



A message from the Director, Oregon Parks and Recreation Department

I am pleased to present Oregon Trails 2005-2014: A Statewide Action Plan. This plan is the product of more than two years of consultation and collaboration of recreation trail providers, interest groups and citizens across the state. It is the state's "official plan for recreational trail management" for the next 10 years, serving as a statewide and regional information and planning tool to assist Oregon recreation providers (local, state, federal, and private) in providing trail opportunities and promoting access to Oregon's trails and waterways. It also identifies how the state's limited resources will be allocated for motorized, non-motorized and water trail projects throughout Oregon.

OPRD has taken an innovative approach to statewide trails planning by conducting simultaneous motorized, non-motorized and water trails plans. Each is a comprehensive study and depiction of the state of recreational trail and non-motorized boating use in Oregon. Due to the overall size of the document, in addition to the complete plan, individual motorized, non-motorized and water trails plans have been printed. In an effort to minimize printing and shipping expenses, we are providing you with only those specific type of plan(s) most relevant to your organization (i.e., federal agencies will be sent a full plan while a motorized trail user group will receive a motorized plan only).

Although this Action Plan is completed, it's ultimate success rests on the continued support of stakeholders across the state to actively participate in implementing these strategies. By building on the momentum and collaboration of this planning process, each of us can help to turn this Action Plan into a world-class trail system—one that offers high-quality trail facilities and opportunities that will satisfy users—both Oregonians and visitors to our beautiful state—for generations to come.

Sincerely,

Tim Wood
Director – Oregon Parks and Recreation Department

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WATER TRAILS PLAN EXECUTIVE SUMMARY

Introduction

The Oregon Parks and Recreation Department (OPRD) was given responsibility for recreation trails planning in 1971 under the “State Trails Act” (ORS 390.950 to 390.990). In general the policy of the statute is as follows: “In order to provide for the ever-increasing outdoor recreation needs of an expanding resident and tourist population and in order to promote public access to, travel within and enjoyment and appreciation of, the open-air, outdoor areas of Oregon, trails should be established both near the urban areas in this state and within, adjacent to or connecting highly scenic areas more remotely located.”

The Oregon Recreation Trails Plan has been in place since 1995. Although many of the findings included in this plan are still relevant, considerable change has occurred on Oregon’s recreational trails in the last 9 years including a 13% state population increase between 1995 and 2003 and increases in recreational trail use. As a general rule, planning documents of this type have a usable shelf life of 10 years. As

a result, there was a need to update the trails plan for recreational trail uses.

During the most recent SCORP planning process, recreation providers reported a need for the trails plan to address a growing interest in canoe, rafting, and kayak routes (water trails) throughout the state. Although the state enjoys a variety of high-quality paddling opportunities, additional recreational infrastructure is needed to satisfy a growing demand for paddling sports. According to recreation providers, necessary resources/facilities/services needed for water trail development include water access sites and support facilities, overnight camping facilities, directional signage, maps, brochures and other marketing tools to properly market new water trail opportunities and paddling clinics.

The SCORP planning effort also identified that during a 15-year period from 1987-2002, participation in non-motorized boating activities had more than doubled in the state of Oregon (see Table 1 below).

Activity	1987 User Occasions*	2002 User Occasions	Change	% Change
Power Boating	2,668,085	2,751,190	**	**
Non-motorized Boating***	929,369	2,210,552	1,281,183	+138%

* A user occasion is defined as each time an individual participates in a single outdoor recreation activity

** Within the +/- 8% Confidence Interval.

*** Non-motorized boating includes canoeing, sea kayaking, whitewater kayaking and whitewater rafting.

¹ Oregon Parks and Recreation Department (2003). 2003-2007 Oregon Statewide Comprehensive Outdoor Recreation Plan. pp. 4-12.

These survey results further reinforced the need for a water trails plan in Oregon.

The purpose of the water trails planning effort is to provide information and recommendations to guide OPRD and other agencies in Oregon in their management of water trail resources. The plan is designed to:

- Assess the needs and opinions of Oregon’s citizens as they relate to water trail opportunities and management;
- Establish priorities for expenditures from the Federal Recreational Trails Grant Program;
- Develop strategic directions to guide activities for statewide water trail planning;
- Gather additional inventory measurement data for water trail resources and facilities; and
- Recommend actions that enhance water trail opportunities to all agencies and the private sector providing trail resources in Oregon.

The plan has been developed as an information resource as well as a planning tool to guide agencies for the next 10 years.

In Oregon, water trails (like other recreational trails) are corridors between specific locations on a lake, river or ocean. Water trails are primarily designed for small watercraft such as canoes, sea and whitewater kayaks, rafts and drift boats. Necessary water trail facilities include a safe place for the public to put in, parking, restrooms, a safe place to take out, and in some cases day-use sites and overnight campsites. Water trails offer a variety of challenge levels on white water, moving water, flat water and tidewater and

emphasize low-impact use and encourage stewardship of the resource.

Summary of Planning Results

This section includes a brief summary of the results for the following major components of the statewide water trails planning effort.

Benefits of Water Trails

As previously mentioned, non-motorized boating has grown in popularity in recent years in the state of Oregon. This increase in participation translates into financial benefits for communities that provide access to water trails. Water trails as a recreation destination provide rural communities with income to local boat liveries and outfitters, motels and bed and breakfasts, restaurants, grocery stores, gas stations and shops.² Evidence from economic studies include:

- An Oregon study of guides and packers³ indicates that in 1986, the outfitter/guide industry in Oregon (for river, land and marine activities) had a direct impact of \$42.5 million. This resulted in a total economic impact of \$300 million to the overall Oregon economy.
- River recreation in Oregon is one of the activities that attracts people from other areas. In the Columbia Gorge region (consisting of Hood River and Wasco Counties), revenues from transient lodging taxes grew just over 25% during 1992/93, following a similar increase

² Water Trails For Wisconsin. University of Wisconsin Extension.

³ Bureau of Land Management (1987). Recreation 2000. Washington, D.C. U.S. Department of the Interior, Bureau of Land Management.

of approximately 21.4% in the previous fiscal year⁴.

- The Outdoor Recreation Coalition of America estimated that a total of \$200 million was spent on retail sales for paddle sports outdoor recreation equipment, apparel, and accessories in 1996.
- According to a survey conducted by the National Association of Canoe Liveries and Outfitters, the average river trip covers 10.8 miles and takes 4 hours and 15 minutes, the average charge per guest is \$13.00, and 85% of guests are between 20-50 years of age.

The recreational experience provided by water trails are often their foremost attraction. In addition to the entertainment values of recreation, there is a significant health and fitness benefit.

Many people realize exercise is important for maintaining good health in all stages of life, however many do not regularly exercise. The U.S. Surgeon General estimates⁵ that 60% of American adults are not regularly active and another 25% are not active at all. In communities across the country, people do not have access to trails, parks, or other recreation areas close to their homes. Water trails provide a safe, inexpensive avenue for regular exercise for

people living in rural, urban and suburban areas⁶.

