

The Internet Revolution: Opportunities for Tourism and Forestry

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Abstract

This paper highlights the potential of the Internet for forestry and tourism, with special emphasis on ecotourism. The paper discusses some of the issues involved in developing forestry and ecotourism information resources on the Internet. The justification which underpins the paper (especially in its discussion of ecotourism) is that sustainable management of New Zealand's biological resources, including its forests, entails their use for tourism purposes; but that such tourism must be ecologically sensitive and responsible.

Forestry and the Internet

In 1995, a special issue of the *Journal of Forestry* was published, which contained eight papers heralding new information technology developments with important consequences for forestry management and production (Staebler, 1995). The papers addressed several themes, including an article on the role and functions of the Internet in forestry. The Internet is already popular with forestry scientists, managers and surveyors, and is used to disseminate forestry information and evaluate timber stocks and prices world-wide.

The Internet's most interactive medium, the World Wide Web (WWW) provides access to other Internet tools, such as File Transfer Protocol (FTP), file retrieval system (gopher) and Internet discussion (News) groups. New services using hypermedia (animation and sound) capabilities are being created all the time. These include on-line biological collections, free-access electronic publications and live simulations of ecological models. Also, forestry scientists are now able to post their research findings, to compare notes with fellow researchers world-wide and invite comments (Saarikko 1995).

There are hundreds of forestry resources on the Internet nowadays. Some important Web sites include:

- Galaxy Agriculture & Forestry Sources (<http://galaxy.einet.net/GJ/agriculture.html>),
- Gaia Forest Conservation Archives (<http://forests.org/gaianf.html>)
- Forest Products, Wood Science, and Forest Products Marketing Related (
- Yahoo Forestry Resources (<http://www.yahoo.com/Science/Agriculture/Forestry/>)

- CERN WWW Virtual Library: Forestry
(<http://www.metla.fi/info/vlib/Forestry.html>)

Important forestry mailing lists, used to facilitate discussions on the Internet, include:

- US National Biodiversity Information Centre (biodicen-l@ucjeps.berkeley.edu)
- Forest canopies research (canopy@lternet.edu)
- Australia's main fire in landscape ecology (listserv@life.anu.edu.au)
- US Department of Agriculture forestry list (forest-net@esusda.gov)
- Sylviculture research (sylvanet@ncsu.edu)
- Wood products research (wood-net@esusda.gov)

In addition to scientific and commercial forestry applications, the Internet also hosts a variety of other resources, including Web pages and discussion groups concerned with biodiversity, forest welfare and ecotourism.

Ecotourism and the Internet

The Internet already has potential that is particularly suited for ecotourism purposes and that this potential is likely to grow in future. 'Ecotourism' has been defined as 'nature tourism that promotes conservation and sustainable development... by generating funds for parks and reserves and communities around them and creating environmental education programmes for tourists and locals' (Boo, 1990). Another definition is 'travel which is sensitive to the ecological, economic and social conditions of the area being visited and which is managed so as to minimise the negative impact on the environment' (Goodwin, 1995, 132). According to this definition, ecotourism is a managed form of tourism. Management is necessary to determine the various impacts which visitors have on the environment, and the nature and scale of impact that the environment can sustain. Neither of the two definitions, however, fits comfortably with the New Zealand situation. At present, few of the funds generated by tourists of any description find their way back to the nation's parks and reserves.

In New Zealand, the word ecotourism has often been used to promote nature and adventure tourism opportunities, with little reference to their environmental impacts or the carrying capacity of the areas where they occur. Michael Hall (Hall 1994) suggests that 'the term ecotourism, as it is commonly used in the south-west Pacific, refers to two different dimensions of tourism... ecotourism as green or nature-based tourism, which is essentially a form of special interest tourism.. [and] ecotourism as any form of tourism development which is regarded as environmentally friendly.'

A further difficulty with the concept of ecotourism in the New Zealand context is that ecotourists may be indistinguishable from domestic recreationists. The resources which are most likely to attract ecotourists are those of the natural landscape and sea: mountains, forests, coasts, and offshore waters. Perhaps the bulk of these lands and coasts, and certainly the offshore waters, are public, open to all New Zealanders by statute. There is a strong tradition of the use of public land for recreational hunting, tramping and walking, and of the coast and certain rivers, for recreational fishing and boating. Thus, the resources that have always provided New Zealanders with a source of adventure and access to nature are often one and the same as those promoted for 'ecotourism'. They are used by residents and visitors alike in a manner that makes it difficult to distinguish one from the other.

