

OBJECTIVE SETTING IN FOREST MANAGEMENT PLANNING

Management plans are becoming an integral part of owning and caring for woodland, especially when it comes to obtaining grants, but putting your best intentions down onto paper can be daunting. Calling on his experience with The Mersey Forest, **Nick Roche** demystifies the process of preparing a workable woodland plan.

Stating objectives effectively is never easy and the difficulty people have in defining planning terms such as goal, vision, purpose, objective, output, target, mission, strategy, tactics is testimony enough to the confusion that can arise. Ask a roomful of planners and you would be likely to get a roomful of different definitions. However, stating objectives adequately is absolutely crucial to good planning, "If you don't know where you are going, any road will get you there." - Alice in Wonderland. Too often management plans end up by becoming an accumulation of actions, a once-off, one dimensional work schedule, rather than an active multi-dimensional on-going management tool that pulls a 'project' forward.

A number of project cycle, management and participatory tools have been used to develop a method to structure objectives for forest management planning. The system has been successfully tried out in a number of different circumstances whilst working with landowners and land managers within The Mersey Forest, one of the 12 community forests in England. The aim of this article is to share the experience as it has proved to be so helpful.

Background

The ideal is that a forest management plan be an iterative, flexible, 'living' tool used for long term planning, scheduling activities, setting targets, storing information, measuring progress against the objectives and then rescheduling targets, activities and objectives in the light of experience gained through the implementation of the plan.

The reality is that this seldom happens and many forest plans become activity schedules that end up gathering dust on the shelf, rather than being used as fully fledged plans or management tools. More often than not, this is because the objectives have been very loosely and confusingly stated, usually relegated to an undistinguished section of the plan that is almost never read or referred to. This makes it very difficult to put in place an effective monitoring system. The lack of a system to measure progress towards clear long term objectives ensures that once the short term activity schedule is completed, there is no mechanism to evaluate progress: Have the activities helped move the process towards the stated objectives? Have the shorter term objectives been achieved and if so, has this helped achieve any of the long term objectives? In the light of the answers, what are the next set of activities that will continue to take the process on towards the desirable long term objectives?

The aim of this article is to suggest a system for structuring objectives for use in forest management planning. A starting point will be to provide some definitions, not as a definitive statement in objective nomenclature as this would only cause controversy with people arguing over whether it was 'right' or 'wrong'. However, in order to explain the system some definitions are required, but once the system has been understood and if people make use of the method, they will then introduce their own favourite words and definitions. This does not matter as the importance is in the systematic approach and not the words or their definitions.

If people find the concepts familiar it is because the approach is an amalgamation from a range of different management tools and has been adapted and simplified, without going into the background, for use within the forest management planning context. The tools have been taken from project cycle management, problem analysis, Logical Framework Analysis, Appreciative Inquiry and Participatory Rural Appraisal. Relevant processes have been drawn from each tool to meet the needs of working with site managers, landowners and other stakeholders. The system is equally applicable in situations where there is either one, or there are multiple stakeholders involved in managing the woodlands.

The process

There are only three main steps to the process of developing structured objectives:

1. The articulation of all objectives and activities.
2. The structuring of a hierarchy of objectives.
3. The development of a monitoring system.

An additional fourth step could be the iteration of these three steps after a suitable period to keep the plan alive into the future.

Articulation of objectives and activities

The nomenclature

A whole raft of 'objective words' are used in planning: objective itself, vision, goal, aim, purpose, output, impact, deliverable and although there are some clear distinctions, it is possible to use many of them interchangeably.

For the purpose of this article words have been chosen to help distinguish between different levels of objective as part of the structure within which activities, indicators and targets can work.

The easiest way to express the differences in level are in terms of time: There should be an overall, long term objective which all people or groups that have a stake in the forest area or land must be able to 'buy into'; there should be a series of medium term objectives that individually feed into the long term objective; each medium term objective has a set (one or more) of short term objectives that will help to achieve the medium term objective.

