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Agriculture

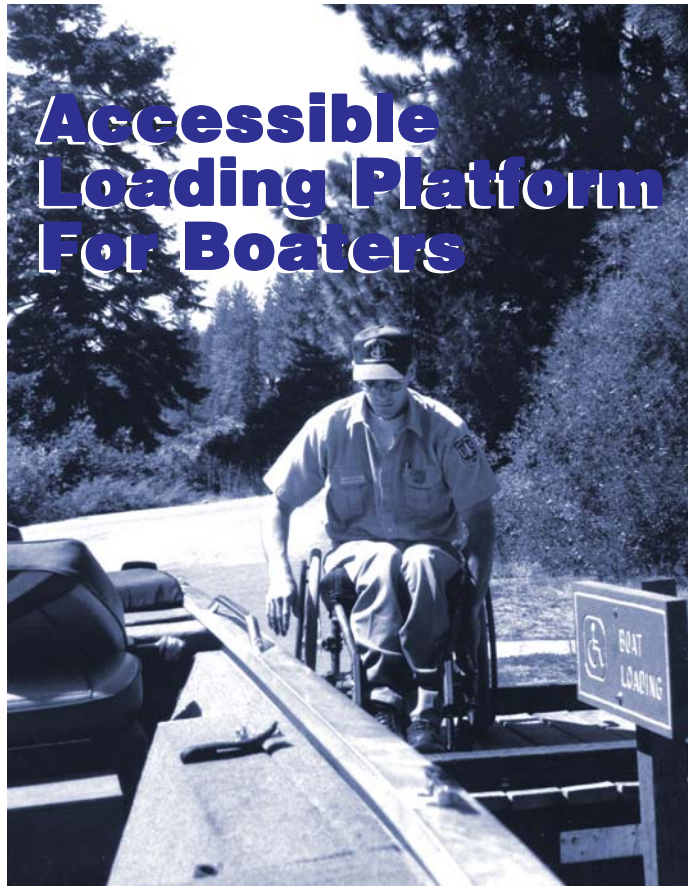
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Technology &
Development
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Accessible Loading Platform For Boaters





Accessible Loading Platform For Boaters

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Project Leader

USDA Forest Service
Technology & Development Program
Missoula, Montana

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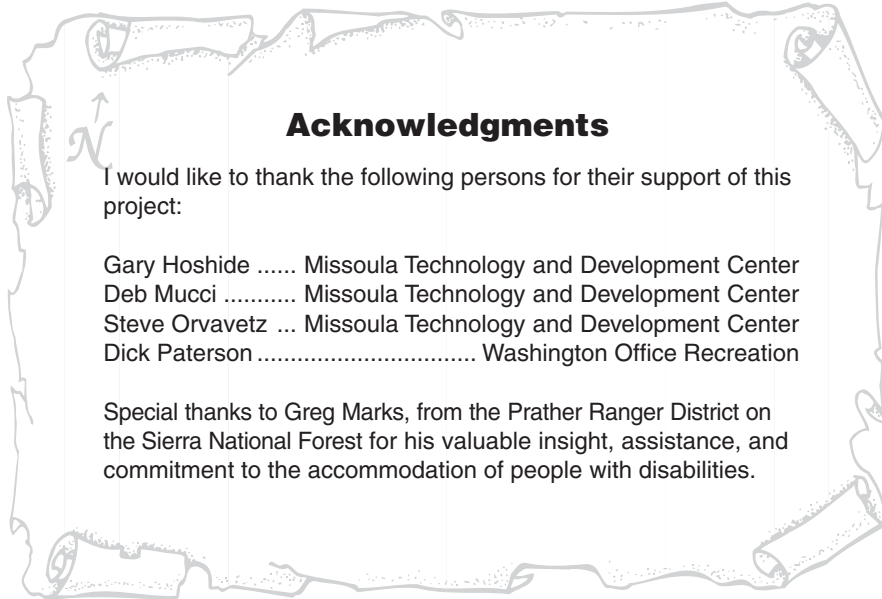
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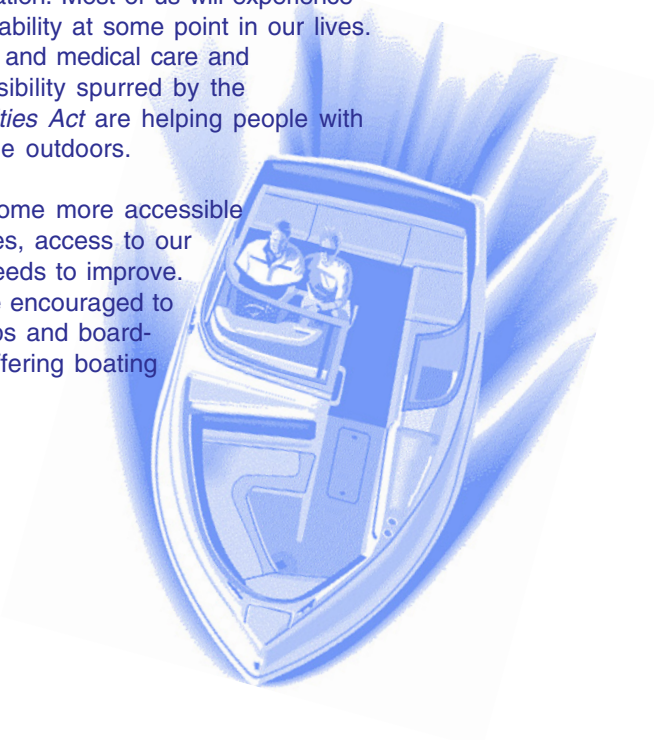
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Dick Paterson Washington Office Recreation

