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Three faces of communicating for resource conservation : tailored school curriculum support, park user-group communication and training tour operators.

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**"THREE FACES OF COMMUNICATING FOR
RESOURCE CONSERVATION: - Tailored
School Curriculum Support, Park User-group
Communication, and Training Tour Operators."**

7th International Coral Reef Symposium
University of Guam, Marine Laboratory.

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CRS 7 Minisymposium
Public Awareness and Education, Keys to Coral Reef Conservation

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"THREE FACES OF COMMUNICATING FOR CONSERVATION: - Tailored School Curriculum Support, User- Group communication And Training Tour Operators"

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Abstract:

Educating for conservation is about encouraging people to take actions to care for their environment, thus it is deeply concerned with knowledge, feelings, attitudes, skills and social action.

The Great Barrier Reef Marine Park Authority (GBRMPA) believes that successful management of the Great Barrier Reef depends primarily on maintaining and encouraging values in the hearts and minds of Australians and visitors that lead to caring actions, and is committed to using education as a major management tool.

Encouraging Reef-users and others takes many forms but this paper describes only three of the many actions we take:

- the provision of school resource materials that are firmly curriculum based, cross-curriculum in scope but with an arts bias and which are highly adaptable to the variety of needs found in elementary or junior schools.
- the implementation over two years of an integrated communications program to get across "do the right thing" messages to a diverse widely scattered group of reef users, the recreational anglers.
- the conduct of tour operator training programs that better equip the operators to not only maximise their financial returns by conducting a better experience for clients but also (and most importantly) to positively influence the tourists to know about, appreciate, enjoy, and care for the Reef.

These examples are presented to encourage delegates to be adventurous, to accept disappointments and criticisms and to go on to communicate by every means possible because conservation of coral reefs will never occur as the sole result of our increased knowledge about them, rather it will occur only when communities value them sufficiently highly and act to conserve them.

"THREE FACES OF COMMUNICATING FOR CONSERVATION:

- . Tailored School Curriculum Support,
- . User- Group communication And
- . Training Tour Operators"

This paper sets out to describe three approaches the Great Barrier Reef Marine Park Authority has taken to achieve meaningful contact with three very different audiences. Our public contact has to take on "many faces" but the anticipated outcome is the same: provide something of value to people which will achieve changes in their attitude and behaviour so as to ensure the long term survival of the Great Barrier Reef.

Abraham Lincoln delivered a strikingly simple message over 120 years ago which still holds true today: *"With public sentiment nothing can fail; without it, nothing can succeed"*. As noted by Beckman (1987) the most important method of managing natural resource areas is to implement a well designed education and extension program that seeks to inform and educate visitors and users of the values of the area and of nature conservation not by direct teaching but by experience. I believe that both these quotations speak strongly about valuing the asset in addition to communicating about it.

In a plenary session to a recent Australian conference, Rachel Faggetter (1991) challenged delegates to recognise that personal and institutional values are on show in everything we do and that interpretation cannot and must not be value-free in the contemporary context; *"Our task is to communicate that which is valuable in ways which add value to the visitors experience and in that process, of course, to add value to the asset."*

The context

The Great Barrier Reef Marine Park encompasses the largest system of corals and associated life forms anywhere in the world. It covers an area of about 350,000 sq.km. on the north eastern Australian continental shelf. The Reef stretches for almost 2,000km along the coast of the state of Queensland in a complex maze of about 2,900 individual reefs ranging in area from 1 hectare to over 100 sq. km. In the north the Reef is narrow and its eastern seaward edge is marked by a series of narrow "ribbon" reefs, but in the southern areas it broadens out and presents a vast wilderness of "patch" reefs.

The Reef is diverse, not only in its individual reefs and islands, but also in its inhabitants. Six species of turtle, more than 1500 species of fish, 350 species of hard corals, dugong and a host of other animals and plants inhabit the Reef and its islands. Human use is allowed and commercial fishing and tourism, recreational pursuits including fishing, diving and camping, traditional fishing, scientific research and shipping all occur within the Great Barrier Reef Region. The Region is under management through a system of large area zoning and smaller area management plans.

The GBRMPA has as its primary goal:

"to provide for the protection, wise use, understanding and enjoyment of the Great barrier Reef in perpetuity through the care and development of the Marine Park".

