

A REVIEW OF USER REQUIREMENTS



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INTRODUCTION

INTRODUCTION

The potential of British Waterways' (BW) canal network as a national leisure and tourism asset is now well recognised and an ever increasing number of people, with a wide range of interests, are turning to canals for their recreation. However, the high diversity of activities undertaken creates the potential for multi-user conflicts, while there remains scope for the continued development of the system as a recreational resource. In addition Government policy is to encourage BW to operate, as far as possible, as a commercial enterprise. BW must therefore aim to maximise the revenue potential of its leisure and tourism industry, by increasing its share of the market.

This paper is intended to provide guidance on how to promote a greater and harmonious use of the waterways, leading to an improvement in their commercial viability. To achieve this a detailed understanding of the needs of each user group is required. Thus the ideal requirements of each group are outlined. Although such an "interactive" system cannot hope to attain the ideal standards of every user, such information will help in the task of striking a balance between the various interests. Hence present interest in the waterways will be maintained, while their attractiveness to the potential market will be increased. In addition, the size of each user group, its spending within the waterway corridor and the income to BW is given wherever the figures are available. This enables the merits of each group to be assessed in terms of its size and economic contribution.

The paper is a revision and up-date of that published in 1984. Although it draws heavily upon this first edition, it takes into account changes in recreational use patterns and recent publications and findings. IWAAC members' comments on the first edition and on drafts of its revision have shaped the final form of this paper.

The change in recreational use patterns is reflected by the addition of two new user groups - 'educationalists' and the disabled. The potential of the waterways as an educational resource has already been recognised by IWAAC in its discussion paper "Education and the Inland Waterways" (1988). With an understanding of the needs and capabilities of the disabled user, the canal network can provide an ideal environment for disabled access and recreational opportunities in the countryside. This has already been shown by The Spinal Injuries Association's specially designed narrowboats, based at Daventry and Worcester, which have proved extremely popular with disabled people and their families and friends.

Some of the previous user group descriptions have been expanded. 'Private Boating' now includes trail boats, which are small powered boats usually kept at home and transported by car or trailer. 'Informal Recreation' includes the study of industrial archaeology and

wildlife/natural history. The section on 'Nature Conservation' therefore is confined to policies which promote nature conservation *per se* and not the requirements of those who wish to study it. Similarly the requirements listed for education and the disabled are specific to these groups and exclude the obvious overlaps with 'Informal Recreation'.

USER GROUP CHARACTERISTICS

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Private Boating

Size of User Market

User Days:	number (millions)	2.00
	% of total user days	1.40
Spending per user day:	in corridor	£3.47
	on equipment, hire etc.	£8.70
	total	£12.17
	% of spending by all groups	26.73
Income to BW:	amount	£3 120 000
	per user day	£1.56
	% of total user derived income	45
	% of daily spend	12.8

User Requirements

THE CHANNEL:

- a) Depth at centre of 1.2m-1.5m (4'-5').
- b) Regular dredging.
- c) Locks maintained to maximum efficiency, with original dimensions, protected gates, efficient gearing and good landing /'waiting' facilities.
- d) Static bridges and tunnels maintained to maximum appropriate headroom.
- e) Lift and swing bridges maintained to maximum efficiency with good landing facilities.
- f) Frequent turning points and unpolluted water.

SIDES AND BANKS:

- a) Off-channel areas available for mooring, either as purpose-built marinas with a full range of facilities, or as 'low-key' developments, thus providing a choice of moorings and a range of facilities. (BW,1987).
- b) Vegetation fringes cleared along main channel.
- c) Regular clearance of rubbish and debris.

TOWPATH:

- a) Accessible from the water and public rights of way, with vehicular access where possible. Slipway access for trail boats available at regular intervals.

b) Surface/Width/Vegetation.

Well maintained, continuous and cleared of rubbish, dog litter and vegetation, especially at lock flights.

TRACKSIDE FACILITIES:

a) Waste Disposal.

- i) Water points, sewage and rubbish disposal facilities no more than eight hours cruising distance apart.
- ii) Provision by boatyards for the pump out of sealed waste units.

b) Mooring.

- i) Discouragement of linear moorings since "they can be unsightly, cause navigation problems, have poor access and lack facilities." (BW,1987). In addition they can undermine the viability of designated off-channel areas and purpose built marinas by the removal of trade. (BW,1987). Such permanent sites should be readily available and easily accessible.
- ii) 'Mooring-time' at popular mooring sites limited to 48 hours.
- iii) Designation of 14 day mooring sites where the water depth is suitable for draughted craft.
- iv) Provision of bollards and rings at all locks, swing bridges and popular sites to minimise bank damage.

c) Facilities.

