



Summer Estuary Workshop Series

1. Murchison River Estuary

Workshop held on 15th November 2012 at the Allen Centre, Kalbarri.

Attendees: Dr Mic Payne, Tegan Clarke (NACC), Dr Malcolm Robb, Zoe Goss, Michael Johnson (Dept of Water), William Mallard Jnr (Aboriginal representative), Debbie Carson (Shire of Northampton), Patricia Gliddon (SoN councilor), Tony McCann (Dept of Transport), Allan Wood, Ellien Wood, Pascale Caladeen (community reps).

Apologies: Grant Ward

Workshop goals

- Raise community awareness of the management issues associated with the Murchison River Estuary (MRE);
- Make a record of estuary values important to the community;
- Identify threats to the estuary and possible solutions to mitigate these issues.

Summary of presentations

The Murchison River Estuary - Dr Mic Payne (NACC) and Dr Malcom Robb (DoW)

- Estuaries represent transition zones between rivers and the sea; they are very dynamic and biologically productive with complex food webs, but are generally not very diverse;
- The MRE is classified as a wave-dominated estuary which puts it at risk of significant sedimentation;
- The MRE is unusual in the Northern Agricultural Region (NAR) as it is permanently open to the sea, hence nutrients do not accumulate, however, sedimentation does occur;
- Deposition of ocean-derived coarse sediment occurs at the estuary mouth, while fine land-derived sediments are deposited further upstream;
- The MRE supports significant fish populations, including recreationally important species such as black bream, tailor, mullet and mullet;
- Flow in the MRE is maintained by significant groundwater inflow;
- Up to 2005, the Dept of Water regularly monitored water quality in the MRE;
- Monitoring showed water quality was consistently high and well within the Australian New Zealand Environment Conservation Council (ANZECC) guidelines;
- Sediment testing has been conducted in response to concerns about contamination with lead, no significant lead levels were detected but some copper was found in sediments under the marina, probably caused by the use of copper-based anti-foulants on boats;
- The Dept of Fisheries collected fish samples for lead testing but the results of this are unknown;
- The dinoflagellate *Karlodinium micrum* was identified once in the MRE in 2004, this alga has been associated with toxic algal blooms elsewhere in WA but is clearly not common in the MRE.

Aboriginal perspective - William Mallard Jnr (Nanda representative)

- William presented the Nanda creation story for the MRE;





- The Mallard family has been involved in on-going efforts to acquire an area of unallocated crown land on the flood plain north of Kalbarri.

Dredging activities - Tony McCann (DoT)

- The Dept of Transport is responsible for dredging operations in the MRE and has nautical jurisdiction of a gazette area which covers much of the lower MRE from the mouth upstream to the Big River Ranch access road;
- Currently only Chinamans Beach has been gazette for swimming only, excluding boats;
- Kalbarri Marine Advisory Group manages dredging and infrastructure projects in the MRE;
- Annual dredging occurs late in the year at an approx cost of \$500,000 pa;
- Decreases in the commercial fishing fleet make future dredging operations less certain, although there will be a continuing need for dredging to enable recreational boats to access the ocean.

Community values

- Recreational fishing;
- Support for the tourism industry;
- Harbour for commercial fishing;
- High aesthetic values of a pristine environment;
- Promotes a strong sense of identity;
- Swimming;
- Boating/ sailing/windsurfing;
- Birdwatching.

Community concerns

Community feedback was recorded via survey forms distributed to workshop participants. Feedback Report is included as Appendix 1 of this report. In addition, the following points were discussed during the workshop.

1. Dredging and Sedimentation

- Affects the fishing and tourism industries;
- Mitigation requires an integrated catchment management approach, therefore very expensive time consuming;
- Need for dredging may increase with an increase in significant summer rainfall events as predicted by current climate change models;
- A local charter boat operator is currently seeking to commence dredging the MRE upstream of the marina to allow their river cruises to operate upstream.

2. Management of storm-water runoff

- Point source storm-water drains at the foreshore car park, Chinamans beach and boat ramp areas;





- Infrequent, extreme rainfall events are causing erosion, which is unsightly a possible public safety issue;
- SoN has commissioned report tabled in its November council meeting that addresses the issue.

3. Invasive Weeds

- Saffron thistle (*Carthamus lanatus*) and Pepper tree (*Schinus areira*) were identified as significant weeds, with some attempts to remove the latter already occurring as part of the River Road Project;
- Spiny rush (*Juncus acutus*) is not yet established in the MRE but infestations currently exist near the Hutt River and have to potential to spread northwards;
- Brochures on these common weeds as well as articles in *Towntalk* may assist management.