Exercise derived from recreational activities lessens health-related problems and subsequent health care costs. Regular, moderate exercise has been proven to reduce the risk of developing coronary heart disease, stroke, colon cancer, hypertension, diabetes, osteoporosis, obesity, and depression. This kind of exercise is also known to protect against injury and disability because it builds muscular strength and flexibility, which helps to maintain functional independence in later years of life⁷. A nationwide study on the cost of obesity⁸, concluded that increasing participation in regular moderate activity by the more than 88 million inactive Americans over age 15 could reduce annual national medical costs by \$76 billion in 2000 dollars.

Additional benefits of water trails include:

- Conservation/Stewardship Benefits: Water trail activities can support the conservation of the aquatic and shore land ecosystems. Trail builders and activists are a respected constituency who advocate for resource protection, and participate in resource restoration. In addition, by promoting minimum-impact practices, water trails embrace the "Leave No Trace" code of outdoor

⁴ Oregon Tourism Division (1994). 1992 Economic Impacts and Visitor Volume in Oregon. Prepared by Dean Runyan Associates, Portland, OR: Oregon Tourism Division, Economic Development Department.

⁵ Centers for Disease Control and Prevention. (1996). Surgeon General's Report on Physical Activity and Health. Department of Health and Human Services. July 1996.

⁶ Benefits of Trails and Greenways. From Trails and Greenways Clearinghouse.

⁷ Centers for Disease Control and Prevention. (1996). Surgeon General's Report on Physical Activity and Health. Department of Health and Human Services. July 1996.

⁸ Pratt, M., Macera, C., and Wang, G. (2000). Higher Direct Medical Costs Associated With Physical Inactivity. *The Physician and Sports Medicine* 28(10).

ethics that promote the responsible use and enjoyment of the outdoors.

- Educational Benefits: Water trail organizations use comprehensive trail guides, signage, public outreach, and informative classes to encourage awareness of the natural, cultural, and historical attributes of the trail⁹. Water trails are also a perfect classroom for the teaching biologist, botanist, and ecologist, both amateur and professional. Educators naturalists, rangers and scoutmasters—all can demonstrate and illustrate their lessons along the water trail¹⁰.

Key Statewide Water Trail Issues

The plan also identifies key water trail issues that affect the future of non-motorized boating management in Oregon. During the months of April and May 2003, OPRD staff conducted a series of 9 regional trail issues workshops across the state. Approximately 230 people attended a workshop, including representatives from 56 public-sector recreation provider organizations. Information from these workshops was used in the process of developing top regional and statewide water trail issues.

The 6 top statewide water trail issues include:

Statewide Issue A: Need To Address Conflicts Between Non-motorized Boaters And Waterfront Property Owners

Recreation providers and other workshop attendees clearly stated a need to proactively address potential conflicts between paddlers and waterfront property owners. Several strategies were mentioned in the issues workshops including:

- Providing a sufficient number of public access points at reasonable intervals along designated water trails.
- Developing and disseminating an appropriate assortment of information resources (signs, maps and brochures) to inform the public of all available water trail facilities.
- Incorporating water trail guidelines that emphasize a proper respect for private property.

According to recreation providers, there is a need to better inform the public about the extent and limitations of the public's interest in the state's waterways. The primary objective is to better inform non-motorized boaters on where they legally can launch or access the water and shore to ensure long-term access to floatable waterways in Oregon in a way that is considerate of the interests and concerns of private property owners.

Statewide Issue B: Need For More Public Access To Waterways

Recreation providers and other workshop attendees across the state consistently reported a need for more public access to waterways to accommodate the needs of a growing number of non-motorized boaters. Both providers and other workshop attendees made a case that additional public access is needed at the

⁹ Water Trails for Wisconsin. University of Wisconsin Extension.

¹⁰ North American Water Trails, Inc. Why Water Trails?

starting point, at reasonable intervals along, and at the final take out point of paddling routes throughout the state.

Statewide Issue C: Need For Adequate And Consistent Information Resources Including Signs, Maps, Level Of Difficulty And Water Level Information And Available Paddling Opportunities

Recreation providers and workshop attendees made a strong case for developing a central web-based repository for interested non-motorized boaters to get information about existing flat water, moving water and whitewater paddling opportunities available throughout the state of Oregon. There is also a need for maps and information to promote paddling opportunities throughout the state.

Statewide Issue D: Need For Safety-Related Information, User Education And Outreach

Both recreation providers and other workshop attendees stated that there is a strong need to adequately inform people of conditions they may encounter on Oregon waterways before actually getting onto the water. In addition, there is a need for emergency response training to ensure that the necessary skills and knowledge are in place to avoid and properly respond to water-related emergency situations.

There is also a need to reduce visitor impacts to the environment along paddling routes. Environmental impacts occur from such things as improperly disposed human and solid waste, disturbing wildlife, camping on private land and using soap too close to the river. As a result, there is a need for more information available on how to reduce visitor impacts such as

Leave No Trace and Tread Lightly! to develop an appropriate user ethic.

Statewide Issue E: Need For A Dedicated Funding Source For Water Trail Development

Across the state, recreation providers and other workshop attendees strongly made a case for a designated funding source for water trail facility development. Currently, there are grant programs funding motorized and non-motorized terrestrial trail projects and a motorized watercraft facility program, but no resources are specifically designated for non-motorized watercraft facility development. As a result, there is a need to explore funding opportunities/sources such as a non-motorized boater fee to fund water trail development.

Statewide Issue F: Need For Information Describing The Social And Economic Benefits Of Water Trails

Recreation providers stated that there is often local resistance to developing water trail opportunities and encouraging more visitors to the local area. Community members often view increasing use of nearby waterways as potentially harmful to their local quality of life. As a result, recreation providers need information to better educate communities about the social and economic benefits associated with water trail development.

The 2004 Oregon Statewide Non-motorized Boater Survey

The 2004 Oregon Statewide Non-motorized Boater Survey was conducted over a four-month period from January to April 2004 by the University of Oregon's Survey Research Laboratory. The purpose of the survey was to assess the needs and

opinions of Oregon’s citizens about non-motorized boating opportunities and management, assess the need for future investment in water trail facilities and opportunities and provide trail planners with up-to-date information for local and regional trails planning.

The survey found that fourteen percent of Oregon households have a person reporting non-motorized boating participation, amounting to 185,200

households in the state. White water rafting (47%), canoeing (42%) and drift boating (36%) are the most popular activities among non-motorized boaters (see Table 2). Gender is split closely at 55% male/ 45% female for non-motorized boaters, and the median age is 40-49 years old. A sizable majority have some college (86%), with almost two-thirds being college graduates (61%). Median income is \$40,000 to \$69,000.

TABLE 2: Extent of Non-motorized Boating Participation

N = 248	Participated in Last Year	Estimated Oregon Households
White water rafting	47%	86,600
Canoeing	42%	77,400
Drift boating	36%	66,300
White water kayaking	16%	29,500
Sea kayaking	9%	16,600
Other	31%	57,109

Sampling error for the “in last year” question is ± 5%.

The survey asked non-motorized boaters the type of waterway they preferred for the activity they enjoy the most (see Table 3). Whitewater rivers and streams are the preferred favorite, with flat water rivers and streams a close second, followed by lakes. Different user groups have clearly different preferences.