- i) Slipway /portage facilities at popular sites to allow access by trail boats.
- ii) Wide range of facilities required - car and coach parking in close proximity; water orientated shops, pubs and restaurants; waterside seats and amenity facilities to encourage temporary mooring.
- iii) All associated structures such as waterside furniture, bridges and buildings retained and maintained to a high standard. Graffiti-proof paint used where necessary.

CONTROL, SUPERVISION AND INFORMATION:

a) Personnel.

- i) Presence of patrol officers to prevent speeding, licence evasion and casual off-side moorings and to control the number of boats. This could perhaps be achieved in conjunction with the introduction of the "lengthsman" concept, under which a worker or group of workers is responsible for maintaining a specific stretch of canal.
- ii) Well-informed and knowledgeable bankside staff, trained in public relations, to direct priorities at busy locks, ensure disciplined waterway use and provide guidance on tidal river navigations.

- b) Information.
 - i) Notification of slipway /portage points to encourage casual use of lengths by trail boats.
 - ii) Regular information points detailing local facilities/attractions and ease of access by public rights of way /metalled roads.
 - iii) Stoppage times advertised and adhered to whenever possible.
 - iv) Easily available, accurate and up-to-date information sheets for each length of waterway, giving historical and general information.
- c) Inexpensive, interwaterway licences.
- d) Miscellaneous.
 - i) All bridges numbered.
 - ii) Canal user orientated waterside housing to provide a local presence, thereby improving security for boats when unattended.
 - iii) Original buildings, structures and features retained wherever safety considerations allow, to emphasise the original design of the waterway.
 - iv) Promotion of local events drawing upon private sponsorship.
 - v) Encourage use of less popular lengths by, for example, high standards of maintenance and facilities on all canals and selective publicity of the attractions and features of such lengths.

Hire/Trip Boating

Size of User Market-Hire Boats

User Days:	number (millions)	0.4
	% of total user days	0.3
Spending per user day:	in corridor	£4.95
	on equipment, hire etc.	£12.30
	total	£17.25
	% of spending by all groups	37.89
Income to BW:	amount	£725 000
	per user day	£1.81
	% of market	52.2
	% of daily spend	10.5

Size of User Market-Trip Boats

User Days:	number (millions)	1.1
	% of total user days	0.7
Spending per user day:	in corridor	£1.47
	on equipment, hire etc.	£2.00
	total	£3.47
	% of spending by all groups	7.62
Income to BW:	amount	£71 000
	per user day	£0.07
	% of total user derived income	2
	% of daily spend	2

User Requirements

THE CHANNEL:

- a) Depth at centre of 1.2m-1.5m (4'-5').
- b) Regular dredging.
- c) Locks maintained to maximum efficiency, with original dimensions, protected gates, efficient gearing and good landing and 'waiting' facilities.
- d) Static bridges and tunnels maintained to maximum appropriate headroom.
- e) Lift and swing bridges maintained to maximum efficiency with good landing facilities.

f) Miscellaneous.

- i) Frequent turning points and unpolluted water.
- ii) Viable length for trip to be permanently available except in emergencies.

SIDES AND BANKS:

- a) Off-channel areas provided for mooring and for hire boat operation subject to existing operators' requirements.
- b) Vegetation fringes cleared along main channel.
- c) Regular clearance of rubbish and debris.

TOWPATH:

a) Accessibility.

- i) Accessible from the water and public rights of way, with vehicular access where possible, especially for mobile servicing.
- ii) Equestrian access from public right of way, for horse-drawn trip boats.

b) Surface/Width/Vegetation.

- i) Well maintained, continuous and cleared of rubbish, dog litter and vegetation, especially at lock flights.
- ii) Wide and suitably surfaced for equestrian passage when towing boats by horse.

TRACKSIDE FACILITIES:

a) Waste Disposal.

- i) Water points, sewage and rubbish disposal facilities no more than four hours cruising distance apart.
- ii) Provision by boatyards for the pump out of sealed waste units.

b) Mooring.

- i) Discouragement of linear moorings.
- ii) Permanent sites such as marinas readily available and easily accessible.
- iii) 'Mooring-time' at popular mooring sites limited to 48 hours.
- iv) Sections of popular mooring sites designated for hire/trip boats to avoid conflict with private boaters staying for longer periods.
- v) Reserved moorings provided at battery charging points.
- vi) Provision of bollards and rings at all locks, swing bridges and popular sites to minimise bank damage.

c) Facilities.

- i) Wide range of facilities required - car and coach parking in close proximity, especially at access points for trip boats; water orientated shops, pubs and restaurants; waterside seats and amenity facilities to encourage temporary mooring.
- ii) All associated structures such as waterside furniture, bridges and buildings maintained to a high standard. Graffiti-proof paint used where necessary.

