CRC REEF RESEARCH TECHNICAL REPORT

# PRINCIPLES OF SOCIAL IMPACT ASSESSMENT AND ITS APPLICATION TO MANAGING THE GREAT BARRIER REEF

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**EXECUTIVE SUMMARY**

The object of this project was to develop a set of social impact assessment (SIA) guidelines for the use of the Great Barrier Reef Marine Park Authority (GBRMPA). Decisions that the GBRMPA make in relation to social use of the Great Barrier Reef Marine Park are appealable under the Great Barrier Reef Marine Park Act, and the GBRMPA wished to ensure that decisions paid due regard to SIA practice and would therefore be identified as best practice and also be defensible in a potential court situation.

The SIA guidelines included in this report are based on literature which spans both the recreation management and SIA literature. The multiple use approach to management of the Great Barrier Reef Marine Park (GBRMP) has meant that relying simply on formal recreation management literature may be inadequate. Most of the well known and widely used park management frameworks such as the Recreation Opportunity Spectrum (ROS) and the Limits to Acceptable Change (LAC), have been developed in terrestrial protected areas where there is generally a more limited range of social and commercial activities. The GBRMPA, on the other hand, must manage the competing interests of local recreationists, commercial fishers, tourist operators, tourism visitors and scientific research, while maintaining the ecological integrity of the Great Barrier Reef. Consideration must also be given to the potential for social impacts from areas adjacent to the GBRMP, and for impacts from developments within the GBRMP on adjacent communities and areas, as well as the requirement that World Heritage values be maintained.

The implications of the recreation management and SIA literature for managers of the GBRMP are great and stem from the idea that 'parks are for people' which is also reflected in the goal of the GBRMPA to 'provide for the protection, wise use, understanding and enjoyment of the Great Barrier Reef'. The recreation management literature stresses the growing importance of leisure as an essential component of modern life, and the need to provide a wide range of leisure opportunities to cater for the diverse interests of our society. In terms of overall social welfare, those programs and policies which expand the context of choice, rather than those simply designed to serve majority preference, are the more desirable, providing as they do for the widest possible range of community needs. The planning and managing frameworks recommended in this report recognise the desirability of planning for a

wide range of opportunities in a park and managing the social, managerial and environmental conditions to maintain desired recreation opportunities.

The SIA literature is more generally concerned with the impacts of broad planning and policy decisions as well as of individual development proposals. SIA is concerned with issues of equity and social justice, and combines community participation in decision making with social research. Its aim is to predict social impacts, and organise costs and benefits so that those who benefit the most also bear the costs. Implications of this for managers of the GBRMP include the need for extensive community participation in planning and management of the Park and the need to consider the potentially wide ranging social impacts of broad planning and individual development decisions, on park users, adjacent communities and on the general public. As the GBRMP is also a World Heritage area, there is an obligation by its managing agency to maintain the values for which it was listed.

The main implication for industry within the GBRMP is the need to understand the rationale behind planning and managing frameworks used by managing agencies and the inherent difficulties imposed on the GBRMPA when managing competing interests in the Park. In negotiating operating arrangements within the park, industry should bear in mind the goal of managing for the maintenance of the widest range of social use while maintaining ecological integrity.

The main findings of this project are:

?? Because of the multiple use nature of the Park, both recreation management and social impact assessment literature should be consulted in planning for and managing the social impacts of use of the Park.

?? In predicting and resolving social impacts extensive community participation is required in conjunction with social research.

?? Only three major social studies of reef experiences have been completed and none have been carried out in low to medium-low density areas of use.

?? Adequate SIA (including recreation planning/management) carried out at the Planning stage may greatly simplify the need for case by case assessment of permit applications.

The report suggests a number of possible approaches to ensure social impacts of decisions can be adequately incorporated in decision making. Recognition is given to the need for social impacts to be evaluated at all levels if the outcomes are to provide a finely demarcated set of recreation opportunities which match the variety of needs. Central to some of the discussion is the recognition that satisfying the needs of one set of users may have severe consequences on the needs of others and that increased identification of detailed community needs is an essential part of modern management.

A number of specific suggestions are made as guidelines and a framework provided for use by GBRMPA staff in conducting SIA, including a detailed process outline and accompanying forms.

The report also reviews three recent studies of visitor experiences on the Great Barrier Reef with reference to SIA.

**INTRODUCTION**

This report was prepared in response to a request from the Great Barrier Reef Marine Park Authority (GBRMPA) to develop a set of preliminary guidelines for social impact assessment in the Great Barrier Reef.

Consultation with officers in the Authority at the onset of the project further refined the object of the project to the preparation of guidelines to assist in the assessment of social impacts of applications for permits to use the Great Barrier Reef. The guidelines were subsequently developed following consultation with officers involved in permit assessment in the GBRMPA and the Queensland Department of Environment and Heritage; a review of current techniques and practices used in permit assessment in these organisations; an assessment of some case studies of applications for permits; and, a review of the existing literature on social impact assessment and recreation management.

In addition to the guidelines for permit assessment, this report provides an overview of the philosophical intent of social impact assessment and links this to current protected area management practices and techniques. The report recommends that the principles of social impact assessment are best applied at the broad planning level, rather than only at the permit assessment stage.

The report is presented in five sections. The first provides an overview of the principles of social impact assessment and its application to the management of the Great Barrier Reef. The second contains an outline of two well known frameworks for dealing with the issue of social carrying capacity. The third section contains the guidelines prepared for conducting social impact assessments of applications for permits to use the Great Barrier Reef. The fourth section reviews three experiential studies of the Great Barrier Reef. This information has been provided following discussions with GBRMPA staff about the difficulties in making decisions about social impacts, not only because they are difficult to define, but also because decisions tend to be based largely on subjective values and experience. One of the reasons for this is the lack of base studies about social impacts in the GBRMP. The three studies are the only major research relating to social impacts in the GBRMP which have been carried out to date. The fifth and final section contains a bibliography of major references for social impact assessment and recreation management.

Two Appendices are also included.  The first is a basic model for social impact assessment which has been mildly adapted for use by the GBRMPA.  The second is a comprehensive summary of methods for public participation.

**Section 1.** **PRINCIPLES OF SOCIAL IMPACT ASSESSMENT AND ITS APPLICATION TO PROTECTED AREA MANAGEMENT.**

**INTRODUCTION.**

Two documents have already been produced for the Great Barrier Reef Marine Park Authority (GBRMPA) which review the literature on social impact assessment (Roughley and Scherl, 1992), and social carrying capacity (Watson, 1988). To avoid repetition, this Section concentrates on tying together the SIA and recreation management literature to present a philosophical and methodological background for Social Impact Assessment (SIA) and its application to the field of protected area management. The first two parts give an overview of SIA philosophy and methodology, followed by a brief summary of the relevant protected area management literature. In the third and final part a strategy is presented for assessing the social impacts of proposals to use the GBRMP.

**AN OVERVIEW OF SIA  PHILOSOPHY AND METHODOLOGY.**

**Philosophy.**

According to C.P. Wolf, who has been described as the founder of the field of Social Impact Assessment (SIA) (Freudenberg, 1986), 'SIA is about people impacts - what we are doing to folks (or failing to do for them), where they are living, in families and communities, as a consequence of formulating policies, instituting programs and building projects. Its aim is to predict and evaluate those impacts before they happen' (Wolf, 1983, p.15). Wolf goes on to say that 'The bottom line question (in SIA) is who benefits and who loses' (p.15). 'Getting the costs and the benefits together so that those who reap the benefits also bear the costs, is a matter of social justice and social policy' (Wolf, 1983, p.16).

Some argue that SIA can increase rationality of decisions by increasing knowledge in both individuals and in the community. Although it can also increase conflict, this is described as 'integrative rather than destructive and occurs when there is sufficient distribution of power in communities or societies that those seeing themselves as negatively affected by a development project can find out about it in the first place, mobilise, and attempt to influence decision making and mitigate the effects' (Rickson, Western and Burdge, 1988, p.2). These authors

see the goal of SIA as providing a balance between science and politics and to increase the rationality or objectivity into decision making processes.

SIA is also seen as having the potential to be used in a broader context as 'applied policy analysis', as a form of social planning (Craig, 1988, p.61). Finsterbusch (1985) discusses the potential for SIA to be used for shaping 'preferred futures' (p. 217).

SIA has potential for a wide range of applications. Its most frequent to date has been in predicting the social impacts of constructed facilities such as dams, highways, airports, power plants, waste disposal sites and treatment plants, pipelines and transmission lines (Finsterbusch, 1985). In Australia SIA has tended to develop as a component of Environmental Impact Assessments and is perhaps most widely applied in the mining and resource development fields (Wildman, 1985). In many development proposals it is the social impacts which cause the greatest level of community concern and which are often inadequately considered.

**Methods.**

SIA methodologies can be classified broadly into either political (Craig, 1988; Armour, 1988; Freeman and Frey, 1986)), or technical (Burdge, 1987; Carley, 1983; Finsterbusch, 1985, Wolf, 1983). Craig (1988), provides an overview of the differences between these two approaches which is included in Roughley and Scherl's (1992) literature review. Essentially the technical approach emphasises a 'scientific' approach to the assessment of social impacts, using social indicator research, and economic methods of projecting change and assessing impacts. The focus is on the end product of the research, that is the objectively measured impacts, which can then be evaluated and mitigation measures assessed.

The political approach, on the other hand, tends to emphasise the process of the impact assessment rather than the end product. It values the meaningful involvement by the community in the planning and decision making process, accepts that conflict over social and environmental values is a reality and contends that the best way to deal with this is through a process of dialogue and consensus building in the community. Another major difference between the two approaches is that whereas the technical approach accepts the status quo in relation to our industrialised market economy and system of government, the political approach is influenced by social theories which criticise current economic and political systems. It is

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more concerned with bringing about social change than with applying 'band aid' measures to undesirable social impacts of development or planning.

In practice the two views discussed above represent the extremes of a continuum and most methodologies have a combined technical and political approach. Craig (1988) believes it is important to be aware of the distinction between the two approaches as different decision making tasks may require a greater emphasis on one method than the other.

**SIA and Indigenous Peoples.**

The political approach is particularly relevant when dealing with impacts on indigenous people where 'scientific methodologies' may be totally foreign to their culture. Studies such as the Ranger Uranium Environmental Inquiry, The Western Australian Aboriginal Land Inquiry, The Community Impact Assessment at Turkey Creek and The East Kimberley Impact Assessment Project discussed by Craig (1989) and Ross (1988) provide information on culturally appropriate methods used to consult aboriginal populations (Roughley and Scherl, 1992).

**A basic model.**

Every proposal has unique features and SIA methods need to be tailored to the specific situation. However, one basic model developed in the early 1980's (Wolf, 1983), has endured and can be used as a base for adaptation to the particular requirements of a proposal or planning scheme. It is shown at Appendix 1, and has been mildly adapted to the requirements of a protected area planning agency such as the GBRMPA. An adaptation of this model has been prepared for use in assessing applications for permits for the GBRMPA and is included in Section 3.