Thus, management of the Marine Park, the world's largest multiple use marine protected area, relies heavily on education, interpretation and extension and is committed to achieving responsible self-regulation by a caring user public.

1 How can we provide effective curriculum based resources to schools?

An Example: *The Great Barrier Reef Primary Schools Kit.*

How was the resource developed?

The Great Barrier Reef Marine Park Authority receives over 2,000 requests for assistance and materials every year, much of which comes from teachers and students. Standard information materials never seemed appropriate enough so I discussed a concept I'd had in mind for some years about producing a curriculum-centred primary school resource package with a group of primary school teachers from Ballarat, a rural district in the southern Australian state of Victoria. As a result, we have cooperated to produce a cross-curriculum teachers resource kit which has the Great Barrier Reef (the GBR) as its theme and which provides a strongly curriculum frameworks centred approach to the treatment; the teaching methodology is a critical element

The Ballarat primary school teachers have been heavily involved with this Authority from September 1989 in the development, construction, and trialing of this primary schools work program. I sought their help because of their reputation as innovative curriculum experts to develop a work program using the Great Barrier Reef as the theme; I provided concept and resources and the Ballarat teachers provided the curriculum expertise and trialed all materials. It also made economic and logistical sense for me to travel to the working group rather than bring the consultants to me.

What is the resource kit?

The resource is designed with maximum flexibility in mind because the actual teaching sequence and program detail is developed in the individual school to suit their special situation and the kit supplies the resources and supplementary activity ideas. It is like a *la carte dining*; select what you desire from the menu which has been designed to ensure that all food groups are covered.

When finished later this year, the kit will be the most extensive resource of its kind in Australia featuring teachers handbook, program planning technique video, reef resource footage video, Reef books, audio tapes, maps and colour photographs, worked examples of planned programs and an extensive selection of activities that will achieve the cross-curriculum educational objectives.

What is special about this resource?

Informational content is not the focus of the program, instead it is the process outcomes that are valuable. Who cares if children know how many coral

species inhabit a reef? It is the way of finding out that is really important and that should also be an enjoyable experience.

What educational basis is used?

There is an emphasis on both the arts in terms of curriculum content and on concept mapping (art-mapping) as a strategy for theme development and program construction. Sample concept maps which emerge from the seemingly random action of brainstorming the theme with the class are provided in the teachers' manual to deal with the major aspects of the Reef being covered. Teachers are encouraged in the educational rationale section of the manual to make their own concept maps. Part of this process of encouraging was to demonstrate the concept mapping strategy in action in a real classroom by way of a special video, "Concept Mapping" produced during the trialing process and included in the kit.

The key to the kit's structure is that it is overtly curriculum based and that it is a teacher reference which will guide a teacher or school in preparing and presenting a learning program involving the GBR. If a school or an individual teacher wants to present an integrated program that is soundly based on curriculum statements and theory and provides a selection of approaches, activities, ideas and resources, then this kit should do it. If a three week module is needed then the teacher and class design it that way and can select three weeks duration of activities and material from the kit. If a vertically integrated class program of six weeks duration is needed then that too can be designed in class and the kit will resource that program, and so on.

The process advocated in this kit is equally applicable to any topic chosen in any school for any combination of students; it can be used to program work on a local creek or an historical character.

Communicating with schools is, for us, far more than simply providing resources; it is the resource provider becoming immersed in the psyche of the school and trusting the resource user to determine and "own" an outcome which best suits their needs.

2 How can we communicate effectively with recreational anglers?

How do you make effective contact with 150,000 anglers using over 45,000 registered boats, some of whom will travel 2000km to the Reef, and who fish almost anywhere in the 347,000 sq.km. Marine Park, a park which is larger in area than a combined Victoria and Tasmania, or Great Britain and Ireland, or half the size of the state of Texas?

Here are two examples of existing "Aussie" attitudes by recreational fishermen which makes communication difficult but also clearly point to opportunities where communication can begin:

Overheard at a boat launching ramp at the Tully river in North Queensland:

"I tell you, son, there will be no bloody fish left for you when you grow up. A few years back I could catch 50 barramundi here by lunchtime and I had to hide in the bottom of the boat just to get the bait on the line."