- iii) Waterside buildings available for business use by operators and overnight accommodation for land and water based holidays.

CONTROL, SUPERVISION AND INFORMATION:

a) Personnel.

- i) Presence of patrol officers to prevent speeding, licence evasion and casual off-side moorings and to control the number of boats.
- ii) Well-informed and knowledgeable bankside staff, trained in public relations, to direct priorities at busy locks, ensure disciplined waterway use and provide guidance on tidal river navigations.
- iii) Adequate instruction on all matters of safety, lock and bridge operation and boat handling from hire boat operators.

b) Information.

- i) Regular information points detailing local facilities, attractions and ease of access by public rights of way /metalled roads.
- ii) Stoppage times advertised and adhered to whenever possible.
- iii) Easily available, accurate and up-to-date information sheets for each length of waterway giving historical and general information to encourage appreciation of the lengths, notify difficulties in navigation, temporary works and angling matches etc. to avoid conflict.

c) Miscellaneous.

- i) All bridges numbered.
- ii) Canal user orientated waterside housing to provide a local presence, thereby improving security for boats when unattended.
- iii) Original buildings, structures and features retained wherever safety considerations allow, to emphasise the original design of the waterway.
- iv) Promotion of local events drawing upon private sponsorship.
- v) Encouraged use of less popular lengths by, for example, high standards of maintenance and facilities on all canals, or greater publicity of the attractions and features.
- vi) Co-operation between BW, agencies and the private sector to promote waterway holidays.
- vii) Booking facilities at all information centres near the waterway.
- viii) Return trips or purchase of own boat encouraged whenever possible, for example by well-maintained facilities and attention to architectural, historical, landscape and wildlife details.
- ix) High standards of maintenance and facilities to create an attractive, competitive alternative to other forms of holiday.

Unpowered Boating

Size of User Market

User Days:	number (millions)	4.2
	% of total user days	2.8
Spending per user day:	in corridor	£3.56
	on equipment, hire etc.	£2.00
	total	£5.56
	% of spending by all groups	12.21
Income to BW:	amount	£56 000
	per user day	£0.01
	% of user derived income	0.29
	% of daily spend	0.18

User Requirements

THE CHANNEL:

- a) Depth at centre >0.6m (2').
- b) Regular dredging.
- c) Static bridges and tunnels maintained to maximum appropriate headroom.
- d) Lift and swing bridges maintained to maximum efficiency with good landing facilities.
- e) Frequent turning points and unpolluted water.

SIDES AND BANKS:

- a) Off-channel areas for 'pottering' with retention of fringing vegetation and land access.
- b) Regular clearance of rubbish and debris.

TOWPATH:

- a) Accessible from the water and public rights of way, with vehicular and slipway access where possible.
- b) Surface/Width/Vegetation.
 - i) Well maintained, continuous and cleared of rubbish, dog litter and vegetation, especially at lock flights.
 - ii) Split bridges and other facilities for continuous haulage.

TRACKSIDE FACILITIES:

- a) Mooring. Discouragement of linear moorings.
- b) Facilities.
 - i) Slipway/portage facilities at popular sites.
 - ii) Sanitary facilities.
 - iii) Car parking facilities.
 - iv) Inexpensive overnight accommodation, such as hostels and campsites, in close proximity.
 - v) Secure storage facilities near overnight accommodation.
 - vi) Facility to notify moorings to expect periodic towing.

CONTROL, SUPERVISION AND INFORMATION:

- a) Personnel.

Presence of patrol officers to prevent speeding, licence evasion and casual off-side moorings and to control the number of boats.
- b) Information.
 - i) Notification of slipway/portage points, temporary storage facilities and overnight accommodation to encourage casual use of lengths.
 - ii) Easily available, accurate, up-to-date information sheets detailing slipway points, facilities and angling/powered boating information to avoid conflict.
- c) Licences.
 - i) Greater publicity for the scheme of reduced licence fees for members of clubs affiliated to the British Canoe Club.
 - ii) Agents to issue licences at special rates.

Angling

Size of User Market

User Days:	number (million)	16.4
	% of total user days	11.1
Spending per user day:	in corridor	£0.75
	on equipment, hire etc.	£5.70
	total	£6.45
	% of spending by all groups	14.17
Income to BW:	amount	£312 000
	per user day	£0.02
	% of total user derived income	0.58
	% of daily spend	0.30

User Requirements

THE CHANNEL:

- a) Depth at centre >1m (3' 6")
- b) Regular dredging.
- c) Miscellaneous.
 - i) Unpolluted water
 - ii) Habitat improvements to increase fish stocks.