Other more technical models or methods for SIA are available (see Carley (1983)), but are not considered as appropriate as a base for protected area management as the Wolf model.

**Community Participation.**

The technical approaches in SIA referred to above (such as Wolf, Burdge and Finsterbusch) have been so called because of their reliance on the use of objective indicators and evaluation techniques wherever possible. However, these authors also place a deal of emphasis on the need for public participation throughout the SIA process from identification of issues through to assessment, evaluation, mitigation and monitoring. There are a number of methods available for involving the community in decision making. A comprehensive guide compiled by Taylor *et al.* (1989) and reproduced by Roughley and Scherl (1992) is given in Appendix 2.

## RECREATION MANAGEMENT IN PROTECTED AREAS.

We sometimes have to remind ourselves that 'parks are for people' (Sheppard, 1988). The goal of the Great Barrier Reef Marine Park Authority, for example, is 'to provide for the protection, wise use, understanding, and enjoyment of the Great Barrier Reef'. Any proposal to use the park has to be assessed in relation to its impact on the existing or future use and amenity of the park in both the immediate and adjacent areas of the park.

SIA has been in use in recreation management for some time and it has become accepted that the emphasis in recreation management must be on the outputs of recreation experience and environmental conditions (Watson, 1988). The concept of the Recreation Opportunity Spectrum (ROS) and managing frameworks which deal with the issue of social carrying capacity (SCC), such as the limits of acceptable change (LAC) and Visitor Impact Management (VIM) models, have been developed to assist with the planning and management of the social impacts of recreation use.

### The Recreation Opportunity Spectrum.

The ROS concept has been developed partly in response to the growing importance of leisure. As Glass, Muth and Flewelling (1990) note, 'with the tensions and stresses inherent in industrial society, it is increasingly appreciated that recreation activity is an essential part of modern life and not merely a form of frivolous, leisure time activity' (p.153). Growth in population and in an emphasis on the need for recreation opportunities, has resulted in increased competition for recreation resources. When this is combined with a diverse society, made up of many sub-cultures looking for a wide range of recreation experiences, growth in demand for recreation opportunities has the potential to lead to conflict. The ROS has the

potential to ameliorate conflict and provide equity in provision of recreation services (Daniels and Kramich, 1990; Schreyer, 1990; Stankey and Wood, 1982). It is therefore seen as an essential tool for park management agencies to use.

A brief summary of the ROS concept was included in GBRMPA-TM-17 (Watson, 1988). A basic assumption of ROS is that 'quality recreational experiences can best be assured by providing a diversity of recreation opportunities' ......with a recreation opportunity being defined as 'a chance for a person to participate in a specific recreational **activity** in a specific **setting** in order to realise a predictable recreational **experience**' (Stankey and Wood, 1982, p.5). The range of recreation opportunities to be provided will differ between particular protected area sites, and should be determined after analysis of demand and the resource capabilities of the area. As an example, the U.S. Forest Service developed six opportunity classes of primitive, semi primitive non-motorised, semi primitive motorised, roaded natural, rural and modern-urban. Each class is then described in terms of the types of activities allowed, the natural/built setting and the likely types of experiences which would result from recreation at that site/area. Further information on planning using an ROS framework is provided in Stankey and Wood's, *The Recreation Opportunity Spectrum - An Introduction* (1982).

The end result of the absence of any attempt to control recreation opportunities and therefore experiences, that is to allow market driven opportunities, may be a change in the recreation product and the displacement of the visitors or recreationists who enjoyed the site at its previous levels of use, setting and activities. The product will change according to the demand provided by the greatest number or the majority of people wanting to use it. If this were allowed to happen at all recreation sites in the GBRMP, the recreational needs of a majority of tourists may be met, but the needs of the minority of users, most likely to be locals and specialised tourists, will be compromised.

In our diverse society social welfare should not be defined in terms of majority preference - while 'serving majority preference might be politically wise... it has no necessary connection with social progress' (Freeman and Frey, 1986, pp.231). Freeman and Frey in their paper *A Method for Assessing the Social Impacts of Natural Resource Policies* contend that resource management policies that 'expand the context of choice' may be the more desirable in terms of overall social welfare. Social welfare can be defined in terms of how much a

choice increases polarised conflict in the community, and retains intergenerational recreation opportunity. Those management alternatives that reduce polarisation and forego the fewest futures for key activities are preferred. They recommend this approach over trying to predict future societal preferences, particularly in relation to recreation, where changes in income and prices can significantly alter preferences at any time.

**Social Carrying Capacity.**

Closely tied to the concept of ROS is the issue of social carrying capacity (SCC). In order to maintain a spectrum of recreation experiences, numbers of visitors at specific sites need to be limited to those which will not adversely impact on either the type of experience sought at that location, or the physical environment. SCC therefore works best when an ROS system is also in place (Stankey, 1982). There is quite an extensive literature on SCC, reviews of which have already been carried out for the GBRMPA by Watson (1988) and Beaumont (1993) in her Honours Thesis *Social Carrying Capacity of Green Island and Implications for Tourism/Recreation Planning and Management.*

Variables which have been shown to influence levels of satisfaction with recreation include level of human induced environmental impacts, inadequacy of facilities, and perceptions of crowding (Beaumont, 1993).

A number of studies have focussed on perceptions of crowding which have been found to be influenced by both personal and situational variables. Personal variables include expectations and preferences, the type of activity sought, motivation or experiences sought, demographic factors, rural/urban differences and place of residence and these can all contribute to the level of satisfaction obtained from recreation at specific sites. Situational variables include human induced environmental degradation, inadequacy of facilities, the type of place (wilderness area or a funfair), and the size and geographical features of the area. Characteristics of other visitors, such as the type of activity undertaken (horseriding as opposed to hiking or motorised boats as opposed to canoes) and their behaviour, can also affect perceptions of crowding.

Some studies have shown that actual levels of use of a site need not necessarily affect the level of recreation satisfaction. There are a number of reasons for this including self selection, rationalisation, first time visitors, product shift, displacement of previous recreationists and the

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fact that visitors have multiple sources of satisfaction from a site.  However, as Stankey and McCool (1984) point out, the weak statistical association between use levels and satisfaction is irrelevant because the recreation literature amply shows that recreation experiences comprised of low levels of encounters and solitude are valued and important for many people. It is therefore necessary for management to ensure the continued provision of such experiences.

Various processes for establishing carrying capacity have been proposed (Kuss, Graefe & Vaske, 1990; Shelby and Heberlein, 1986; Stankey and McCool, 1984; ).  A brief overview of two of these, the Limits of Acceptable Change (LAC) (Stankey and McCool , 1984), and Visitor Impact Management (VIM) (Kuss, Graefe and Vaske, 1990) processes, is provided below.

**Limits of Acceptable Change (LAC).**

The LAC process emphasises managing the condition of the resource and the social setting within specified standards, rather than focusing on use levels themselves.  It does this through a nine step process which is similar to the basic model recommended in Social Impact Assessment (see Appendix 1.).  As a broad management framework, the LAC process embraces the ROS concept also.  The nine steps are:

1. Identify area issues and concerns.
2. Define and describe opportunity classes.
3. Select indicators of resource and social conditions.
4. Inventory existing resource and social conditions.
5. Specify standards for resource and social indicators for each opportunity class.
6. Identify alternative opportunity class allocations reflecting area issues and concerns and existing resource and social conditions.
7. Identify management actions for each alternative.
8. Evaluate and select a preferred alternative.
9. Implement actions and monitor conditions.

The LAC carrying capacity model assumes that planning will be based on the provision of a range of recreation opportunities. An excerpt from Stankey and McCool's 1984 article which describes the above steps in more detail is in Section 2 of this report.

**Visitor Impact Management (VIM).**

This process recognises that effective management of protected areas requires both scientific and subjective judgements, and, because of the weak relationships between use levels and social and environmental impacts, involves more than simply setting limits to use. In an eight step process, VIM aims to deal with 'three basic issues inherent to impact management: (1) the identification of problem conditions (or unacceptable visitor impacts); (2) the determination of potential causal factors affecting the occurrence and severity of the unacceptable impacts; and (3) the selection of potential management strategies for ameliorating the unacceptable impacts' (Graefe, Kuss and Vaske, 1990, p.9). The eight steps in the process are :

1. Preassessment data base review.
2. Review of management objectives.
3. Selection of key impact indicators.
4. Selection of standards for key impact indicators.
5. Comparison of standards and existing conditions.
6. Identify probable causes of impacts.
7. Identify management strategies.
8. Implementation.

An elaboration of these steps is provided in Section 2.

One other process of recent development is that of the Canadian Park Service, who have developed a comprehensive park management process, known as the **Visitor Activity Management Process (VAMP),** which is similar to LAC and VIM.

All of the carrying capacity models referred to above suggest that standards for acceptable levels of impacts need to be set, against which actual impacts can be measured, to ascertain whether the standards are being exceeded. If impacts are exceeding the standard then the area is exceeding its carrying capacity, and either limits need to be set or the site hardened to minimise the effects. Shelby, Vaske and Heberlain (1989), believe that this approach provides the best information for assessing carrying capacity but express concern that it is time consuming and expensive. They suggest a method for preliminary assessment of whether

carrying capacity is being exceeded which they believe is reliable as well as requiring minimal expense.

Shelby *et al.*'s (1989) method uses perceptions of crowding, which although being only one measure of satisfaction with a recreational area, is the most studied. They undertook comparative analysis of 35 studies of crowding, in 59 different settings or activities throughout the Unites States of America and New Zealand all of which used the same nine point scale to measure perceptions of crowding. They point out that for a visitor to evaluate a site as being crowded they have in some way expressed that what they experienced exceeded the standard. Although specific information about the factors which led to the perception of crowding have not been identified, the preliminary inquiry suggests that a problem exists at the site and a more detailed study may be required. Their analysis led them to the judgements about carrying capacity based on perceptions of crowding, shown in Table 1. Whether such proportions of visitors feeling crowded is acceptable will depend on the particular type of situation and the importance of crowding as an attribute of the experience sought.

**Table 1. Carrying Capacity Judgements Based on Levels of Perceived Crowding.**

| Percentage of visitors feeling crowded | Capacity judgement | Comments |
|---|---|---|
| 0-35 | Suppressed crowding | Crowding limited by management or situation factors may offer unique low density experiences. |
| 35-50 | Low normal | Problem situation does not exist at this time; as with the above category, may offer unique low density experiences. |
| 50-65 | High normal | Should be studied if increased use is expected, allowing management to anticipate problems. |
| 65-80 | More than capacity | Studies and management necessary to preserve experiences |
| 80 -100 | Much more than capacity | Manage for high density recreation or sacrifice area. |

*Source: Shelby, Vaske and Heberlein (1989, p.285).*

**CONCLUSION:          ASSESSING SOCIAL IMPACTS IN THE GREAT BARRIER
                              REEF MARINE PARK.**

SIA is already carried out, to a degree, by the Great Barrier Reef Marine Park Authority by involving the community in its zoning process and in assessing applications for permits for activities in the Marine Park. However, public or community participation in the planning process is not all that SIA is about. It should do more than identify community concerns and take them into account in planning for management. As stated above, SIA is concerned with issues of equity and quality of life, with predicting the outcome of change, evaluating alternatives and determining mitigation measures.