4. Off road vehicles

a) River Road Project completed a few years ago;

- Large area fenced off with insubstantial fences;
- Many fences were quickly destroyed by ORV users and little follow up works to repair them;
- Alternative approach would be to 'start small' and only block off priority areas (ie those in good health), construct substantial fences and provide for follow up maintenance;
- Need for information signage on access roads and education leaflets at the Visitors Centre and to PO boxes.

b) Foreshore;

- Need to block vehicles from driving along the foreshore
- Dangerous to public and causing erosion
- Increased policing of the foreshore required as there is already signage

5. Speeding vessels on the river

- Water ski's, jet skis and boats speeding in the estuary, locals and visitors;
- Department of Transport are not based in Kalbarri so there is a lack of policing;
- Causing bank erosion on both sides of the river;
- Disturbs wildlife;
- Need for increase in policing;
- Further signage at boat ramps may be beneficial.

6. Pedestrian activity on banks of foreshore

- People do not stay on designated paths along foreshore;
- Trampling causes degradation of vegetation and erosion;
- Need for interpretive signage and fencing;
- Community Foreshore Development Plan currently under development and could address this issue.





7. Recreational fishing

- Concerns that many fishers exceed bag and size limits;
- Lack of monitoring as no permanent Dept of Fisheries staff in Kalbarri, although DoF staff have increased visits recently;
- Blue Swimmer crab stocks apparently declined since the floods in 2006 but still good populations of Mud crabs.

This workshop supported by;



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Appendix 1 : Murchison Estuary Feedback Report



Figure 1: Participants listening to Tony McCann at the Murchison River Estuary workshop, 15th November, 2012, Kalbarri, (photograph: NACC)

Geraldton, January 2013

Author: Rolan Deutekom, Social Science Research Officer at NACC





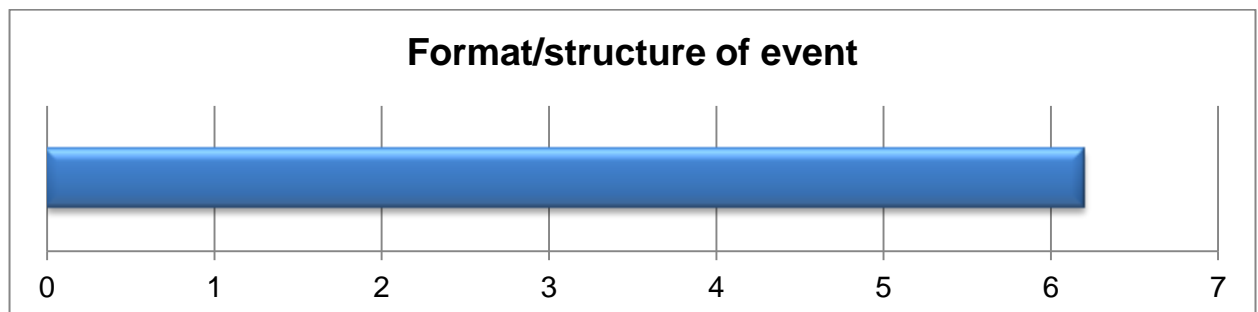
Introduction

NACC is convening a series of workshops highlighting management issues facing estuaries of the Northern Agricultural Region (NAR). The first of this series, focusing on the Murchison Estuary, was held in Kalbarri on the 15th of November 2012. A total of nine participants attended the workshop; three community members, one shire councillor and five local or state government agency staff.

Funding for these workshops was provided by Caring for Our Country and the Northern Agricultural Catchments Council (NACC). The workshop aimed to engage the coastal community in raising awareness of the role of estuaries in our coastal environment and issues associated with estuary management. Community feedback was recorded via feedback forms distributed at the end of the workshop.

Six respondents filled in a survey, but not all respondents filled in all questions.

Question 1: How do you rate the format/structure of this event?



