

WILDERNESS STEWARDSHIP
Discussion paper
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Drummond Densham

1 Introduction

The need to manage wilderness areas may seem to be inconsistent with the wilderness concept. By definition, wildernesses areas are where the natural processes operate as free of human influence as possible, offering primitive recreation opportunities and solitude and where the impact of humans on the landscape is unnoticeable and they do not control the area. The term management strongly suggests that people are in control. Wilderness management is a relatively new form of land use management and the Americans are leaders in the field of management wilderness areas, although there are a number of countries that are developing their own experience base. The early American wilderness champions concentrated on saving the remnant wilderness areas and their approach was to designate wilderness to ensure its protection and then “leave it alone”. However, it was soon realised that this *laissez-faire* approach was not viable and wilderness sensitive management programmes are necessary to protect the wilderness values.

There has been much research and written about wilderness management. The term management has been replaced by wilderness *stewardship*. Wilderness stewardship is more holistic approach to wilderness management where managers first determine whether there is the need for any management action before implementing a management action.

2. Why manage wilderness?

Wilderness management begins with wilderness designation and planning. The term “wilderness management” conflicts with the wilderness concept in that wilderness areas are free from human intervention. However, wilderness cannot be left alone and some management is required to protect the wilderness naturalness and solitude so as to offer visitors a quality wilderness experience. wilderness areas need special management approaches that are not always catered for in the normal protected area management. Wilderness management is an evolving process with the United States of America leading the field. In recent times wilderness management, which includes planning, has gained a negative perception as “wilderness management” implies action. The term wilderness stewardship has become the preferred term as it entails a more holistic approach and includes:

- Designation of new or candidate wilderness areas
- Wilderness planning
- Wilderness management and adaptive management
- Monitoring & review.

3. Wilderness stewardship

Managers’ the natural instinct is to ‘manage’ whether there is a need to or not (Hendee and Dawson, 2002). Wilderness stewardship aims to protect, maintain and where necessary restore, the natural wilderness setting and provide the outstanding opportunities for solitude for people to enjoy. It includes the designation, planning, management and monitoring or management and visitor use activities within the legal and policy frameworks.

Wilderness stewardship requires managers to first determine the need to manage then if management action is required to implement the least intrusive methods to safe guard the wilderness naturalness and solitude. Monitoring the results of all management action is vital in the

stewardship process as the results will indicate how to adapt the new experiences in management and may lead to a review of the overall objectives management approaches.

4. Wilderness planning

Wilderness management plans, as in the case of protected areas, need be strategic with clear aims and goals, with zonation framework¹ that have specific management objectives and visitor use activities that linked to:

- The country's legal, policy and financial frameworks on protected areas and wildernesses;
- The management authority's mission and vision;
- The global instruments of biodiversity and cultural heritage conservation
- The reasons for the establishment of the wilderness area (protected area);
- The protection of the human values given to wilderness areas (protected areas), and;
- Include stakeholders in the planning and management processes.

The wilderness area planning and management process is the responsibility of wilderness planners, wilderness management, and stakeholders. Wilderness managers are responsible for the effective implementation the plan and they are an integral part on the process. They have the on-site experience and knowledge that are important for the development of an effective management plan in a complex and uncertain environment and their role in the planning process is crucial.

Wilderness areas are not self-contained units and they are usually an integral part of a larger protected area and part of the local or regional socio-political-economic environments. In countries that area signatories to the Convention on Biological Diversity, the World Heritage Site Convention, the outcomes of the World Summit on Sustainable Development and the Millennium Development Goals, they are required to demonstrate their contribution to the conventions and programmes.

The success of any management plan will depend on the level of understanding, knowledge and commitment of the wilderness management team of the concept of wilderness and the values and benefits. A vital aspect of the success will also depend on the level of political, the allocation of human and financial resources and public support.

There is now more emphasis on measuring the effectiveness of protected area management, which includes wilderness area management, so that the level of management is improved through adaptive management practices. This needs a well-designed monitoring system that produces results that can be evaluated and, where necessary, the park aims and goals may require redefining to improve the level of management effectiveness.

The purpose of a management plan is to guide managers in the effective management of the wilderness (protected) area. Management plans ensure that the management decisions are based on a clear understanding of the purposes and values of the wilderness area. The plan will also provide a management decision framework for the day-to-day and long-term management actions and ensure a level of continuity and that these are effectively monitored on an ongoing basis. Where wilderness areas are managed without plans, the management will invariably be subject to the haphazard decisions without any proper basis for them and will impact negatively on the values and benefits of the wilderness area.