When an objective is stated it is necessary to categorise it in one of the three levels or if it is an action, then as an activity. The way to distinguish at which level an objective lies is by applying a rule: If it can be achieved within a short period of time and there are resources available to achieve it, then it is a short term objective (or even an activity). The more remote an objective sounds, the more likely it is to be a medium objective. If it becomes aspirational in nature it must be a long term objective. It is suggested that the nomenclature with synonyms shown in Table 1 below fits this concept.

There are occasions when the articulation of objectives in a complex environment leaves no alternative but to create a fifth level and this could be incorporated by having the more visionary concepts that stretch even further into the future (with aspects to it that are almost entirely out of the control of the land manager) stated as an overarching 'Vision'.

Other words that are often used include mission, strategy, tactics, targets and indicators. Again it is suggested that some of these can be

Level	Alternative	Time Span	Comment
1. Long term objective	Goal, Aim	20 to 40 years	Aspiration
2. Medium term objective	Purpose, Objective	10 to 20 years	Achievable
3. Short term objective	Output, Impact, Deliverable	5 to 10 years	In control of manager
4. Activity	Action, Operation	1 to 5 years	Silvicultural operation

used interchangeably, such as mission, strategy and tactics, although there are useful distinctions; a strategy could go into a forest plan to express how the work will contribute to a long term objective, on the other hand a mission is more likely to be associated with a recognisable group of people, perhaps a ranger service, or the forestry staff of a region. The tactics express the way in which their stated mission will be achieved.

An example of how a strategy might be formulated from objectives is: A 'normal forest' can be created in an area of about 300ha where there is too much over-aged plantation by introducing small coupe felling in the oldest areas of the woodland at a rate of 3% by area every 5 years using natural regeneration to restock the coupes. As a strategy this would be simply re-stated as: 'In this amenity woodland, visual impact of management will be minimised by using a modified continuous cover system'.

Slightly more distinct are targets and indicators, with each level (even a visionary statement) being allocated targets and indicators. In the above example of a strategy, the indicators are already within the objective statement: 3% by area every 5 years.

Generating the objective statements

A practical issue is how to generate the objectives in the first place. Based on actual examples from The Mersey Forest area, there are several ways of doing this that will be dependent on available resources:

1. The ideal might be to bring 6 or 7 concerned people or stakeholders (landowners, agents, rangers, forest workers, forest users, interest groups, volunteers) together for at least two or three hours in a workshop to thrash out ideas, writing down everything that is generated.
2. Another might be for the forest planner to visit all the concerned stakeholders and ask questions to draw out the issues and aspirations, going back several times as the concepts are translated into objective statements to verify intention.

3. The least intensive method will be for the forest planner to sit down with existing documents and literature to extract the issues, generating ideas from short interviews or telephone conversations and even using the passing comments of 'interested' people.

The planner will have to extract the concepts from the ideas that have been generated, phrasing them as objective statements. This process is not always easy as there will be activities mixed in with pure aspiration, however, if the concepts of time, aspiration and activity are kept at the forefront, then it is possible to tease out the differences.

The statements then have to be rephrased to suite the objective level allocation, which is an important part of the process, as to get it 'wrong' will make it harder to work out the linkages. Several principles are worth adopting:

- Verbs should be strong at all levels below Vision, e.g. will maximise, will manage, will involve, rather than should increase, will try to enlarge, will consider, could include.
- Cause and effect should be built into the phrasing, e.g. to manage public access by using zones, limiting access to important habitats and communities within the woodland.
- Phrasing should be from the perspective of the manager of the woodland – whose plan is it? Instead of suggesting to the manager that 2.1ha be planted, it should be stated that the manager will plant 2.1ha. If the manager or owner disagrees with the statement, they will say so if it is a requirement but might not do so if it is a suggestion. The process of working this through with the manager will help to develop a sense of ownership of the plan.
- Impact should be apparent at short term objective and activity level.
- The statements should be achievable (in

