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MANAGING RIVER RECREATION IN IOWA

River management is a regular feature of many states' approaches to rivers. Carefully thought out, it can provide a set of tools maximize experiences for all users while minimizes negative impacts to the river environment.

- 5-03 Introduction
- 5-04 Problems Associated with River Recreation
- 5-06 Public-Safety Education
- 5-08 Risk Management Approaches
- 5-10 Litter-Reduction Strategies
- 5-11 Tactics for Addressing Disorderly Behavior
- 5-12 Planning for Use and Development Levels
- 5-13 National Wild and Scenic Rivers and Other Potential Designations
- 5-14 Program Development
- 5-15 Bibliography



5 LIST OF FIGURES AND TABLES

5-04 | Table 5-1 Iowa Statewide Drowning Statistics, 1998-2007



INTRODUCTION

River management generally refers to the comprehensive study, protection, and management of river visitors. This chapter focuses on managing recreational experiences for visitors to Iowa's rivers. Stakeholder input makes it clear that Iowans desire a variety of experience types that they can handle with a reasonable degree of safety. General goals include:

- Providing maintenance that matches users' expectations for a given segment.
- Offering education that allows river users to make reasoned decisions, avoid hazards, and minimize risk.
- Developing emergency-response plans.
- Reducing human impact on natural resources.
- Encouraging positive user behaviors, such as Leave No Trace ethics, litter cleanup events, and appreciation of natural resources.
- Reducing behaviors, such as belligerent behavior stemming from alcohol or drug use, that diminish the experience for others.

This chapter focuses on rivers — as opposed to lakes and wetlands — because 90 percent of water trail development in Iowa is on rivers, a trend that will probably continue. Also, rivers have common issues in that traffic generally flows in the same direction downstream, trips are taken from one access point to another, their surrounding riparian corridors are typically linear, and bends and tree cover usually hides recreational users from plain view. Water trails on lakes and wetlands share some similarities, but each waterway is unique and requires consideration for its peculiarities (i.e. powerboat traffic patterns, bays and open-water crossings, overland portages, confusing back channels, etc.).



PROBLEMS ASSOCIATED WITH RIVER RECREATION

River recreation in Iowa is often viewed as simple: People decide to go fishing, canoeing, or inner-tubing, and they go out on a river. Eventually, they return. Because Iowa rivers are often perceived as safe, problems are considered unlikely. This attitude can lead to a lack of awareness or preparedness by emergency responders, and in some cases users have been unprepared for conditions because their expectations are set too low. Without new approaches, life-threatening incidents can be expected to increase proportionately with increases in recreational river use. Problems include:



- Fatalities at low-head dams. Between 1999 and 2009, 15 drownings were documented at dams in Iowa.
- Victims not wearing life jackets. Of 165 drownings documented in Iowa water bodies from 1998 to 2007, 81 percent of victims were not wearing life jackets. A total of 54 of those drownings, or 33 percent, were on rivers.
- Users unprepared for dynamic conditions. People sometimes do not plan adequately for cold weather, segment length, or potential challenges such as strainers or snags, resulting in deaths, injuries, and need for rescue.

Table 5-1.
Iowa Statewide Drowning Type Statistics, 1998-2007

Iowa Statewide Drowning Type Statistics, 1998-2007

Year	Total Drownings	On Rivers	Dam-Related	Paddlecraft-Related	Swimming-Related	Alcohol Involved	No Life Jacket
1998	15	3			5	7	15
1999	16	10	1	1	5	5	15
2000	17	5		2	4	4	17
2001	6	3	2	1	5	1	6
2002	14	7	1		2	4	14
2003	10	5			3	3	10
2004	11	2				1	11
2005	32	13	1	1	14	5	31
2006	15		2	0			
2007	15		6	0			
Totals	151	48	13	5	38	30	119
% of total		32%	9%	3%	25%	20%	79%



On high-density use segments of rivers, heavy alcohol consumption sometimes leads to casual littering and other problems.

In addition, a number of issues appear primarily on short, scenic river segments between accesses with high use, often associated with the presence of one or more canoe, kayak, or inner-tube rental businesses (liveries). Reported problems on some stream segments have included:

- Disorderly behavior (i.e., public intoxication, public urination, nudity, belligerent attitudes, fights, etc.) that sometimes makes families uncomfortable
- Excessive litter
- Vegetative disturbance near heavily used segments of streams because of inadequate facilities for traffic flow, parking, and car and foot traffic
- Poor relationships with neighboring landowners because of trespass and design issues
- Abandoned floatation devices that become litter in stretches of short, commercial “tubing runs” with liveries, as observed by law enforcement officers
- Conflicts among anglers and people floating on streams



Iowa DNR's Canoe School teaches safety techniques for overturned boats.