SIDES AND BANKS:

- a) Off-channel areas to act as stock pools.
- b) Vegetation fringes retained for cover and organic matter input.
- c) Regular clearance of rubbish and debris.

TOWPATH:

- a) Accessible from public rights of way.
- b) Surface/Width/Vegetation.
Well maintained, continuous and cleared of rubbish, dog litter and vegetation.
- c) Creation of angling stations wherever possible.

TRACKSIDE FACILITIES:

- a) Mooring.
 - i) Discouragement of linear moorings.
 - ii) At established sites only, to minimise the risk of ropes across the towpath and interference at angling stations.

b) Facilities.

- i) Sanitary facilities.
- ii) Car parking facilities especially at popular sites.
- iii) Refreshment and catering facilities which accommodate the outdoor user.
- iv) Rubbish disposal points adjacent to popular sites and angling stations.

CONTROL, SUPERVISION AND INFORMATION:

a) Personnel.

- i) Presence of patrol officers to control the frequency of passing boats.
- ii) Supervision by bailiffs especially early in the mornings, at weekends and bank holidays.
- iii) Establishment of fish rescue teams in conjunction with the NRA and angling associations, to deal with emergencies.
- iv) Good liaison at the correct level with officers of permanent authorities.
- v) Easily available, accurate, up-to-date information sheets.

b) Information.

- i) Readily available fishing licences, the preferred method of payment being day tickets and regional tickets valid for one year, not the present 'closed shop' approach of club leasing. (BW, 1986).

Informal Recreation.

Size of User Market

User Days:	number (millions)	123.6
	% of total user days	83.7
Spending per user day:	in corridor	£0.63
	on equipment, hire etc.	£0.00
	total	£0.63
	% of spending by all groups	1.38
Income to BW:	amount	£0.00
	per user day	£0.00
	% of total user derived income	0
	% of daily spend	0

User Requirements

THE CHANNEL:

- a) Depth at centre to the original design.
- b) Locks with pedestrian crossing facilities.
- c) Towpath headroom or means of passage at static bridges and tunnels.
- d) Lift and swing bridges maintained to maximum efficiency.
- e) Unpolluted water.

SIDES AND BANKS:

- a) Off-channel areas to be accessible on foot.
- b) Vegetation fringes retained for aesthetic purposes.
- c) Regular clearance of rubbish and debris.

TOWPATH:

- a) Accessible from public rights of way and at all public bridges.
- b) Linked to other recreational footpaths to give greater ease of access, encourage use as long distance footpaths and provide circular routes. The latter, as opposed to walking the same stretch of towpath twice, is much preferred by a number of walkers. (BW, 1986).
- c) Surface/Width/Vegetation.
 - i) Well-maintained, continuous, of sufficient width to allow the passage of at least two people with a clear strip for passage at vehicular access points.

- ii) Prohibition of horseriding, cycling and motor vehicles, motor and pedal cycles, to be accompanied by physical barriers.
- iii) All crossings and rights of way to have gates or stiles and to be well signed or waymarked.
- iv) Cleared of rubbish and dog litter but vegetation to be minimally cut.
- d) Always accompanies the water channel, and should never cross roads at ground level.

TRACKSIDE FACILITIES:

a) Mooring.

- i) Discouragement of linear moorings
- ii) At established sites only to minimise the risk of ropes across the towpath .
- iii) Permanent moorings only on the offside.

b) Facilities.

- i) Sanitary facilities available.
- ii) Wide range of facilities required - car and coach parking in close proximity; water orientated shops, pubs and restaurants offering outdoor and indoor facilities; waterside seats and amenity facilities such as picnic areas.
- iii) All associated structures such as waterside furniture, bridges, buildings maintained to a high standard. Graffiti-proof paint used where necessary.
- iv) Overnight accommodation in close proximity, including hostels and campsites.

CONTROL, SUPERVISION AND INFORMATION:

a) Personnel.

- i) Well-informed and knowledgeable bankside staff, trained in public relations, to give general information and assistance and to enforce a clear passage past moorings and angling stations.
- ii) Regular information points detailing local facilities/attractions and ease of access by public rights of way /metalled roads.
- iii) Easily available, accurate and up-to-date information sheets detailing the condition of the towpath, maintenance works affecting passage boating/angling events and to encourage use of the towpath as an alternative to routes promoted by the Countryside Commission.
- iv) Production of leaflets and guides in collaboration with the Nature Conservancy Council and local naturalist bodies, detailing areas open to the public.
- v) Unobtrusive signing of nature trails.
- vi) Canal name signs positioned at junctions with major roads/railways, since a relatively large number of those visiting the canal for the first time, do so simply because they have driven past it. (BW, 1989a; BW, 1989b). Perhaps greater

awareness of the canal system could also be achieved by distributing fact sheets /leaflets at car parks and Motorway Service Stations. (BW, 1989a).