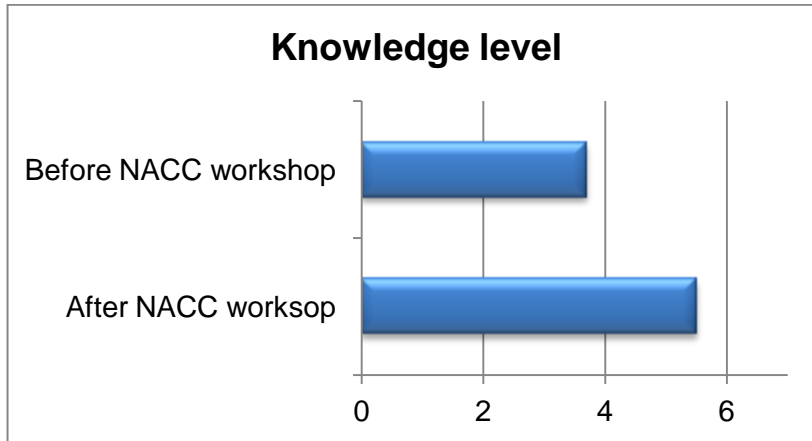
Six respondents answered this question. Most respondents rated the format/structure of the workshop as very good. One respondent provided the following comment:

- Information in content highlighting areas not previously considered.





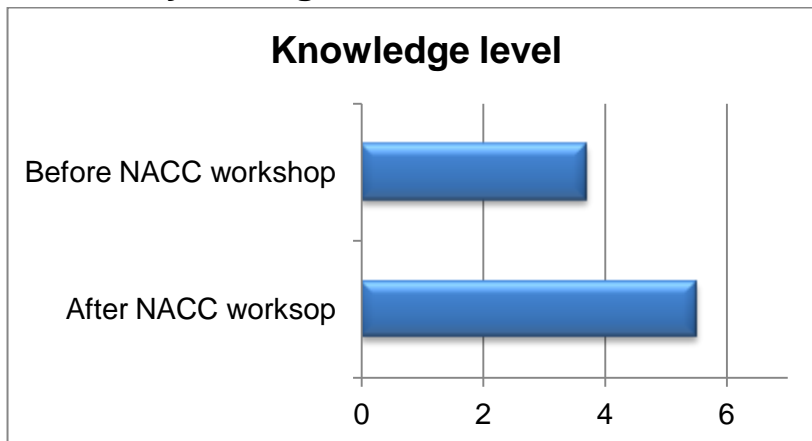
Question 2: Please indicate your knowledge level on the environmental value of estuaries:



Six respondents answered this question. They indicated a $(5.5 - 3.7) / 3.7 * 100\% \approx 49\%$ increase in knowledge. One respondents provided the following comment:

- Very interesting and informative

Question 3: Please indicate your knowledge level on issues relating to estuary management:



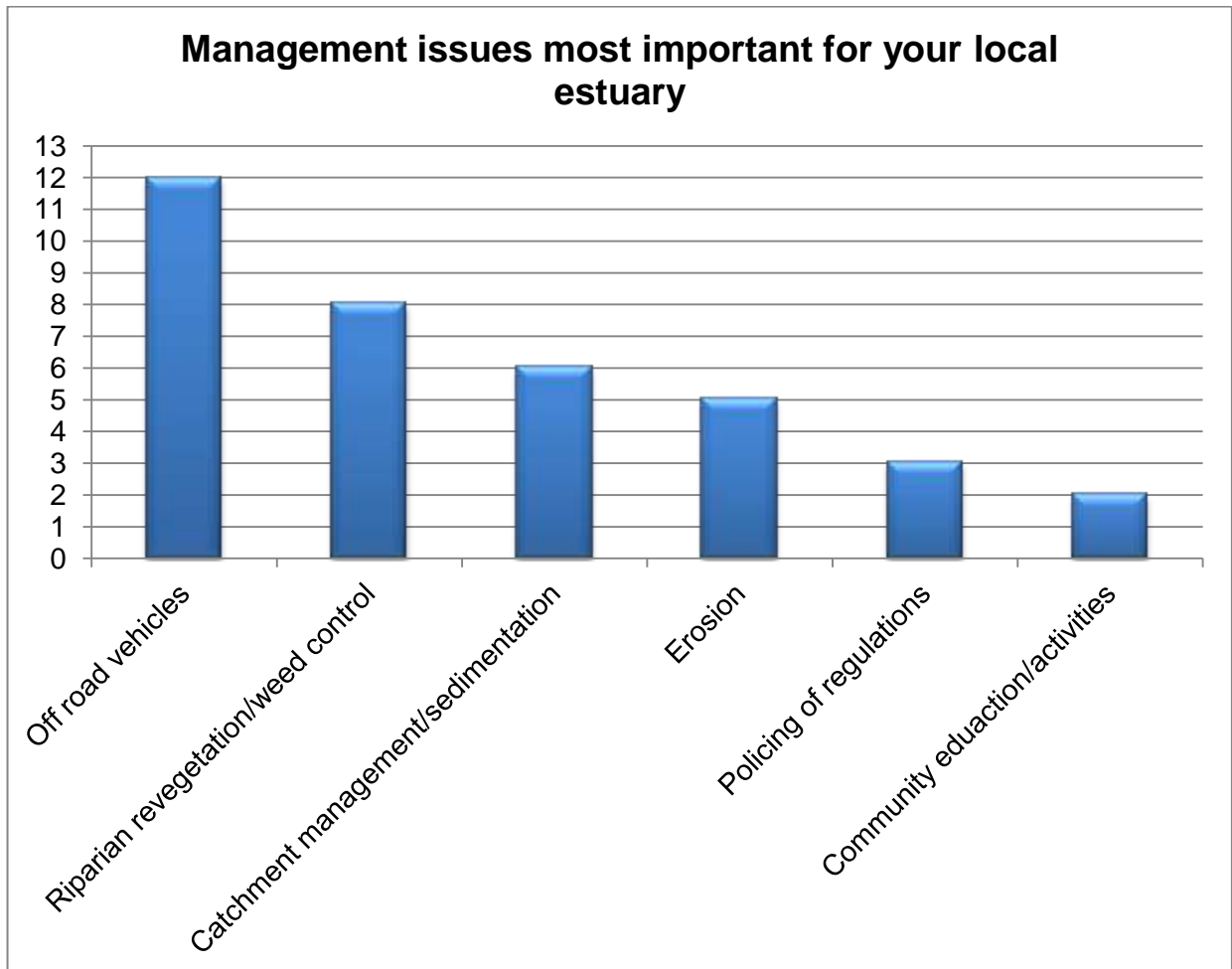
Six respondents answered this question. They indicated a $(5.3 - 3.5) / 3.5 * 100\% \approx 51\%$ increase in knowledge.