If these problems are unchecked, negative experiences increase. Negative first experiences can turn people away from what might have become a lifetime connection with nature through waterways. Landowner conflicts can also lead to backlash against recreational water use.

River management should not unfairly single out specific types of recreation on rivers. Carefully planned recreational river management can keep problems from escalating through strategies that maximize a variety of experiences while reducing negative impacts for people, the river, and its riparian corridor.

As more people enjoy rivers and their corridors, new expectations bring new challenges. This manual encourages holistic management of rivers and considers the multiple functions they can serve, including appropriate levels of recreation, habitat for a diversity of aquatic species, visual-resource (sometimes referred to as “viewshed”) management, and coordination with wildlife planning efforts. Finding the right balance can be challenging.



PUBLIC-SAFETY EDUCATION

Iowa DNR offers safety materials and courses for water trail developers and all interested agencies, as well as to canoe, kayak, and inner-tube rental businesses. All water trail users should be made aware of common hazards, as well as taught to avoid obstacles such as logs or low-head dams. These materials should continue to evolve with media, such as hand-held mobile devices.

Encouraging life-jacket use is vital to reducing drownings statewide. Livery operators should be encouraged to see their own self-interest in renting Type III life jackets and requiring visitors to wear them.

Iowa's state-designated water trails are organized by the type of experience the stream segment would typically provide. Four experience types are included: gateway, recreational, challenge, and wilderness. Chapter 2 of this manual describes these experience types in more detail.

The Challenge experience type was developed for two reasons that relate to public-safety education. The first is to alert paddlers to more difficult general conditions than they may encounter on a Gateway or Recreational segment. This will assist users in selecting segments appropriate to their interests and abilities. The second is to warn all users of temporary, known conditions that may be unexpected.

Example #1: A logjam may have accumulated that requires a long portage. Simple, temporary signage from the hazard signage section of this manual should be installed at the next access upstream.



Example #2: A power outage may lead to failure of a wastewater treatment plant, allowing raw sewage to pass into a stream. Simple, temporary signage from the hazard signage section of this manual should be installed at the next access upstream.

Other strategies for public-safety education on water trails will include:

- Participating in “Wear It” campaigns for life-jacket use and similar future programs.
- Providing safety materials that include precautions people can take to reduce human health threats, along with information about common hazards, such as snags and low-head dams.
- Showing action alerts for temporary hazards on web sites and via signage at accesses.
- Continuing to make safety materials available free of charge to water trail developers.



It's never too early to learn to enjoy canoeing or to become accustomed to wearing a life jacket on the water.



Educating children with a hands-on dam model can help avoid future drownings.



Various styles of display panels and kiosks can interpret a variety of information, but a map and safety information about common hazards should always be included.

RISK MANAGEMENT APPROACHES

One reason for moving to an experience type system is to promote a culture that willfully participates in at-your-own-risk activities. The system helps users select experiences that match their skills, equipment, and expectations. Risk management on water trails can include several strategies. One is to reduce accident potential through clearly communicating that journeys on water have an element of inherent and common risk. Another is to use liability protections established by law in Iowa. A final strategy is to develop an emergency action plan.

Communicating risk at dams and on rivers:

In water trail development, the most important thing may not be to mitigate every possible risk — especially natural obstructions such as snags or rapids. The most important duty is to help people be aware of what hazards they are likely to encounter.

- National Safe Livery System, Introduction to Risk Management for Livery Operators (1994): Describes for livery owners various risk-management and related legal concepts, including duty of care, common versus unforeseeable hazards, defensible waivers, and the importance of communicating to customers via pre-

launch briefings. This, along with a more recent DVD (National Paddlesports Safety System) from the Paddlesports Industry Association, is used in training livery operators by Iowa DNR staff.

- Memo from Assistant Attorney General: When is a Dam Owner Liable?: Describes liability exposures related to dam ownership, as well as methods that can be used to save lives and reduce liability risks if they are carefully planned and consistently implemented over time.

Common hazards should be communicated via communications in kiosks, in brochures, and on web sites. More specific hazards on a segment will warrant either a temporary or permanent Challenge designation. Especially for life-threatening temporary hazards, a small sign at an obvious point at the upstream access (along with Water Trail Name sign, for example) may be considered.

For temporary construction projects that create obstructions, notify local engineers during the water trails planning process that DNR river program staff will review construction plans and that permit applicants will be responsible for mitigating hazards. Specific language to mitigate a given hazard will be added to the permit pursuant to Iowa Code Chapter 462A.



