

# Developing Access Sites on Your River

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## Design Questions for Construction or Improvements

### Intentions & Goals

What do you wish to accomplish and what do you value?

- Intended intensity of development
  - *Small is Beautiful, Keep It Simple Smarty, Tread Lightly on the Land*
  - New site development or Improvement of existing site
- Intended resource protection and remediation priorities relative to impact
- Desired carrying capacity, or durability
- Harmony with the setting and the paddling experience
- Financial resources or limitations

Maintenance Plan

- Capacity to monitor – frequency?
- Capacity to maintain – resources?
- Capacity to repair – expertise, resources?

### The Paddlers & their Boats (& Other People)

Current and intended users and watercraft

- Types and dimensions of watercraft
- Types and intensity of use: paddlers, anglers, dog walkers,
  - How are they likely to make use of, or abuse, your site?
- Other activities on the site: picnic, events, education, playground, park, etc.
- Existing and potential illegal behavior

### The Waterway

River Morphology & Flow Patterns

- Variations in flow due to tides, precipitation or dam releases
- Flooding, storm surges,
- Flow gages available online, or on the river – information for paddlers

- Exposure to wind and waves
- Are there hazards just downstream threatening paddlers who miss the pull-out?

#### Flora & Fauna

- What habitat could be disturbed?
- What are the breeding and migration patterns and needs
- What invasive & hazardous plants could be removed?

## The Land & the Launch

#### Location, Location, Location

- Have you scoured the river for better alternative sites?

#### Legal

- Ownership
- Permission for public use

#### Soil Conditions

- Materials, texture and composition
- Natural, engineered, bio-engineered,
- Archeological resources – Section 106 review by the State Historic Preservation Officer

#### Human & Natural Forces

- Compaction
- Displacement
- Erosion
- Tread watershed drainage

#### Safety

- Visibility from water and road
- Steepness of slope and footing
- Exposure to currents, winds, tides and power boats
- Ease of transition from land to water and back – range of grade separations
- Informational signage

#### Catalog of Launch Designs: **Logical Lasting Launches** (see below for address)

- Finally! Consider various launch types according to intensity of use and the other factors you've just identified.

# Excerpt from **Logical Lasting Launches**

by National Park Service – Rivers & Trails Program  
*September 2004 edition*

## **What makes a launch logical and lasting?**

A logical, lasting launch provides safe and easy access for paddlers while accommodating the topographic, climate, and ecological characteristics of its location. Ideally, its construction is cost-efficient and durable and has little impact on the environment and riparian ecology.

## **The ABC's, D's and E's of Launch Design**

It is important to consider a variety of factors when developing a launch design. Consider the following goals:

Accessible  
Best-suited  
Cost-effective  
Durable  
Environment-friendly

## **Accessible to all paddlers**

Paddlers of all abilities want to launch and land smoothly without capsizing or damaging their boats.

They need firm surfaces that support their movements and sufficient space to accommodate the length of their boats during put-in and take-out. Paddlers must be able to stabilize their boats during transition to and from the water. Climbing in and out of boats can be especially challenging when there is significant height difference between seat levels and shoreline.

Additionally, federal law requires that all boating facilities provide access to paddlers with disabilities whenever possible (see Chapter III for details).

### **General recommendations**

- Height above water: Between 9" and 2' from highest expected water level

- Width: At least 5' wide, preferably 6' to 12'
- Length: At least 25' to allow paddlers “dry” access to entire length of their boats
- Slope: ADA Accessibility Guidelines require that slopes not exceed 8.33% whenever possible; A slope exceeding 15% will make transition from land to water difficult for any paddler
- Support: Handrails or other support structures, including step-down designs or ropes, help paddlers balance their weight during put-in and take-out
- Location: Ideally in areas without heavy flow, erosion, exposure to elements, heavy boat traffic, or fragile riparian habitats

## **Best-suited**

The type of launch chosen should be suitable for a particular location, meaning that it should be the most sensible choice considering the characteristics of the water body, climate and ecological factors.

### **General recommendations**

A launch that is “best-suited”:

- Is constructed in accordance with applicable regulations
- Provides safe access, away from potential river hazards, especially at various flow levels
- Can withstand flow levels, currents, and exposure to elements
- Accommodates paddlers in varying water depths
- Provides a firm surface for launching, despite changes in sedimentation levels
- Will not be easily damaged due to climate or seasonal conditions
- Does not cause damage to riparian habitats or vegetation during its construction and is unlikely to have environmental impacts over time and through usage
- Is not constructed in an area vulnerable to erosion
- Is constructed with consideration to its intended uses and frequency of use

## **Cost-effective and Durable**

Existing natural sites (e.g., banks, rocks, beaches) are preferable, as they cost nothing to develop; however, they may not be durable and can require reinforcement over time. Minimal construction will keep costs low and help maintain a natural appearance along a shoreline. If construction is necessary, using durable materials reduces the need for later repairs or replacements, yet the speed at which materials weather will depend on climate factors and level of exposure to currents and winds.