Whichever definition of ecotourism one cares to use, there is an implication that it involves a relatively high degree of environmental care and sensitivity on the part of the visitor, and that visitor impacts on the functioning of the natural environment will be minimised. It suggests that visitors must be more than usually motivated to learn about the area they are visiting, and that ecotourism sites will remain comparatively natural or 'unspoilt'.

For this paper, therefore, the ecotourist will be defined as anyone who visits public lands, coast or offshore waters primarily for the purpose of recreational enjoyment and appreciation of the character of the natural environment. This definition includes day visitor recreationists (such as trampers, recreational fishers, and the like) as well as overnight visitors. It makes no distinction between local residents and visitors from overseas, and it makes no distinction between casual and commercial use. Similarly, Ecotourism will be defined as the industry that serves the ecotourist. In particular, it will include the agents and activities that manage ecotourist resources, and inform or influence the activities of ecotourists.

For many reasons, the Internet may be especially suited as a communications medium for ecotourism, although one must justify why should resource managers try to communicate with ecotourists. The answer suggested here is that such communication is a critical aspect of sustainable tourism. In relation to ecotourism, it has been argued (Wight 1994) that, fundamental to a sustainable industry is the acceptance of a series of key principles, including:

- education of local communities, government, non-governmental organisations, industry and tourists (before, during and after the trip);
- encouraging recognition of the intrinsic values of the ecotourist resource;
- acceptance of the resource's limits, which involves supply-oriented management;
- promoting ethical responsibilities and behaviour standards towards the natural and cultural environment.

None of these principles can be achieved without communication between the agents responsible for managing the resource, and the people and groups involved in their use. Essentially, long-term protection of ecotourism resources depends on the informed cooperation, if not the active involvement and assistance, of the users.

There are several powerful answers to the question, 'why the Internet?' They include: the nature of the medium as a means of communication; the nature of the ecotourism market; and the need for a partnership between the protectors of the environment and its users.

The Internet is a global network of interconnected computers and computer systems which can exchange information of almost limitless quantity and variation. With the appropriate software and a (telephone) connection to an Internet server, almost any computer, anywhere, can gain access to the global network, and receive information in return. It is conceptually possible for any home computer user in New Zealand or overseas, with the right hardware and software, to obtain information and respond interactively with the provider of the information. As a communication medium the Internet has many advantages. They include its phenomenal growth as a form of communication, its capability for personalised interactive delivery of information, and its enormous flexibility.

The recent growth of the Internet world wide and in New Zealand has been truly spectacular. Figures for the number of people and/or computers that are linked to the network are hard to find, but indirect evidence abounds. For example, a recent article in *The Dominion's* InfoTech Weekly reported that revenue generated by the Internet products that control connectivity grew from \$1 billion in 1994, to \$1.6 billion in 1995, and were estimated to rise to \$2 billion in 1996, \$2.4 billion in 1997 and \$2.7 billion in 1999 (*The Dominion*, 22 April, 1996, p21).

The Dominion's InfoTech Weekly has an 'on-line' electronic service, 'for news-hungry Internet surfers and is read by thousands of people world-wide each week'. The growth of the Internet is also revealed by the increasing interest shown by commercial firms in its potential as an advertising medium. For example, *The Dominion* reports an interview with TVNZ media sales and marketing manager that, 'Television New Zealand is preaching the Internet message to advertising agencies as it tries to turn its new World Wide Web site into a money-spinner... The Television New Zealand site has been up two months and is already getting 6500 hits a day... there are 2000 New Zealand organisations on-line and 80,000-150,000 New Zealanders using the Internet. The growth rate... is about 18 per cent per month', (*The Dominion*, May 20, 1996).