¹ "Zonation is a technique that involves spatially organising a planning area to facilitate the achievement of management objectives and/or goals. It allows different levels of protection, management and use of protected areas (wilderness areas) in relation to what is being conserved". (Worboys et al 2005, page 214).

The process of wilderness (protected) area planning and management involves a business approach and incorporates principles of scenario planning, and adaptive management in a strategic framework. There are a number of key steps in the process that must be understood to effectively manage protected areas. It is an iterative process in which there is regular monitoring and review within a culture of learning through doing in protected areas (Fincham et al 2004 ²). The management plan is not a stand-alone plan, as it has to take into consideration factors and planning initiatives outside the borders of the protected area. The protected area management plan will need to complement any integrated development plans or other planning initiatives by government bodies that are in place outside the wilderness area.

A wilderness management plan is defined as a document that establishes the purposes for which the wilderness area was established and specifies the management approach for the protection and maintaining the wild and natural character of the wilderness area and its values and benefits. It provides a decision-making framework for the effective management over a given time period. The plan will meet the legal and policy requirements. The wilderness area values will include the biodiversity and ecological, cultural, social (personal, historical and political) and economical aspects for people to enjoy these areas. Management plans are '*living documents*' that are informed by and in turn informed by a range of key stakeholders that include politicians, government officials, the management authority and the public on the vision, policies and programmes to be adopted in the management of the wilderness areas. A key element of any plan is to describe the financial and human resources required to put the plan into effect.

The following steps help to illustrate (Fig 1) this:

Step1 The development of the plan (planning and thinking) in line with legal and policy guidelines and on the baseline data of the biological, social and financial components. It also should take into consideration the complex issues that are involved in protecting and maintaining the wilderness resource will need identified and considered. This will lead to the formulation of a shared future vision for the wilderness. A strategic planning framework should be used to develop the shared vision. The long-term and short-term management and visitor use objectives must describe the shared future vision and how it will be achieved. The objectives need to be:

- ❑ **Specific;**
- ❑ **Measurable;**
- ❑ **Achievable;**
- ❑ **Realistic and reflect the protected area purpose, significant and exceptional values and address the real issues and concerns;**
- ❑ **Time-related, and;**
- ❑ **Stated in priority order with a rationale for each objective.**

Step 2 The implementation of systems, procedures and programmes (action and doing) so that the management team will be able to perform effectively by carrying out the agreed management actions to achieve the stated management objectives. For each objective there must be a set of annual goals that are specific, achievable, stating the responsible person or team and the agreed time frames.

Step3 Regular monitoring and evaluation of all management actions must be done to ascertain whether the objectives have been achieved. This normally leads to a review of the management programmes and adapting the actions. This process involves an adaptive

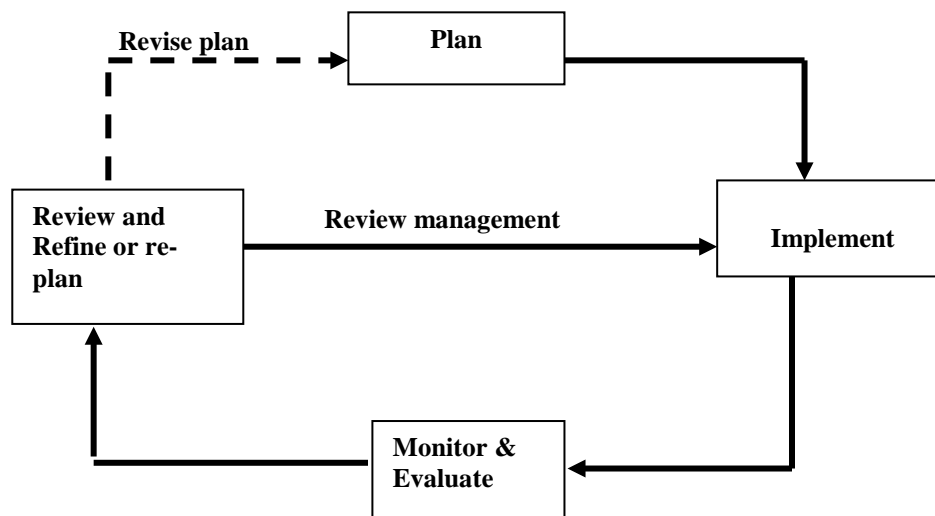
²

Fincham, RJ; Densham, WD and Sihlope, N. 2004
National Protected Areas Report for the South African Department of Environmental Affairs and Tourism.