In the Great Barrier Reef Marine Park SIA should be carried out to assess the full range of social impacts from those which result from general planning decisions such as prohibiting general use of an area, to individual proposals for tourism operations. The nature, range and degree of impacts would be very different for each proposal ranging from interference with traditional activities of indigenous peoples through to changes in demographics, income, community cohesion and organisation, psychological well being, satisfaction with place of residence, change in amenity values of the GBRMP, or of recreation opportunities. SIA is equally important for all proposals, both in the interests of protecting the amenity and the maintenance of recreational opportunities in the area of the park affected, as well as in ensuring the carriage of social justice in relation to impacts on communities.

Cultural impacts will be an important component of any social impacts of planning and management decisions in the GBRMP. The experience of researchers in this area would suggest that the political approach to SIA, would be the most appropriate for seeking to resolve social impacts on indigenous peoples.

Opportunities to conduct SIA in the GBRMPA occur at two levels: at the planning stage when zoning and management plans are being developed; and, in the management stage when applications for permits for use of the Park are processed. At the planning stage, the use of planning and managing frameworks such as the ROS, LAC and VIM have already been recommended. The setting of quantitative limits to use in the planning stage should assist permit processing staff in assessing applications to expand operations or initiate new operations at existing sites. As well as planning for the maintenance of a range of recreation

opportunities in the Park, other social impacts will also need to be considered at the planning stage. Broadly speaking, the process of identifying issues and potential problems, obtaining baseline data, formulating alternatives, assessing and evaluating options, determining mitigation methods and implementing monitoring programs, as listed in the SIA model at Appendix 1, should be followed as part of the planning process. The importance of public participation in the foregoing processes cannot be overemphasised and this is already well acknowledged by the GBRMPA.

There has been some discussion about developing a zoning approach to commercial tourism use within the Great Barrier Reef which would provide for specific sets of operation as an 'as of right' use within the zone. This approach would require general SIA at the zoning stage rather than at the permit stage. It is difficult to see how such an approach could achieve the same provision for social impact assessment unless the zones were very specific and covered a relatively small area. Even so, it is a concept well worth considering but only if there is no loss of recreational opportunity protection.

It will not be possible to allow for all social impacts at the planning stage. Zoning plans are reviewed every 5 to 7 years and in between the GBRMPA will receive requests to approve new or expanded operations in the Park. The social impacts of these proposals will need to be assessed at the time of granting permits. A set of guidelines for assessing social impacts for permit applications, other than those which may impact on residential communities or indigenous populations, are included in Section 3. Providing that a management plan for the area is in place, which has been developed with extensive public participation, the process of SIA will be relatively straightforward. At the present time the GBRMPA does not accept responsibility for the social impacts of developments within the Park on residential communities outside of the Park. However, as the Environment Protection (Impact of Proposals) Act, 1974, appears to apply to social impacts on communities (Woodley, 1989) the GBRMPA may be in a position to follow up the requirement that proper social impact assessments be conducted by developers under this Act. The basic SIA model provided at Appendix 1 would be suitable for determining the wide range of impacts which could potentially arise from developments such as those at Nelly Bay or Oyster Point.

It is important to note here that, in the context of managing the GBR World Heritage Area, one of the criteria for listing the Great Barrier Reef is that the area:

*contains superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;*

Reference to 'aesthetic importance' may impose considerable obligations on the management agency responsible which could be partly addressed through comprehensive SIA.

Finally, the research data provided by the three recent reef experiential studies: *A Reef Experience* (Hunnam, 1990), *Great Barrier Reef Experiences, Lady Musgrave Island and Reef* (Scherl, Valentine and Millard, 1993) and *Social Carrying Capacity of Green Island and Implications For Tourism/Recreation Planning and Management* (Beaumont, 1993) should be useful for the GBRMPA as baseline data for predicting social impacts and in setting limits to use both in future planning exercises and in processing applications for permits. A summary of the main findings of these studies, including descriptions of the settings, activities, recreation experiences and logistics of the tourist operations, is included at Attachment 5. There have been no studies to date made of low or medium-low density reef operations and sites. Future studies of this nature should greatly improve the ability of GBRMPA staff to make more informed and defensible decisions about social impacts.

**Section 2.**   **TWO FRAMEWORKS FOR DEALING WITH THE ISSUE OF**
**SOCIAL CARRYING CAPACITY**

There are two well known management frameworks which deal with the issue of visitor impacts on protected areas; the Limits of Acceptable Change (LAC), (Stankey and McCool, 1984) process, and the Visitor Impact Management (VIM), (Graefe, Kuss and Vaske, 1990) process. An outline of the steps involved in these processes is presented below. There is a third framework, only recently developed by the Canadian Park's Service, known as the Visitor Activity Management Process. It is broadly similar to the LAC and VIM processes and details are available from the Department of Recreation and Leisure Studies, University of Waterloo, Ontario, Canada.

**1. Limits of Acceptable Change (LAC).**

| Step | Process |
|---|---|
| 1. Identify area issues and concerns. | This involves identifying the special features or values within the area requiring attention, what management problems or concerns will have to be dealt with, what issues the public considers as important in the area's management, and what kind of role the area plays in both a regional and national context. Step 1 results in a list of issues and concerns to be addressed when management objectives and alternatives are considered for the area. |
| 2. Define and describe opportunity classes. | Opportunity classes represent subdivisions or zones of the wilderness where different resource, social, and managerial conditions will be maintained. These classes represent a way of restoring or protecting a range of diverse conditions within the wilderness. In Step 2 the number of classes to manage are defined and described and in general terms, the kinds of resource, social, and managerial conditions appropriate to them. These descriptions will be used to help define indicators of conditions selected in Step 3, what standards will be established in Step 5, and what management actions are appropriate in Step 7. This step is effectively the ROS component of the process. |

3. Select indicators of resource and social conditions.

Indicators are specific aspects, or variables, that are selected to represent the conditions desired in the opportunity classes. Examples might include such things as the amount of bare ground at campsites or the average number of parties encountered per day. These measures are taken as indicative of the kinds of conditions for which management is striving. They should be capable of quantitative measurement and be logically and realistically related to the conditions called for in the descriptions of the opportunity classes. Identifying meaningful indicators requires an understanding of the linkage between the selected variable and the kind of experience defined as appropriate for the area. Here, information on the preference structure for types or levels of use would be helpful for selecting variables useful as indicators.

4. Inventory existing resource and social conditions.

The indicators selected in Step 3 are the first step in developing measurable statements of those conditions deemed appropriate and acceptable in each opportunity class. What is needed next is to develop a measurable range of conditions for each opportunity class. These ranges are the standards that distinguish each opportunity class from one another in terms of its resource and social conditions.

However, before such standards are set, it is important to know the range and distribution of currently existing conditions for each indicator. Thus, Step 4 involves the inventory of existing conditions. It is driven by the selected indicators, thereby increasing the efficiency of the inventory process. The results provide an empirical basis for establishment of realistic and achievable standards.

| 5. Specify standards for resource and social indicators for each opportunity class. | With the inventory data on hand, it is now possible to identify standards for each opportunity class. Having such a data base to guide formulation of standards means that they will not be set so restrictively that they will likely prove impossible to meet or so leniently that they might unnecessarily permit a substantial level of unacceptable change to occur. However, standards should not ordinarily simply mimic existing conditions. The standards represent a powerful management mechanism to maintain, restore, or create recreational opportunities. |
| 6. Identify alternative opportunity class allocations reflecting area issues and concerns and existing resource and social conditions. | Step 6 begins the process of considering the different ways in which the area might be managed. Using information form Step 1 (area issues and concerns) and Step 4 (inventory of existing conditions), managers can begin to allocate the area to different opportunity classes in an effort to respond to differing issues, concerns and opportunities. One alternative, for example, might give special attention to preservation objectives; another might cater more to wilderness recreation interests. |
| 7. Identify management actions for each alternative. | Step 7 continues the alternative formulation process, focusing attention on the kinds of management actions needed to achieve the desired opportunity class for each alternative. Here, managers must examine the difference between the desired conditions as expressed in the standards for a given opportunity class and the existing conditions. To achieve what is desired might, in some cases, require only a continuation of existing practices; in others, it might require much more management effort. This highlights the importance of conducting the inventory in a comprehensive, systematic, and reliable fashion as these data provide a base against which desired conditions are compared, with the difference shaping the type and level of management program to bring the two into congruency. |

| | |
|---|---|
| 8. Evaluate and select a preferred alternative. | In Step 8 the costs and benefits, broadly defined, or each alternative is evaluated and a final alternative is selected. Such an evaluation will consider the responsiveness of the alternatives of the issues and concerns identified in Step 1 and the management requirements identified in Step 7. |
| 9. Implement actions and monitor conditions. | Finally, the necessary management actions (if any) are implemented and a monitoring program is initiated. The monitoring program is guided by the same indicators identified in Step 3 and involves periodic re-measurement of the condition of these indicators. Information from monitoring is then evaluated to determine how well the management actions are performing with regard to protecting or restoring desired conditions. If performance is not judged adequate, then managers must consider alternative actions. |

*Source: Stankey and McCool, 1984, pp.467-470.*

**Section 3.** **APPLICATION OF SIA TO THE SPECIFIC REQUIREMENTS OF PERMIT PROCESSING FOR THE GREAT BARRIER REEF MARINE PARK AUTHORITY.**

**INTRODUCTION.**

The Great Barrier Reef Marine Park Authority (GBRMPA) is required by legislation (see below) to consider the social impacts of use of the Great Barrier Reef Marine Park (GBRMP). In Section 1 of this report the idea is developed that Social Impact Assessment (SIA), in protected area management, should be carried out at the planning level for the entire area of the park, involving comprehensive participation by the community, rather than on a case by case basis in the form of permit applications. Discussions with staff indicate that the GBRMPA is considering this approach and that the idea of planning, using a broad form of ROS concept, together with limits to use, is being discussed by GBRMPA staff at the present time. Draft management plans for the Whitsunday and Cairns offshore areas embrace the ROS and limits to use concepts although a greater use of quantitative limits for visitors would further increase the ease of managing applications for permits.

Even when planning for the whole of the GBRMP incorporates SIA in the form discussed above, the Park Management area of the GBRMPA will still be required to assess the social impacts of specific proposals (applications for permits) for use of the Park as not all proposals for use will be foreseen at the planning stage. The guidelines in part 2 of this Section have been prepared to help ensure decisions made by the GBRMPA, in relation to the potential social impacts of proposals to use the reef, are more comprehensive and defensible. The guidelines do this through their reliance on current philosophy and methodology in the areas of SIA and recreation management. The guidelines have been designed, after extensive consultation with GBRMPA and QDEH staff, to cover the wide range of applications received for processing and can be applied equally well to sites with or without current management plans and limits to use.

