CoastSWaP Coastal Management Case Studies (7/10)

Regional Coastal NRM Management:

A Coastal Conversation with Dr Michael Payne (NACC)

By Blair Darvill, January 2017

Background

Dr Michael Payne is the Coast and Marine Program Coordinator for the Northern Agricultural Catchments Council (NACC), CoastSWaP Project Officer Blair Darvill caught up with Mic during the South Coast Forum, hosted by the South coast NRM in November 2016. We asked Mic a few questions pertaining to key topics related to coastal management to see how the northern folk are addressing issues that are common along the coast. These topics included revegetation, stabilisation, off road vehicles, invasive weeds, coastal infrastructure and community engagement. Mic and his cohorts are definitely raising the bar in a few areas regarding how coastal management and planning is being conducted, for example they are the first NRM organisation in the state to develop a digital coastcare application or 'app'- 'Photomon' is a simple photo monitoring tool that is now being used by land managers and community groups across the country.

Figure 1: NACC's Mic Payne (left) and Blair Darvill during their 'Coastal Conversation'. (Photo: Blair Darvill)

Mic has a background in Marine Biology and Aquaculture (it only took him ten years at Curtin to get a doctorate) and his scientific approaches are evident in the strategic way he plans and manages his projects. However what is also evident inhis approach is the importance of educating and including the community to be a part of caring for and protecting the coastal zone. With funds from a Coastwest grant, the NACC coastal team have setup a Geraldton Coastcare group, effectively combining the strengths and skills of four local coastcare groups and developing a more integrated approach to coastal management in the area. NACC have also been supporting regional coastcare forums that are helping to boost community interest and recruit volunteers.

By maintaining links with stakeholders such as Mic and sharing information across our coastal regions, all land managers and ultimately our coastal environments can benefit by adopting successful relevant methods and tools already tried and tested, learn lessons from others or pool resources together to address management issues that

affect the entire coastline. The main points of the interview with Mic are outlined below. You can also view the interview (edited into clips linked to the topics below) on YouTube.

Revegetation (video clip of interview)

The NACC region has experienced low winter rainfall over recent years, to improve seedling survival rates for coastal revegetation projects NACC have tried to engage local volunteer fire brigades to conduct watering their seedlings. This has either been carried out voluntary or with a small donation.

Historically plants have been sourced from larger southern nurseries using seedlings that were 'cheap and available'. Focus now is more towards sourcing local provenance seed (this includes supporting community groups to collect seed) and propagating locally in similar climatic conditions. The result is smaller areas being revegetated but with higher plant survival rates.

Propagation and revegetation survival rates from spinifex planting have been high, including from direct seeding. Seed is collected from female plants with a male plant close by in a southerly location (prevailing wind from the south, therefore pollination rate potentially higher) as it improves the likelihood that seed is viable. More studies need to be conducted, however CoastSWaP vice chair Mark Kennedy has observed that Spinifex *longifolia* seed seems to be more viable further north in warmer climates (Dongara) than in cooler southern regions (Bunbury). See CoastSwaP revegetation case study for more information.

Strategic revegetation plans are a recent innovation being developed for specific sites, in the past revegetation has been carried out ad-hoc or only project based plans developed. Producing detailed planning documents will improve revegetation success and help develop better methods. This will also assist when new or different stakeholders begin to work in the area and need to get up to speed on what has been done and how. This could work well with a coastal condition assessment method developed in the Margaret River region.

NACC are adapting their 'Coastal Plant Pocket Guide' into another digital 'app' which will include information on seed collection, propagation, traditional knowledge. Information will also cover coastal invasive weed species and methods of control.

Coastal Stabilisation (video clip of interview)

Looking more at sand trap fencing, with some success in Geraldton. However there was a need to replace plastic bunting that was being used by local land manager with natural products such as jute matting or vertical brush as the fencing ultimately gets covered and breaks down if successfully installed. This is now happening.

Sourcing suitable brush is a problem and often there is not enough available to cover the area required. If this is the case brush is laid in rows perpendicular to prevailing winds to capture mobile sand. Some shires more supportive and will supply groups with brush whenever it is requested.

Figure 2: NACC Volunteers planting along sand trap fencing at Grey's Beach. (Photo: NACC)

Figure 3: Lancelin ORVA signage. (Photo: Lancelin Sand Dunes)

Off Road Vehicle Management

(video clip of interview)

NACC received Coastwest funding to develop a feasibility study for establishment of 'sacrificial' dedicated Off Road Vehicle Area (ORVA) in northern section of NACC region. Southern section has two ORVA's (Lancelin and Ledge Point) which serve to reduce impacts and pressure from ORV's on other coastal sites. Unfortunately no site was selected as feasible due to a wide range of limiting factors which included the perception that potential liability for land manager was very high, therefore they were not willing to take on or manage risk. However after conducting the feasibility study NACC still sees ORVA's as part of the mix in managing vehicles in the coastal zone and Mic believes land managers need to be reassured that liability risk are negligible if reasonable duty-of-care is considered when developing new ORVAs. There is also potential for private landowners to develop these areas from a commercial perspective. View the ORVA feasibility study here.

