

Should Recreational Boating on Upper Delaware Be Limited? What We Have Learned

By David W. Lime and John F. Karish

Should a carrying capacity (or some form of recreation use limitation) be placed on recreational boating on the Upper Delaware Scenic and Recreational River?

The answer **NO** is the conclusion from research conducted on the river since the late 1970s – especially research initiated since 1984.

As recreational use of America's outdoor resources grew rapidly during the 1950s and 1960s, planners and managers struggled to find answers to questions about "how much use is too much" and "How can overuse be controlled." Conventional wisdom called for action to manage the numbers of visitors, limit use during certain times or at specified locations, or increased capacity of park lands or facilities to accommodate more people.

In spite of the dubious definitions of carrying capacity and the frequent cautions and limitations presented for its application, many managers tacitly assumed

that if we could just come up with the maximum number of people to let use an area at any one time, their problems would be solved! The move was on to find a magic number that would answer the troublesome questions: How much use is too much?

Management Objectives

Actually, recreational carrying capacity is a management concept – a way of thinking about recreational use problems and how to manage a particular resource. The basic thrust of such a framework must be grounded in the understanding that appropriate use determinations can only be applied in light of specific management objectives. Once objectives are established, indicators and standards can be identified and compared with on-the-ground conditions.

Despite many failures to establish recreational carrying capacities, the concept does have merit when one recognizes the complexity associated with establishing such capacities, and then begins to look at such capacities within the framework of specific, measurable, and attainable management objectives. Identifi-

cation of the types of conditions desired for an area can provide the basis for planning and management that will lead in the desired direction.

Research on the Upper Delaware

Recognizing the fundamental importance of management objectives, the emphasis of the Upper Delaware research program was switched very early away from the term "carrying capacity." Instead, it focused on information gathering, to aid resource managers and citizen advisory groups in setting proper management objectives and determining what an appropriate river recreation use should be on this particular river (Lime et al. 1985). Although limiting use might become an acceptable and needed management action, the importance of managing numbers of visitors as a primary product of the research was de-emphasized.

The cooperative research effort was built upon existing information and intensive discussion about how to define appropriate use on the Upper Delaware. Research was to deal with those persons and groups involved in influencing management directions for the river – the managers, the users, the commercial sector, and inhabitants of the region, including interest groups and riparian landowners.

Thirteen separate studies were conducted in the past 6 years, involving the Park Service, the Forest Service, and university scientists nationwide. Research was grouped into 4 major subject components: (1) The environment and impacts resulting from recreation use; (2) The nature of the users and their recreation experiences; (3) The social and economic aspects of the region impacted by recreational river use, and (4) The management system involved in overseeing and protecting the resource.

Boating Limitation – Is There a Need?

The consensus from the research is that the levels of boating and recreational conflict, as well as other problems associated with visitor use on the Upper Delaware, are not severe enough or of a nature to warrant use limit policies now.

In general, factors other than number of visitors, per se, are more useful in defining appropriate and acceptable recreational use on the river. Table 1 summarizes these findings and shows there was greater concern about many other issues such as litter, disposal of human waste, trespass on private land, overconsumption of alcohol, lack of or inadequate facilities, trip planning and interpretive information for visitors, and within-group conflicts.

Few, if any, of these problems can be solved simply by limiting numbers of visitors. For example, reducing numbers of visitors alone would not solve the concern for excessive consumption of alcoholic beverages by river floaters. Visitor education, banning alcohol on the river, or increasing law enforcement might be a more direct and effective solution and actually might lead to increased visitation and fewer conflicts.

Reducing use also would not remedy most visitor-induced impacts to river campsites and other stopping places. Marion and Cole (1987) and Marion (1988), in addressing issues of ecological impact on recreation sites, found that trespass on private land in the river corridor was a widespread problem with resulting impacts. They showed that the amount of visitor use is not a good predictor of bio-physical impact on sites, because even limited use causes significant site

Concluded on back cover

Table 1. Studies of Appropriate River Recreation Use, Upper Delaware Scenic and Recreational River: Summary of Selected Conclusions Regarding the Limitation of Recreational Boating on the River

Topic/Issue Studied	Use Limits Recommended?	Selected Major Issues Noted in Studies
ECOLOGICAL STUDIES		
Site impacts at campsites & stops	No	- Litter, human waste, soil & vegetation damage - Many impacted sites on river - Impact to individual sites often covers a large area
Wildlife impacts	No	- Potential disturbance of wildlife by visitors - Potential overfishing at some locations
RECREATION VISITOR STUDIES		
Boaters & floaters	No	- Diverse but relatively minor problems – many beyond management control - Alcohol consumption - Lack of information about available routes, facilities - Lack of facilities (toilets, drinking water, phones) - Only a few visitors felt crowded - Conflict within social groups of visitors
Tourism in general	No	- Boater safety - Lack of toilets, litter receptacles - Lack of information about river access & facilities
SOCIO-ECONOMIC STUDIES		
Landowners	No	- Trespass by visitors on private land (potential property damage) - Protecting owners' privacy - Litter - Future regulations on uses of land in river corridor
Outfitters	No	- Low water levels - Water pollution - Lack of clear jurisdiction - Alcohol consumption - Lack of facilities (toilets, drinking water, phones) - Need for information & education of visitors - River safety
River communities	No	- Trespass by visitors on private property - Lack of education & information for visitors - Lack of facilities (rest stops, drinking water, toilets)
MANAGERIAL STUDIES		
Legislative intent	No	Legal to limit use; directives not explicit
NOTE: The conclusions presented in the table include research conducted as part of the NPS cooperative studies as well as other research on the Upper Delaware in the past 10 years related to the topic.		