N = 29-243	All Non-motorized Boaters	Canoeists	Drift Boaters	Sea Kayakers
	N = 247	N = 63	N = 50	N = 29
Whitewater rivers and streams	37%	5%	32%	17%
Flat water rivers and streams	32%	44%	46%	31%
Lakes	22%	38%	14%	34%
Tidewaters	3%	5%	2%	7%
The ocean	2%	2%	2%	3%
Freshwater wetlands	2%	5%	2%	3%
If volunteered: no preference	2%	2%	2%	3%
Sampling error	± 5%	± 12%	± 14%	± 18%

Sixty five percent of non-motorized boaters reported that they would like to participate in their activity more than they do. Lack of time is by far the primary roadblock for non-motorized boaters.

Non-motorized boaters use many information sources in planning for their paddling trip (See Table 4). A few favorites stand out: people’s advice, printed resources like brochures, maps, books and magazines, and the internet. Non-motorized boaters were asked about satisfaction with a variety of information sources, and they report a high level of overall satisfaction. Users reported more dissatisfaction with signage, level of difficulty information, route maps, and agency responses.

N = 248	Use Source	Favorite Source
Advice of people	91%	37%
Brochures, maps	90%	13%
Books, magazines, newspapers	79%	15%
Sporting goods stores	71%	3%
Visitor information centers	69%	3%
Gather information along the way	65%	1%
Internet	63%	15%
Phone management agencies	46%	3%
Clubs, groups, water trail organizations	19%	2%
Other	13%	4%
Sampling error for this question is ± 5%		

Overall, non-motorized boaters were “extremely satisfied” with their overall non-motorized boating experience in Oregon. Ninety nine percent of non-motorized boaters reported being either “very satisfied” (75%) or “somewhat satisfied” (24%). Only one percent said they are “not very satisfied.”

Finally non-motorized boaters were asked to prioritize a variety of funding possibilities related to developing and maintaining water trails. Maintaining existing facilities, cleaning up litter and trash, and enforcing existing rules/regulations are highest ranked priorities (See Table 5).

TABLE 5: Water Trail Funding Priorities (1 = Not That Important, 4 = Very Important)					
N = 242-246	Mean	Very Important	Somewhat Important	Not That Important	A Top Funding Priority ¹¹
Maintaining existing facilities	2.7	71%	28%	2%	156
Clean up litter and trash	2.7	70%	24%	5%	143
Enforcing existing rules/regulations	2.4	48%	38%	13%	93
Acquire land for public access	2.3	44%	37%	18%	84
Providing education, safety, and trail etiquette information	2.3	40%	45%	15%	79
Providing law and safety enforcement	2.2	33%	55%	11%	77
Developing support facilities	2.2	30%	60%	10%	58
Providing information, maps, signs	2.2	32%	60%	8%	57
Developing camping facilities	1.9	16%	53%	31%	34
Identify new water trail routes	1.9	17%	57%	27%	30
Providing interpretive information	1.9	11%	66%	23%	19
Sampling error for this question is \pm 5%					

¹¹ Number of respondents selecting this answer. Asked only if respondent answered “very important.”

Statewide Water Trail Goals, Objectives and Strategies

A set of long-range goals, objectives and strategies were developed for each of the top 6 Statewide Water Trail Issues based on findings from the water trails planning effort. These goals, objectives and strategies were developed for use by water trail decision makers across the state to develop policies and actions for resolving the 6 top statewide water trail issues.

Note: Specific strategies are identified in this plan for addressing each objective, but are not included in the following summary. A full listing of statewide water trail goals, objectives and strategies is included in the water trails plan.

Top statewide water trail issues and accompanying goals and objectives include:

Statewide Issue A: Need To Address Conflicts Between Non-motorized Boaters And Waterfront Property Owners

Goal: Promote a better understanding of issues and concerns related to recreational use of waterways between/among non-motorized boaters and waterfront property owners.

- Objective 1: Increase the number of non-motorized boaters who understand that the actions of paddlers often cause tension with waterfront property owners and are informed on ways to minimize those conflicts.

- Objective 2: Develop and disseminate water trails information to enable non-motorized boaters to make informed decisions on where to paddle.
- Objective 3: Recognize the importance of sound planning and public involvement in the development of water trail routes.
- Objective 4: Define the public's right to use waterways.

Goal: Promote and encourage responsible water trail development and use.

- Objective 1: Develop a statewide approach to water trail development.
- Objective 2: Provide the appropriate framework and support for a state water trails system.

Statewide Issue B: Need For More Public Access To Waterways

Goal: Facilitate the development of public access to waterways for non-motorized boaters.

- Objective 1: Determine where access to waterways currently exists.
- Objective 2: Identify ways to develop new access to waterways.

Statewide Issue C: Need For Adequate And Consistent Information Resources Including

Signs, Maps, Level Of Difficulty And Water Level Information And Available Paddling Opportunities

Goal: Provide user-friendly, easy-to-find information resources for non-motorized boaters to help them engage in appropriate water trail activities.

- Objective 1: Develop water trail information standards.
- Objective 2: Encourage the use of water trail information standards in water trail development projects.
- Objective 3: Develop a web-based approach for providing water trail information.

Statewide Issue D: Need For Safety-Related Information, User Education And Outreach

Goal: Encourage the safe and low-impact use of water trails.

- Objective 1: Inform the public on the inherent risks and dangers associated with water-based recreation.
- Objective 2: Provide safety-related information and services for State Designated Water Trails.
- Objective 3: Provide low-impact recreational use information for State Designated Water Trails.

Statewide Issue E: Need A Dedicated Funding Source For Water Trail Development

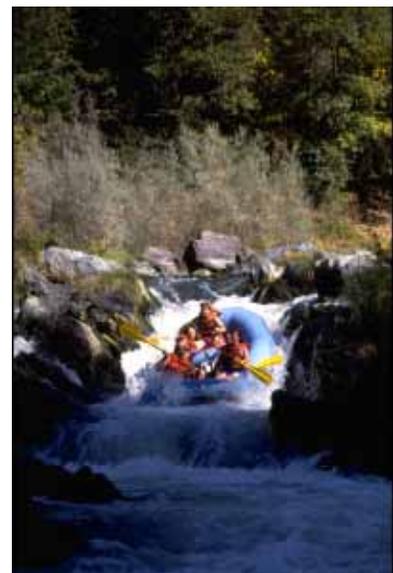
Goal: Pursue a dedicated funding source for a State Water Trail Program.

- Objective 1: Educate key stakeholders on the need for a dedicated funding source for water trail development.
- Objective 2: Identify the most effective funding mechanism for water trail development in the state.

Statewide Issue F: Need For Information Describing The Social And Economic Benefits Of Water Trails

Goal: Educate key stakeholders about the economic and community benefits of water trails.

- Objective 1: Develop and disseminate information on the benefits of water trails.