- vii) Canal user orientated waterside housing to provide a local presence to improve security.
- viii) Original buildings, structures and features retained wherever safety considerations allow, to emphasise the original design of the waterway.
- ix) Promotion of organised walks drawing upon private sponsorship.
- x) Encourage visits to less popular areas by, for example, high standards of maintenance and facilities on all canals.

Nature Conservation

User Requirements

THE CHANNEL:

- a) Depth at centre to original design.
- b) Dredging.
 - i) Alternate one mile lengths dredged at a minimum interval of 5 years.
 - ii) Nearside dredged to variable depths between 0.2m and 0.76m (8" & 2'6"); offside maintained between 0.15m and 0.3m (6" & 12").
 - iii) Dredging operations undertaken with regard to nature conservation, for example, by placing dredgings behind emergent vegetation fringe and landscaped for appropriate afteruse.
- c) Masonry, not concrete, byewashes and unpolluted water.

SIDES AND BANKS:

- a) Off-channel areas to act as refuges for wildlife and therefore inaccessible to the public.
- b) Vegetation fringes retained since they are important wildlife habitats. In particular, offside bank left uncleared except for control of tree colonisation - the tree lined proportion of each bank not to exceed one-quarter of total length.
- c) Banks protected using managed vegetation with minimum use of sheet metal piling. Where it is absolutely necessary to use sheet piling it should be screened by a curtain of reeds planted in front, except at moorings.
- d) Regular clearance of rubbish and debris.

TOWPATH:

- a) Surface/Width.
Narrow to discourage wandering.
- b) Vegetation minimally cut, with an undisturbed vegetation band adjoining water wherever possible.
- c) Trees and hedges knowledgeably maintained with minimal disturbance. Trees preferably of mixed native species.

TRACKSIDE FACILITIES:

- a) Moorings and marinas judiciously sited to help control boat traffic.
- b) Facilities.
Concentrated in centres of activity rather than scattered along the waterway.

CONTROL, SUPERVISION AND INFORMATION:

a) Personnel.

Presence of patrol officers to prevent speeding, licence evasion and casual off-side moorings and to control the number of boats.

b) Information.

i) Production of leaflets /guides in collaboration with the Nature Conservancy Council and local naturalist bodies detailing areas closed to the public.

Education

User Requirements

SIDES AND BANKS:

- a) Off Channel Areas used for ecology teaching to be accessible on foot or by regulated boat traffic.

TRACKSIDE FACILITIES:

- a) Facilities.

Interpretive centres with classroom facilities at strategic points.

CONTROL, SUPERVISION AND INFORMATION:

- a) Personnel.

Knowledgeable personnel available to supplement normal teaching by, for example, giving guided tours or encouraging participation in extra curricular activities.

- b) Information.

Information service available to all Education Authorities and schools, including specialised teaching packs to aid ecological and historical teaching. Such a pack concerning the London Canals has been produced by BW in conjunction with Hackney Teacher Centre and the Canals in Hackney User Group (CHUG). It covers all aspects of the subject, from boats and boat people to canal engineering and wildlife, while giving suggestions for projects and activities in addition to guidelines to enable teachers to use the pack within the National Curriculum. (BW, 1990a). Similar publications should be made available for every canal.

The Disabled

User Requirements

TOWPATH:

a) Accessibility.

Access points level or ramped. If ramped the gradient must not exceed 1:12, preferably not greater than 1:20.

b) Surface/Width.

- i) Flat surface with cambers or falls kept to a minimum. The surface should be suitable for wheelchairs but compatible with the outdoor setting. Under such circumstances well-compacted crushed rock, gravel, or hoggin is the most suitable in terms of durability and harmony with the natural environment. However it must be well-specified and constructed.
- ii) At least 1.2m wide. If heavy use is anticipated it should be 1.7m wide to allow two-way traffic or passing places constructed on 1.2m wide paths.
- iii) For distances greater than 50m many elderly or disabled people need to rest. Therefore seats or 'perches' should be provided at regular intervals along the route.
- iv) If barriers are required to prevent entry by motorcycles, kissing gates which admit pedestrians, wheelchairs and pushchairs should be installed. For specifications reference should be made to the Countryside Commissions publication No. 15 "Informal Countryside Recreation for Disabled People" (1982).

TRACKSIDE FACILITIES:

a) Facilities.