Whereas movies and TV can only convey information in standard form to all viewers, the Internet allows a highly personalised and interactive presentation of information. Information seekers are able to go to the specific information they need and, to a certain degree, interact with the information source. Depending on the information provided, they can phone or connect electronically with the information provider. Thus a prospective ecotourist or tourist agent could obtain information about a certain attraction and follow this up with an email request to the specific information provider for some action such as booking arrangements. As an information medium the Internet is also immensely flexible. The information can be displayed as an image on a monitor or TV screen, or it can be printed into document form. It can even be transmitted in audio form as sound. It allows incremental additions of information and will accept any quantity (and, unfortunately, any quality).

The information provider, such as a district council, Department of Conservation, or tourist agent, can gradually build up an Internet database of increasingly detailed or expanded information, and can update that information as necessary. Resource managers who wish to advertise their resources and facilities, therefore, can 'start small' and build up over time, in response to the information requirements of travellers. Finally, the variety and amount of information that can be incorporated by the Internet is very wide. Because it can transmit colour and sound, it is possible to show photos and include sound effects, of a waterfall for example.

The ecotourism market in New Zealand

There are probably at least three different groups that need be considered as part of an 'ecotourism' market. These are:

1. the 'ecotourist' (from overseas or New Zealand) who is environmentally aware and seeks a tourism experience that will enhance their appreciation and understanding of the natural world;
2. the domestic recreational user (eg hunters, recreational fishers, trampers, mountain climbers);
3. and members of the travel industry (travel agents, tourism operators and concessionaires).

Each of these groups have a stake in the quality of the resource as users or promoters, and are potential partners in the management enterprise. One may ask, why use the Internet to communicate with these different groups? Travel agents and travel professionals are already highly dependent on computer communications networks for booking purposes, and there are beginnings within the industry to use the Internet as a marketing and communications tool. *The Dominion* reports that 'more than 60 different New Zealand organisations are on the World Wide Web providing travel and tourism information' (*The Dominion*, 20 May 1996). Existing big tourism sites run by private companies include the 'New Zealand Travel/Tourism Resources' page and 'Go Global's Kiwi home page', 'Discover New Zealand' page.

The Travel Agents Association of New Zealand has employed a Sydney firm, Fox Interactive Media Group, to develop a site on the World Wide Web for the Association. As described by the director of the firm, the Association's page is intended to be 'an on-line travel magazine that provides a host of travel information ranging from flight times to accommodation costs'. According to the director, an equivalent site for the Australian Federation of Travel Agents 'has more than 500 pages of destination information, a global calendar of events, reader 'postcards', and competitions.' According to *The Dominion*, 'Travel agents in New Zealand are backing the site because it offers an escape route from the high cost of information and shrinking margins.' (*The Dominion*, 22 April, 1996).

If travel agents and the professional travel industry seem likely to be responsive to ecotourist information on the Internet, can the same be said for individual ecotourists and domestic recreationists? There are strong reasons for suggesting that both groups are likely to be worthwhile information targets. Research on ecotourists, both in New Zealand and overseas, has shown that, as a group, ecotourists tend to be more affluent than other tourists and of higher education (Pearce 1993; Wilson 1993; Thorn 1994).

Relatively high levels of education also seem likely to be a characteristic of people with access to the Internet. Within New Zealand, access to Internet is most widely available within universities and technical institutes and major firms in the financial and service sectors such as banking, accounting, law, and consulting. In relation to domestic New Zealanders, it is less easy to argue the case for communication of ecotourist sites through Internet. However, a survey of home computers conducted by Statistics New Zealand suggests that use of private computers in the home is already extensive and rapidly on the increase. The survey found that 21.7% of New Zealand homes had a home computer as at March 1995 and that this was up from 18.6% the year before, (*The Dominion*, 1 May, 1996). The survey thus suggests that the future potential for Internet communication is very considerable.

A strength of Internet communication, compared with pamphlets, is that it delivers information to the home or office of the individual. Most domestic recreationists are likely to be ordinary working people, who may not easily find the time to go to offices of the Department of Conservation, or an information centre to pick up brochures. Apart from face to face communication and personal communication by post or telephone, the Internet provides a means of communication that is responsive to the tastes and concerns of the individual and convenient for the individual to access.

Finally, another reason why it is worth seeking to communicate with prospective users of conservation land through the Internet is that the Internet offers a style of communicating that can foster partnerships. And partnerships are a major necessity for long-term sustainability of New Zealand's natural and scenic resources.

