









PREPARE TO LAUNCH!





Acknowledgements

The National Park Service wishes to acknowledge the following individuals and organizations who contributed their expertise and resources to the development of the original Logical Lasting Launches publication, and to this current update to LLL. titled Prepare to Launch!:

Update Prepare to Launch! Publication Acknowledgements:

Written by Joe Sullivan, an intern with the River Management Society in the summer of 2013 with assistance from Risa Shimoda, Executive Director of the River Management Society, and Lelia Mellen and Corita Waters, National Park Service Rivers, Trails and Conservation Assistance Program.

Special thanks go to those who contributed time, energy and creativity to this update: Sue Abbott, Karl Beard, Don Briggs, Alison Bullock, Charlotte Gillis, Joan Harn, Duncan Hay, Ursula Lemanski, Kathryn Nichols, Peggy Pings, Barbara Rice, Angie Tornes, Randy Thoreson, Susan Rice, and Jerry Willis - National Park Service; Nate Hoogeveen and John Wenck - Iowa DNR; Scott Keller – Hudson River Greenway Water Trail; Walter Opuszynski – Northern Forest Canoe Trail; Greg Rolf - American Canoe Association; Kate Rudasille - Northern Virginia Regional Park Authority; Erik Wrede - Minnesota DNR; Randy Welsh and Janet Zeller - USDA Forest Service, and Julie Thorner and Evan Tipton - WillowWorks.

Original Logical Lasting Launches Publication Acknowledgements:

Written and produced by: Caroline Wolf, Student Conservation Association with assistance from the WASO Rivers team of NPS Rivers, Trails and Conservation Assistance Program: Chris Brown, Joan Harn, Corita Jones and Charles Stockman.

Contributors: Ken Allen, Mark Anderson, Jack Andre, Rose Bayless, Karl Beard, Julie Bell, Gary Boughton, Don Burns, Russ Cohen, Kevin Colburn, Jim Flanagan, Jon Fleischman, Phyllis Garcia, Jill Harding, Mike Harvey, Carol Hunter, Julie Isbill, Kevin Keeler, Scott Keller, Dennis Kincer, Gary Lacy, Roger Lewis, Dana Lockett, Jim Logan, Gary Mechanic, Rich Misplon, Kathryn Nichols, Thomas O'Keefe, Tim Palmer, Stew Pappenfort, Mike Passo, Ken Phillips, Tom Potter, Jason Robertson, Kay Salazar, Michelle Schneider, Nita Settina, Don Smith, Diane Steinbrook, Carl Stockman, Linda Stonier, Angie Tornes, Caroline Tan, Charles Tracy, Reed Waite, Rob White, Thomas Wolf, and Janet Zeller. American Whitewater, Arkansas Water Trust, Chicago Access Project, City of Eureka, California, Colorado State Parks, Delaware Department of Fish and Wildlife, Housatonic River Restoration Project, Hudson River Greenway Water Trail, Illinois Department of Natural Resources, Lower Colorado River Authority, Maryland Department of Natural Resources, Minnesota Division of State Parks, Montana State Design & Construction Bureau, North Carolina Department of Natural Resources, Openlands Project, Rivers, Trails & Conservation Assistance Program, National Park Service, Washington Water Trails Association, Wisconsin Department of Natural Resources, West Virginia Department of Natural Resources.









Prepare To Launch!

Guidelines For Assessing, Designing And Building Access Sites For Carry-In Watercraft

- Why This Document: To help facility and trail planners, and park and recreation project leaders when planning, building, or updating access sites that are tailored to the needs of the canoeists, kayakers, tubers, stand-up paddlers, rowers, or small craft sailors (commonly referred to as "paddlers" in this document). Prepare to Launch! will help with:
- Understanding Launch Locations by addressing shoreline characteristics along rivers, lakes, and bays
- Addressing Users' Launch Needs by looking at the various types of users and watercraft, amount of traffic, and accessibility needs
- Understanding Launch Design Criteria that can be shared with a contractor, engineer, or designer, depending on the complexity of the site
- **Promoting Your Launch Project** by offering tips to help make decisions about appropriate launch design and construction and by helping to organize examples that can then help gain community support and fundraising.