Hazard signage for dams can be a life saver for inexperienced paddlers.



Liability exemptions provided under Iowa Code:

During planning, questions about liability often arise. Water trail developers can direct concerned parties and their attorneys to Iowa laws, a body of attorney general opinions and memos, and other documents. Important documents, with synopses of what is relevant in each, are listed below:

- Iowa Code, Chapter 461C, Public Use of Private Lands and Waters: Provides exemption for landowners from liability for recreational users who have not been specifically invited nor paid a fee. Does not provide exemption in cases with willful or malicious failure to guard or warn against a dangerous condition, use, structure, or activity.
- Iowa Code, Chapter 670 4.17, Tort Liability of Governmental Subdivisions: Provides exemption to municipalities (meaning any unit of local government including counties and their various boards) from liability claims for river rafting, canoeing, or kayaking facilities when a person should recognize the inherent risks of those activities when those structures are built according to prevailing standards

It should also be noted that maintenance of dam-warning signage (brush clearing, replacement after damage in a reasonable time) is extremely important for liability reduction. The following excerpt from “When is a Dam Owner Liable” highlights the need for regular maintenance:

Importance of consistent implementation of warnings

If a dam owner, whether governmental or private, adopts a policy or program to provide warnings of a low-head dam hazard to public recreational users, it is very important that the policy or program be implemented and that warnings be maintained. Warnings are not effective unless they are visible from vantage points that allow time for avoidance of the hazard. Warnings should be coupled with safe landing areas above and below dams and portage routes around the hazard. Failure to maintain installed warnings is a path toward greater risk of liability.¹ Developing, implementing and maintaining a system of effective warnings, safe landings and portage routes is a reasonable course of action to reduce risk of liability for failure to warn of a concealed hazard and to protect public users of waterways. It will not prevent claims arising when accidents occur. But it should reduce the likelihood that such claims will be successful.

Developing an Emergency Action Plan

Involving local emergency response professionals, volunteers, and local paddlers in developing an emergency action plan can increase preparedness and lead to more successful rescue efforts in the eventuality of an accident. Brainstorming about what and where the most likely serious accidents might be and developing a plan to locate, reach, treat, and/or transport victims should be considered. The plan should focus

primarily on existing resources and should not necessarily result in major equipment investments. A map, with notes on each segment, should be distributed to anyone who would expect to be involved in a rescue. A listing of GPS coordinates for bridge and access locations can be helpful.

The plan also should consider the setting and the goals established for Experience type for a given segment. For example, people committing to a long Wilderness trip should expect and prepare for a longer lag time before a rescue could be mobilized. People in a Challenge trip should expect that self-rescue skills may be needed. New roads or trails should not be cut explicitly to reach remote areas, as participants should be made aware of the local conditions. It should not surprise river users that hazards can also occur on recreational and Gateway segments. However, for heavily used Gateway segments, additional planning such as verbal agreements to cross crop fields or use private lanes in emergencies should be sought.

Hazard reduction through in-channel changes

As described in Chapter 4, obstructions in channels may occasionally cause hazards that need to be addressed. This is most clear-cut in the case of a low-head dam that serves none of its original function, creates a hazardous “roller” or recirculating effect, and has little residual function. In this case, converting the dam into a rapids or removing it would mitigate or eliminate the hazard.

Natural hazards such as logjams present more difficult choices. Wholesale removal of logs from streams is not recommended, as woody debris creates important habitat, such as fish hides and deepwater holes. Most states do not regularly maintain channels to be free from woody debris. Cutting logjams is specialized work that requires an experienced or trained crew to adequately address the problem, and it should not be expected of untrained volunteers. Available resources and priorities dictate whether the Iowa DNR water trails program will have a crew available to assist. This aspect of the program will be considered experimental. In the initial implementation, the crew may be capable of relocating logs downstream by making strategic cuts with chain saws operated from shore or boat or while wading. Restoration techniques may be used to minimize further accumulations of logs and to mitigate aquatic habitat loss. Such steps would be taken under advisement of Iowa DNR River Programs specialists or consulting stream-restoration professionals.

Low-head dam mitigation techniques, as described in the 2010 Dam Mitigation Plan, are sometimes incorporated into water trail planning efforts. More often, warning signage and portages are incorporated, and dam mitigation efforts are separate.