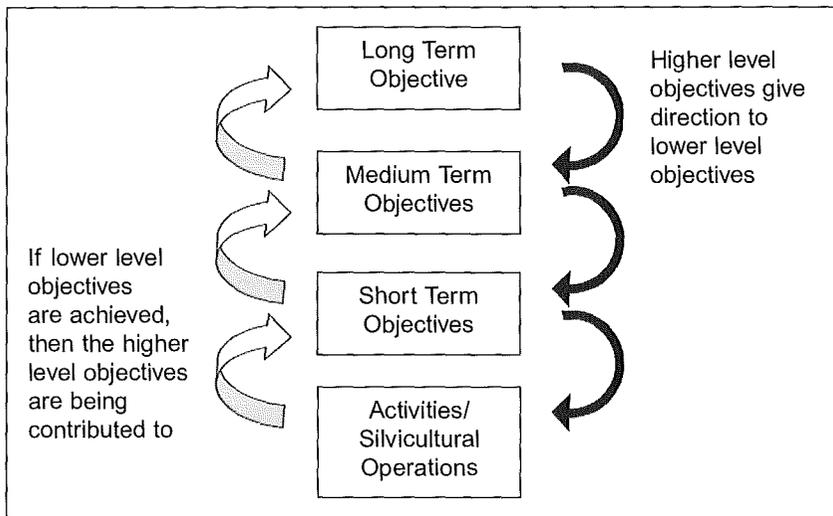


Figure 1. How objectives and activities inter-relate.

terms of available resources and current external influences) only below the long term objective level.

Once phrased and rephrased, it is helpful to write each objective on separate paper or cards.

Structuring a hierarchy of objectives

It is then a good idea to lay out the objectives in sequence with the long term or higher objectives at one end and the short term or lower objectives and activities at the other end. The ideal is that this is done together with the group of stakeholders during the ‘workshop’ session, but it is recognised that resources may not allow for this. The benefit is that people will often bounce ideas off each other and challenge assumptions, with the resulting product being richer, more rounded and logical.

Once the rough sequence is clear, the objectives should be grouped according to long term or higher level (more than 20 years), medium term or mid level (10 to 20 years) and short term or low level (1 to 10 years).

For the structure to begin to work, it is important that the objective statements at the lower levels contribute to the objectives at the higher levels as represented in Figure 1.

This structure is in one dimension only, so it is necessary to introduce more dimensions to capture relationships within objective levels. At

the lower levels (short and medium term), objectives that relate to a single higher level objective should be grouped together. It is important to make sure that there are objectives and activities for each higher level statement and to make sure that there are no activities left out or there are no objectives without activities.

The emerging structure would then look something like that shown in Figure 2.

To bring out the relationships it may be

necessary to rephrase some of the objectives again (maybe even shifting some of the concepts from one objective to another) to emphasise the strong relationships and break down the weaker relationships to ensure that they can be separated. This process will be iterative and there will be a lot of adjustment until all the statements fit the levels and are built into the vertical relationships, working within the logic of the hierarchy; overall the structure must flow from activities to long term objective.

As a way of guiding the process it is best that there is:

- ONE long term objective statement.
- Not more than THREE or FOUR medium term objectives.
- As many short term objectives as needed, but at least ONE short term objective for each medium term objective.
- Again as many activities as needed, but at least ONE activity for each short term objective.

The single long term objective statement can contain several concepts, indeed it has to in order that there can be two or three medium term objectives. An example for an amenity conifer