The oldtimer was predicting to his grandson that there may not be fish for the boy's future, but he was also admitting that his own excessive catch behaviour contributed to the resource depletion. There are emotions here and values expressed by the oldtimer that can be used by us to begin contact with him.

In a Mt. Isa pub (a very small outback hotel) I heard a local identity say:

"Bert and me got 280 kilos of coral trout fillets at the Reef last week and the \$1200 I sold them for will help pay off the boat, eh?"

Not really a true recreational fisherman if he sells catches like that, is he?. The "oldtimer" was right; the resource is being hard hit and probably overexploited.

This year, recreational anglers will take over 4,000 tonnes of fish from the Reef. Over half of this will be taken by a small minority like Bert and his mate. The advertisement referred to research figures done 10 years ago (the best we had available last year) in which eight of the twelve thousand tonnes taken by the line fishery were taken by the recreational sector. The catch by recreational anglers has decreased markedly despite the doubling of effort. Over the same period this latest research shows the commercial extraction by line fishing has remained stable at about 4,000 tonnes.

Recreational fishing in the Great Barrier Reef Marine Park is growing at a rapid rate and so is the need to both interpret the marine environment to this user group and to affect their behaviour so that there will be fish for the future.

In recent years a number of problems associated with recreational fishing in the Great Barrier Reef Marine Park have become apparent. These include illegal fishing, stock depletion, littering and pollution, habitat destruction and the need for more effective management of fisheries.

- . What are the right messages to be given?
- . Are the messages the same for the owner of a small 3 metre aluminium boat as for a \$200,000 Randal cruiser owner?
- . Will recreational anglers ever become really self-regulating and conservation minded?
- . What does it take to make anglers change their behaviour?

It was clearly a challenging communications exercise to impact "do the right thing" fishing messages effectively on recreational anglers so the GBRMPA staff designed a two year integrated public awareness campaign that was to target that user group. It was also to involve the anglers in decision-making processes about managing the activity.

Towards self-regulating behaviour

The Problem

The problem to be addressed, i.e. how to affect the behaviour of recreational anglers by influencing "hearts and minds", was attempted within the management context of the Authority and the framework for conservation of the Reef Region that exists. It was not as if there were options available such as ban fishing or dramatically increase surveillance and enforcement measures.

The management objectives in relation to the recreational Reef fishery are to:

- (1) maintain a sustainable activity allowing for reasonable use and stock replenishment.
- (2) minimise regulation of and interference in the activity by management and enforcement agencies
- (3) encourage proper codes of behaviour and a fishing conservation ethic
- (4) inform and educate fishermen about issues affecting their activity and to involve them meaningfully in management decisions.

The Target Group

Recreational anglers in north Queensland are predominantly men aged between 17 and 50 years. They are strongly independent and prefer not to belong to organised fishing clubs. Less than 5% of fishermen are members of local or regional fishing clubs so this is not a structure that can be used as an effective communication channel for broad contact. Regular users of the Marine Park for recreational fishing come from as far west as Mt. Isa (2,000km) and from Brisbane also 2,000km but to the south.

Whilst there are many fishing magazines there are no popular magazines, trade journals or newsletters that reach a large share of the target audience. Surveys of recreational fishermen indicate that the motivation of living outdoors and experiencing the natural environment, taking it easy, relaxation etc. are of considerable importance although the catching of fish was of moderate importance.

Clearly, no single communications instrument was going to succeed in contacting this diverse, independent target group; instead an integrated communications program that sought them out in their niches and sought to capitalise on their current attitudes and behaviours was the only way. The "oldtimer" could be influenced through his fears that things were getting worse and Bert could be contacted as he watched the weather report but chances are that neither would belong to a fishing club.

The Integrated Communications Program

From June 1989 until March 1991, the Authority's Education/Information section conducted an eight element campaign to make effective contact with recreational anglers. The program began by recognising the need for such an extension program and by researching and evaluating existing information on both the problems caused to the resource and on the nature of the target group. Several intermediate actions were undertaken to contact segments of the target group and the eighth element was to be an extensive television advertising campaign. This and other elements are continuing even now as there is no real end to the program.