- i) Sanitary facilities of the correct dimensions and standards to allow use by the disabled. For specifications reference should be made to publications such as that mentioned above or "Providing for Disabled Visitors" published by the English Tourist Board (1987).
- ii) Reserved car and coach parking as close to the waters edge as possible, with suitable access to the towpath. Parking bays for the disabled should be wider than usual-at least 3m, preferably 3.6m; clearly signposted and marked with the international disabled symbol.
- iii) The approach to water orientated shops/pubs/restaurants and amenity facilities should be level or ramped as for the towpath.
- iv) A telephone suitable for use by the disabled should be available at popular 'stop off points.'

CONTROL, SUPERVISION AND INFORMATION:

- a) Accurate, up-to-date leaflets/fact sheets giving information to help the disabled make the most of the facilities available.
- b) Production of audio and touch guides/maps should be considered for the ambient disabled.

The Disabled Angler

In addition to those facilities described above, a disabled angler has certain specific requirements.

A flat surface from which to fish. This can be achieved by constructing special fishing platforms, size 1.5 square metres, from natural or artificial materials, ensuring that the surface does not slope towards the water. The front should have a raised edge, sleeper or stop board. The width between the towpath and waters edge should be sufficient to prevent a parked wheelchair from obstructing the towpath for other users. Such stations should be close to reserved car parking facilities with suitable access as described. However an important consideration is not to segregate the disabled angler since this can result in a feeling of isolation. Thus fishing stations for the disabled should be integrated with stations for able-bodied anglers. The ideal solution is not individual platforms but a length of bank which satisfies the above requirements and can be used by the able-bodied and disabled alike.

COMPARISON OF USER GROUPS

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By Size of Market

See Figure 1.

The graph shows that the largest user group (Informal Recreation), has the least spend per day while its income to BW is negligible. Conversely the smallest user group (Hire Boating) spends the most per day and provides the greatest income for BW.

By User Requirement

The requirements have been condensed into table form. (See appendix.) This allows the number of groups to which each requirement relates to be ascertained, thus distinguishing between those which are required by all or most groups and those which are required by only one or two. The user groups can then be compared by determining the number of requirements in common as shown below:

Private Boating (PRI)					
Hire and Trip Boating (H&T)	39				
Unpowered Boating (UNB)	21	20			
Angling (ANG)	11	11	13		
Informal Recreation (REC)	18	20	13	14	
Nature Conservation (NAT)	3	3	3	6	7
	PRI	H&T	UNB	ANG	REC

Not surprisingly Private Boating and Hire/Trip Boating have the greatest number of requirements in common, while Nature Conservation shows the least similarity to the other groups.

Requirements which relate to most (ie. 5) or all of the groups are:

- 1) Unpolluted water.
- 2) Sides and banks to be regularly cleared of rubbish.
- 3) Towpath to be accessible from the public right of way.
- 4) Towpath to be well-maintained and continuous.
- 5) Towpath to be cleared of dog litter and other rubbish.
- 6) Linear moorings to be discouraged.
- 7) Car and coach parking facilities.
- 8) Presence of patrol officers to prevent speeding, licence evasion and casual off-side moorings and control the number of boats.
- 9) Accurate, up-to-date information sheets and boards.

Requirements which clearly conflict:

- 1) Dredging.
- 2) Use of off-channel areas.
- 3) Management of vegetation fringes.
- 4) Width of towpath.
- 5) Management of towpath vegetation.

Discussion

This section serves to stress the difficulty in

- a) deciding the criterion for action, given the potential for conflict and
- b) achieving a balance between the need for increased revenue and the recognition that the canals have many unquantifiable social and environmental benefits with little or no revenue potential. For example charges could not be made for the maintenance of historic buildings, promotion of nature conservation and the provision of towpaths, yet it is the collective atmosphere of these features which attracts many users who are in the revenue generating categories (IWAAC, 1989).

ADDITIONAL POINTS

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There are a number of points that should be remembered:

- a) It is the ideal requirements that are listed here. However, in general "the primary source of customer satisfaction is a well maintained waterway providing sufficient depth of water for boats, fish for anglers, paths for walkers, carefully conserved structures and a pleasant environment for all users." (IWAAC, 1989).
- b) The Montgomery and Lancaster Canal Visitor Surveys. (BW, 1989a; 1989b) found that the improvement desired by the majority of users was greater restoration and maintenance of the canal and towpath, with better provision of refreshment facilities. In addition the Montgomery survey suggested that greater publicity of the opportunities provided by the canal was required and that if the facilities were available more money would be spent in the waterway corridor. Although these surveys are of specific waterways, such findings are likely to apply to other canals of a similar status.
- c) A survey commissioned by BW found that factors outside the control of BW can greatly affect the number of users. For example there was a comparatively low number of users in 1986 due to poor weather; tighter school budgets can reduce use as a educational resource, while the number of hire boats may remain static yet their use increase. (NOP, 1985).
- d) The figures are inherently variable since they include, for example, those who visited the canal just once in the year and exclude anglers without licences.
- e) Guidelines to promote harmonious use of the waterways have been provided by BW in their "The Waterways Code" publications.
- f) Although it would have been interesting to compare the figures from the first edition with those for 1988 / 1989, unfortunately some doubt has been cast retrospectively upon the validity of the 1984 data and it is therefore felt that the figures are not comparable.