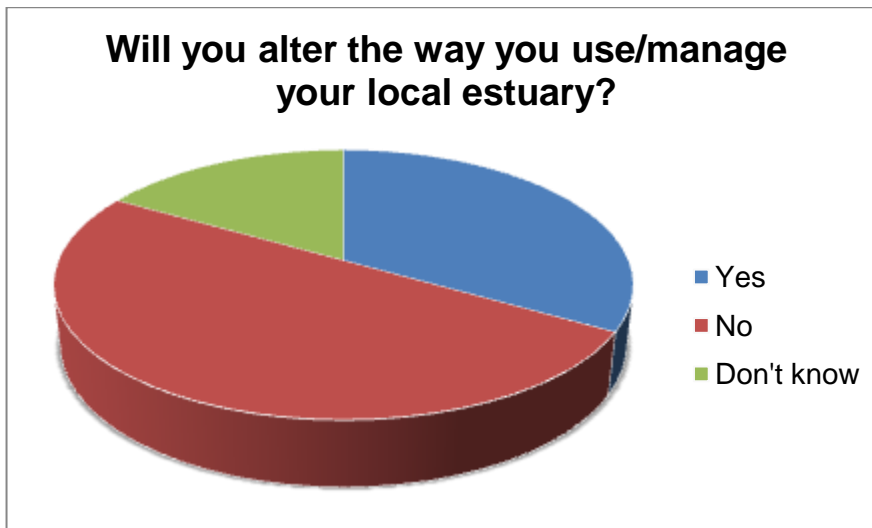
Question 4: Please rank (in order of priority) three management issues you regard as most important for your local estuary:

This question was answered by six respondents. They were asked to rank the most important management issues in three different priority groups. Any issues mentioned in the highest priority groups were scored with a 3, followed by a 2 for the second group and 1 for the last group. Following this strategy the issues of Off road vehicles (scored 12 times) was mentioned as most important, followed by Riparian revegetation/weed control (scored 8 times) and Catchment management/sedimentation (scored 6 times).





Question 5: Would you alter the way you use/manage your local estuary as a result of this workshop?



Six respondents answered this question. Three respondents mentioned 'no', two 'yes' and one 'don't know'. The high levels of no's, might be explained by respondents feeling that they are already using the estuary in an environmentally sustainable way.

Question 6: Would you share information learned at this workshop with others?