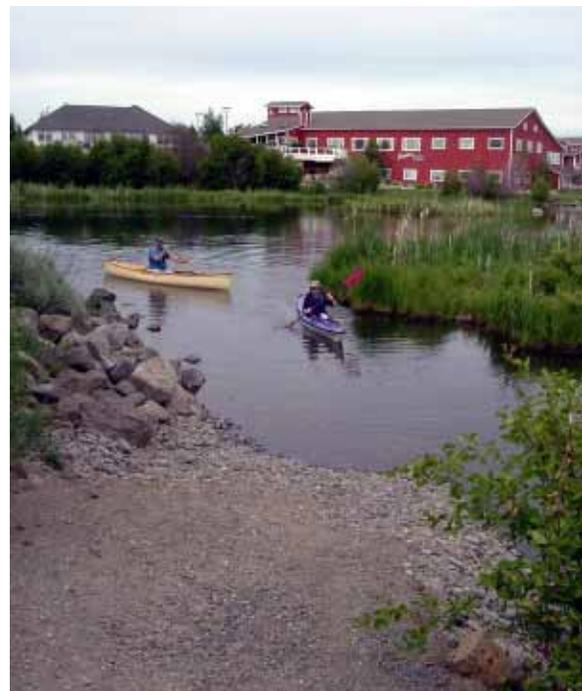
A Proposed State-Administered Water Trails Program for Oregon

The water trails planning effort has identified three critical factors which pose a serious threat to long-term non-motorized boating access to waterways in Oregon including a rapid increase in participation in non-motorized boating, a lack of legal clarity and understanding of the public's right to Oregon's waterways for recreational purposes and an increasing potential for conflicts between non-motorized boaters and waterfront property owners. To address these concerns, the plan proposes an OPRD-administered Water Trails Program intended to develop a statewide system of water trails carefully designed to minimize conflicts between non-motorized boaters and waterfront property owners.

This proposed non-motorized boating management approach is based on findings and conclusions drawn from the Oregon water trails planning process and an investigation of non-motorized boating management and water trail development materials from Oregon and across the country. Key components of the proposed Oregon Water Trails Program include:

- A Dedicated Funding Source — The key to creating an "Oregon Water Trail System" is establishing a stable funding source.
- A Water Trails Grant Program — Grant funding would be directed through local grassroots initiatives coordinated across jurisdictional boundaries in the creation, management and promotion of individual trail components.

- Technical Support From The Administering Agency — Providing services to water trail development.
- An Official "Oregon Water Trail" Designation — To showcase premier water trails providing consistent user information, quality experiences and that meet paddler expectations.



A STATEWIDE ACTION PLAN INTRODUCTION

The Oregon Parks and Recreation Department (OPRD) was given responsibility for recreation trails planning in 1971 under the "State Trails Act" (ORS 390.950 to 390.990). In general the policy of the statute is as follows: "In order to provide for the ever-increasing outdoor recreation needs of an expanding resident and tourist population and in order to promote public access to, travel within and enjoyment and appreciation of, the open-air, outdoor areas of Oregon, trails should be established both near the urban areas in this state and within, adjacent to or connecting highly scenic areas more remotely located."

At the start of this planning effort, the Oregon State Off-Highway Vehicle (OHV) Study and Oregon Recreation Trails Plan had been in place since 1995. Although many of the findings included in these plans are still relevant, considerable change has occurred on Oregon's OHV areas/trails and recreational trails in the last 9 years including a 13% state population increase between 1995 and 2003 and increases in OHV ownership and recreational trails use. As a general rule, planning documents of this type have a usable shelf life of 10 years. As a result, there was a need to update the trails plans for both OHV and recreational trail uses.

Support for the Plan

During the months of October through December of 2001, OPRD staff conducted a series of regional recreation issues workshops across the state as part of the Statewide Comprehensive Outdoor Recreation Plan (SCORP) planning process. Recreation providers from across the state expressed a strong desire for OPRD to update the Oregon State Off-Highway

Vehicle Study and Oregon Recreation Trails Plan. According to these providers, the plan should examine use of all types of trails (motorized, recreational and water trails) and include the participation of state, federal, county and municipal providers and advocacy groups.

The SCORP planning effort's recreational participation study (Oregon Outdoor Recreation Survey) findings also emphasize the importance of trail-related activities in the state. The study estimated statewide resident and non-resident recreation participation for a list of 76 individual outdoor recreation activities. Of these 76 activities, the most popular resident activities are running and walking for exercise (49.2 million estimated annual user days¹²) and walking for pleasure (47.7 million annual user days). For non-residents (from households in Washington, Idaho, and California who lived in counties adjacent to Oregon) recreating in the state of Oregon, running and walking for exercise (10.5 million annual user days), RV/Trailer Camping (6.2 million annual user days), and walking for pleasure (5.1 million annual user days) were the most popular.

Based on information gathered during the SCORP issues workshops and the Oregon Outdoor Recreation Survey, the SCORP Advisory Committee identified the development of a concurrent statewide motorized and non-motorized trails plan as a key objective in order to provide an adequate supply of quality trail facilities and opportunities to satisfy a growing number

¹² A user day is one instance of participation in a single outdoor recreation activity by one person.

of motorized and recreational trail users throughout the state of Oregon.

In addition to OPRD having a current SCORP to receive and obligate Land & Water Conservation Fund (LWCF) under Section 206(d) of the Recreational Trails Program legislation, the state is also required to have a recreational trails plan (motorized and non-motorized) in order to be eligible to receive and obligate Federal Recreation Trails dollars.

Finally, the U.S. Center for Disease Control (CDC), the Oregon Department of Human Services, Health Services, and the Oregon Coalition for Promoting Physical Activity (OCPPA) are currently promoting physical activity and the health benefits associated with participation in recreational trail activities.

The OCPPA has recently completed a plan entitled the Oregon Plan for Physical Activity¹³, which states that, "Physical inactivity together with poor eating habits contributes significantly to the development of obesity, high blood pressure, heart disease, cancer, and diabetes, which are the leading causes of disease and death among Oregonians. The current epidemic of obesity in the United States has hit Oregon particularly hard. At 22%, our state has the highest percentage of adult obesity of any state west of the Rockies. Our youth follow closely behind, with 28% of eight graders and 21% of eleventh graders currently overweight." Close-to home non-motorized trails provide a safe, inexpensive avenue for regular exercise for people living in rural, urban and suburban areas.

¹³ Oregon Coalition for Promoting Physical Activity (2003). A Healthy Active Oregon: The Statewide Physical Activity Plan.

Additional Information from Issues Workshops

Public recreation providers in 8 of the 11 SCORP planning regions voted the "Need For Recreational Trails and Trail Connectivity" as a top LWCF issue. As a result, this need was identified as one of three top statewide LWCF issues for inclusion in the 2003-2007 Oregon SCORP plan.

Recreation providers reported a need for additional recreational trails including walking, hiking, bicycling and equestrian multiple-use trails. In addition, the concept of trail connectivity was supported throughout the state. Trail connectivity involves:

- linking urban trails to outlying Federal trail systems;
- linking neighborhood, community and regional trails;
- connecting community parks and other recreational and public facilities; and
- connecting neighboring communities (e.g., Ashland to Medford).

Recreation providers also felt the trails plan should address a growing interest in canoe, rafting, and kayak routes (water trails) throughout the state. Although the state enjoys a variety of high-quality paddling opportunities, additional recreational infrastructure is needed to satisfy a growing demand for paddling sports. Necessary resources/facilities/services needed for water trail development include water access sites and support facilities, overnight camping facilities, directional signage, maps, brochures and other marketing tools to properly market new water trail opportunities and paddling clinics.

Although OHV riding continues to grow in Oregon and nationally, riding areas have closed as public land managers are faced with increasingly complex decisions related to balancing recreation use with resource protection. Recreation providers report that cross-country OHV travel is damaging the state's natural resource base. In addition, the growing use of OHVs has prompted the U.S. Forest Service to revise its management of motorized forest use so that the agency can better sustain and manage National Forest System lands and resources.