In some cases, existing docks used by motorized boats can provide stable surfaces for paddleboat access, but many standard docks rise too far above the surface of the water to enable a safe and easy put-in for paddlers. Some boat docks may be modified or easily improved to make them more paddler-friendly; for example, they can be lowered, lengthened, or widened. Ramps can be made less steep or step-downs may be added, along with handrails,

cleats, or windbreaks. Shoreline features, such as boardwalks and bulkheads, can be combined with floating docks to enable hand-launching.

### **General recommendations**

- Use construction only when absolutely necessary. In many cases, an actual launch structure may not be needed; firm or sandy banks, level rocks, and beaches can often provide sufficient access (see Chapter IV); kayakers may only need a hardened bank for access
- Choose access sites with minimal exposure to winds and heavy currents, preferably near calmer areas of water, such as near eddies; if this is not possible, consider creating a vegetative or other type of buffer to provide protection from the elements
- To reduce construction needs and costs, make modifications to existing boat docks or shoreline structures to make them more “paddler-friendly”
- Construct launches that serve multiple purposes, such as mitigating erosion or restoring wetland vegetation; simple ramps or implanted beaches may help to stabilize a fragile bank or provide “soft treatments” while also enabling access

## **Environment-friendly**

Use of low-impact designs and non-toxic materials is essential to watershed health, from protecting water quality, vegetation, and riparian habitats to enabling sustainable recreation. Environmental regulations must be considered prior to, and during, launch construction.

### **General recommendations**

- Investigate any applicable regulations; develop launch designs in accordance with these regulations
- Use structures requiring minimal construction or alteration to the shoreline (see Chapter XI for information on low-impact designs)
- Consult with local natural resource specialist during the planning and construction phases to screen for the presence of ecologically sensitive nesting sites, rookeries, spawning areas, or endangered species; an optimal put-in site may not be feasible for ecological reasons
- Merge the needs of natural functions and the desired recreational uses of the water; with rivers and streams, avoid making any channel modifications and preserve in-stream habitat as much as possible
- Monitor watershed conditions and stream morphology trends to inform design decisions
- Gather data from local or state agencies that monitor water levels and flows to develop a launch that will accommodate the conditions of the water body over time
- Avoid using hard reinforcements (e.g., concrete, steel, rock) where shorelines are eroding; use bioengineering methods, such as developing a riparian buffer planted with native species, to protect vegetation and habitats and stabilize shorelines while sheltering the launch area from the elements; along streams, wider buffers can allow space for lateral movements and can help to reestablish meander over time -- these methods allow plant species to become self-sustaining and can also improve aesthetics

- Avoid using toxic or hazardous materials or items that have contained these materials

## **Additional considerations**

Additional factors to consider in launch design are preservation of historic or cultural landscapes, as well as aesthetics. Historic sites may have particular characteristics or regulations that influence where a launch can be constructed or what types of materials may be used. See Chapter XI for an example of environmental assessments conducted to protect an historic canoe launch at Fort Clatsop National Memorial.

## **Location, Location, Location**

Whether or not a launch will be effective and able to provide sustainable access depends largely upon its location and the characteristics of the water body it is on.

### **General recommendations**

Access is preferable in areas that have:

- Minimal exposure to strong currents and winds, such as river eddies or in a cove or inlet
- No physical barriers, such as impassable sections, dams, or weirs
- Distance from other boat traffic, so that paddlers do not have to cross heavy traffic areas
- Water levels enabling year-round use
- Good water quality
- Little lateral movement that could erode the riverbank
- Visibility from both river and shore, so paddlers can locate the launch site easily from land and water.

## **Resources**

**Logical Lasting Launches** available for free download at

<http://www.nps.gov/nrcr/programs/rtca/helpfultools/launchguide.pdf>

Water Trail Manager List Serve on Yahoo Groups. A good place to ask questions and learn from other practitioners: <http://groups.yahoo.com/group/WaterTrailManager/>

Humboldt Bay Water Trails Implementation Strategy

<http://naturalresourceservices.org/watertrails.html>

A Guide to Boating and Canoe Access Development in Illinois

<http://dnr.state.il.us/ocd/Boating&canoeaccess.pdf>