No limit to the fun for Upper Delaware river recreationists.

Continued from page 23

damage. Educational efforts to improve visitors' knowledge and skills of minimum impact techniques seemingly would have a more positive influence on site impacts.

Among others, Knopf, Graefe, and Schreyer (1988) studied river visitors to determine the character of desired recreation experiences. Most visitors were well satisfied with their outing, and few reported that there were too many people on the river. Rather, many of the reasons visitors gave as detractors to their experiences dealt such relatively minor topics as weather and lack of toilet and drinking water facilities between access points.

Studies by Carroll, Twight, and McCabe (1987) report the history of federal presence in the river corridor and the problems in communication that led to many of the conflicts about appropriate river recreation use. Their analysis mentions the role of visitor education and information as well as provision of stopping places along the river in helping manage the problems of trespass on private lands, with resultant recreation-related conflict.

Limiting Is Legal, BUT ...

Research by Simpson and McAvoy (1987) explored the legislative and legal foundations for establishing carrying capacity on the Upper Delaware. Legislative intent calls for general preservation to maintain conditions and values that existed at the time of river design-

nation. Management guidance is offered by requiring that carrying capacity be reviewed on a 5-year basis to determine if overuse is occurring. If so, appropriate steps to reverse the environmental damage must be taken. In reality, the legislation does not give explicit direction on limiting recreational use nor does it rule out establishing carrying capacities and developing strategies to limit use. No specific methods of implementation are identified or recommended.

Research to date points away from an aggressive effort to set limits on recreational boating on the Upper Delaware – at least based on current recreational use levels, observed impacts, and guidance from a variety of interest groups. The majority of the river user groups are satisfied with current conditions, and limiting use would seem, by itself, a poor solution to existing problems.

Where Do We Go From Here?

Most of the apparent problems seem not to be problems of numbers of people or boats. They are problems related to human behavior. These problems call for a variety of actions, including improved communication among people and groups, more effective law enforcement, a greater number or more appropriately located facilities or visitor services, and improved education for visitors in trip planning, appropriate river etiquette, and outdoor skills.

Partnerships to develop and implement such actions between the NPS and the various groups and persons

interested in river issues could enhance the long-term health and vitality of the Upper Delaware as a quality scenic and recreational resource.

Lime is a research associate at U/Minn's Dept. of Forest Resources, St. Paul and Unit Leader of the NPS/CPSU at U/Minn. Karish is Chief Scientists, NPS Mid-Atlantic Region, Philadelphia, PA.

Literature Cited

Carroll, M.S., B.W. Twight and M. McCabe. 1987. An analysis of community response to federal presence in the Upper Delaware River Valley. Final report, USDI National Park Service, Mid-Atlantic Region Research/Resources Management Report No. 24.

Knopf, R.C., A.R. Graefe and R. Schreyer. 1988. Management of river recreation resources at Delaware Water Gap National Recreation Area and Upper Delaware Scenic and Recreational River - a survey of visitor opinion. Final report, USDI National Park Service, Mid-Atlantic Region Resources Management Report No. 33.

Lime, D.W., D.A. Anderson, R.C. Knopf, J.H. Schomaker and R. Schreyer. 1985. A research plan to study appropriate river recreation use on the Delaware Water Gap National Recreation Area, New River Gorge National River and Upper Delaware Scenic and Recreational River. USDI National Park Service, Mid-Atlantic Region.

Marion, J.L. 1988. An inventory and assessment of impacts for river accesses and trespass recreation sites at the Upper Delaware Scenic and Recreational River. Unpublished Mid-Atlantic Region Research Report. 25 p.

Marion, J.L. and D.N. Cole. 1987. Ecological impacts on recreational sites at the Upper Delaware Scenic and Recreational River, Pennsylvania-New York. Final report, USDI National Park Service, Mid-Atlantic Region Research/Resources Management Report No. 28. 77 p.

Simpson, S. and L. McAvoy. 1987. Analysis of legislative and legal foundations for establishing carrying capacity: summary report for the Upper Delaware Scenic and Recreational River. Final report, USDI National Park Service, Mid-Atlantic Region Research/Resources Management Report No. 37. 52 p.