The state needs to take a proactive approach by exercising leadership in shaping a long-term vision for OHV recreation to include:

1. changing riding patterns to avoid impacts,
2. resolving use conflicts and resource degradation, and
3. creating more designated OHV riding areas in the state.

Needed OHV facilities and services include:

- OHV trail riding areas, All-Terrain Vehicle (ATV), motorcycle and 4x4) including trails, parking areas, restrooms, tow vehicles, camping facilities, communication links to emergency services and law enforcement,
- OHV parks in reasonably close proximity to metropolitan areas, and
- designated motocross and challenge courses for motorcycles, ATV's, 4-wheel drive vehicles and truck pulling.

There is a concern that such riding areas be thoroughly separated from hikers, kayakers, campers, cyclists and other human-

powered users of public lands and that environmental impacts be closely managed and monitored.

Because of the role federal lands play in serving OHV riding – planning clearly requires a state/federal partnership.

A Concurrent State Motorized and Non-motorized Trail and Water Trails Planning Process

There are considerable benefits associated with a concurrent State Motorized and Non-motorized Trail and Water Trails planning process including:

- providing user groups with comparative information to emphasize areas of common ground and understanding;
- packaging three plans into one volume, providing a one-stop planning document for recreational planners who often work on motorized, non-motorized trails/riding area planning and water trails;
- cost savings from a combined motorized, non-motorized & water trails user survey; and
- administrative and travel cost savings with conducting concurrent but separate regional issues workshops.

The purpose of the planning process is to provide information and recommendations to guide OPRD and other agencies in Oregon in their management of motorized and non-motorized trail/riding resources. Early in the planning process, OPRD established separate motorized, non-motorized and water trails steering

committees to guide the statewide planning effort.

The plans are written primarily for recreation planners and land managers. In its component parts, it provides background on trail users and on current trends affecting OHV, and recreational trail and water trail opportunities. The plans are designed as an information resource as well as a planning tool to guide agencies for the next 10 years.

Specific planning objectives include:

1. Assessing the needs and opinions of Oregon's citizens as they relate to trail recreation opportunities and management (motorized, non-motorized and water);
2. Establishing priorities for expenditures from the Oregon ATV Grant Program, Federal Recreational Trails Program and other applicable sources;
3. Developing strategic directions to guide activities for the Oregon Parks and Recreation Department's ATV Program, statewide recreational trails planning and water access goals;
4. Gathering additional inventory measurement data for motorized and non-motorized trail resources and facilities to add to information gathered for the "2001 Oregon Statewide Outdoor Recreational Resource/Facility Inventory Bulletin;"
5. Conducting a systematic inventory of existing and potential water trails and facilities, identifying priority needs and potential funding sources; and
6. Recommending actions that enhance motorized, non-motorized

and water trail opportunities to all agencies and private sector entities providing trail resources in Oregon.

The results of the concurrent statewide motorized, non-motorized and water trails planning effort are presented in the following chapters of Oregon Trails 2005: A Statewide Action Plan.



Major Planning Components

The following section includes a brief description of the major planning components of the concurrent trails planning effort. If a planning component is a part of the motorized, non-motorized and water trails plan, it will be identified as a “Common” component. Planning components unique to one trail plan are identified by the specific trail planning type.

1. Trails Plan Steering Committees (Common)

Early in the trails planning effort, OPRD established 3 separate steering committees (motorized, non-motorized, and water) to assist with the concurrent planning process. Steering committee members were selected to ensure adequate agency/organizational and geographic coverage and trail-user group representation.

OPRD asked Steering Committee Members to assist with the following tasks for their specific planning effort:

- reviewing the basic planning framework;
- determining the basic plan outline;
- identifying significant statewide trails issues and solutions;
- recommending actions that enhance motorized, non-motorized and water trail opportunities in the state;
- reviewing survey methodology and instruments;
- reviewing draft planning materials;
- recommending a set of project evaluation criteria for the OPRD administered All-Terrain Vehicle

Grant Program (Motorized Trail Committee Members Only) and Recreational Trail Grant Program (Non-motorized Trail Committee Members Only); and

- assisting in the development of a proposed state-administered water trails program (Water Trail Committee Members Only).

Three rounds of steering committee meetings were held during the 2-year planning process as shown in the following table.

Trails Planning Type	Round 1 Meeting Dates	Round 2 Meeting Dates	Round 3 Meeting Dates
Motorized	2/25/03	9/16/03	10/12/04
Non-motorized	3/5/03	9/23/03	10/14/04
Water	3/12/03	9/24/03	10/25/04

Meeting objectives for each round of meetings were as follows.

Round 1:

- Bring committee members up-to-date on statewide trails planning progress;
- Review proposed trails planning framework; and
- Identify potential problems/weaknesses and improvements to the proposed planning framework.

Round 2:

- Review trails planning progress;

- Identify the top 3 issues in each of the 6 trails planning regions;
- Identify the top statewide trails issues; and
- Develop a set of proposed goals, objectives and strategies for addressing the top statewide trails issues.

Round 3:

- Review trails planning progress;
- Review 2004 Oregon Statewide Trail User and Non-motorized Boater Survey results;
- Review Oregon Statewide Trail Inventory Project results; and
- Review and finalize (in the appropriate meeting) the ATV grant program criteria (Motorized Trail Committee), RTP grant program criteria (Non-motorized Trail Committee) or the Proposed State-Administered Water Trails Program For Oregon (Water Trail Committee).

During the second round meetings, the motorized and non-motorized trail steering committee members recommended that OPRD establish separate ATV and RTP Grant Program Subcommittees for addressing the technical aspects of developing specific evaluation criteria. As a result, OPRD selected a five-member motorized and four-member non-motorized subcommittee to develop a final set of grant criteria for inclusion in the respective trails plans. Members were selected based on prior experience with the administration of grant funding in Oregon.

Two subcommittee meetings were held (Motorized on 9/28/04 and Non-motorized on 9/30/04) to determine the final set of grant criteria for inclusion in the plans.

During these meetings, each subcommittee assisted OPRD staff in the development of a draft set of grant evaluation criteria. Subcommittee members were provided a final review and comment period before the criteria were finalized.

Finally, each member of the Motorized and Non-motorized Trails Plan Steering Committees was given an opportunity to review their respective criteria before inclusion in the final trails plan.

2. Benefits of Trails (Common)

During the trails issues workshops, public recreation providers and trail interest groups suggested that the trails plan include trail benefits information to help them to better make the argument for proposed trail projects and address some common misconceptions adjacent property owners have about proposed trails (e.g. increases in crime and decreases in property values). They also asked that the plan provide information in a variety of ways including brief summaries and bibliography lists for those interested in conducting additional research on their own.

The plan includes information on the benefits of motorized, non-motorized and water trails. In addition, separate bibliographies are available for each of the three trail types in Appendices G, H, and I. Direct web links are included in each bibliography for those reports/articles currently available online.