It needs to be emphasised that most decisions made about applications for use of the reef will require exercise of judgement and the final decision will be subject to political and economic pressures. These guidelines will not preclude the need for subjective evaluation, but aim to

provide methodological procedures to 'enlighten and assist political choice' (Carley and Bustello, 1983, p.39).

The remainder of this Section is comprised of three parts. The first gives an outline of the legislation under which the GBRMPA is presently required to conduct SIA, a summary of the types of permit applications received for processing, and a list of their potential social impacts. The second comprises the guidelines, and the third outlines methods for public participation.

# 1. EXISTING LEGISLATION, TYPES OF APPLICATIONS AND SOCIAL IMPACTS.

## Existing Legislation Requiring Social Impact Assessment in the GBRMP

Apart from the general developments in recreation management over the last few decades which have brought about a focus on the idea of management of Parks for the enjoyment of people, as well as for the preservation of nature, there are also legislative requirements for assessing the social impacts of developments in the Marine Park.

Regulation 13AC(4) of the Great Barrier Reef Marine Park Regulations requires the Authority to have regard to a number of issues when considering an application to use the GBR. Those relevant to SIA are:

? 13AC(4)(b) the need to protect the cultural and heritage values held in relation to the Marine Park by traditional inhabitants and other people;

? 13AC(4)(c)) the likely effect of granting permission on future options for the Marine Park;

? 13AC(4)(e) the nature and scale of the proposed use in relation to the existing use and *amenity*, and the future or desirable use and *amenity*, of the relevant area and of nearby areas.

Permit assessment staff have difficulty dealing with the concept of amenity as it is hard to define/quantify. To date, decisions taken on amenity grounds have largely been related to noise and/or visual amenity. For example, requests have been denied for use of motorised water sports and accommodation at pontoons at sites valued for their natural setting and low

density use.  For the purpose of these guidelines *amenity* is defined as the use or value of the GBR to humans, including aesthetic, psychological, cultural,  scientific, or recreational values (summarised as social values).

Permit assessment staff also have to assess whether an application for a permit may have 'a significant effect on the environment' in which case the requirements of the Environmental Protection (Impact of Proposals) Act, 1974 may be invoked.  The GBRMPA has a set of Guidelines for Identification of Environmental Significance which state the criteria to use when assessing whether there will be significant effects on the environment, and these include social environment criteria.  Some examples of the social impacts which need to be considered under the social environment criteria are whether the proposal:

?      involves significant changes to existing use, to which community based objections have
       been raised or can be expected;
?      may change the quality of the recreational experience;
?      may seriously affect the livelihood of existing users;
?      involves increased demands on services and facilities;

and a number of other factors relating to resource use, population change, transport, cultural heritage, or noise, visual or other factors such as loss of aesthetic or communal amenity.

Proposals which the GBRMPA feel should be considered under the EP(IP) Act are forwarded to the Minister for consideration.  The Minister refers the case to the Department of Environment, Sport and Territories, who decide the level of assessment required.  There are four levels of assessment: a Commission of Inquiry; an EIS; a Public Environment Report; or assessed under GBRMPA legislation.

**Types of Proposals Currently Processed.**

Applications for permits for use of the GBR are jointly processed by the GBRMPA and the Queensland Department of Heritage and Environment (QDEH).  A review of  applications and discussions with staff at these agencies reveal that applications are currently dealt with for:

- ?? access to a new site for tourism purposes, including activities such as fishing, diving, snorkelling, and motorised water sports;

- ?? access to an existing site for tourism purposes (as above) where other operators are already established;

- ?? expansion of existing operation ie., larger boat, more passengers;

- ?? installation of a built structure such as a pontoon, jetty, or accommodation at a new or existing site;

- ?? installation of equipment such as generators or compressors at existing or new sites;

- ?? allowing accommodation at a site;

- ?? a roving vessel operation (live aboard);

- ?? gaining initial or expanding existing access to a beach;

- ?? motorised water sport activities;

- ?? access by sea plane or helicopter, including construction of helicopter landing pontoon;

- ?? burial at sea or installation of plaque;

- ?? removal of crown of thorns starfish from a tourist site;

- ?? conducting research;

- ?? collecting of marine life commercially;

- ?? traditional hunting or collecting;

- ?? conducting bareboat or similar operations;

- ?? conducting canoeing operations.


**Potential Social Impacts Arising From Proposals.**


Applications for permits to carry out activities in the GBRMP can have wide ranging social impacts on existing users, visitors, local recreationists and local communities who live adjacent to the Park.  These impacts can include:


- ?? product shift - change in the nature of and/or quality of the recreational/tourism experience at this or a nearby site, now or in the future because of :
  - ?? increase in visitor numbers;
  - ?? change in physical setting eg. erection of built structures
  - ?? change in activities allowed eg. use of motorised water sport
  - ?? increase in noise levels
  - ?? increase in evidence of human environmental impact (eg. rubbish, broken coral)

?? change in facilities

?? loss of visitor satisfaction, both at the existing or nearby sites;

?? displacement of existing users including local recreationists, from this or nearby sites;

?? conflict with other users such as researchers, fishers, collectors etc, from this or nearby sites;

?? loss of options for the future and desirable social use of the area affected, or nearby area;

?? loss of income for existing operators at this or nearby sites, now or in the future;*

?? change in quality of life in adjacent residential communities including change in sense of community, social cohesion, psychological well being etc;**

?? change in needs and services of adjacent residential communities;**

?? change in quality of life for traditional users, at this or nearby sites;**


*It is acknowledged that the GBRMPA is not specifically concerned with economic impacts of proposals in the Park, (other than the ability of a proponent to make good any damage caused in the park) and as such this impact is not covered in the SIA guidelines.*

*** These guidelines do not address the social impacts of permit applications on residential communities or on traditional users, as these issues require a greater amount of time and resources than have been afforded this study.*

## 2. GUIDELINES FOR ASSESSING THE SOCIAL IMPACTS OF PERMIT PROPOSALS.

These guidelines are based on current SIA methodology and philosophy as outlined in Section 1 of this report. They are not designed to cover impacts on indigenous peoples, nor on established residential communities.

For ease of administration, only one set of guidelines is used to cover the range of applications, which can be broadly classified into three main types:

Type A - sites where quantitative limits to use have been set;

Type B - sites where qualitative limits to use have been set; and,

Type C - sites where no limits to use have been set.

The main difference in method for these broad types is related to the degree of public participation required. A full description of what participation by the public is required for each type of application can be found in part 3 of this Section.

| | SIA GUIDELINES FOR ROUTINE PERMIT APPLICATIONS |
|---|---|
| STEP 1.<br><br>Scoping. | Using Form 1:<br><br>i) define the boundaries for the study - need to include nearby areas such as those within perceptual reach, including areas managed for recreation use on the coastal mainland or on islands.<br><br>ii) assess goals/aims of zone or management plan, and describe any limits to use, quantitative or qualitative, of the study site.<br><br>iii) identify time frame - how long will the proposal be in effect for and when is it proposed to begin? etc.<br><br>iv) list details of the proposed operation, such as size of vessel, number of passengers, structures, activities to be carried out, etc.<br><br>v) list details of present site, ie. the natural setting, built structures, present operations, number of visitors, activities, management strategies.<br><br>vi) with participation from the impacted community, (**see part 3 for guidelines**) and having regard to present operations, identify the factors from the proposed operation which have the potential to cause social impacts (to assist identification, potential factors are listed on page 2 of Form 1- do not consider this list to be exhaustive).<br><br>**If limits to use have already been established for the site in participation with the community, then further participation is not necessary.** The factors may be compiled by the assessing officer having regard to the information compiled for the site in the development of the management plan.<br><br>vii) list the potential social impacts which may arise from the factors identified in vi) above. A list of these is also on page 2 of Form 1- again, do not consider the list to be exhaustive. |

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| | viii) in consultation with the impacted community, determine a set of evaluative criteria for assessing change (again, the community will **not need** to be consulted if limits to use already established).  These criteria will include any established limits to use for the site together with the impacts from factors considered most important to making a decision on the proposal from the list identified above.  The precautionary principle may need to be applied here. |
| STEP 2. Looking at alternatives or future uses of the site. | Identify any alternatives to the proposal - these should include any other desired or future uses for the area, including the option of  leaving the site as it is, as well as any modified or alternative forms of the current proposal. |

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| STEP 3. Profiling - constructing a profile of baseline data. | The aim of profiling is to present a summary of the existing levels of the social factors which could be affected by the proposal. This summary will constitute the baseline data for the study.<br><br>i) list the factors which may cause social impacts identified in the scoping phase in the first column of Form 2.<br><br>ii) obtain present levels of above social impacts and list in the second column of Form 2. If management plans have been developed for the area, then data for most of these factors will already have been collected. Other methods to obtain this data could include surveys, direct consultation with users, observation, or collection of secondary data. Surveys may be the best way to determine present levels of recreational experience. Although often thought of as resource consuming, a self administered 'mini-survey', no longer than one page could be designed to quickly assess current levels of recreation experience sought at a site and any problems being experienced.<br><br>iii) in the third column list which individuals or sectors of the community may be impacted by the proposal. |

| | |
|---|---|
| | iv) in the fourth column describe the data which will be used to measure any changes to each of the above factors, for example, existing research data (see ii) in Step 4 below), information from proponent as to proposed numbers of tourists, activities planned, structures required, or advice from fishers or researchers on changes in quality, quantity of resource etc. Information obtained from the 'mini-survey' could also be used to help predict impacts. If the application is for a **new site**, that is no current levels of commercial use, and there is **no management plan**, the baseline study will concentrate on information relating to the natural features of the site and any present recreational use. |

| | |
|---|---|
| STEP 4. Estimation of likely impacts.<br><br>NB: 'SIA must be designed to enlighten and assist political choice, not to predict the future' (Carley and Bustello, 1984, p.39). | In the last column of Form 2, attempt to forecast the changes and the social impacts which may arise from them. Both negative and positive impacts should be listed. The data sources chosen in the profiling exercise above will provide most of the information required to predict the changes brought about by the proposal. Some information will not be able to be readily obtained such as predicted changes in quality/quantity of the resource used by researchers and fishers or changes in satisfaction with the recreation experience obtained. For these 'unknowable factors' there are accepted methods of educated guess work available:<br><br>i) scenario postulation - which is simply a system of imaginative forecasting, based on previous experience and knowledge, which should show clearly how conclusions were reached.<br><br>ii) another basic method is to use data from similar proposals/events or previous research. For example, several experiential and carrying capacity studies (Beaumont, 1993; Hunnam, 1990; Scherl et al, 1993) provide data on issues such as crowding effects in different recreational environments which could be used to project changes in similar environments. The relevant aspects of these studies are summarised in the accompanying document to these guidelines *Principles of Social Impact Assessment and its Application to Protected Area Management.* |