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Introduction

Outdoor recreation opportunities abound on Federal, State, and private lands. More and more people with disabilities are venturing into the great outdoors. People with disabilities represent about 15 percent of the United States population. Most of us will experience at least a temporary disability at some point in our lives. Advances in technology and medical care and improvements in accessibility spurred by the *Americans With Disabilities Act* are helping people with limited mobility enjoy the outdoors.

As recreation sites become more accessible to people with disabilities, access to our lakes and waterways needs to improve. Recreation planners are encouraged to include accessible ramps and boarding platforms at sites offering boating access.



Need for Safe Access

Safely getting into or out of a boat can pose problems for anyone. The boat may be moving and unstable.

In cases where a floating dock is being used, both the boat and dock may be moving. Entering a boat that has been pulled to shore also poses problems, especially if the shore-line is steep or rugged.

For an individual with a mobility impairment, getting into or out of a boat poses additional hazards and risks. A boarding platform on the shore can help reduce the risks (Figure 1).



Figure 1—A boarding platform on the shore can reduce the risks of getting into and out of a boat.

Project Assessment

Greg Marks, Forest Accessibility Coordinator for the Sierra National Forest, was injured in a helicopter accident in 1983. Although Greg now depends on a wheelchair for mobility, he remains an avid fisherman

and boating enthusiast (Figure 2). Greg asked the Missoula Technology and Development Center (MTDC) to evaluate and modify several ramps to assist resource and recreation planners in making our waterways more accessible.



Figure 2—Greg Marks, Sierra National Forest, shows how he gets into a boat from his wheelchair.

Types of Ramps

M TDC evaluated, modified, and redesigned three ramps to meet accessibility standards.

The types of ramps covered in this report include: the con-crete ramp (Figure 3), the earth ramp with retaining wall, and the timber ramp (Figure 4).

The concrete ramp shown in this report is a split-level ramp to accommodate boats of different heights. All

ramps may be modified to single or split level, as long as accessibility codes are met (Appendix B).

Construction plans for these ramps are included in this doc-ument and are also available on the Forest Service's internal network at <http://fsweb.mtdc.wa.fs.fed.us>. Any modifications that affect accessibility standards should be documented along with the reason for the modifications and a risk and liability assessment.



Figure 3—Split-level concrete ramps allow easy access to boats of different heights.



Figure 4—A typical timber ramp.