Because it is flexible and interactive, the Internet is well suited to highly targeted communication with tourism and conservation stake-holders. Apart from personal letters, phone calls or face to face meetings, Internet messages can be used to provide information to specific groups about specific conditions or events at specific times; it can be modified and changed with change of circumstances but is less ephemeral than a radio announcement. Stake-holders can also use the Internet, by e-mail, to respond with comments, questions, and return information. Unlike a telephone call, an Internet message does not require the person at the other end of the message to be immediately available; it can sit and wait in the computer until the receiver of the message is ready. Why partnership? one may ask. Because, as one of the key managers of ecotourism resources, the Department of Conservation has been unable to fulfil its statutory functions and, at the same time, provide for tourism.

Many of the most important ecotourism resources are in national parks and on land administered by the Department of Conservation primarily for conservation. Mountains and native forest on conservation land, the network of tracks and trails through our national parks, beaches and coastal waters, rivers and lakes, are all prime tourism resources. However, the Department of Conservation has statutory responsibilities for protection of natural and historic resources which prevent it from placing primary emphasis on management for tourism. Land subject to the Conservation Act is required to be managed, 'for conservation purposes' (Section 6, Conservation Act 1987), while the National Parks Act states that, 'To the extent that the use of any natural and historic resource for recreation or tourism is not inconsistent with its conservation, [the Department may] foster the use of natural and historic resources for recreation, and allow their use for tourism' (Section 6(e) Conservation Act, 1987).

Of course, there is a strong onus on the Department, therefore, to be cautious about managing conservation land for tourism purposes, particularly if it is to the possible detriment or neglect of wildlife or natural habitats. In most cases its primary function is not tourism but conservation of natural and historic resources, for the benefit of all New Zealanders and for future generations. This statutory obligation is all the more pressing because, as an island archipelago that has been separated from any continental landmass for some 70 to 80 million years, New Zealand has a very distinctive biological heritage that is extremely vulnerable to the kind of changes brought about by modernisation.

However, for the past decade the Government has encouraged a policy of international tourism growth for New Zealand. The NZ Tourism Board has a target of 3 million visitors by the end of the decade. A major element in this promotion has been the marketing of New Zealand's national parks and conservation land as areas of unspoilt wilderness. The Department of Conservation has faced increasing political pressure to provide facilities and services for tourism as well as continue its primary functions. This has been true at the same time as the Department has experienced a drop in funds. One possible means of achieving both objectives is to seek a partnership with visitors to the conservation estate so that they minimise their own detrimental effects, and, where possible, participate actively in conservation management of the resource. To summarise, there is increasing pressure to extend the use of conservation land for tourism purposes. Tourism use is additional to already existing pressure from domestic recreational users.

Biologically, New Zealand's natural heritage is fragile and requires particular care. There is inherently, therefore, a strong incentive for the Department of Conservation, and other natural resource managers to foster an understanding among visitors, whether domestic or overseas, of the uniqueness and fragility of New Zealand's natural heritage. Visitors who understand what is special about the natural environment, what threatens that environment, and why, are more likely to behave in ways that are considerate of natural limits and consistent with its sustainable long-term use.

Conclusion

The Internet has revolutionised information exchange and marketing in recent years. New forestry services are appearing on the superhighways almost every day. Most international agencies, research institutions and commercial corporations involved in forestry activities now have their own Web sites, to promote their services and products. The Internet has given researchers, traders and forest managers easy access to information that had previously required the services of trained information specialists.

The Internet also offers a means of communication that is peculiarly suited to the recreational and ecotourist users of conservation land because it combines flexibility, some scope for interaction between the sender and receivers of information, and is convenient for the increasing numbers of people who have access to its use.

Ecotourism has frequently been touted as an environmentally friendly way to earn revenue from ecological resources. However, the label does not by itself guarantee that visitors will behave responsibly and respectfully towards nature. Prospective recreationists and ecotourists need to know what is required of them, and to have information about the visited environment that will help them to appreciate its intrinsic values. Resource managers such as the Department of Conservation and other environmental stake holders can help to manage the impact of ecotourists by providing such information and by directing them to sites which have the carrying capacity to cope with tourist pressures.

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