A Framework for the Preparation of Management Plans for

management style to ensure that the effectiveness of the management continues to improve based on the learning experiences of the management team.

Figure 1 Planning cycle (adapted from Thomas & Middleton, 2003)



5. Wilderness zonation

Wilderness management planning is generally based on the American Recreation Opportunity Spectrum (ROS) and Wilderness Opportunity Spectrum (WOS) planning systems. ROS planning system is used in protected areas and uses six broad management and visitor use zones. The system identifies the least modified zone, or wilderness area, and those areas that are highly modified zone where there is little wilderness to be found. Wilderness are further zoned into four zones:

- ❑ Pristine with high quality of naturalness and solitude with no signs or sounds of people noticeable;
- ❑ Primitive with relatively high quality of naturalness and solitude with some signs or sounds of people noticeable;
- ❑ Semi-primitive with more some signs or sounds of people evident; and
- ❑ Transitional or portal that are the entry or exit points to the wilderness areas and with relatively more signs or sounds of people.

(Hendee and Dawson (2002).

This zonation affords protection of the quality of the wilderness pristine and primitive zones by the buffering effects of the semi-primitive and transitional zones and allows planners and managers to set upper and lower limits to the types of management action and visitor uses for each zone with the primary objective of maintaining or improving the quality of the wilderness resource. (See Umfolozi Wilderness Area Zonation Map).

6. Wilderness planning team

The planning team should comprise of protected area and wilderness planning staff, management staff and public interest groups. In many countries such as South Africa the National Environmental Management Act: Protected Areas Act (2003) in Part 5 Sections 31 to 34 mandates the National Minister and the Provincial Member of Executive Committee to consult with all relevant organs of state and the public in respect of the development and management of protected and wilderness areas. Wilderness managers need to develop participatory skills.

7 Wilderness management plan

The management plan provides an effective decision-making framework for day-to-day & long-term operations. It also ensures that decisions do not impact negatively on the wilderness character and guards against haphazard & non-confirming decisions. The plans are useful in protecting the management authority and wilderness managers from political and public pressures to undertake non-conforming activities. They will ensure that monitoring and the evaluating of management and visitor activities are performed and reviewed against the aims and objectives of the wilderness area.

8. Wilderness zones

There are generally four zones (or wilderness opportunity classes in the recreation Opportunity Spectrum planning framework that was developed by the US Forest Service (Hendee and Dawson (2002) and Wilderness Recreation Opportunity Spectrum Classes (2006).). This framework has been adapted by a number of protected area management authorities to formulate their zonation process. Basically the zones are:

- Pristine Zone
- Primitive Zone
- Semi-Primitive Zone
- Entry Points (or transitional or portal zone)

8.1 Pristine wilderness zone

This zone will contain the purest wilderness character with no sight or sound of man (except for commercial aircraft passing overhead). No or very little visual evidence of man having manipulated the ecosystem and landscape at any time, past or present. The chance of meeting other people/parties is remote and in some wilderness areas no over night camping may be enforced and only people traversing the zone during the day.

8.2 Primitive wilderness zone

The zone is characterised by having no or very little evidence of past or present human manipulation of the immediate ecosystem with views of human habitation visible in the distance. Slightly more opportunities of meeting other parties.

8.3 Semi-primitive wilderness zone

The semi-primitive wilderness is characterised by an unmodified environment where a near-wilderness experience can be enjoyed. It may or not have formalised trails and this depends on the numbers of visitors entering and leaving the zone. There will be more opportunity of meeting other groups of people.

8.4 Semi-primitive non-motorised zone

The semi-primitive non-motorised zone support zone or a buffer zone to the wilderness area are those zones where there is a relatively high possibility of meeting other parties entering the wilderness area. There will be some evidence of past human management.