A dedicated part time coastal ranger was employed in the past and proved to be successful in reducing environmental impacts and inappropriate ORV user behaviour, however funding was short term and did not continue. There is potential for aboriginal rangers to be employed in the NACC region in the near future and part of their role could involve promoting suitable ORV user behaviour. Due to the nature and attitude of some ORV users, a volunteer ranger program may not be suitable (volunteers may feel vulnerable and at times threatened) for the NACC region, however with a strongly supported and well trained volunteer team it may be possible a volunteer group could be developed similar to the Preston Beach Volunteer Rangers.

Steel cable fencing has been used effectively in Guilderton to prevent and formalise ORV access. This type of fencing is very expensive, costing $10,000 per km in materials and another $10,000 per km to install. Despite this, it has its uses in isolated problem areas. Mic Payne attended the 2016 Coast to Coast conference and attended a presentation by a South Australian land manager who was using steel cable fencing successfully also. The presenter had sourced old ferry cables that must be renewed annually, and cable was attached to wooden bollards with cheap sacrificial clamps. Damaged clamps are easily replaced a few times until the fence is no longer vandalised.

Mic believes (and most stakeholders agree) that the ultimate solution lies with changes to policy and legislation at the state level, and there is a need to lobby decision makers for better management controls.

Invasive weeds (video clip of interview)

A large proportion of the NACC Coast and Marine Program's budget goes towards invasive weed control. Two of the priority coastal weeds are Pyp Grass and Boxthorn. Specific Pyp Grass Management plans have been developed for Guilderton, Cervantes and Jurien Bay. The goal is eradication from the foredunes and after four rounds this is close to being achieved at Cervantes with little biomass remaining. The hand-wiping method will be used for further follow up weed control which is more targeted and does not impact on the native spinifex species. NACC presented and shared information on their successful Pyp grass control trials and methods a few years ago. Some stakeholders in the Margaret River were not as successful, however other stakeholders in South Australia have had good results with the NACC methods. For more information see http://www.nacc.com.au/project/pyp-grass-control/

Innovation in Monitoring (video clip of interview)

Figure 4: Photomon App Logo. (Image: NACC)

Photomon is a combined photo-monitoring smartphone app and database to effectively document environmental changes over time. Since its initial development in 2013, NACC have secured further funds to allow NRM groups from outside their organisation to use the app and database combination on a cost-recovery basis. The Photomon service is now being used by the City of Albany, Moore Catchment Council and local governments. See here for more information on how it works https://youtu.be/hksXykfcM9E and http://www.nacc.com.au/photomon/ .

One of the limiting factors of the process is that if the coastal area being monitored is continually eroding, the photo point itself may ultimately end up in the ocean making it impossible to take further photos from that point. Therefore when trying to record changes of this type over a long period of time, solid photo-points such as rock should be used. Aerial photo points are more appropriate for broad sandy beaches. The photomon app is also being used successfully to monitor revegetation and weed control sites.

Mic Payne sees the use of Unmanned Aerial Vehicles (UAV's) or drones for coastal and environmental monitoring becoming more widespread as costs are reduced and technology becomes more user friendly. With drones now able to be geo-referenced (located and guided using latitude and longitude) there is potential for Photomon sites to become aerial based. See Coast Adapt coastal monitoring with drones case study.

Coastal Infrastructure and Coastal Hazard Risk Management (video clip)

The NACC coastal team is strongly advocating the development of Coastal Hazard and Risk Management Adaptation Plans (CHRMAP's) for coastal areas. These plans assist to identify areas that are more suitable and stable for coastal infrastructure (such as carparks, stairways and footpaths) to be located, they can also help to identify the type of structures most appropriate depending whether they need to be designed and constructed for short term or long term use.

Coastcare and Community Engagement (video clip of interview)

The southern coastal areas within the NACC region, particularly from Guilderton to Green Head have active coastcare groups. They began holding forums which brought together the coastcare groups and provided opportunities to share information on coastal management actions and experiences. NACC are supporting this initiative by assisting these regional forums in whatever form the Coastcare groups require.

NACC have also recently established a Geraldton wide Coastcare group with 40 people attending the inaugural meeting and presentation evening. Mic sees an important aspect for future success is recruiting young members and volunteers by 'thinking outside the box' and incorporating technology such as apps and UAV's in their projects. This requires employing younger staff within this demographic, and a recent project officer is planning an 'appreciate your beach' Halloween event that is getting a large number of enquiries.

Figure 5: Attendees at the 2016 Regional Coastcare Forum (Photo: NACC)

Mic Payne also understands the current administrative and liability burdens that Coastcare groups take on these days can be too much. Liability, OH&S, insurances and grant or project reporting can be difficult and onerous tasks for volunteers that simply want to help look after their local beach which ultimately lead to less volunteers willing to take on these champion roles. NACC understands the role they and local land managers need to play to assist and support groups with these tasks. While they currently assist groups where they can with on-ground planning, implementation and risk management, Mic accepts that there may be a greater role to play in the future.

For More Information

Michael Payne - Michael.Payne@nacc.com.au
NACC Coast and Marine Program - http://www.nacc.com.au/coastal-marine/
CoastSWaP Case studies regarding these topics - http://coastswap.org.au/case-studies/

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