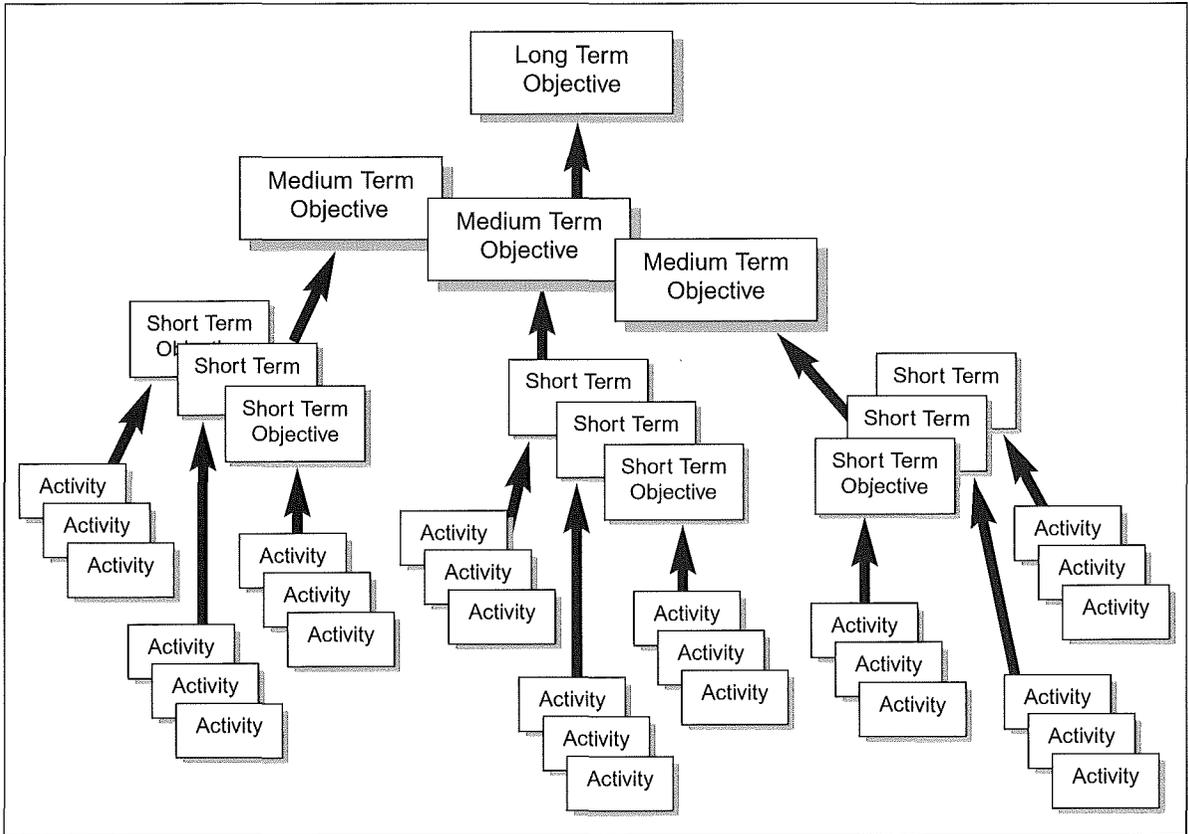


Figure 2. The hierarchy of the management plan.

woodland might be:

“To maintain in perpetuity a mixed conifer woodland with a strong broadleaf element, where the silvicultural management will work to increase the natural biodiversity of the site in balance with increasing public access by the surrounding, growing, semi-urban population.”

(Daresbury Firs Forest Management Plan, Landscape Services, Halton Borough Council, 2003.)

The concepts are fourfold: Sustainability, retention of essential character, increased biodiversity, and increased public access.

The system can be made to work by taking the four distinct concepts and turning them into the medium term objectives, restated as achievable intentions. In this example they were as follows:

- To enhance the natural biodiversity by consolidating the area of heathland at 10% of the total area and by increasing the amount of native broadleaf species in the woodland to between 35- 45% within 20 years.
- To manage public access in such a way as to not damage natural habitats and communities within the woodland.
- To involve local users in the management of the woodland and utilise the potential of the site for educational and demonstration purposes.
- To maximise economic return where it does not conflict with the other objectives and interests.