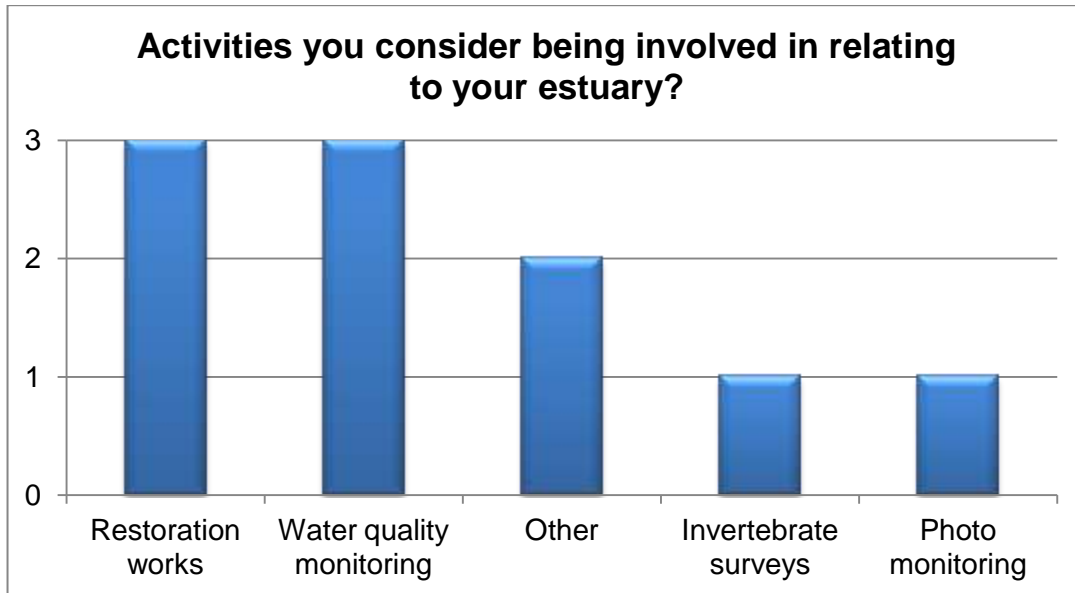


Six respondents answered this question and all indicated that they would share information with others.





Question 7: Would you consider becoming involved in any of the following activities relating to your local estuary?



Five respondents answered this question. Their answers can be found in the above graph.

Two respondents indicated "Other". Their detailed comments can be found below:

- communicating outcomes/activities to local community
- any support I am capable of.

Question 8a: What was the one thing you enjoyed most about this event?

Five respondents answered this question. Their answers can be found below.

- Education on environmental values
- Food and having interesting info presented
- Engaged everyone
- Informal but to the point. Good range of inputs from all agencies.
- The education of information supplied about the ecosystem.



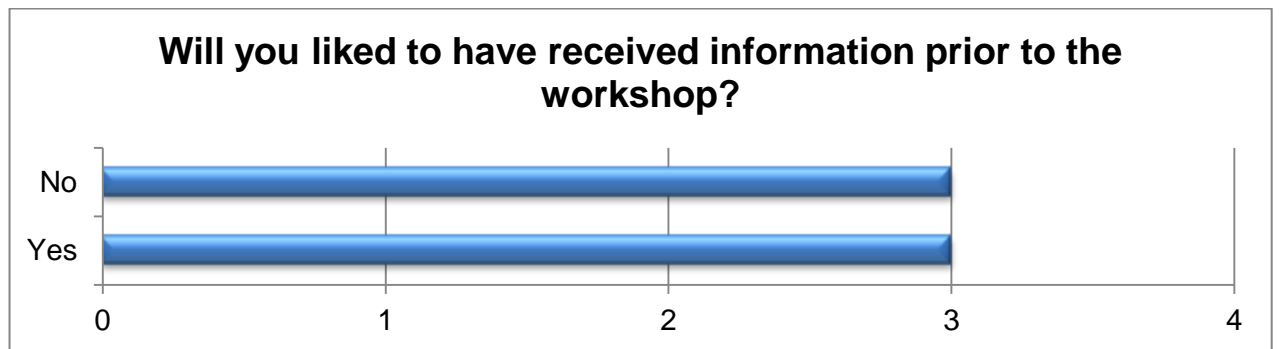


Question 8b: What was the one thing you enjoyed least about this event?