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|---|---|
| | iii) a third method is to use some form of expert panel to try and reach a consensus on the likely changes. One of the best of these is the Delphi technique which is a form of expert panel where effects of personalities and status are removed. After selection of a panel (minimum of 10 persons) who should be representative of all the impacted parties, a questionnaire is designed to ask members for their individual projections of change from the proposal. The replies from the panellists are summarised and represented to the panellists who have been advised to work towards obtaining a consensus of views. The process is repeated until consensus is reached. Projection also needs to be done for any other alternatives being considered. With a 'no action' alternative, the changes that would have occurred with naturally dynamic social systems need to be considered. |
| STEP 5. Evaluation. | Evaluation is working out how we like the difference that the proposal will make and selecting the preferred alternative. The evaluative criteria developed in Step 1 should be listed on Form 3 and summarised changes for each alternative are listed together with a discussion of their relative merits. The assessing officer should make a recommendation as to the preferred alternative, and the final stage of evaluation will involve a decision by the delegate. |
| STEP 6. Mitigation. | Using Form 4, list the negative impacts identified from the proposal in Step 4, and identify any measures required to offset the potential negative impacts. Mitigation measures may include site hardening; careful advertising and presentation of the recreation experience to be expected at the site so as to minimise differences in expectations and actual experiences; minimisation of impacts such as visual pollution and offensive behaviour; improvement of facilities; physical and visual separation of different levels of activities. Information on alternative locations for displaced activities and experiences should also be noted on the form. |

| Step 7. Monitoring. | Monitoring involves measuring the actual against the predicted impacts of the proposal, and adjusting mitigation measures accordingly. Because of the potential workload of monitoring it may be necessary to restrict it to sites where little empirical data was available to project impacts of the proposal. For example, it may be particularly difficult to project the impacts of a new operation on a new site. Decisions as to future management / monitoring of the site should be noted on Form 4. |
| --- | --- |

**PERMIT ASSESSMENT CRITERIA E): ASSESSMENT FOR SOCIAL IMPACTS IN RELATION TO EXISTING, DESIRABLE OR FUTURE USE OF THE AFFECTED AREA.**

## STEP 1. THE SCOPING STUDY

**NB: the *SIA guidelines for Routine Permit Applications* must be consulted when completing this form.**

a) Boundaries of **study area** - should include any nearby or adjacent areas such as other sites of operation, or national parks on islands or the coastal mainland which are also managed for                                                                                          recreation:
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....
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....

b) State goals/aims of zoning or management plan, including limits to use for he **study area(s)**
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....
.............................................................................................................
....

c) Time                                          frame                                          for
study.................................................................................................

d) State details of proposed operation (eg, size of vessel, number of passengers, structures sought, activities to be carried out, changes to natural setting): ........................................
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e) Describe present operations in the **study area** (eg. natural setting, built structures, present operations, number of visitors, activities, management strategies):

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f) Evaluate and describe the requirements for public participation for this proposal (see Attachment 1 to the Guidelines for guidance).

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g) List the factors arising from this proposal which may cause social impacts (**see Step 1 vi, SIA Guidelines**) - see below for list of factors.

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h) List the potential social impacts which may arise from the factors mentioned above (**see Step vii) SIA guidelines**) **-** see over for a list of potential impacts.

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i) List evaluative criteria (see **Step 1 viii, SIA Guidelines**):

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.........................................................................................................................
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**LIST OF FACTORS WHICH MAY CAUSE SOCIAL IMPACTS (THIS SHOULD NOT BE VIEWED AS EXHAUSTIVE):**

Change in numbers of visitors to a site

Change in physical setting, eg, increase in built structures

Change in types of activities allowed

Change in management level required

Change in recreation experience offered

Change in noise levels

Evidence of human degradation

**LIST OF POTENTIAL SOCIAL IMPACTS (THIS SHOULD NOT BE VIEWED AS EXHAUSTIVE):**

?? product shift - change in the nature of and/or quality of the recreational/tourism experience at this or a nearby site, now or in the future because of :

? - increase in visitor numbers

? - change in physical setting eg. erection of built structures

? - change in activities allowed eg. use of motorised water sport

? - increase in noise levels

? - increase in evidence of human environmental impact (eg. rubbish, broken coral)

? - change in facilities;

?? loss of visitor satisfaction, both at the existing or nearby sites

?? displacement of existing users including local recreationists, from this or nearby sites

?? conflict with other users such as Researchers, Fishers, Collectors etc, from this or nearby sites

?? loss of options for the future and desirable social use of the area affected, or nearby area

?? implications for World Heritage Values.

PERMIT ASSESSMENT CRITERIA E): ASSESSMENT FOR SOCIAL IMPACTS IN RELATION TO EXISTING, DESIRABLE OR FUTURE USE OF THE AFFECTED AREA.

**STEPS 3 AND 4. CONSTRUCTING A PROFILE OR BASELINE STUDY AND PROJECTING THE SOCIAL IMPACTS - COMPLETE ONE Form 1 FOR EACH ALTERNATIVE PROPOSAL.**

**NB: the** *SIA guidelines for Routine Permit Applications* **must be consulted when completing this form.**

| Factors which may cause social impacts | Current level of factor | Who may be impacted? | Data source for projecting change. | Projected change and description of social impact. |
|---|---|---|---|---|
|  |  |  |  |  |
|  |  |  |  |  |
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PERMIT ASSESSMENT CRITERIA E): ASSESSMENT FOR SOCIAL IMPACTS IN RELATION TO EXISTING, DESIRABLE OR FUTURE USE OF THE AFFECTED AREA.

**STEP 5. EVALUATING THE DIFFERENCES FOR EACH ALTERNATIVE**

**NB: the *SIA guidelines for Routine Permit Applications* must be consulted when completing this form.**

| Evaluative Criteria | Alternative 1 | Alternative 2 | Alternative 3 |
|---|---|---|---|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

PERMIT ASSESSMENT CRITERIA E): ASSESSMENT FOR SOCIAL IMPACTS IN RELATION TO EXISTING, DESIRABLE OR FUTURE USE OF THE AFFECTED AREA.

**STEPs 7 and 8- MITIGATION AND MONITORING.**

**NB: the** *SIA guidelines for Routine Permit Applications* **must be consulted when completing this form.**

| Potential Negative Impacts | Mitigation Methods | Monitoring Required. |
|---|---|---|
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## 3. METHODS FOR PUBLIC PARTICIPATION.

As described in the SIA guidelines, applications for permits may be classified into three broad types for the purpose of methodology:

Type A - existing sites where quantitative limits to use have been set;

Type B - existing sites where qualitative limits to use have been set;

Type C - existing sites where no limits to use have been set;

Requirements for public participation differ for each type as described below.

### Type A.

Where the proposal is for an operation at a site where quantitative limits to use have been set, there should be no need to re-consult the public. The application should be dealt with within the framework of the existing quantitative limits, and the information obtained from the public at the planning stage.

### Type B.

Where the proposal is within an area for which a management plan has been prepared, and qualitative limits, but no quantitative limits to use have been established, some form of input from the people currently using the site as to the extent to which the qualitative limits are being met may be necessary. For example, if a vessel is within size limits for an area, but there is concern that the number of visitors overall may affect the quality of the recreation experience, then participation from those likely to be impacted by the proposal should be sought. This could be achieved through direct consultation with current operators and any other permit holders at the site, as well as through a survey of tourists and recreationists who use the site. In the case of a new site, the present recreational users, if any, should be consulted. There should be no need for further consultation as potential impacts, evaluative criteria, and the final decision can be made with reference to information obtained in the planning stage.

### Type C.

When the study area is in a location where a management plan has not been developed, and therefore qualitative or quantitative limits to use have not been established the community will not have been consulted about activities within the area except for at the broad level of zoning.

When no assessments have been made as to the type of experience/use to be provided at the site, it is difficult to evaluate new or additional applications for use. Therefore some method has to be used to make interim decisions until such time as a management plan is developed for the area.

Those people who have been identified as being potentially affected by the application must be invited to participate in the decision making process. If the proposal is judged to be significant enough to affect the general public (for example expansion of, or a new site which may affect recreation opportunities of local users) then the proposal must be advertised in the local paper. In addition, existing permit holders and other known users of the site and nearby areas should be consulted directly. Once the impacted community has been identified, existing users, representatives of the impacted community (elected by their constituents) who have expressed concern, and GBRMPA planners should meet to discuss an interim level of opportunity for the study site, which specifies qualitative, quantitative, or both, limits to use.

As the final decision makers GBRMPA staff need to establish that the decision making by the group must be guided by current planning principals being used for existing management plans, ie, provision of a range of recreation and other uses, and setting of limits to use for ease of management. In the event of inability to reach consensus the services of a trained mediator may need to be obtained. The Delphi technique may also be useful in facilitating a consensus when some members of the decision making group have the potential to use status or personality to dominate decision making.

As well as deciding opportunities for the site and setting interim limits to use, the decision making group must compile a list of factors arising from the proposal which have the potential to cause social impacts using the list at the bottom of Form 1 as a guide. They will also be required to set the evaluative criteria referred to in Step 1 viii). The final evaluation and decision making will be undertaken by GBRMPA and QDEH staff.

**Section 4.**     **REVIEW OF THREE RECENT STUDIES OF VISITOR EXPERIENCES ON THE GREAT BARRIER REEF.**

There have been three major studies of visitor experiences on the Great Barrier Reef: *A Reef Experience* (Hunnam, 1990), *Great Barrier Reef Experiences, Lady Musgrave Island and Reef* (Scherl, Valentine and Millard, 1993) and *Social Carrying Capacity of Green Island and Implications For Tourism/Recreation Planning and Management* (Beaumont, 1993). A summary of the main findings of the three studies, including descriptions of the settings, activities, recreation experiences and logistics of the tourist operations, follows.

**1.** *Great Barrier Reef Experiences, Lady Musgrave Island and Reef* (**Scherl, Valentine and Millard, 1993**).

The study site is Lady Musgrave Island and reef which is located in the Capricorn-Bunker Group of the Great Barrier Reef (the southernmost section), south east of Gladstone and north east of Bundaberg. The setting is natural. There are no permanent residents on the island but camping is permitted. Facilities are minimal with composting toilets, walking tracks, educational signs and garbage bags provided. The island is not much more than 500 metres long and 250 metres wide. The lagoon (excluding the reef area) is approximately 3 kilometres long and one and a half kilometres wide. Density of use within the lagoon (excluding the island) averaged approximately 24 persons per square kilometre during the period over which the survey was conducted.