The process should continue for each of the medium term objective, placing related short

Table 2.. Example table of objectives (courtesy of Landscape Services, Halton Borough Council).				
Long Term Objective		To maintain in perpetuity a mixed conifer woodland with a strong broadleaf element, where the silvicultural management will work to to increase the natural biodiversity of the site in balance with increasing public access by the surrounding, growing, semi-urban population.		
Medium Term Objectives	1. To enhance the natural biodiversity by consolidating the area of heathland at 10% of the total area and by increasing the native broadleaf species in the woodland to between 35 - 45% within 20 years.	2. To manage public access in such a way as to not damage natural habitats and communities within the woodland.	3. To ensure involvement of the local users in the management of the woodland and utilise the potential of the site for educational and demonstration purposes.	4. To maximise economic return where it does not conflict with the other objectives and interests.
	Short Term Objectives	1.1 To fell and replant 3 small felling coupes within the first 10 years as a start to moving away from a commercial rotation of 80 years (changes in the UK timber market and grant funding systems may require that this objective be revisited).	2.1 To clear roads and rides and maintain designated paths. 2.2 To keep the site clean and tidy.	3.1 To conduct guided tours for schools and educational establishments. 3.2 To encourage special interest groups to monitor species (bats, birds, bryophytes) and habitats.
1.2 To retain the coniferous character to the woodland, but to increase broadleaf content, planting into felling coupes on the basis of: 60% mixed conifer, 20% oak, 10% rowan, 10% other native broadleaves (hazel, yew holly, hornbeam). It is assumed that birch will readily self-seed and so will not need to be planted.		2.3 To manage the 'protected area' as a restricted access zone to limit use by the public.	3.3 To conduct guided walks for the general public.	4.3 To carry out activities involving contracted work in same years where possible to take advantage of the 'economy of scale' where appropriate.
1.3 To manage the conifer mix as: 60% Corsican pine, 35% Scots pine, 5% European larch.				
1.4 To systematically reduce the area of lodgepole pine by felling at the rate of 2 coupes of 0.25 ha in every 10 block until it is all replaced by more suitable species.				
1.5 To remove all rhododendron from the site within a ten year period.				
1.6 To control the bracken in all compartments on a rotational cycle, focusing initially on areas of heathland establishment and new tree planting.				
1.7 To consolidate the existing areas of heathland and to plant heather / bilberry into appropriate new sites if and when they come available as a consequence of thinning and felling operations (but not to exceed the 10% of total area).				

Table 3. Extension of objectives table to incorporate monitoring system.

Objectives	Indicator and target	Method of assessment	Monitoring cycle	Responsibility	Use of information
Long term			20 years	Owner, Manager	To verify objectives and activities as a valid management process
Medium term 1 2 3			5–10 years	Manager Agent Interest groups	To monitor progress towards vision and to adjust short term objectives as necessary
Short term 1.1 1.2 2.1 2.2 2.3 3.1 3.2			1–5 years	Manager, Rangers, Forest worker	To monitor progress towards medium term objectives & ensure activities are helping achieve objectives

term objectives under each one and again activities under each short term objective.

Once the hierarchy has been developed it should be transferred to a more formal table and shared with interested parties for comment and further suggestion. An example of a fully developed table is shown in Table 2 (although activities are not included here), with thanks to Landscape Services of Halton Borough Council in Cheshire

Developing a monitoring system

The next stage is to put a monitoring system in place and although monitoring is usually given some attention in a plan, it is, in reality, often relegated to one of those sections of the plan never referred to; it is seen as being 'necessary', but not that important. However, it is absolutely essential to making the plan a 'management plan', rather than leaving it merely as an 'activity schedule', for without an effective monitoring system the objectives will remain 'inactive'.

There are a number of basic requirements for monitoring:

- There must be a baseline.
- There should be measurable indicators for each objective.
- There should be a quantifiable target.
- There should be someone responsible for the indicator.
- There should be somewhere to store the accumulated information.

The beauty of the objective hierarchy is that as soon as the objectives are in place in their table, it is possible to pick them up in the monitoring system by adding monitoring columns to the objectives table, although it means shifting the objectives into a single

column for it to work. Table 3 shows how this can be structured.

The difficulty will always lie in developing a set of indicators that provide information to make judgements on progress, yet does not then impose a burden requiring the allocation of scarce (or non-existent) resources to collect the information. A balance has to be found and it is suggested that this can be done by using information that is needed for and therefore available through day-to-day management.