The program goals were:

- . to increase awareness and acceptance of Marine Park zoning provisions relevant to recreational anglers. and
- . to educate anglers about better codes of behaviour within the Marine Park the will help ensure fish for the future.

We undertook the following eight strategies:

1. Evening Workshops

To plan, organise and conduct a series of 15 information forum evenings to discuss issues affecting recreational fishing in the Marine Park. Consultants (fishing experts) were employed to conduct the workshops in all major coastal centres from Gladstone to Cairns. Whilst approximately 1000 anglers attended these evenings and were generally enthusiastic about them, we regarded the evenings as effective in contacting only less than 1% of the target. However these meetings were essential for target audit purposes in researching behaviour, attitudes and levels of knowledge about fishing regulations by anglers. For example, we could accurately gauge the percentage of the group who watched the local weekend weather reports before setting out on a fishing trip and to hear from them what they thought of us as managers of their activity.

2. Production Of Recreational Fishing Maps and Book series.

We co-produced some special user-friendly chart sized accurate coastal maps with Sunmap (the State Government mapping agency) which focus on recreational fishing detail including Marine Park zoning detail. These are very popular and retail at \$6.50 each.

3. Boat Licence Renewal via Department of Harbours And Marine.

Zoning maps and promotional "flyers" were inserted into every boat licence renewal notice in Queensland to encourage sales of maps and information provision to boaties. This resulted in a 70% increase in the mail order sales of the Marine Park Zoning Plan interpretive maps.

4. Marketing Marine Park Zoning Plan Maps.

We upgraded efforts to increase sales and distribution of zoning maps to recreational anglers via direct mail, magazine inserts, tackle shops, fishing expos and competitions, advertising in print media and through Government offices. This action was to provide the informational material as directly as possible to anglers realising that information per se is only part of the effective communication process, it is important but is largely ineffective in achieving behaviour modification unless backed up by something experiential.

5. Disseminate Research and Monitoring Data.

To publicise data collected on amateur fishing such as results of tagging surveys, species studies, reef replenishment areas and on the effects of overfishing.

6. Boat Shows, Marine Parks involvement.

To be present and mount displays at all major boat shows held in the Reef coastal centres. We, in conjunction with Queensland National Parks and Wildlife Service (QNPWS) now exhibit the Marine Parks message at almost every major opportunity.

7. Magazine Editorial and Advertising.

To publish special features in key journals and magazines such as *Queensland Fish and Boat* and *Modern Fishing* , and advertise the specially designed display style fishing awareness messages in the regional print media.

The print media advertisements were single frame cartoon style drawings that carried a brief clear question message at the top. (e.g. *Wouldn't you love to fish forever?* and *Here today, gone tomorrow*) and subtitled with the solution (e.g. *Don't overfish and there will be fish there for your kids*) plus, at the bottom, an offer of help from the GBRMPA and QNPWS about fishing in the Marine Park.

Some 28 regional papers carried advertising and editorial material and most were happy to carry additional feature articles on fishing issues especially when they related strongly to local interests. Also, popular feature writers were encouraged to promote the Marine Parks fishing awareness campaign messages by contributing special articles.

8. Television Advertising Campaign.

Conduct a researched and purpose designed television campaign to promote the fishing awareness messages in the Reef regional T.V. local areas networks. Whilst every other element described had some effect on the target group, it was agreed that a major television campaign would be the most effective medium to convey widespread management messages and achieve the program objectives.

I will describe this element in some detail.

The Television Advertising Campaign

We decided to concentrate initially on the commercial networks since that is what the target audience mostly watched.

The messages were:

"Take only what you need - don't overfish"

"Know your Marine Park fishing zones"

"Careful anchoring reduces environment damage"

"Don't litter the Marine Park"

Similar messages were used for the print media advertising campaign also.

Three professional companies were asked to submit proposals for the campaign including audience research especially viewing patterns through the day and over the Christmas period, proposed treatment of the messages, commercials production costs and scheduling proposals and costs including "deals". The best and most cost effective submission was selected and four 30 second commercials were produced and broadcast throughout all coastal and northern Queensland from September to December 1990.

The commercials are characterised by being fast tempo yet smooth in style avoiding staccato cuts, using high impact visuals (especially Reef aerials and underwater footage), and by having crisp clear succinct dialogue that quickly poses a problem and provides solutions at the same time avoiding the tendency in so many "message" advertisements of cramming too many words into the 30 seconds.