LITTER-REDUCTION STRATEGIES

- Approaches to litter reduction may vary depending on the setting and existing river use. Some areas have few litter problems. On heavily used recreational segments with liveries — a combination often leading to beer cans littering sandbars and the river channel — partnering with livery owners will probably be a critical part of any solution. This could include sending trash bags out with each boat, affixing decal messages to watercraft warning users not to litter, banning repeat offenders from returning, cooperating with law enforcement, etc. If the primary problem is polystyrene bait boxes at access ramps, effective techniques might include local volunteer cleanups, signage listing the current fine for littering, and public outreach to local anglers.
- Enforcement by DNR conservation officers, conservation board rangers, or other local law enforcement may also be an effective part of an overall solution. Proactive law-enforcement contacts with the public can also be helpful, as can volunteer cleanup programs.
- Leave No Trace materials will be distributed, and river users will be encouraged to pack out anything packed in. Particular priority for Leave No Trace programming will target Wilderness water trail segments where maintenance will be minimal. Beverages in reusable bottles will be encouraged, and glass bottles will specifically be discouraged.
- For volunteer cleanup efforts, using the DNR Iowa Streamkeepers volunteer handbook (<http://www.iowadnr.gov/riverprograms/streamkeepers.html>) and materials can shorten the learning curve in figuring out what to do with the trash, how to plan for disposal costs, and how best to approach neighboring landowners. Registered Streamkeepers volunteers can receive recognition while promoting cleanup events to a statewide audience.
- Because glass bottles easily break and can cause injuries, the Iowa DNR will pursue a statewide ban of glass containers on rivers. If this is not implemented, a listing of segments where this is most important will be developed.



River clean-up events can be an effective way to reduce a legacy of large trash along banks.



River clean-ups can offer camaraderie and develop a culture of respect for waterways, as can programs like Leave No Trace.



TACTICS FOR ADDRESSING DISORDERLY BEHAVIOR

- If public intoxication and disorderly behavior become commonplace on a river segment, it is a critical for agencies, local law enforcement, and liveries to collaborate to reduce the problem with available resources. If typical river users feel intimidated, they are unlikely to return. Reports to public-access managers of negative experiences have increased on several high-use segments on Iowa streams in recent years.
- A number of tactics can be employed. Visits by uniformed and plainclothes officers should be sought. Seasonal water-patrol staff can add visibility by distributing trash bags, encouraging life-jacket use, and writing up violations such as littering.
- Iowa DNR river programs will collaborate with the DNR law enforcement bureau to pursue training materials, specialized staffing, any necessary code or administrative rule changes, and access-management changes to address these issues as they arise.
- Canoe, kayak, and inner-tube rental business (livery) owners can set the stage for positive behavior by including reusable mesh trash bags, limiting the amount of alcohol allowed, requiring life jackets, and providing pre-launch safety briefings. Liveries operating on designated water trails will be required to attend Iowa DNR's annual livery class to better understand their responsibilities.
- It needs to be stressed that liveries should not be singled out as a sole cause of problems. Problems have also arisen on segments without liveries. A growing number of canoe, kayak, and innertube liveries perform valuable services across Iowa in introducing people to river recreation. In 2008, livery trips generated \$1.14 million in rental and shuttle receipts and \$5.14 in directly related spending on camping, hotels, food, and other items. However, liveries will be expected to assist as part of the solution when such issues arise on segments where they operate. Livery cooperation will be critical to developing meaningful solutions.
- Livery owners may choose not to rent to offensive groups again. In addition, a process will be established to require for-profit businesses to cost-share in support of management, maintenance, and law-enforcement at state or county owned public accesses. At state-owned access, the legal mechanism for this is Iowa Code Chapter 461A.4 and county-owned areas will function under local ordinance. Funds will be used be in support of water patrols, education, litter pick-up, access or river channel maintenance, etc.

Iowa Code, Natural Resources, Chapter 461A.4

A person, association, or corporation shall not operate a commercial concession in a park, forest, fish and wildlife area, or recreation area under jurisdiction of the department without first entering into a written contract with the department.

The contract shall state the consideration and other terms under which the concession may be operated. The department may cancel or, in an emergency, suspend a concession contract for the protection of the public health, safety, morals, or welfare.

- Where a livery is already present during a water trail planning process, or where an entrepreneur may start-up a business because of the water trail effort, the livery should be considered important stakeholders in the planning process. Livery owners and managers should be encouraged to attend Iowa DNR livery classes, and to join other liveries in helping develop an industry code of conduct for the state of Iowa.



Law enforcement officers can be part of the solution, whether at the local, county, or state level.



PLANNING FOR USE AND DEVELOPMENT LEVELS

Some decisions made during water trail planning directly relate to future management needs. Involving law enforcement and emergency management personnel in this process is critical.