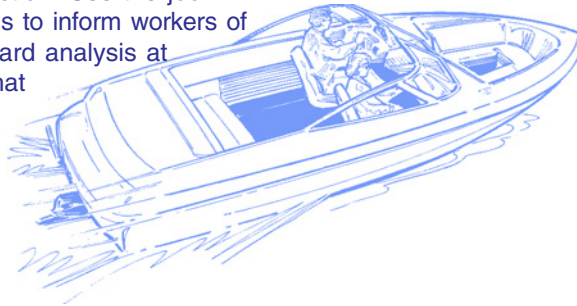
Costs

Costs associated with the construction of these camps vary greatly depending on the location, site preparation,

construction materials, and construction method (private contractor, agency employees, Job Corps, or volunteer groups). Several of the sites MTDC visited were developed with the assistance of organizations such as the Lions Club and the Boy Scouts of America.

Employee Safety

When agency employees, volunteers, or charitable organizations are helping to develop a site, you should conduct a site inspection and develop a job hazard analysis before construction. Use the job hazard analysis and safety meetings to inform workers of potential dangers. Post the job hazard analysis at the construction site and ensure that workers wear appropriate personal protective equipment.



The Ramp and Boarding Platform

An accessible ramp and boarding platform allow boaters to get into the boat before it is placed in the water (Figure 5). The boat is pulled alongside the ramp so it is next to the boarding platform. With the boat in

position, the passengers can board. A 1/4-inch-thick steel plate bolted to the end of the platform and protruding up a minimum of 2 inches will prevent wheelchairs from rolling off (Figure 6). After passengers are on board, safely seated, and secured, the driver can proceed to the boat launch. When unloading, the process works in reverse.



Figure 5—The boarding platform allows passengers to get into a boat while it is still on land, reducing the risks during loading and unloading.

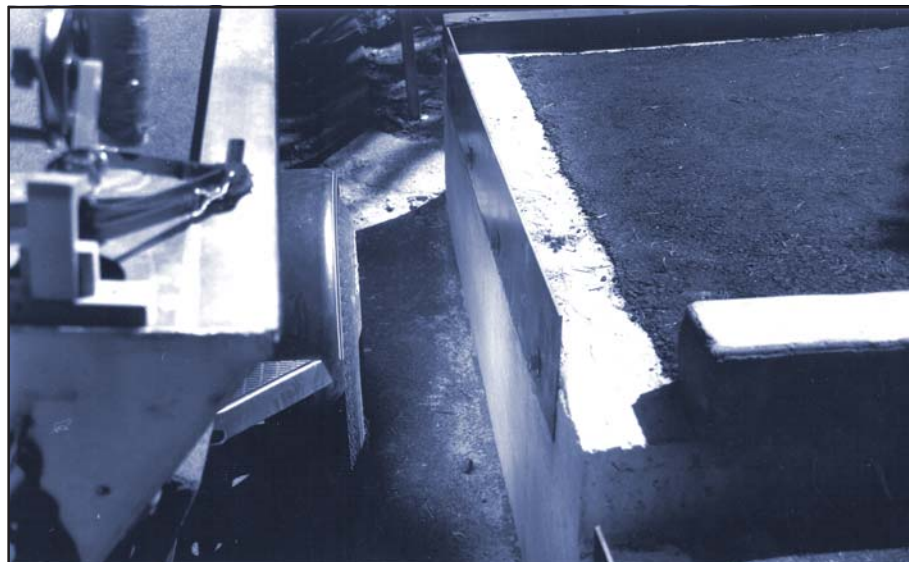


Figure 6—The 1/4-inch-thick steel plate on the end of the platform allows boat trailers to get close to the platform while preventing wheelchairs from rolling off.

Siting Ramps

Platforms are generally sited along the perimeter of a parking area near the water (Figure 7).

Ramps should be built on flat ground. This is especially important when building a split-level ramp. Otherwise, the boat will rise or fall as it is pulled alongside the ramp, pre-venting the split levels from working as intended. Straight access to the ramp will allow drivers to align the boat closer to the boarding platform. Drivers need a straight approach 40 feet before and 40 feet after the ramp for the vehicle and trailer to enter and exit. The area should be kept clear of brush and debris that can interfere with the line of sight.

Rubber fenders or bumpers should be placed alongside the front of the ramp and the platform to prevent them from being damaged by boats or vehicles. Bumpers should not be very thick because the boat will not be able to get close enough to the platform for easy loading and unloading.