National Recognition For The Program

These commercials won the Queensland Federation of Advertising Commercials Award in 1991 for their quality and impact. Also, the program as a whole won the prestigious *Golden Serif Award for 1991* in Adelaide in June from the Australian Society of Business Communicators as the most outstanding national communications program over entries from industries, commerce, government, education and service organisations.

Any television advertising is expensive and the GBRMPA's budget for education and information does not extend to the realistic levels needed to function regularly in the electronic media. It is very difficult to convince a management agency that desired outcomes in terms of public profile can only be met if appropriate funding matches its level of desire.

Evaluation Of The Television Campaign

In December 1990 an evaluation of the effectiveness of the television campaign was undertaken by Lynch-Blosse, McGuffog and Turrell of the Survey Research and Consultancy Unit (SRCU) of the University of Queensland.

The evaluation indicated high levels of success and addressed a number of related issues but its primary concern was with the effectiveness or otherwise of the media campaign. More specifically, the study sought to determine the extent to which the campaign had reached its intended audience and the extent to which each of the separate themes had been internalised (i.e. retained in the respondents memory). Further, the research attempted to broadly determine the factors which may or may not have been instrumental in respondents recalling the advertising theme.

The majority of respondents were aware of the campaign and most recalled one or more of the themes and its solution. However some of the themes (e.g. anchor damage) were more readily recalled than others (e.g. zoning and enforcement).

Being male or female, white or blue collar worker, young or old made no appreciable difference in terms of a respondents propensity to recall a theme or its solution. Additionally, perceptions of change to recreational fishing, perceptions of whether the Marine Park was being managed properly or not, ownership of a zoning plan and knowledge of accessible fishing zones were not consistently related to gender, occupation or age.

The focus of the study was on describing the research findings and not on attempting to explain in detail why particular findings emerged. future research will be undertaken addressing issues relating to the television campaign which include a greater range of potential explanatory variables.

Other Positive Feedback

In addition to the evaluation study, other performance indicators included a 70% increase in sales of zoning maps. Anecdotal feedback was provided through the regional offices of QNPWS Marine Park Rangers about positive changes of behaviour by fishermen and a reduction in the level of infringements in Marine Park areas zoned illegal for fishing.

The Queensland Fishing and Boating Patrol has consequently produced an additional television commercial for the series and is included in the Authority's 1991 advertising schedule. Many recreational fishing clubs have made it a policy for members to protect the Reef environment from anchor damage by covering their anchor chains with heavy plastic or to practice "drift fishing" over coral.

Not everything goes well

The campaign has received many letters of support by industry groups such as the Queensland Recreational and Sports Fishing Association but we have also received criticism for dramatising and denigrating the recreational fishing activity by a few people who can't believe the statistics or don't like their public disclosure.

Oh well, one can't please everybody!

A Hotspot Of Negative Feedback

Considerable negative feedback was generated in the Mackay area, to the extent that we took a special interest in this locality in the southern region of the Great Barrier Reef. Several matters were highlighted by this localised, more negative, atypical response pattern that demonstrated what can happen when a generalised message ("*only a few recreational fishermen will take over half this years 4,000 tonne catch*") is applied to a large area that included localised atypical centres such as Mackay.

The lesson for us was 'be prepared to remedy negative outcomes' because truth, to the community, is what *they* perceive an issue to be: They thought we were not truthful.

Mackay has a concentration of commercial line fishermen who do take more of the catch than the recreational anglers in the area; it has the biggest commercial line fishing fleet in Australia. Little wonder we were taken to task by the recreational anglers of Mackay for "accusing the wrong group"; such a message inflamed the already present antipathy between recreational and commercial fishermen. However, this demonstrated that people were taking notice of the statistics but were interpreting them inappropriately (i.e. only in their own local context) and that we had to be prepared to take specific follow-up action and correct the problem.

We called public meetings and met with interest groups in Mackay and provided specialists from this Authority (GBRMPA) and other expert organisations to discuss the whole issue. The meetings and individual contacts were very constructive and added greatly to the positive effects of the television campaign especially by providing a critical situation where greater detail could be discussed with people who probably wouldn't come together in ordinary circumstances.

