specific situation.
- Modelling likely policy outcomes can be helpful in managing and understanding implications of uncertainty in a management context.

Issues/Questions
- DSEWPaC expressed interest in being able to model uncertainty associated with policy decisions in addition to the uncertainty associated with species and ecological interactions from a fisheries perspective. The Hub indicated that there had been much work in this area of management strategy evaluation and there is capacity in the Hub under the integrated management project of the NERP proposal to further develop this.

Session 6: Worked examples and discussion

Seabird-long-line example
- Chris Wilcox outlined the example of using MBIs to manage by-catch mortality of protected seabirds in long-line fisheries and noted the reluctance of DSEWPaC to

adopt an approach that essentially placed a quota on seabird mortality within the fishery.

- DSEWPaC indicated the legal constraints provided by the relevant sections of the EPBC Act to approve injuring or killing of a protected species.
- DSEWPaC indicate that language around the use of MBIs to achieve conservation outcomes must be consistent with that used in the EPBC Act if MBIs are to get Departmental and stakeholder support for their use.
- DSEWPaC indicate that in the context of the seabird mortality associated with long-lining, this may be viewed as an interim management measure that sets a limit on incidental take of seabirds with a goal of zero incidental take of seabirds over time.
- DSEWPaC indicate that there is a role for the Hub in helping to demonstrate/provide evidence of the benefits of MBIs to achieve conservation outcomes but note the importance of ensuring stakeholder support including fisheries and eNGOs.
- DSEWPaC also note the challenge of developing good management triggers without good population data – CERF Hub note that this is part of integrated management project under the NERP and there are a range of approaches for dealing with uncertainty useful to the application of MBIs to achieve conservation outcomes.
- DSEWPaC expressed interest in further discussion with the Hub to understand what aspects of recovery planning are failing and to identify specific opportunities where the use of MBIs may help to reach better conservation outcomes for protected species. Species mentioned were seabirds, seals, turtles.

Marine turtles and oil & gas development example
- Question characterised by impacts of unknown size on poorly estimated population
- Deal with uncertainty by extending time period over which management applies and using performance bonds as alternative to offsets.

Issues and Questions
- Can be difficult to prove that company holding is bond is responsible for general population decline over extended period.
- Performance bonds and offsets typically come in when sunk costs are already high and management options have been reduced.
- Need prior estimates of environmental costs of alternative development options at an early stage in planning when alternatives are possible (eg. Gorgon development could have been on mainland).
- Need objectives and targets.

Use of MBIs in marine protected areas
- DSEWPaC outlined current work program to move from management of a small number of iconic reserves to a large number of reserves that constitute a network. Identify challenge of managing the network – cannot simply scale up management approaches. Budgetary constraints. Note: The EPBC Act excludes all

activities in a reserve and the management plan provides the approval for activities and the conditions under which they can occur.

- DSEWPaC note for many reserves we know little about the environment that we are protecting. How do you know which MBI to choose, and how do you decide if it is working?
- DSEWPaC interested to understand how you can structure MBIs to minimise impacts of activities in reserves that is not inconsistent with the IUCN zoning of reserves and legal requirements of management plans under the EPBC Act.
- DSEWPaC note the closer you are to an asset/conservation value, the higher the level of protection required. Can MBIs be stratified to reflect the probability of interaction with an asset such as a seal colony? How would these compare to alternative zoning?

Issues/questions
- DSEWPaC and Hub to meet to further discuss potential scenarios in reserves to which MBIs may be applied and understand the legal context that may facilitate or constrain the use of MBIs in MPAs.
- DSEWPaC - Can MBIs reduce cost burden of managing MPAs?
- Retaining some fishing in MPAs provides monitoring capacity.
- On- and off-reserve a continuum and advantages to considering together.

General comments/questions
- DSEWPaC indicate there is a need for the Department to determine what we want the Department to look like often longer time horizons (e.g. 30 years). It would then be possible to work back from that time horizon and consider what activities would facilitate/hinder reaching that goal. DSEWPaC can then consider how you use MBIs to reach the long-term vision for the environment.
- The Hub indicates interest to further discuss development of a decision-making tool that may help envisage different future scenarios and potential management options.
- DSEWPaC and the Hub express interest in understanding the role of MBIs in combination with co-management arrangements – incentivising proponents to manage impacts themselves and understanding different co=management structures. Sarah Jennings UTas has done work on these issues with understanding fisher behaviour ("experimental economics").
- Need to take suite of concrete MBI options (eg. for MPA management) to legal folk to test under Section 15 of the Act.
- DSEWPaC identify budgetary constraints on implementing TAPs and managing the Commonwealth marine reserve estate - keen to know how MBIs can help. Welcome the identification of 3 TAP species on which the Hub can further develop examples of the costs/benefits of MBIs to achieving cost-effective conservation outcomes.