The platform should be even with the edge of the roadway or parking area. When modifying an existing site for an accessible ramp, be sure curbs do not interfere with access to the platform. For an individual with limited mobility, inches can make a big difference in gaining safe access from the platform to the boat (Figure 8).



Figure 7—A timber boarding platform built alongside an existing restroom.



Figure 8—A ramp recessed behind curbs makes loading and unloading difficult.

Signs

Stripe the pavement in front of the ramp, 40 feet before the ramp, and 40 feet after the ramp as a no-parking zone.

Ramps should be identified with the international symbol of accessibility (Figure 9). These boat ramp signs were not commercially available in early 2000. They must be custom made. A separate sign could

explain how the ramp is to be used. Other signs could identify safety concerns like the ramp's abrupt edge, or towing a boat with passengers to and from the water.

In areas of deep snow, poles can help snow plow operators identify the edges of the ramp. The snow poles could be removed each spring or left in place to help drivers line up with the ramp. Reflectors are recommended (Figure 10).

Rules for signs, ramps, handrails, and pathways are in Appendix B.



Figure 9—The international wheelchair symbol identifies this loading platform as accessible.



Figure 10—Reflectors are recommended for loading platforms.

Accessibility Standards

Information on accessibility standards is available from the following sources:

Access Board
1331 F Street NW, Suite 1000
Washington, DC 20004-1111
Phone: 202-272-5434
Fax: 202-272-5447
TDD: 202-272-5449

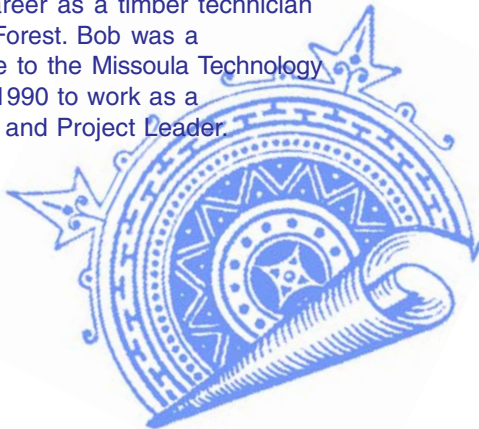
- **Uniform Federal Accessibility Standard, Federal Standard-795.** April 1988. Free.
- **Americans With Disabilities Act Accessibility Guide-lines, Federal Register-Vol. 56, No.144.** July 1991. Free.

MIG Communications
1802 Fifth Street
Berkeley, CA 94710
Phone: 800-790-8444

- **Universal Access to Outdoor Recreation.** 1994. \$44.95
- **A Pocket Guide to Universal Access to Outdoor Recreation.** 1994. \$9.95

About the Author...

Bob Beckley received a bachelor's degree in political science from the University of Montana in 1982. He began his Forest Service career as a timber technician on the Nez Perce National Forest. Bob was a smokejumper when he came to the Missoula Technology and Development Center in 1990 to work as a videographer, photographer, and Project Leader.



Appendix A—Plans for Concrete Ramp, Earth Ramp With Retaining Wall, and Timber Ramp



See separate PDF files for
architectural drawings 1 through 8.

**Copies of these drawings
have been distributed for
review. Final approval and
signature are pending.**

DRAFT

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Appendix B—Accessibility Rules, Definitions, and Handrail Diagrams



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Appendix C—Ramp Diagrams and Tables

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Library Card

Beckley, Bob. 2000. Accessible ramps and boarding platforms for boaters. Tech. Rep. 0023-2837-MTDC. Missoula, MT: U.S. Department of Agriculture, Forest Service, Missoula Technology and Development Center. 22 p.

Describes ways to allow disabled boaters to get into and out of a boat safely. The boat is pulled alongside a wheel-chair-accessible ramp on dry land and the boater is loaded there. Then the boat is driven a short distance to the launch site. Includes plans for three ramp designs (concrete ramp, earth ramp with retaining wall, and timber ramp).

Keywords: Americans With Disabilities Act, disabilities, drawings, physically handicapped persons, recreational facilities

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