There is a danger in adding quantifiable indicators, that the plan becomes 'target driven' and appears to be about quantity rather than quality. To prevent this it will be important to bring some element of quality into developing the indicators which may require some lateral thinking in order to generate measurable 'quality'. Some examples are given below for an amenity woodland:

At short term objective level:

An activity may involve the removal of rhododendron. The short term objective may that over 10 years, 100% of the rhododendron infested area will have been cleared, the quality could be that in any one year there is less than 10% (0–100%) of the treated area regenerating in the 12 months after treatment. Verification will require a site visit 12 months after treatment; the assumption is that a manager will visit the site to evaluate the work in any case.

At medium term objective level:

Improving public awareness of a site would be measured through increasing visitor numbers, but if there is no means of logging visitors on an unmanned site, then another measure might be the presence/absence of the feature in local tourist brochures and leaflets at the local tourist information office (rather than engaging in expensive surveys to gauge public opinion) with quality gauged in the description used in the leaflets.

At vision level:

Changing species composition in the canopy could be an aspiration on a site designated as Ancient Semi-Natural Woodland, but currently

conifer plantation (PAWS). The conversion to native broadleaf might take 40 to 60 years so as not to create 'clearfell' shock among the public and progress might be measured by analysing successive aerial photographs every 10 years (not impossible as images can often be obtained on the web, if not already in the possession of the manager). The element of quality could be introduced by counting the number of protest letters received or that appear in the local press as the work is being carried out.

Information must be collected as the plan is implemented to help inform on progress. If the indicators are chosen wisely, then the day-to-day management information can be accumulated as a measure against the indicators. The collation of the information should be made as simple as possible and may be in the form of a management diary structured as a log of activities by compartment, with date, activity, outcome and names of people involved filled in. The sheets of paper must be annexed to the working copy of the forest plan or kept in a hard cover log book. Reference to the diary must be made in the plan to establish a link.

For the monitoring system to work, it is necessary to have a relatively accurate base line, otherwise it will be meaningless to measure an indicator when there is no way of saying how things have changed. A degree of accuracy is important because if a baseline is accurate only to $\pm 20\%$ and 15% difference is envisaged in 20 years, then changes will not show up in the first few cycles of the plan. At the lower objective levels developing the baseline will be fairly straight forward. For example, for the removal of rhododendron there would probably be reasonably accurate maps provided in the plan, developed during the investigation phase of the plan writing, but at the higher levels it may require some surveys and collation of information. If, for example, the perception is that public awareness is low, on what is this based? Perhaps, going back to the earlier suggestion, this might be because there is no reference to it in any of the local tourist information literature.

Iteration

The wonder of this structure is that because it is being pulled along by long term objectives, it is possible to periodically revisit the objectives to ensure that 'things are working'. It is suggested that every five years, the short term objectives be evaluated on the basis of the progress being made through the activities. As has been suggested in Figure 1, the questions should be asked: Are the activities helping to achieve the short term objectives, if not, why not? After ten years, are the short term objectives working towards the medium term objectives, if not, why not? If the objectives are not working so well together any more, is it necessary to re-visit the higher level objectives and restate them?

The implication of asking these questions may be different for time-bound plans and for 'perpetual' or continuous plans. In the worked example for Daresbury Firs, a 'perpetual' plan, revisiting the objectives will result in changes in the objective statements over the years that should reflect changes in the political and economic environment (different grant schemes, different land management priorities) and will also reflect the achievements of the activities themselves. When a particular objective is 'completed', for example rhododendron is finally cleared from a woodland, it will be 'rolled up', but may, during review, be rewritten as "Ensure that invasive species are controlled and monitored for recurrence".

In a time-bound plan of say 20 years (appropriate for a specific project), the more global changes and the achievements associated with activities do not need to be reflected in objective statements unless the objective is rendered inappropriate. The reason for this being that one of the measures of achievement of the higher level objectives will be the degree to which the various objectives have been met in the 20 year period. However, it may be appropriate that a second phase of planning is carried out at the end of the first 20 year period and it will be in the second phase that major changes can be reflected.