9. Managing the biodiversity wilderness

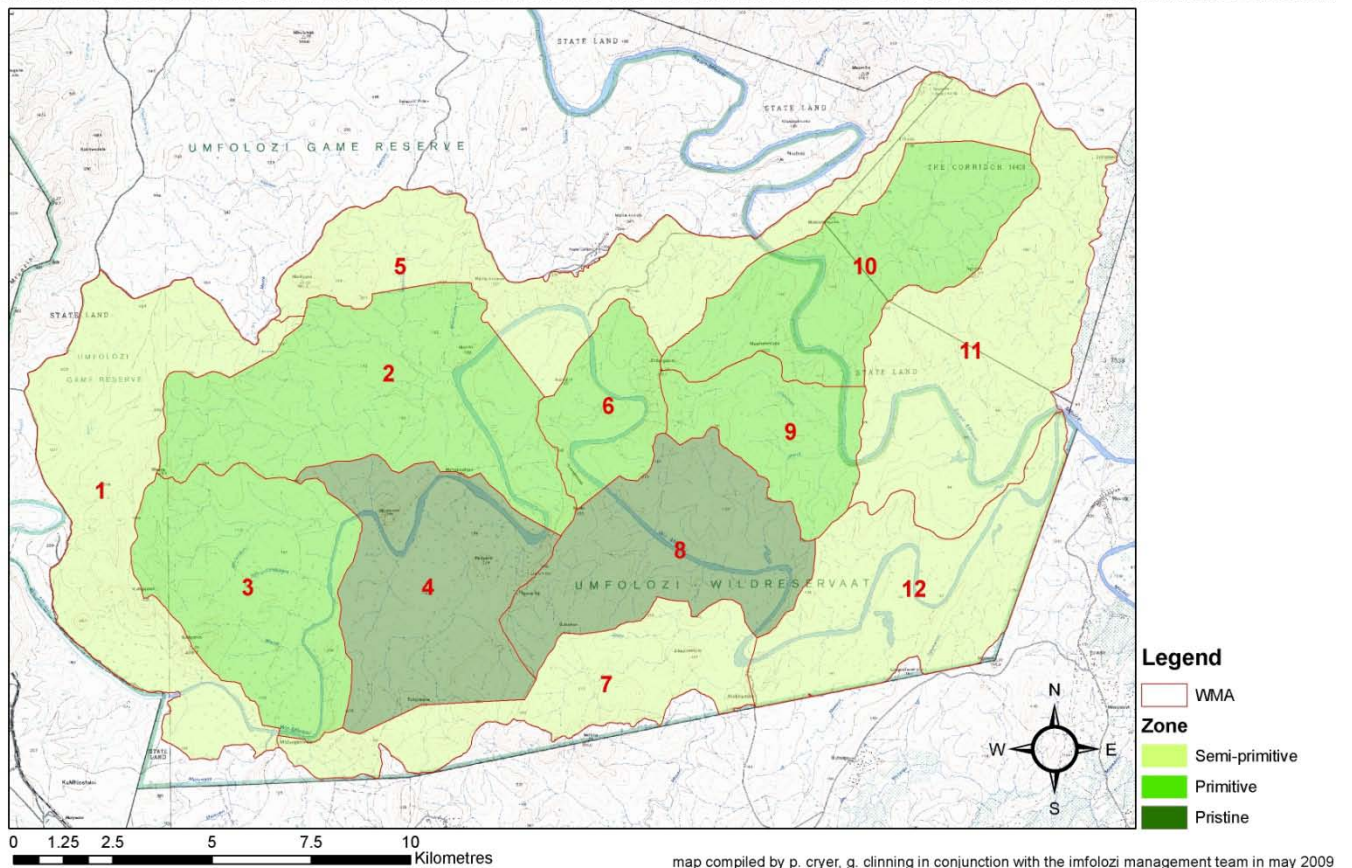
The wilderness management principles form the basis of the management decision-making framework. In protecting the quality of the wilderness resource wilderness managers are directed to protect and maintain the natural biodiversity and the ecosystems in terms of legislation and the provisions of the protected area and wilderness area management plans. The biodiversity adds greatly to the wilderness experience, especially the iconic species such as wolves, bears, elephants, rhinoceros and lions to mention a few. These mandates will include, among others:

- Protecting the wilderness area integrity – law enforcement to prevent illegal activities;

- ❑ Conserving the biodiversity and the natural processes;
- ❑ Wetland protection
- ❑ Prevent soil erosion;
- ❑ Prevent species loss;
- ❑ Eliminate or control alien organisms (animals, plants and diseases);
- ❑ Fire management (includes preventing uncontrolled fires from entering wilderness areas);
- ❑ Management of abundant wildlife species; and
- ❑ Giving special attention to rare and endangered and sensitive species.