There is no one-size-fits-all solution for all segments in a given water trail. Segments are considered individually in terms of management goals and resources. Some segments in a given water trail vary and lend themselves to particular planning considerations, such as frequency of access spacing, degree of access improvement, and planned new amenities. (See Table 2-1 in the Iowa Water Trails Development Manual Chapter 2.)

Recognizing that user conflicts may develop is important, especially in areas where there has not been a lot of traditional canoe and kayak use. Common conflicts may include high-speed boating on impoundments not mixing well with a burgeoning set of kayakers, or people paddling on what's traditionally been a trout stream. Careful planning of a water trail can reduce some problems, as can encouraging good etiquette among user groups.



Anglers are the dominant existing user group for Iowa's Rivers, according to a recent survey. More anglers also have begun canoeing and kayaking, but can be unaware of the statistical importance of wearing life jackets.



NATIONAL WILD AND SCENIC RIVERS AND OTHER POTENTIAL DESIGNATIONS

A number of special designation types that affect river management are available or may be available in the future for Iowa's streams.

The National Park Service designates rivers by the degree of development in and along the water at the time of designation. From "An Introduction to Wild and Scenic Rivers," the possible designations are:

"Wild" river areas — Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

"Scenic" river areas — Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

"Recreational" river areas — Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Currently, no nationally designated recreational, wild, or scenic rivers exist in Iowa. However, the National Wild and Scenic Rivers program has some potential to help manage several rivers in Iowa in the coming decades. The Upper Iowa River was

designated for study in 1968. Congress has not yet passed a law designating the Upper Iowa through the program. In addition, segments of seven other rivers are listed on the Nationwide Rivers Inventory (NRI), including the Boone, Cedar, Maquoketa, Middle Raccoon, Turkey, Wapsipinicon, and Yellow rivers. The NRI is a register of stream segments with the potential to qualify as national wild, scenic, or recreational river areas. Segments on the NRI, by presidential directive, require federal agencies to avoid or mitigate adverse impacts when conducting or funding projects and to consult with the National Park Service before any action that could remove it from consideration for wild, scenic, or recreational status.

Additional segments may be added to the NRI via Section 11 of the National Wild and Scenic Rivers Act, which provides technical assistance to states for statewide river assessments and inventories. At the prompting of local entities, Iowa DNR will explore this mechanism with the National Park Service to the degree sensible and possible.

A state program, Protected Water Areas (PWA), is mandated in Iowa Code Chapter 462B. Five segments on the Upper Iowa, Wapsipinicon, Boone, Middle Raccoon, and Little Sioux rivers are currently operating under PWA management plans. These are voluntary programs for adjacent landowners, but they have targeted state matching funds earmarked for public land acquisitions and conservation easements since 1990 under the REAP program. There is some additional permitting review, and occasionally negotiation, during the permitting process for DNR floodplain-development applications. Chapter 462B also explicitly grants the Iowa DNR authority to enter a written cooperative agreement for joint federal-state administration of rivers that may be designated under the National Wild and Scenic Rivers Act.

In addition, a newer Wilderness water trail designation is listed in Iowa Administrative Code 571 - Chapter 30 and is referred to in this manual. A limited number of river segments in Iowa will place local focus on master planning, zoning, and management that protects river segments from further subdivision or development and encourages gradual restoration. Agreements developed with the Iowa DNR water trail program will solidify such approaches for a long time.

In the future, as usage increases, river-use allocation systems could be considered. These systems that cap the number of users through a user-permitting system would probably only be used along with a special designation. Allocation systems fall into three basic types: 1) Full allocation systems account for all commercial trips and trips by individuals; 2) Partial allocation systems usually limit commercial trips only; and 3) Potential allocation systems are developed during planning phases and are only employed if problems arise. Any of these scenarios could be considered but would require management resources not currently available.



PROGRAM DEVELOPMENT

Water trails can be an excellent base for natural-resource-themed outings, including wildlife-watching excursions, skill-building trips, and programs that introduce children to the outdoors. It is recommended that program leaders train with Iowa DNR River Programs staff in a two-day canoe school. It is also recommended that water trail planning incorporate messages that promote stream health and healthier watersheds.

Water trail developers are encouraged to incorporate stewardship into their materials, management and maintenance of areas, and public education. Programs such as the Iowa DNR Streamkeepers adopt-a-stream program and the national Leave No Trace program are examples of stewardship that leads to embracing natural resources.

With careful planning, these general strategies maximize the variety of human experiences while reducing negative impacts for people, rivers, and riparian corridors.



Water trail dedication events often include elected officials.

“Water trails can be an excellent base for natural-resource-themed outings, including wildlife-watching excursions, skill-building trips, and programs that introduce children to the outdoors.”





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