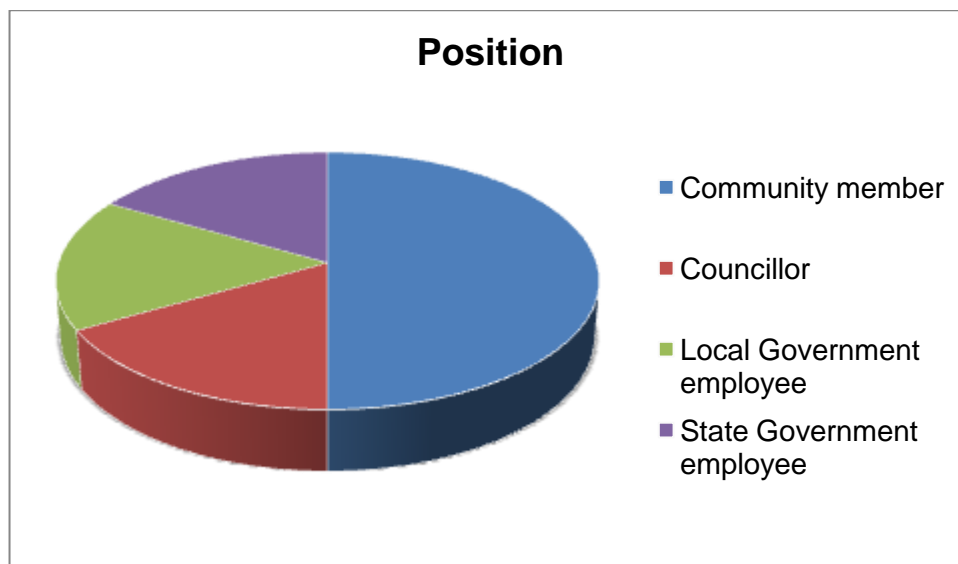
Only two respondents answered this question and their answers can be found below.

- Being inside - could be in field more
- I found nothing not to enjoy

Question 9: Would you like to have received relevant information to read prior to the workshop?



Question 10: Please indicate your position:



Six respondents answered this question. Three people identified themselves as community members. One respondent as Local government employee, one as a State Government employee and one as a Councillor.





Question 11: How did you hear about this event?

Six respondents answered this question and their answers can be found in the graph below.

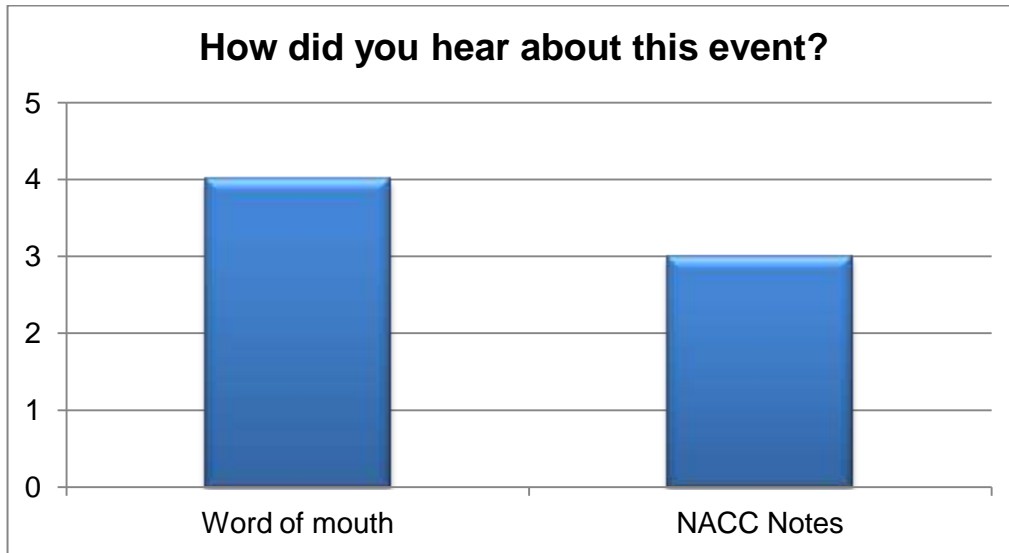


Figure 2: A pelican overseeing a dredging vessel in Murchison River Estuary, November 2012, Kalbarri (photograph: NACC)





Conclusion

The workshop was well attended by local and government agency staff, however community representation was low, most likely because the workshop was held on a weekday. Workshop participants considered the workshop format good and increased their knowledge on the environmental values of and management issues for estuaries. Management concerns focused mainly on issues relating to the riparian environment, namely off road vehicles, revegetation, weed control and erosion. Improved catchment management to reduce sedimentation was also highlighted. Half of respondents indicated they would not alter the way they use/manage the estuary, probably as they feel their current use/management is sufficient. However, participants indicated a willingness to share workshop information with others and to get involved in community-based activities. Word of mouth was a common method of hearing about the workshop despite advertising in the local newsletter, via tourist email networks and flyers poster around the town.