3. Regional Planning Approach (Common)

After a discussion of potential regional boundaries, OPRD planning staff identified a total of 6 regions for the trails planning

effort. Each region is of sufficient geographic area to have a unique set of issues and associated management concerns. The 6 planning regions are identified in the figure below



4. Regional Trails Issue Workshops (Common)

During the months of April and May 2003, OPRD staff conducted a series of 9 regional trails issues workshops across the state. Table 7 (at right) includes the locations of each of the workshops and the specific trails planning region to which the issue comments were assigned. Please note that some regions had more than one workshop.

Trails Planning Region	Workshop Location
Northwest Region	Lincoln City
	Portland
	Eugene
Southwest Region	Bandon
	Grants Pass
North Central Region	Bend
South Central Region	Klamath Falls
Northeast Region	LaGrande / Union
Southeast Region	Burns

Each workshop included an afternoon session open to all public recreation providers (including federal and state agencies, county, municipal, port and special district recreation departments, and American Indian Tribes) and an evening session open to the general public (including interested members of the public, trail user groups or clubs, commercial organizations or other organizations).

Trails issues were defined as high-impact issues related to recreational trail opportunities in the region. Trail issues could be related to outdoor recreation areas, programs and projects.

At the conclusion of each workshop, participants were given 3 colored dots to assist in prioritizing the importance of the issues gathered. Participants placed their colored dots on those issues they felt were of most importance in the planning region.

Approximately 230 people attended a workshop, including representatives from 56 public-sector recreation provider organizations. During the workshops, 733 trails issue comments were gathered and recorded including 281 motorized, 292 non-motorized and 160 water trail issue comments.

Next, all comments gathered at the regional public recreation provider and general public workshops were posted on the trails planning website for a comment period from March 19 to July 16, 2003. The site was developed for electronic submittal of comments. A letter was sent out to all workshop participants requesting that they review the website comments list to ensure that their comment(s) had been recorded properly. In addition, a letter was sent to trail user groups or clubs and commercial

organizations across the state requesting additional comments through the website.

Complete listings of all issues gathered at the workshops and through the website are included in Appendices J, K and L.

5. Identification of Top Regional and Statewide Trail Issues (Common)

Following the issue collection process, OPRD staff developed a set of issue summary papers (separate sets for motorized, non-motorized and water trails issues) to assist members of the three steering committees in the process of identifying top regional issues. The appropriate set of issue summary papers were distributed to each of the three steering committee members prior to the Round 2 meetings.

A regional issues analysis section in the issue summary paper included a prioritized issues list from each of the regional workshops with separate listings for public provider and general public workshops. An additional section included a summary of the combined prioritization results of all workshops held in the region (including all workshop locations and sessions). Those issues receiving the highest total accumulation of dots from all public provider and general public workshops held in the region were shown in bold. During the Round 3 meetings, steering committee members used a voting process to identify top regional motorized, non-motorized and water trails issues to include in the plan.

After the regional voting was completed, the committee members reviewed the number of times a particular issue was voted as a top regional issue. In addition, OPRD staff further refined and summarized all regional issue comments into a set of statewide issue categories. The number of

issue comments collected in a given category provided a measure of the relative importance of the issue category to workshop and internet participants. The following is a description of this analysis:

- Categorical analysis for trail issue comments gathered at all public provider workshops across the state. Key issues were identified based on the total number of public provider comments.
- Categorical analysis for trail issue comments gathered at all general public workshops across the state. Key issues were identified based on the total number of general public comments.
- Categorical analysis for trail issue comments gathered at all public provider and general public workshops across the state. Key issues were identified based on the total number of public provider and general public comments.

Finally, a matrix was developed to summarize results from this categorical analysis. This statewide issues summary paper was distributed to each steering committee member on August 19, 2003.

During the Round 2 steering committee meetings, OPRD staff provided each of the three steering committees with an opportunity to vote for a set of top statewide trail issues. Those issues receiving the highest number of votes were determined by the steering committees to be the top statewide trail issues.

6. The 2004 Oregon Statewide Trail User and Non-motorized Boater Survey (Common)

The 2004 Oregon Statewide Trail User and Non-motorized Boater Survey was conducted over a four-month period from January to April 2004 by the University of Oregon's Survey Research Laboratory. The survey randomly screened over 15,000 Oregon telephone households to identify respondents reporting trail and non-motorized boat use in the past year. Statistically reliable results are reported for each of three distinct user groups (motorized and non-motorized trail users and non-motorized boaters) at the state level.

The purpose of the survey was to assess the needs and opinions of Oregon's citizens about trail opportunities and management, assess the need for future investment in trail facilities and opportunities and provide trail planners with up-to-date information for local and regional trails planning. The survey report includes a separate set of results for each of the three user groups.

7. Oregon Statewide Trails Inventory Project (Common)

The Oregon Statewide Trails Inventory Project provides a systematic review and inventory of the entire public trail system in Oregon. The overall goal of the project was to create databases containing trail information that can be accessed by government agencies, libraries, and the general public for management and trip planning purposes. The databases are designed to be compatible with geographic information systems (GIS) and allow agencies and other users to identify and map resources and characteristics for public lands in Oregon.

During a 11-month period from September 2003 to July 2004, Oregon State University collected inventory data for existing and proposed motorized, non-motorized and water trails from recreation providers across the state. In total, trail specific attribute information was collected and entered into a database for 735 trails. In addition GIS map files were collected for 147 trails. A final trails inventory report is included on the trails plan website at: http://egov.oregon.gov/OPRD/PLANS/trails_planning_newsletters.shtml

8. Statewide Goals, Objectives and Strategies for Top Statewide Issues (Common)

A set of goals, objectives and strategies have been developed for each of the top 4 statewide motorized trail issues, top 2 non-motorized trail issues and 5 non-motorized trail concerns, and top 6 statewide water trails issues based on findings from the trails planning effort. Brainstorming sessions were held during the Round 2 steering committee meetings to develop initial drafts. Committee members were also asked to review and comment on a draft set of goals, objectives and strategies for each of the three plans.

This planning effort recognizes that in Oregon there are finite resources to satisfy the demands of a growing number and diversity of trail users. The increased sharing of resources sometimes creates friction between the diverse types of user groups competing for limited trail space. Rather than focusing on individual user groups, the plans goals, objectives and strategies are designed to optimize the use of limited trail resources in ways that benefit all users and their appropriated trail uses. Decisions on how to best allocate resources for specific user groups are more appropriately

addressed in local and regional planning efforts.

9. All Terrain Vehicle (ATV) Grant Program Project Selection Criteria (Motorized)

To allocate ATV Grant Program funds in an objective manner, a set of Project Selection Criteria were developed for evaluating motorized trail grant proposals. A substantial number of the total evaluation points available are tied directly to findings from the motorized trails planning effort.

10. Recreational Trail Program (RTP) Grant Program Project Selection Criteria (Non-motorized)

To allocate RTP Grant Program funds in an objective manner, a set of Project Selection Criteria were developed for evaluating motorized, non-motorized and water trail grant proposals. A substantial number of the total evaluation points available are tied directly to findings from the trails planning effort.

11. A Proposed Water Trail Program For Oregon (Water)

The water trails planning effort has identified three critical factors which pose a serious threat to long-term non-motorized boating access to waterways in Oregon including a rapid increase in participation in non-motorized boating, a lack of legal clarity and understanding of the public's right to Oregon's waterways for recreational purposes and an increasing potential for conflicts between non-motorized boaters and waterfront property owners. To address these concerns, the plan proposes an OPRD-administered Water Trails Program intended to develop a statewide system of water trails carefully designed to minimize conflicts between

non-motorized boaters and waterfront property owners.