Evaluation Conclusion

The program was successful and indicated to us that a broad approach will succeed where single efforts (such as the seminar series) touch only a fraction of this difficult-to-reach target group.

The information generated thusfar gives important base-line data which can be used in the formulation of hypotheses and the planning of more complex research examining the interrelationship between social/psychological factors and theme recall. We plan on using this data to target particular groups for special attention because this is the most efficient use of resources.

One big question remains unanswered and that is *"has the behaviour of recreational anglers changed and will the change, if any, be both positive and long lasting"*? One hopes that change has begun but any behavioural learning theorist or practitioner will say that this would be too much to expect from such a campaign and we will continue to expend resources in an extension program that one day might have the desired effects and ensure that there will be fish for the future.

3 How can we communicate effectively with the tourist industry?

The GBR tourism industry has operators who vary greatly in their competence and enthusiasm in interpreting the Reef to tourists. To some it is only a way of making a fast buck but to others it is extremely serious and they employ high calibre staff who value the Reef and enthuse their clients as a result of their skill and commitment.

So, how do we communicate our values to the operators in the knowledge that they in turn will influence the user public?

As part of an overall program to raise public awareness levels about the Marine Park, we (The Authority and the QNPWS) set about stimulating the interest of and raising the service standard of the "influencers", the tour operators, through the development of a series of regional training programs to assist reef-based tourist operators in providing a better 'experience' for tourists visiting the Great Barrier Reef.

Ten courses were offered to tourist operators throughout the year at a variety of locations along the 2,000km length of the Queensland coastline, from Bundaberg to Port Douglas. Each course was individually designed to assist operators at each regional centre. Emphasis was placed on the benefits of interpretive and educational programs, for tourists and operators alike, and on developing facilities which can be offered at little cost by operators.

Each course was conducted during the evening to attract more people who must work during the day. The courses were cheap, costing only \$10 for a folder of reference material. Participants came from the diving industry, charter boat and fishing associations, island and mainland resorts and hotels, and local government and regional tourist bodies. Over 350 people representing about 121 companies and organisations participated in workshops each of which were held over three evenings and were conducted jointly by staff from Q.NPWS and GBRMPA.

Quality of Presentation and Industry Esteem Were Important.

Each course is conducted by professional interpretive staff from the GBRMPA, the Q.NPWS and trained and qualified staff from selected tour operators which demonstrate excellence in their sphere of tourism in the Great Barrier Reef Marine Park. We also involved specialist speakers from other educational and scientific organisations in order to provide the most up to date and accurate resource information.

The courses were conducted at regional conference centres using a variety of techniques including course notes, guest speakers, group interactive

techniques, videos, slide shows, displays and role play exercises. The emphasis is placed upon participants being involved as much as possible rather than passively listening to a series of lectures and great effort was taken to avoid any "paternalism" or talking "down" to participants and to have the industry talk to itself as much as possible.

All courses included individual follow up with tour operators in order to help develop specific educational programs, or provide an evaluation of existing programs. In particular, 'hands-on' staff including interpreters, activity officers, dive guides, boat skippers, hostesses and managers were targeted.

Care was also paid to ensuring that the courses, and therefore the tourist operators, were given as much media attention as possible. There was a positive incentive for the industry to be involved and be seen to be involved. All courses have been applauded by the regional tourist operators as a vital and positive service to the Queensland tourist industry so we are encouraged to continue training the influencers but we are working to encourage the industry to take steps towards building in a training process into its operations.

Conclusion:

The Chairman of the Great Barrier Reef Marine Park Authority, Graeme Kelleher, said in his presentation to the recent Caracas conference that *"Protected areas cannot be managed in isolation from the human communities that use and surround them....their support through involvement in all aspects of planning and management is essential"*.

It is clear that management committed to educating and interpreting for behavioural change will have to be adventurous, properly resourced and will experiment with technology, but above all the key ingredients that give communication efforts a fruitful direction are to trust in the process of cooperative endeavour with user groups and to communicate the truth in that process. We are not complacent nor have we achieved perfection - far from it, but we are encouraged from some success to extend communication further especially into areas of affecting behaviours that lead to responsible self-regulation by Marine Park users.

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