There are two commercial operations to Lady Musgrave. One departs from Bundaberg, can carry up to 150 day visitors, and has a large pontoon permanently moored in the lagoon with a built in observatory. The operation also has a glass bottomed boat and other small craft for use by scuba divers or for transporting visitors to the island. Visitors can snorkel, swim, scuba dive, relax on the pontoon, visit the island, or view life under the water without getting wet. During the course of the four hour visit visitors have time to undertake all of these activities if they wish. The second operation is much smaller. It departs from the small township of 1770, carries a maximum of 40 passengers, has a mooring buoy on site in the lagoon and offers swimming, snorkelling, relaxing on board the boat or visits to the island.

Camping is allowed on Lady Musgrave Island, with numbers restricted by National Parks Service to 50 at any one time.   There is a block of composting toilets, garbage bags are provided and walking tracks and extension signs are provided.

The lagoon is a favourite spot for visiting recreational yachts, and is also used for both commercial and recreational fishing.

Lady Musgrave is relatively isolated from the major GBR tourist  centre of Cairns and its visitors were predominantly local or Australian, only 22% being from overseas.  There were a high proportion of repeat users to the island and reef.  Forty-four percent of campers, 53% of yachties and 16% of daytrippers who responded to the survey, had visited the island before.

The survey sought a wide range of information from visitors about their experiences during the visit, the activities they undertook, how they felt about what they did or saw, the importance of the natural environment to them, their feelings towards other visitors, their perceptions of crowding, how they felt about the use of motorised equipment to mention a few.  Some of the results which may be useful to managers studying similar areas in the future follow.

**Perceptions of crowding.**

?? Campers were more sensitive to crowding than the yachtie s and the day trippers;

?? Twenty-one percent of visitors overall (including campers) said that there were too many people on the boat and pontoon and 46% felt that the number was acceptable.  Of the day trippers alone, 61% felt that the number was just right and a further 25% felt that the number of people enhanced their experience;

?? Twenty-six percent overall felt that the numbers of people they met on the island were acceptable; 23% said there were too many; 46% felt that the numbers were just right. Eighty percent of campers said that the right number of people camping on the island would be less than or equal to 50;

?? An overall measure of perceived crowdedness was computed and shows that overall, 87% of visitors (85% of day trippers, 96% of campers and 80% of yachties) experienced perceptions of crowding;

?? At the time the data was collected, the numbers of day trippers were operating at around 56% of their capacity. The number of campers was greater averaging 35-40 (70-80% of capacity);

**Level of facilities and tourist operations.**

?? The overall view was that the level of facilities was acceptable with a strong indication that no further expansion was considered desirable.

**Attitude to motorised equipment.**

There was a strong negative reaction to use of generators and /or compressors in the camping area. Many who accepted their use still felt disturbed by them.

**Activities undertaken.**

?? Snorkelling - 67% of all visitors;
?? Contemplating nature - 45% of all visitors;
?? Relaxing - 25% of all visitors;
?? Walking around the island - 35% of all visitors;
?? Scuba diving - 23% of all visitors (mostly campers);
?? Glass bottomed boat viewing - 25% of all visitors;
?? Fishing - 16% of all visitors.

**Attitude to fishing.**

?? Strong negative views about commercial fishing;
?? Strong level of concern for environmental damage;
?? Greater acceptance of recreational fishing.

**Attitude to boats anchoring in the lagoon.**

?? Accepted by 54% of all visitors;
?? Concern over environmental damage from pollution (18%) and anchor damage (39%);

?? Needs to be regulated (32%).

**Attitude to management.**

?? Positive evaluation of management (51%);

?? Emphasis on maintaining current controls including restricting numbers of people, preventing damage to flora and fauna, leaving it natural and restricting development.


**Overall experiences and motivations.**

?? Far greater importance to campers of relaxed, tranquil, peaceful, escape, family togetherness experiences, compared to excitement and uniqueness for day trippers;

?? Contemplating nature was important for day trippers;

?? Experiencing the ocean, the Great Barrier Reef and the general reef community were important motivating factors;

?? Family togetherness was important for campers and day trippers;

?? Good, positive emotional feelings and anticipation of rewarding experiences were most salient motivations overall.


**2. *A Reef Experience* (Hunnam, 1990).**

This study examined the experiences of day visitors to Norman Reef which is located 60 kilometres to the north of Cairns. A survey conducted in 1989 found the reef to be 'spectacular and very rich in hard corals compared to most other outer and mid-shelf reefs' (Hunnam, 1990, p.14). In 1988 a dozen or more reef tour operators had permits to visit the reef.

Permanent structures at the reef at the time of the study included a '45m by 15m pontoon with a shade roof, water access steps, coral viewing vessel berths, and a built-in underwater observation chamber' belonging to Great Adventures whose passengers were the subjects of the study. Other man-made structures moored at this site included 2 glass bottomed boats, and 2 semi-submersible boats for coral viewing. Elsewhere on the reef were 6 permanent mooring installations and a navigation marker. During the study, up to 3 other vessels were moored at other sites on the reef.

The passengers in the survey travelled to the reef in a 30 metre motor catamaran belonging to Great Adventures with a capacity for 275 passengers and crew. On each trip the boat travelled first to Green Island (45min), then to Norman Reef (120 mins) where it arrived at 12.30. Three hours are spent at the Reef before departure to Cairns.

During the three hours at the reef passengers can engage in a variety of activities including swimming, snorkelling, SCUBA diving; underwater observation from the chamber, the glass bottomed boats or the semi-submersibles, or eating lunch and drinking. Tables and chairs are available on the boat and the pontoon.

The survey of visitors to Norman Reef sought details about their country of residence, the type of holiday they were having, details about the size of group, what they were looking forward to seeing and their main reasons for going to the reef, as well as their previous experience with the GBR. A smaller number of visitors were interviewed in-depth about the experiences they had on their visit and the behaviour of some visitors was observed throughout the day. A summary of the findings of the study which may be useful to managers studying similar sites in the future follows.

**Place of residence of the visitors**

Most of the passengers were from overseas (84%) from English speaking countries such as the US, UK, Canada (80%). Only 16% were from Australia and only 2% were from North Queensland. Most (83%) were on their first trip to the GBR. Overseas visitors had least prior experience of the GBR and locals had the most.

**On-site behaviour of the visitors**

The behaviour of 60 randomly selected passengers was observed over 10 different trips. The amount of time spent by these passengers getting close to the reef or the water (directly or indirectly through observatories) ranged from 4 to 121 minutes. Twenty percent spent less than 45 minutes, 70% spent between 46 and 90 minutes and 10% spent more than 90 minutes, in this activity. Fifty-two percent went snorkelling (from 1 to 90 minutes) and 50% visited the observatory but the average time spent was only 4.4 minutes, and many went through without stopping. Three passengers did virtually nothing. Sixty-two percent of targets spent over 50%

of their time sitting down and in fact 'the reef trip was characterised by being carried passively from point to point in groups, rather than active exploration of new sights as individuals' (Hunnam, 1990, p.46).

**Reef experiences.**

Forty visitors were randomly selected for interview to determine the experiences they had on the trip. The most frequently mentioned components of the experience were positive or neutral comments (84%) about nature factors; the ocean and the GBR; the reef community; naturalness and specific marine life details.

Next were comments about the operation itself, 71% of which were positive or neutral. More negative than positive references were made about information services, cost, and safety services.

The third most often mentioned factors related to the activities, 68% of which were positive or neutral. Snorkelling and viewing from the glass bottomed boat and semi-submersible were the most frequently mentioned.

The weather and sea conditions were mentioned next and 57% of these comments were negative.

The least mentioned factors were social and these were also mostly negative. Fifty three percent of social comments were negative about other people on the trip.

**iii)** *Social Carrying Capacity of Green Island and Implications For Tourism/Recreation Planning and Management* **(Beaumont, 1993)**

Green Island is a small (12 hectares in area), vegetated coral cay, located 27 kilometres north-east of Cairns. It comprises some areas of national park as well as a tourist resort. Other operations on the island include a marine zoological gardens complex, an underwater observatory, beach hire and snorkel tours, and a semi-submersible. Three major operations transport visitors to the Island with a total capacity of 2356 persons. The largest of these is Great Adventures who also own the resort. It operates a number of fast catamarans which take approximately 45 minutes for the trip from Cairns to the Island. The average daily visitation to the Island in 1991/92 was approximately 1000 persons.

The study involved a survey of 331 visitors to the Island over the period April to August, 1992, and a survey of 270 local residents of Cairns. The purpose of the survey of Island visitors was to ascertain their perceptions and attitudes about crowding and satisfaction of experience. The purpose of the resident survey was to ascertain their attitudes and perceptions regarding present and past use of the Island in relation to crowding and satisfaction of experience, and to ascertain whether any displacement of local visitors had occurred as the Island developed. The overall purpose of the study was to ascertain appropriate human use levels of the Island.

The following findings from the Study may be useful in management of similar areas in the future.

**Place of residence of the visitors to the Island.**

Forty-eight percent of visitors were from overseas (13.6% of all visitors were from Japan). Thirty-eight percent were from interstate, 8.2% were from Queensland and 2.7% were locals.

**Main reason for the visit.**

For local residents the three most mentioned reasons for visiting the Island were for a family outing, for recreation and for taking visitors. For visitors these were reef/coral viewing, sightseeing/touring, and part of a package tour.

**Activities undertaken during visit.**

Most visitors engage in multiple activities. For local residents the most popular activity was swimming, followed by island walking, snorkelling and sunbathing. For other visitors the most common activity was Island walking, followed by snorkelling, sunbathing, swimming and glass bottom boat viewing.

**Experiences sought.**

Most visitors seek multiple experiences. Local residents most commonly sought relaxation, followed by pleasure, recreation and nature appreciation. For other visitors the most popular experience sought was nature appreciation, followed by pleasure, relaxation and interest.

**Levels of overall satisfaction with visit.**

Local residents expressed the least satisfaction with their visit(s) to the Island. Twenty-six percent reported high satisfaction, 51.9% medium satisfaction and 21.5% low satisfaction. Other visitors reported 40.4% high satisfaction, 45.1% medium satisfaction and 14.4% low satisfaction.

**Levels of perceived crowding.**

The locals also felt the most crowded. Twenty-five percent felt it was extremely crowded, 51.7% moderately crowded, and 20.3% slightly crowded. This compared with other visitors perceptions of 10.4% extremely crowded, 52.4% moderately crowded and 33.8% slightly crowded.

**Effect of variables on satisfaction with visit.**

Some of the more interesting correlations from the study are:

?? satisfaction was not affected by actual use levels;

?? perceptions of crowding increase with use levels;

?? visitors who encounter higher use levels than they expected are more likely to feel crowded;

?? perceptions of crowding were unaffected by personal variables such as activities or experiences sought, demographics, urban/rural residence;

?? perceptions of crowding were affected by place of residence. Local visitors felt more crowded than other visitors and Japanese people were the least inclined to feel crowded;

?? those visitors who noticed behaviour of others which decreased their enjoyment were more inclined to feel extremely crowded;

?? those who perceived greater levels of environmental degradation were more likely to feel crowded;

?? those who perceived facilities to be inadequate were more inclined to feel crowded;

?? there were apparent but non-significant differences in perceptions of crowding and satisfaction, which supported the hypothesis that satisfaction decreases as perception of crowding increases;

?? those who perceived environmental degradation were less satisfied than other visitors;

?? those who perceive facilities to be inadequate were less satisfied than other visitors;

?? Twenty-three percent of local residents had been displaced from the Island, 13% because of crowding and 10% because of other factors such as environmental degradation.