12. Creating Connections: The Oregon Recreational Trails How-To Manual (Common)

Members of the Statewide Non-motorized Trails Plan Steering Committee believe that evidence of sound trails planning should be a critical factor to consider in evaluating requests for OPRD administered trail-related grant funding. As a result, the steering committee requested that the trails planning effort include a manual to encourage citizens, civic organizations, governments and private enterprise to collaborate more effectively on trail development.

To satisfy this request, OPRD staff developed a document entitled Creating Connections: The Oregon Recreational Trails How-To Manual. The manual provides information and resources specific to Oregon for trail planning, acquisition, construction and management. The document is a modified version of the original publication, Creating Connections: The Pennsylvania Greenways and Trails How-To Manual, published in 1998 by the Pennsylvania Greenways Partnership—a cooperative effort of the Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Environmental Council, Pennsylvania Field Office of the Rails-to-Trails Conservancy, and the Conservation Fund. The state of Oregon and OPRD gratefully acknowledges the Pennsylvania Greenways Partnerships' permission to use their publication.

Due to the size of the document, it is not included in this trails plan. The Creating Connections: The Oregon Recreational Trails How-To Manual document is now available in an electronic format at

<http://www.prd.state.or.us/trailsplanning-manual.php> or hardcopy by contacting Tammy Baumann at OPRD by phone: 503.986.0733 or email: tammy.baumann@state.or.us.

13. Trails Planning Website (Common)

Early in the planning process, OPRD staff developed a trails planning website for people across the state to access current information about the trails planning process. One of the primary objectives of the website was to build interest in the trails plan through the course of the 2-year planning effort. The website was also useful in disseminating major planning results, gathering issue comments, and the review of preliminary draft materials. The website address is:

<http://egov.oregon.gov/OPRD/PLANS/trailsplanning.shtml>



Water Trails Plan Introduction

The Oregon Parks and Recreation Department (OPRD) was given responsibility for recreation trails planning in 1971 under the “State Trails Act” (ORS 390.950 to 390.990). In general the policy of the statute is as follows: “In order to provide for the ever-increasing outdoor recreation needs of an expanding resident and tourist population and in order to promote public access to, travel within and enjoyment and appreciation of, the open-air, outdoor areas of Oregon, trails should be established both near the urban areas in this state and within, adjacent to or connecting highly scenic areas more remotely located.”

The Oregon Recreation Trails Plan has been in place since 1995. Although many of the findings included in this plan are still relevant, considerable change has occurred on Oregon’s recreational trails in the last 9 years including a 13% state population increase between 1995 and 2003 and increases in recreational trail use. As a general rule, planning documents of this type have a usable shelf life of 10 years. As

a result, there was a need to update the trails plan for recreational trail uses.

During the most recent SCORP planning process, recreation providers reported a need for the trails plan to address a growing interest in canoe, rafting, and kayak routes (water trails) throughout the state. Although the state enjoys a variety of high-quality paddling opportunities, additional recreational infrastructure is needed to satisfy a growing demand for paddling sports. According to recreation providers, necessary resources/facilities/services needed for water trail development include water access sites and support facilities, overnight camping facilities, directional signage, maps, brochures and other marketing tools to properly market new water trail opportunities and paddling clinics.

The SCORP planning effort also identified that during a 15-year period from 1987-2002, participation in non-motorized boating activities had more than doubled in the state of Oregon (see Table 8 below).

Activity	1987 User Occasions*	2002 User Occasions	Change	% Change
Power Boating	2,668,085	2,751,190	**	**
Non-motorized Boating***	929,369	2,210,552	1,281,183	+138%

* A user occasion is defined as each time an individual participates in a single outdoor recreation activity

** Within the +/- 8% Confidence Interval.

*** Non-motorized boating includes canoeing, sea kayaking, whitewater kayaking and whitewater rafting.

¹⁴ Oregon Parks and Recreation Department (2003). 2003-2007 Oregon Statewide Comprehensive Outdoor Recreation Plan. pp. 4-12.

These survey results further reinforced the need for a water trails plan in Oregon.

The purpose of this water trails planning effort was to provide information and recommendations to guide OPRD and other agencies in Oregon in their management of water trail resources. The plan is designed to:

- Assess the needs and opinions of Oregon's citizens as they relate to water trail opportunities and management;
- Establish priorities for expenditures from the Federal Recreational Trails Grant Program;
- Develop strategic directions to guide activities for statewide water trail planning;
- Gather additional inventory measurement data for water trail resources and facilities; and
- Recommend actions that enhance water trail opportunities to all agencies and the private sector providing trail resources in Oregon.

The plan has been developed as an information resource as well as a planning tool to guide agencies for the next 10 years.

In Oregon, water trails (like other recreational trails) are corridors between specific locations on a lake, river or ocean. Water trails are primarily designed for small watercraft such as canoes, sea and whitewater kayaks, rafts and drift boats. Necessary water trail facilities include a safe place for the public to put in, parking, restrooms, a safe place to take out, and in some cases day-use sites and overnight campsites. Water trails offer a variety of challenge levels on white water, moving water, flat water and tidewater and

emphasize low-impact use and provide stewardship of the resource.

The water trails plan includes the following chapters:

Chapter 1. Benefits of Water Trails.

The chapter summarizes the economic, recreational, health-related, conservation/stewardship and educational benefits of water trails.

Chapter 2. Identification of Top Regional and Statewide Water Trail Issues.

This chapter includes a list of the 3 top regional water trail issues in each of the 6 trails planning regions and the 6 top statewide water trail issues identified during the planning process.

Chapter 3. The 2004 Oregon Statewide Non-motorized Boater Survey.

This chapter presents key findings from the 2004 telephone survey of Oregon non-motorized boaters. The purpose of the survey was to assess the needs and opinions of Oregon's citizens about non-motorized boating opportunities and management, assess the need for future investment in water trail facilities and opportunities and provide trail planners with up-to-date information for local and regional water trail planning.

Chapter 4. Statewide Water Trail Goals, Objectives and Strategies.

This chapter focuses on a set of long-range goals, objectives and strategies for the top 6 statewide

water trails issues as identified through the water trails planning effort. These goals, objectives and strategies were developed for use by decision makers across the state to develop policies and actions for resolving the 6 top statewide water trail issues.

Chapter 5. A Proposed State-Administered Water Trails Program For Oregon.

The water trails planning effort has identified three critical factors which pose a serious threat to long-term non-motorized boating access to waterways in Oregon including a rapid increase in participation in non-motorized boating, a lack of legal clarity and understanding of the public's right to Oregon's waterways for recreational purposes and the increasing potential for conflicts between non-motorized boaters and waterfront property owners.

To address these concerns, the plan proposes an OPRD-administered water trails program intended to develop a statewide system of water trails carefully designed to minimize conflicts between non-motorized boaters and waterfront property owners. The proposed water trails program is based on findings and conclusions drawn from the Oregon water trails planning process and an investigation of non-motorized boating management and water trail development materials from Oregon and across the country.