ACKNOWLEDGEMENTS

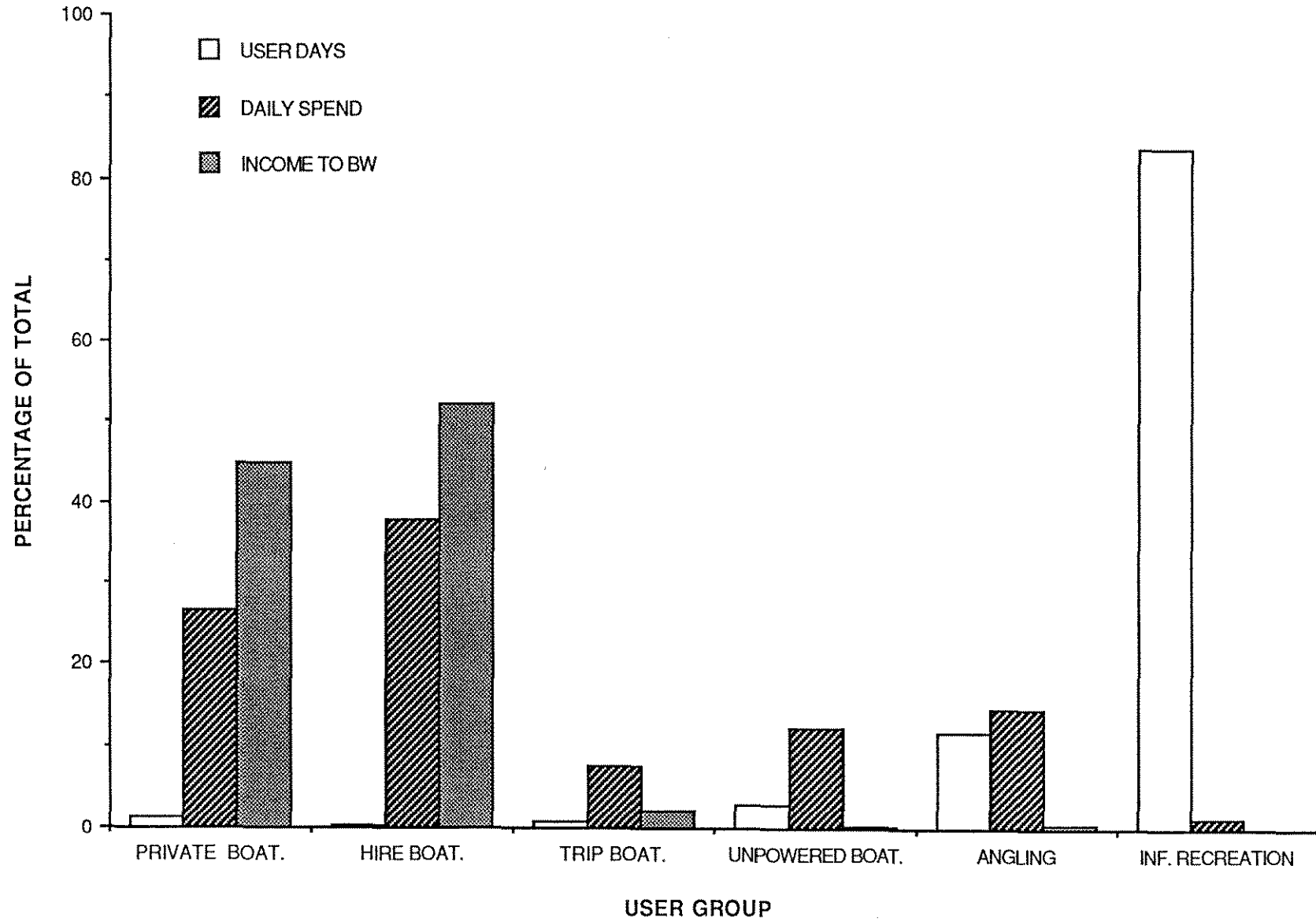
This report was researched by Stephanie Cleaver using facilities provided by Liverpool University, October 1990.