**Section 5.      BIBLIOGRAPHY FOR SOCIAL IMPACT ASSESSMENT AND RECREATION MANAGEMENT**

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**Appendix 1.    A BASIC MODEL FOR SOCIAL IMPACT ASSESSMENT.**

| SIA STEPS | TASK |
|---|---|
| 1.  Scoping: How big a problem is it? | ?? set size of the study to the size of the problem<br>?? determine the boundaries for the study<br>?? identify time frame<br>?? brief survey of impacted community<br>?? develop a study design |
| 2.  Problem Identification: what is the problem and what is causing it? | ?? examine goals, aims and planning objectives of the protected area<br>?? identify who may be affected by the proposal<br>?? identify concerns of the impacted community through public participation<br>?? identify any traditional owners<br>?? perform an assessment of need for goods and services<br>?? work out a set of criteria, based on value judgements of interested parties, for evaluating the consequences of proceeding with (or not proceeding with) the project<br>?? identify any secondary issues |
| 3.  Look at alternatives | ?? define a set of 'reasonable' alternatives based on community concerns. Could consist of do nothing, or meet halfway type scenarios |
| 4.  Constructing a Community Profile | ?? assess how much impact will occur, to whom.  Determine different population segments according to the effect the project may have on them, eg, current users of the area, race, sex, age, socio-economic status<br>?? construct a social overview of impacted community<br>?? assess all social factors that may be affected by the project, eg. levels of recreational experiences, community cohesion, psychological well being, cultural values, community structure and organisation, income, employment, health, safety, noise, aesthetics etc. |

| | ??assign indicators to measure any changes to the above factors |
| | ??determine current levels of the above social factors through survey of experiences and attitudes, or through observation and collection of secondary data |
| | ??present information as a social profile, in a matrix format with population segments on one axis and social factors on the other. This provides the baseline information for the study |
| 5. Projection | ??projection needs to be made against a background of normal change as social systems are naturally dynamic |
| (NB: 'SIA methodology must be designed to enlighten and assist political choice, not to predict the future' (Carley and Bustello, 1984, p.39). | ??various methods of projection |
| | ??scenario postulation |
| | ??projecting from known impacts of previous, similar proposals |
| | ??Delphi technique |
| | ??tourism impact predictors |
| | ??actual projection entails taking the baseline social profile and estimating its changes in view of the proposed project and the same should be carried out for any alternatives suggested in Step 3 |
| 6. Assessment: What difference will the project make? | ??various methods of assessment |
| | ??sensitivity analysis for each social factor in the profile (how much of Y goes with a given amount of X and so on) |
| | ??cross impact analysis |
| | ??mini-surveys |
| | ??visual techniques |
| | ??describe and display 'significant' relationships |
| | ??perform assessment for each alternative |

| 7. | Evaluation: How do we like the difference? | ?? various methods of evaluation |
| | | ?? subjective weighting |
| | | ?? expert panel |
| | | ?? maximisation of choice |
| | | ?? equity issues |
| | | ?? re-identify the concerns of the impacted community |
| | | ?? reformulate evaluative criteria |
| | | ?? identify preferred alternative |

7. Evaluation: How do we like the difference?
  - ?? various methods of evaluation
  - ?? subjective weighting
  - ?? expert panel
  - ?? maximisation of choice
  - ?? equity issues
  - ?? re-identify the concerns of the impacted community
  - ?? reformulate evaluative criteria
  - ?? identify preferred alternative

8. Mitigation.
  - ?? in the past, negative impacts of a project were dismissed as the price of progress. Now, notions of social justice apply - those who bear the costs and who do not receive any of the benefits have to be compensated
  - ?? identify mitigation measures and perform sensitivity analysis on them

9. Monitoring: how good are your guesses?
  - ?? using the same social profile and indicators, measure actual against predicted impacts
  - ?? ideally, sample same population (difficult where displacement has occurred)
  - ?? report feedback to both the community and administrators. The community may wish to re-evaluate their preferences on the basis of the results
  - ?? mitigation measures may need to be modified according to the results
  - ? monitoring must continue for the life of the project, ie. in the case of a national park, for the lifetime of the operation of the park

10. Management
  - ?? Design a management plan which incorporates monitoring and mitigation measures

**Source: adapted from Wolf, 1984.**

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**Appendix 2.   METHODS FOR PUBLIC PARTICIPATION.**

The following comprehensive summary of techniques for public participation and consultation, by Taylor et.al. (1989),  is adapted from Roughley and Scherl (1992).

| | |
|---|---|
| TECHNIQUE | **Charette:** |
| | An intensive planning exercise where a small group of participants spend a few meetings or days discussing questions relating to a specific problem, to reach a consensus view within a defined deadline |
| USES | Intensive, accelerated process of arriving at a solution or agreeing on decisions.   Can facilitate good in-depth communication and relations |
| ADVANTAGES | Aim for representative group.  This involves careful selection. Pose the problem in terms the participants understand and relate to. Useful where you want to develop solutions to a specific problem, or resolve issues. |
| OTHER ASPECTS | Requires blocks of time by the participants.  Too many experts can inhibit discussion.  Participants may not be representative of the community.  Accommodation, child care etc. resources must be funded. |
| | |
| TECHNIQUE | **Community Advisory Committee:** |
| | Organised ad hoc or semi permanent group of representatives from community organisations, neighbourhoods, etc, who review, discuss, evaluate and advise on planned changes on behalf of the community. |
| USES | Useful for monitoring and advice and providing feedback to the community.  Usefulness depends on size and composition of the group; its standing, and relative power.  Can advise on resource allocation, alert attention to problems, and muster expertise to manage change. |

| | |
|---|---|
| ADVANTAGES | Can act as liaison between the various actors in the change situation - local and central government, developers, official agencies and community groups, and grass roots. Brings best of local expertise and experience to bear. Can focus on community concerns and responses. Depends on standing and commitment of the participants and the committee and their connections to key agencies etc. |
| OTHER ASPECTS | May be seen as unrepresentative, as duplicating local councils (in small communities), as reinforcing unbalanced power structures, or as self seeking. May not be able to focus or muster community resources and expertise. May be only form, with participants having no real commitment. Membership may change a lot. |

| | |
|---|---|
| TECHNIQUE | **Community Liaison Forums:** |
| | Public forums for the ongoing debate of relevant community issues. Requires neutral facilitation, resources for communications etc. |
| USES | Enables representatives from most community groups to come together to exchange ideas, share information, increase community awareness of issues and debate ideas and responses. Experts can be invited to supply information where needed. In a development situation, developers etc, would be included. |
| ADVANTAGES | Help disseminate information quickly to a wide number of groups, enable ongoing debate and discussion on community options, provide instant feedback about proposals, and improve communication between groups. |
| OTHER ASPECTS | May become overly formal, stifling debate, especially if facilitated by particular powerful interests (eg. developers). Information sharing may be only symbolic or restricted. Representation can become too inflexible, with membership difficult for new or emerging groups. |

| | |
|---|---|
| TECHNIQUE | **Surveys:** |
| | Face to face, postal or telephone surveys to measure and assess opinions, attitudes, gather information etc. |

| | |
|---|---|
| USES | Can take various forms (eg, census or sample, structured or unstructured) and applied to variety of situations and groups. In planning, used to gain a picture of a community or groups within it. Can be used to complement other planning and participation exercises. |
| ADVANTAGES | Can provide an information base on a community or group for a variety of purposes eg establishment of services. Often used where quantification of opinion and attitudes is considered important. Face to face surveys are most reliable and enable use of complementary semi or unstructured interviews. |
| OTHER ASPECTS | Require high degree of rigour, depending on the type and form of the survey - especially sampling, questionnaire design, application and analysis. Face to face interviews are best but most expensive. Telephone surveys are best value for money but are subject to more limitations. If used for basic information gathering and scoping they can help drive further participation efforts, otherwise they tend to put participants in a reactive role. Widely abused and poorly implemented due to lack of real expertise by planners and community groups. |
| | |
| TECHNIQUE | **Workshops, Seminars:**<br>One to three day exercises looking at specific issues or wider, long term planning questions. |
| USES | For planners, researchers, community members, politicians to come together to hear and participate in discussion on issues facing the community. |
| ADVANTAGES | Most useful if focused on a well defined problem or set of local issues. Can encourage participation in planning and bring together various actors and groups for an exchange of viewpoints. Can take a variety of forms - from focusing on key speakers or papers to small group working sessions. Other techniques can be included. |

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| OTHER ASPECTS | Tend to favour 'joiners' and those few who are willing and able to speak out.  Formality can even discourage participation of those attending.  Requires participants to have a block of time to devote to the exercise and costs can be off-putting.   Also requires organisation of venue, speakers (if any), refreshments and equipment. Administrative support may also be necessary. |
| TECHNIQUE | **Community worker, action research:**<br>Specialist stimulating public discussion on issues, or researching issues for discussion and action. Requires trained or experienced person, infrastructure, and possibly access to research resources, information etc. |
| USES | Helps stimulate interest in community affairs, the formation of interest groups, encourages participation, and can act as contact person or intermediary providing liaison between groups.   May research and advice on issues, raise awareness and coordinate community resources perhaps acting as an advocate for some groups. |
| ADVANTAGES | Strengthens lines of communication between actors in the community, giving voice to less powerful but important groups; as a researcher provides information, is a catalyst in process of developing self reliance, increasing skills, dynamism and community independence. |
| OTHER ASPECTS | Danger of over dependence by the community.  In acting as an intermediary in action research role, may get too close to a problem becoming over zealous in advocacy.  As expert, may reduce community group independence and skills.  May stimulate disunity and factionalism. |
| TECHNIQUE | **Consultation:**<br>with and between groups, local authorities, developers, agents of change etc.   Requires information to be provided, consultation skills, commitment to abide by outcomes, trust and skilful chairing. |

| USES | To increase understanding between key groups on continuing basis, achieve a wider range of views on problems or issues and bringing these together in collective problem solving. Recognition that all participants have something to contribute. |
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| ADVANTAGES | Strengthens communication and trust between groups, brings wider range of views to bear on complex problems: ideas or views not owned once shared; prejudices exposed and worked through; commitment to act if that is the agreed purpose. |
| OTHER ASPECTS | Time consuming: destructive if trust is not achieved or broken: individuals or particular interests may try to dominate, rather than listen to wider viewpoint; agreed actions may not be followed through. |

| TECHNIQUE | **Delbecq:** A group process for impact assessment. With the help of an assistant, small groups identify and list social impacts, discuss and order them in terms of importance by voting. Process can then be repeated with the larger group. Requires main facilitator, assistants and venue. |
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| USES | Scoping and issues identification. Larger groups (separate or as part of larger group) can quickly identify and appreciate the impacts of a proposal or policy. Concerns shared, and particular group concerns noted for action or monitoring. Helps set priorities. |
| ADVANTAGES | Simple to run, easy to participate in, and very productive in a short time. Helps groups prioritise issues and communicate these to one another and promoters of change. Aids in scoping, and focusing SIA studies and responses. |
| OTHER ASPECTS | Number of concurrent small groups limited by facilitators or assistants. May be difficult to coordinate in larger or plenary groups. |