The legal and policy limitations on the use of mechanised and motorised equipment govern how these mandates will be achieved in wilderness areas. In developing management actions, wilderness managers need to explore all available options and select the best ones that will have least amount of impact on the quality of the wilderness resource. The implementation of the “minimum tool” principle needs to be very carefully considered, especially where it conflicts with the legislation and or provisions of the wilderness management plan.

WILDERNESS AREA OF HLUHLUWE-IMFOLOZI PARK SHOWING THE DIVISION OF THE MANAGEMENT AREAS EACH OF WHICH HAS BEEN COLLABORATIVELY ZONED THROUGH THE LIMITS OF ACCEPTABLE CHANGE PROCESS



9.1 Fire management

In many parts of the world, fire is a natural event and part of the natural forces. There are natural ecosystems and habitats that have evolved under a fire regime and need fire for their survival. However, this raises the question around the notion of “what is natural fire?” and may need to be determined by wilderness managers for the wilderness area they are managing (Hendee and Dawson, 2002). The “natural fire” does not have a universal accepted meaning in fire ecology. It can refer to but not limited to:

- ❑ Fire events that had had no human influence past or present, and;

- Fire events during the pre-technology or pre-European or pre-settlement times.
(Hendee and Dawson, 2002).

This presents a management dilemma for wilderness management as to whether they should allow fires from natural events burn or not. The main consideration here will be whether the natural fire has the potential to cause harm or damage to if it leaves the wilderness area. There has been much research and practice on the use of fire as a management tool in protected areas and wilderness areas and wilderness managers need to determine the past fire events of their wilderness area in developing a fire management programme. There will be the need for a policy on what to do when fires caused by visitors in the wilderness or unscheduled fires entering the wilderness areas occur.

9.2 Wilderness wildlife

The quality of the wildernesses will be significantly reduced if the full range of the natural wildlife is not present. In African wildernesses, key species, such as elephants, black and white rhino, and large predators, roaming freely in the wilderness adds significantly to the wilderness character and experience. In addition, species have become symbols of the wilderness, such as the wolf in North America. We also need to remember that just as the wildlife adds to the wilderness visitors' experiences, overgrazed and over-utilised habitats will tend to reduce the quality of the this experience (see Ecosystem management below). In southern African, where wilderness areas are small zones in the protected area, wildlife management may be required (Hendee and Dawson, 2002; Bainbridge *et al*, 2008 and Mattson, 1997).

9.3 Ecosystem management

Wilderness areas are becoming more important in the provision of ecosystem services that support the livelihoods of people. Hendee and Dawson (2002) maintain that there may not be any ecosystems left that are unaltered in some way by human activity. They discuss the importance of scale and composition, and dynamics and functioning of wilderness ecosystems and the impact human intervention may have on them Hendee and Dawson (2002 263 – 285). Wilderness managers need to have a good working knowledge of the interplay between people and natural systems to make effective decisions to protect the wilderness resource. There are number of threats that may bring about change in the wilderness ecosystems.

In North America grazing generally refers to the impact of domestic stock in wilderness areas as many cases people have traditional rights to grazing of stock on federal land. In a southern African wilderness context, over utilisation of the habitats by overabundant wildlife will require management intervention to prevent the loss of soil, the loss of indigenous species and the invasion of alien species and diseases. Hendee and Dawson (2002, 263–285) stress the need to manage wilderness ecosystems as part of the whole landscape (Management principle 2 – Manage wilderness comprehensively not as separate parts). They also cover the importance of monitoring, evaluating and adapting management actions.

10. Summary

This discussion paper discusses very briefly the need purposes for wilderness plans if the wilderness naturalness and solitude is to be protected that provide people the opportunity to enjoy a quality wilderness experience. Wilderness management is a relatively new form of land use management. A *laissez-faire* approach that seems to be consistent with the wilderness concept has been seen not be a viable option and wilderness sensitive management programmes are necessary to protect the wilderness values. The specific needs of wilderness areas seem best suited to the development of specific wilderness area management plans rather than a section in the overall protected area management plan.

Wilderness stewardship is more holistic approach to wilderness management where managers first determine whether there is the need for any management action before implementing a management action. The wilderness management plans bring together the whole process of the designation of new or candidate wilderness areas, wilderness planning, wilderness management and adaptive management and monitoring & review for the effective protection of the wilderness resource.

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