Logical Lasting Launches: Updated

Prepare to Launch! is an update to Logical Lasting Launches, a National Park Service publication that has been a reliable resource for river managers at the federal, agency, state, local, and community level across the country since 2004. Material in the original document provided the basis for this presentation. **Prepare to Launch!** utilizes decision-based links to guide users through the development process from conception to detailed design creation and making final construction choices for a launch. **Prepare to Launch!** is also available as an online resource at www.River-Management.org.

We are aware that there are some inconsistencies in this document. This inconsistency comes from the fact that there is not one single standard for launch development and multiple factors weigh into launch design. We intend for this guide to be used as a reference to help make informed choices for launch sites.

Prepare to Launch! is a joint project of the NPS Rivers, Trails, Conservation Assistance Program and the River Management Society. We are grateful for the collaboration of river users, managers, and professionals across the country for this updated resource guide.

Published 2014 by the River Management Society







How To Navigate Prepare To Launch!

Navigation Functionality

- that allow you to navigate back to the On every slide, there are two icons, beginning of a chapter, or return to the Table of Contents.
- Clicking this button will take you back to the beginning of the chapter you are currently in.
- Clicking the 'home' button will return you to the Table of Contents.
- The Table of Contents slide is hyperlinked to allow you to click the section you would like to navigate directly to.
- Colored buttons like this are also clickable, taking you to the **User Accessibility** corresponding section.
- **Note:** These buttons only work when viewing the PowerPoint in 'presentation' mode.

Glossary Terms

When you see a word that is colored like the following example, <u>cleats</u>, it is a glossary term that is defined in the end of the document. On every glossary page, there is a return button. that will take you back to the previous slide you just came from.









Table of Contents

Prepare to Launch!

- 2 <u>Acknowledgements</u>
- 3 <u>Introduction</u>
- 4 <u>Logical Lasting Launches Updated</u>
- 5 How to Navigate Prepare to Launch!

Chapter 1. Characteristics of a Launch Site

- 9 <u>List of Figures and Case Studies</u>
- 10 <u>User Accessibility</u>
 - 12 <u>Universal Launch Design</u>
- 13 Site Location Appropriateness
 - 14 7 Characteristics of a 'Best Suited' Launch
- 16 Cost Considerations
 - 18 Launch Complexity vs. Cost
 - 27 <u>Humboldt Bay Trails Study</u>
- 32 **Environmentally-Friendly**
 - 35 Vegetated Filter Strip Design
- 36 <u>Bibliography/Resources</u>
- 37 Photo Credits

Chapter 2. Three Steps to a Desired Launch

- 39 List of Figures and Case Studies
- 40 Step 1: Launch Location
 - 42 Bodies of Water
 - 61 Environmentally Sensitive Areas
 - 68 Design For Fluctuating Water Levels
- 70 Step 2: User Assessment
 - 71 Types of Users and Watercraft
 - 78 Level of User Traffic
 - 79 Accessibility Needs
- 94 Step 3: Launch Development Considerations
 - 95 Permitting
 - 96 Funding Resources
 - 98 Professional Resources
- 99 Bibliography/Resources
- 100 Photo Credits





Table of Contents, cont.

Chapter 3: Launch Design Types

| <u>Chapter 5. Laurich Design Types</u> | | |
|--|--|--|
| 103 | <u>List of Figures, Tables, and Case Studies</u> | |
| 105 | <u>Launch Design Categories</u> | |
| 106 | Minimal Construction Design | |
| | 107 - Natural Surfaces | |
| 116 | Mat Launch Designs | |
| | 117 – Geotextile Mats | |
| | 125 – Concrete Mats | |
| 134 | Ramp Launch Designs | |
| | 135 – Concrete Ramps | |
| 143 | Stairs Launch Design | |
| | 144 – <u>Wooden Stairs</u> | |
| | 159 – Concrete Stairs | |
| 174 | Docks/Piers (Floating or Fixed) Designs | |
| | 175 – <u>Docks / Piers</u> | |
| | 183 – <u>Cantilevers</u> | |
| | 190 – <u>Floating</u> | |
| | | |
| | | |

| 215 | Elevated Walkways and Portages 216 – Elevated Walkways 222 – Portages |
|-----|---|
| 231 | Resources – Chapter 3 |
| 232 | Photo Credits |
| 236 | Appendices 237 – Accessibility Resources 238 – Suppliers of Floating Docks 239 – Sources of Soil Stabilization |
| 240 | Glossary |