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| TECHNIQUE | **Delphi:** |
| | A panel of individual experts or key people answer series of confidential questionnaires until a consensus emerges. The process is iterative, taking place over a number of rounds of surveying. At the end of each round, the results are summarised and recirculated, thereby increasing the amount of information available, and facilitating a consensus. |
| USES | Used mainly for forecasting, developing strategy, identifying outcomes, preferences and perceptions of current and future situations. Helps identify future issues, problems, opportunities etc. Requires a skilled researcher. Very useful for complex or unstructured problems. |
| ADVANTAGES | Brings variety of perspectives and expertise to bear on a problem or issues; because of anonymity in questionnaires participants are free to respond as they feel and the effect of personality and status is removed. Information and insight grow with the process. |
| OTHER ASPECTS | Participants may not be representative; problems of dropout and non response in time frame set, questionnaire method requires high level of technical expertise and integrative skills which may be hard to obtain; dependence on technical experts for summaries and overviews; consensus may not be possible. |

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| TECHNIQUE | **Dialectical scanning:** |
| | Particular group discussion technique using a facilitator, which attempts to identify impacts of a proposal. Impacts which are subject to disagreement are debated further to reach a resolution. |
| USES | For group discussion where disagreement exists about impacts of a proposal or policy. Requires a very skilful facilitator/ chairperson and a clear goal. |
| ADVANTAGES | Identifies areas of conflict, which then become the focus for debate; helps identify the basis for conflict and these can be studied until agreement or more focused disagreement is reached. |

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| OTHER ASPECTS | Lack of discipline by participants could result in the process getting out of hand, with serious destructive conflict. Conflicts may be exacerbated. |
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| TECHNIQUE | **Focus groups:**<br>Group interview with between 4 and 12 people who have fairly homogenous interests. Requires trained or experienced facilitator. |
| USES | Can obtain qualitative information about a particular issue, eg. would be useful in obtaining the views of a particular interest group, either on a specific issue or a more general topic such as a proposed management plan. |
| ADVANTAGES | It places people of like interests in a natural, dynamic, social situation where they can interact with others in formulating opinions and views. It allows in-depth probing and flexibility to explore unanticipated issues, produces rapid results, and is relatively low in cost to conduct. |
| OTHER ASPECTS | Limitations of the technique include: the possibility of loss of group control; data analysis is more difficult than more quantitative methods; the technique requires trained interviewers; and, groups are sometimes difficult to organise. |
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| TECHNIQUE | **Freephone/hotline:**<br>A telephone based system where callers receive or give information on issues. Toll calls are paid by sponsor organisation. Could be manned or unmanned. |
| USES | If manned system, may be used to receive submissions, comments on issues etc. Issues are noted and followed up. Individuals may be contacted further if necessary. If unmanned, only basic information can be given or received. |
| ADVANTAGES | Quick information system. Easy informal contact for callers, unthreatening for those who don't find it easy to participate or speak out. Can run in conjunction with citizens advice bureau or radio talk back. |
| OTHER ASPECTS | Can become bogged down with calls unrelated to the issue. |

Requires right staff; expensive if freephone service.

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| TECHNIQUE | **Impasse:** |
| | A group activity or game for assessing impacts. The group is provided with information about a proposal or policy. This is discussed and impacts identified. Smaller groups (of 3) then score each impact according to severity or value. The scores of each small group are then used to provide an overall score for each impact. |
| USES | Helps groups and individuals to identify and understand the impacts of projects etc. and identify own priorities and values. |
| ADVANTAGES | Forces people to think about the situation of change, to discuss their assumptions, to recognise their own knowledge about an issue, area or situation, and to systematically consider impacts of change. |
| OTHER ASPECTS | Only limited numbers could participate if the smaller groups are limited to 3 persons each. Can be frustrating if it does not result in action or participation in the decision making process. |
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| TECHNIQUE | **Information Centres/ Displays:** |
| | Can take the form of a permanent office (eg. shop with street access) or a mobile centre eg van or bus where information is presented. |
| USES | Useful for displaying and presenting information to the general public or specific target groups and for getting informal reactions to proposals. Can be used to scope issues. Tend to be used by larger organisations for special projects. |
| ADVANTAGES | Enables information to be accessed by large number of people at their own pace, to present information in an attractive and graphic form. Provides a point of contact between proposers or researchers and the community. If mobile, can be targeted for particular groups and communities. |
| OTHER ASPECTS | Requires advertising, good location, availability of informed field staff, access to appropriate premises or vehicle and careful presentation of displays etc. However they can be regarded by some as 'slick sells' of powerful interests' viewpoints. |

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| TECHNIQUE | **Lobbying:** |
| | Applying pressure by individuals or groups on politicians in order to influence decision making, policy formation etc. |
| USES | Uses informal personal contacts.  The better the connection with the person of influence and their standing, the greater the likelihood of having one's viewpoint included in the decision process. |
| ADVANTAGES | Brings elected representatives into contact with constituents, and provides another channel for citizens to communicate with planners. |
| OTHER ASPECTS | Open to abuse, tending to reproduce existing power arrangements.  Reasons for decisions can be hidden or disguised, the relative weight of various inputs to the planning and decision process cannot be assessed, and it undermines open approaches to government and planning. |
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| TECHNIQUE | **Newsletters:** |
| | Can take a variety of forms and be produced at what ever frequency is required.  Mostly used by local, authorities and established organisations. |
| USES | Used to feed information to interested individuals, groups and organisations, as a communication with wide or specialised audiences, to provoke discussion for feedback or further action and signal forthcoming events and activities. |
| ADVANTAGES | Encourage and stimulate public and specific group awareness and involvement in planning and other matters.  Keeps people over a wide area in touch with key happenings and feedback.  Can easily provide a lot of focused information to readers. |
| OTHER ASPECTS | Tends to be only one way communication, susceptible to bias of the editor, and frequently aren't read by the recipients.  Require staff or team to produce and to have access to printing/copying facilities.  Mailing and material costs involved. |
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| TECHNIQUE | **Newspapers:** |
| | Community, local and regional newspapers, specialist magazines |

etc.

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| USES | Can be used for advertisements, articles on planning, proposals, issues etc. Can incorporate limited questionnaires. Need to know about target audience and reading habits. Good source of information for research eg. issues, activities, clubs and societies and for gaining historical view. |
| ADVANTAGES | Wide audience can be reached with advertisements and articles, and feedback can be received in letters to the editor. Excellent for covering community issues if at local level. |
| OTHER ASPECTS | Depth of reporting can be variable and superficial, especially at community newspaper level. Limited utility of questionnaire data collected through newspapers. Requires development of a good relationship with the media and help in improving their coverage and knowledge of community issues. This requires a knowledge of the role of the media in the community. |
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| TECHNIQUE | **Option Scoring:** |
| | List of options and/or problem statements developed into a questionnaire. People then asked to indicate choices or rate/rank issues within a set of constraints, in terms of their importance for the neighbourhood or group. |
| USES | Can be done at meetings or through postal questionnaires to get community preferences. Requires care with regard to representativeness of sample, methodology and the presentation of options/issues. Previous issue identification or scoping desirable. |
| ADVANTAGES | Increases understanding of constraints in planning, links planners and the public, and can reach people who may not usually participate. |
| OTHER ASPECTS | The problem and options definition is in the hands of planners. Other options and problems may be overlooked in the design. Community therefore should have input into the definition of the options early in the process. Danger of low response rates in questionnaires. Requires a lot of preliminary work and expertise to administer surveys if used. |

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| TECHNIQUE | **Radio and talk back:** |
| | Local radio including University and community access radio. |
| USES | Used to prepare and present documentaries, discussion and talkback programmes to increase community awareness of planning issues and responses to these. |
| ADVANTAGES | Can give wide airing of issues affecting local communities by providing opportunity for direct public feedback and discussion. All viewpoints offered can be heard by all, and some will participate because the format usually provides for anonymity and is informal.` |
| OTHER ASPECTS | Tends to allow for only shallow discussion of single issues, otherwise audience gets lost or confused. Individual callers get limited time to present their views, many of which are likely to be off the point. Programmes require good preparation, an informed presenter, and the cooperation of a community minded radio station. |
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| TECHNIQUE | **Role playing/simulation games:** |
| | People take on roles of others or various actors in the community or authority in a real simulated or analogous planning situation. |
| USES | In a group situation gives people the opportunity to appreciate the positions of others involved in the planning process and the constraints and influences on them. |
| ADVANTAGES | Opens people up to other viewpoints, promotes tolerance, helps build empathy and provides skills. Enables options to be identified in a creative way. |
| OTHER ASPECTS | Best seen and used as complement to wider programme of education and relation building. Requires careful planning and allocation of roles if a game or simulation. Adequate information, briefing and extensive debriefing are critical to get maximum gain and to resolve difficulties encountered. A skilful facilitator is mandatory. |

TECHNIQUE    **Scenario assessment:**

Proposals and their alternatives are assessed for their outcomes and impacts using scenarios. Groups assess the scenarios and the results are compared. Groups can be used to address only one scenario each. Can be implemented using surveys eg Delphi.

USES       Used with groups to explore the impacts of alternative proposals and to educate the participants.

ADVANTAGES   Helps in identifying and focusing on impacts. If only one scenario is assessed by each group, each scenario can be treated equally. Final analysis requires skill. Preferred scenarios should be discussed in a second round.

OTHER ASPECTS  Scenarios require careful preparation with inclusion of all relevant factors and assumptions. May be subject to bias of those who prepare the scenarios or contain incomplete information. Requires availability of information and willingness to share this out. May require survey methodology.

TECHNIQUE    **Written material:**

includes brochures, booklets, reports etc. distributed by a variety of means.

USES       The main purpose is to provide the information necessary for the community and others to participate in planning and comment on proposals. Can be used in conjunction with other questionnaires, or as handout material for displays etc.

ADVANTAGES   Material helps people to focus on planning issues (as described by the writer). Each person can receive a copy of the information for their own use in their own time.

OTHER ASPECTS  Suitability for different groups and purposes may vary. If biased or poorly presented, the material may discourage involvement. Requires personnel with appropriate skills to write and attractively present the material, and have an effective method of distribution - both timeliness and extent.