It is important that the objectives hierarchy and plan does not become set in stone. On the one hand it is an agreement between parties (at

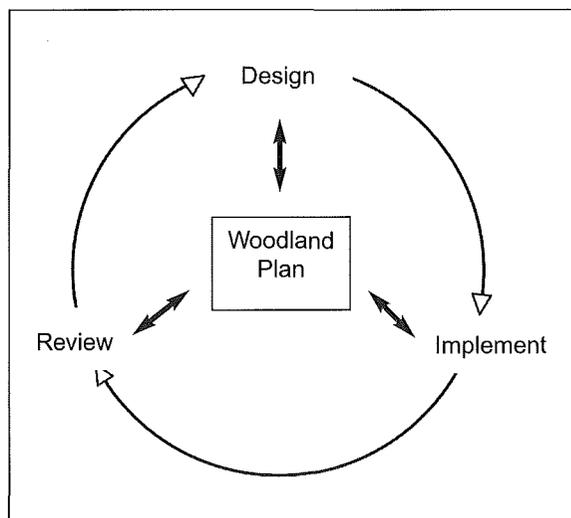


Figure 3. The role of review in the ongoing plan. (Adapted from: 'A Logical Framework Approach'. TeamUp, Team Technologies, USA, 1994.)

the very least between the owner and the Forestry Commission as the basis for grant applications and felling licences), but on the other hand it should not be inflexible and unchangeable. As part of the monitoring system it should be stated at what point there will be formal reviews. These do not need to be expensive affairs and can be largely paper-based exercises using accumulated information.

The sequence might be:

- Annually* - review how activities are helping to achieve short term objectives.
- Every five years* - review how the short term objectives contribute to medium term ones.
- Every ten years* - review how the medium term objectives contribute to long term objectives.
- Every ten years* - review whether the long term objective is still valid.

The concept is illustrated in Figure 3.

This cyclical or iterative process ensures that the plan remains up-to-date, relevant and flexible. The initial investment is quite high to put the plan in place, but a steady input through the monitoring system ensures that future investment is at a much lower level. Building up

information through the monitoring system ensures that the manager / owner can learn from experience.

Finally if this system is put in place in its entirety it contributes in all aspects to the needs and stipulation of the UK Woodland Assurance Scheme (UKWAS).

Conclusion

By systematising the process of generating objectives and by providing a simple logic it is possible to make sense of a mass of aspirations, objectives and activities. The structure suggested here can be used flexibly and if used iteratively can become a dynamic management tool that responds to changes in the physical and socio-political environment. If it is used interactively with different stakeholders it can also contribute to participatory processes and generate a sense of ownership among disparate interest groups. If it is used in the context of forest certification it is a structure that inherently contributes to retaining certification.

The system can be (and has been) applied to any number of situations in which aspirations, objectives and activities need to be structured and then monitored for progress. It does not need to be limited to forest management planning.

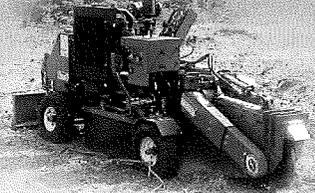
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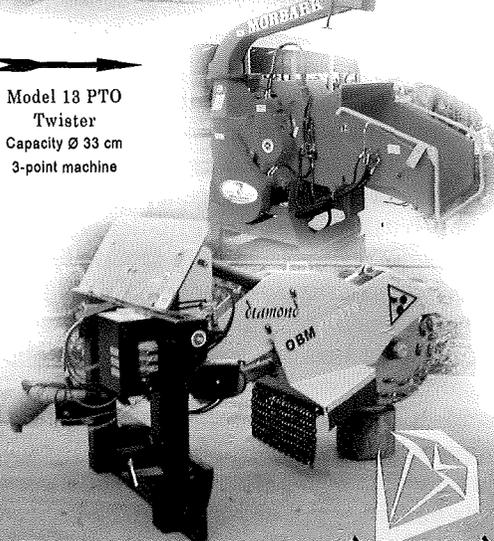
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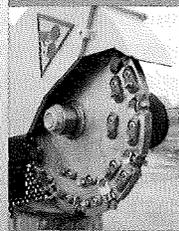
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