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**FIGURE 1: COMPARISON OF SIZE, DAILY SPEND AND
INCOME TO B.W. BETWEEN USER GROUPS**



APPENDIX

Table Comparing User Requirements

An asterisk denotes a user requirement. The key to the column headings is as follows:

PRI	-	Private Boating
H&T	-	Hire and Trip Boating
UNB	-	Unpowered Boating
ANG	-	Angling
REC	-	Informal Recreation
NAT	-	Nature Conservation
EDU	-	Education
DIS	-	The Disabled

USER REQUIREMENT	PRI	H&T	UNB	ANG	REC	NAT	EDU	DIS
THE CHANNEL.								
1) Depth at Centre:								
1.2m-1.5m	*	*						
>1m				*				
>0.6m			*					
to original design					*	*		
2) Dredging:								
Regular	*	*	*	*				
At 5 year intervals on alternate lengths						*		
Nearside dredged to variable depths between 0.2m and 0.75m						*	*	
Offside maintained at depth between 0.15 and 0.3m						*		
3) Locks:								
Maintained to maximum efficiency	*	*						
Pedestrian crossing facilities`					*			
4) Static Bridges and Tunnels:								
Maintained to maximum appropriate headroom	*	*	*					
Towpath headroom or means of passage					*			
5) Lift and Swing Bridges:								
Maintained to maximum efficiency	*	*	*		*			
Good landing facilities	*	*	*					
6) Miscellaneous:								
Masonry, not concrete, byewashes						*		
Frequent turning points	*	*	*					
Unpolluted water	*	*	*	*	*	*		
Viable length for trip to be permanently available except in emergencies or consultation with BW Offices		*						
Habitat improvements to increase fish stocks				*				

USER REQUIREMENT	PRI	H&T	UNB	ANG	REC	NAT	EDU	DIS
3) Facilities cont'd.								
Interpretive centres with classroom facilities at strategic points							*	
Waterside buildings for business use by operators & overnight accommodation for land-water based holidays		*						
Refreshment and catering facilities which accommodate the outdoor user			*	*	*			
Rubbish disposal points adjacent to popular sites/angling stations				*				

USER REQUIREMENT	PRI	H&T	UNB	ANG	REC	NAT	EDU	DIS
CONTROL/SUPERVISION/INFORMATION								
1) Personnel:								
Patrol officers to prevent speeding, licence evasion, casual offside mooring and control the number of boats	*	*	*	*	*	*	*	*
Well informed and knowledgeable bankside staff trained in public relations	*	*			*		*	*
Personnel available to direct priority at busy locks and ensure disciplined waterway use	*	*						
Guidance provided by BW staff on tidal river navigations	*	*						
Good instruction on safety, lock & bridge handling and boat operation		*						
Enforcement of clear passage past moorings and angling stations					*		*	*
2) Information:								
Notification of slipway/portage points and temporary storage facilities to encourage casual use of lengths	*		*					
Regular information points detailing local facilities	*	*						
Information service to all Education Authorities and schools							*	
Specialised publications to aid Ecology teaching							*	
Notification of ease of access to nearby attractions by public rights of way and metalled roads	*	*			*			
Accurate, up-to-date information sheets for each user group	*	*	*	*	*		*	*
Production of guides in collaboration with the Nature Conservancy Council and local naturalist bodies						*		
Times of stoppages advertised and adhered to whenever possible	*	*	*					
Audio and touch maps and guides wherever possible								*
Encouragement of towpath use as an alternative to routes promoted by the Countryside Commission					*			
3) Licences:								
Inexpensive interwaterway licences	*							
Agents to issue licences at special rates	*							
Good publicity for scheme of reduced licence fees for members of clubs affiliated to the British Canoe Club			*					

USER REQUIREMENT	PRI	H&T	UNB	ANG	REC	NAT	EDU	DIS
CONTROL/SUPERVISION/INFORMATION cont'd								
4) Miscellaneous:								
All bridges numbered	*	*						
Canal user orientated waterside housing to provide local presence	*	*			*		*	*
Retention of original buildings, structures and features to emphasise the original design of the waterway	*	*			*		*	*
Promotion of local events drawing upon private sponsorship and producing revenue	*	*	*	*				
Promotion of organised walks drawing upon private sponsorship					*		*	
Amenity treatment to present cared for appearance and encourage use of less popular lengths	*	*			*		*	
Co-operation between BW, agencies and private sector to promote waterway holidays		*						
Booking facilities at all information centres near the waterway		*						
Facility to allow horse drawn boats to notify moorings on route to expect periodic towing			*					