Benefits of Water Trails

Introduction

In Oregon, water trails (like other recreational trails) are corridors between specific locations on a lake, river or ocean. Water trails are primarily designed for small watercraft such as canoes, sea and whitewater kayaks, rafts and drift boats. Necessary water trail facilities include a safe place for the public to put in, parking, restrooms, a safe place to take out, and in some cases day-use sites and overnight campsites. Water trails offer a variety of challenge levels on white water, flat water and tidewater and emphasize low-impact use and encourage stewardship of the resource.

The following is a summary of the many benefits that water trails can provide to the state of Oregon.

1. Economic Benefits.

As previously mentioned, non-motorized boating has grown in popularity in recent years in the state of Oregon. This increase in participation translates into financial benefits for communities that provide access to water trails. Water trails as a recreation destination provide rural communities with income to local boat liveries and outfitters, motels and bed and breakfasts, restaurants, grocery stores, gas stations and shops.¹⁵

Evidence from economic studies include:

- An Oregon study of guides and packers¹⁶ indicates that in 1986, the

¹⁵ Water Trails For Wisconsin. University of Wisconsin Extension.

¹⁶ Bureau of Land Management (1987). Recreation 2000. Washington, D.C. U.S.

outfitter/guide industry in Oregon (for river, land and marine activities) had a direct impact of \$42.5 million. This resulted in a total economic impact of \$300 million to the overall Oregon economy.

- River recreation in Oregon is one of the activities that attracts people from other areas. In the Columbia Gorge region (consisting of Hood River and Wasco Counties), revenues from transient lodging taxes grew just over 25% during 1992/93, following a similar increase of approximately 21.4% in the previous fiscal year¹⁷.
- For every \$1 paid to canoeing outfitters, customers spent \$5 for gas, groceries, restaurants, campgrounds, and other lodging. Seventy canoe liveries in Florida generate \$38.5 million per year¹⁸.
- During the 1999 summer season, anglers and canoeists combined brought \$2.2 million of new spending to the Kickapoo and Timber Coulee watersheds in the state of Wisconsin¹⁹. The total estimated economic impact was \$3.25 million, which helped to support approximately 85 local jobs.

Department of the Interior, Bureau of Land Management.

¹⁷ Oregon Tourism Division (1994). 1992 Economic Impacts and Visitor Volume in Oregon. Prepared by Dean Runyan Associates, Portland, OR: Oregon Tourism Division, Economic Development Department.

¹⁸ Stout, A. (1986). Testimony at Orlando, Florida PCAO hearing.

¹⁹ Anderson, A., Hewitt, L. and Marcouiller, D. (2001). Canoeing and Angling in Southwestern Wisconsin. University of Wisconsin-Extension. Madison, WI.

Approximately 80% of the canoeists rented boats from one of the local liveries. An average canoeist spent \$93 during their trip. That included boat rental, a night in a motel or campground, beer in a local tavern or breakfast at a local diner.

- In 2001, kayakers, rafters and other recreational users of the Wild and Scenic reach of the Chattooga River in northwestern South Carolina, northeastern Georgia, and southwestern North Carolina spent \$1.8 million in the six county area, resulting in a \$2.7 million overall economic contribution²⁰.
- The Outdoor Recreation Coalition of America estimated that a total of \$200 million was spent on retail sales for paddle sports outdoor recreation equipment, apparel, and accessories in 1996.
- According to a survey conducted by the National Association of Canoe Liveries and Outfitters, the average river trip covers 10.8 miles and takes 4 hours and 15 minutes, the average charge per guest is \$13.00, and 85% of guests are between 20-50 years of age.
- A study in San Jose, California²¹ reported that "People who exercise regularly have 14% lower claims against their medical insurance, 30% fewer days in the hospital, and

have 41% fewer claims greater than \$5,000."

2. Recreational Value and Health Benefits.

The recreational value of water trails are often their foremost attraction. In addition to the entertainment values of recreation, there is a significant health and fitness benefit as paddling involves exercise. This health benefit accrues to the individual, and, in the form of reduced health-care costs, to society as well.

Many people realize exercise is important for maintaining good health in all stages of life, however many do not regularly exercise. The U.S. Surgeon General estimates²² that 60% of American adults are not regularly active and another 25% are not active at all. In communities across the country, people do not have access to trails, parks, or other recreation areas close to their homes. Water trails provide a safe, inexpensive avenue for regular exercise for people living in rural, urban and suburban areas²³.

Exercise derived from recreational activities lessens health related problems and subsequent health care costs. Regular, moderate exercise has been proven to reduce the risk of developing coronary heart disease, stroke, colon cancer, hypertension, diabetes, osteoporosis, obesity, and depression. This kind of exercise is also know to protect against injury and disability because it builds muscular strength and flexibility, which helps to maintain functional independence

²⁰ Moore, R., and Siderlis, C. (2003). Wild and Scenic Chattooga River An Economic Asset to Georgia, North Carolina and South Carolina.

²¹ City of San Jose (1988). Feasibility Study: Corporate Wellness Program. Department of Parks, Recreation, and Community Services.

²² Centers for Disease Control and Prevention. (1996). Surgeon General's Report on Physical Activity and Health. Department of Health and Human Services. July 1996.

²³ Benefits of Trails and Greenways. From Trails and Greenways Clearinghouse.

in later years of life²⁴. A nationwide study on the cost of obesity²⁵, concluded that increasing participation in regular moderate activity by the more than 88 million inactive Americans over age 15 could reduce annual national medical costs by \$76 billion in 2000 dollars.

Every year, premature deaths cost American companies an estimated 132 million lost work days at a price tag of \$25 billion. Finding and training replacements costs industry more than \$700 million each year. In addition, American businesses lose an estimated \$3 billion every year because of employee health problems (National Park Service, 1983).

3. Conservation/Stewardship Benefits.

Water trail activities can support the conservation of the aquatic and shore land ecosystems. Trail builders and activists are a respected constituency who advocate for resource protection, and participate in resource restoration. The water trail community is a watchdog (e.g. through the citizen enforcement provision of the Clean Water Act), helping to prevent damage to the environment and striving to sustain the natural integrity of the trail and its watershed²⁶.

By promoting minimum-impact practices, water trails embrace the "Leave No Trace" code of outdoor ethics that promote the

²⁴ Centers for Disease Control and Prevention. (1996). Surgeon General's Report on Physical Activity and Health. Department of Health and Human Services. July 1996.

²⁵ Pratt, M., Macera, C., and Wang, G. (2000). Higher Direct Medical Costs Associated With Physical Inactivity. *The Physician and Sports Medicine* 28(10).

²⁶ Wisconsin Water Trails: Basic Concepts. Lakes Partnership.

responsible use and enjoyment of the outdoors. A trail user who is educated to respect the quality of the water, shore land vegetation and wildlife habitat is a good caretaker. As users learn protection and restoration on the trail, they will be inclined to apply these principles in their daily lives²⁷.

4. Educational Benefits

Water trail organizations use comprehensive trail guides, signage, public outreach, and informative classes to encourage awareness of the natural, cultural, and historical attributes of the trail²⁸.

Every teacher knows the value of outdoor laboratories, the value of learning from real life. Students have great experiences along pathways or in the fields. But what about marine and riverine environments? Not every community can build an aquarium. Water trails connect the teacher and the student with these ecosystems and their living population. The water trail is a perfect classroom for the teaching biologist, botanist, and ecologist, both amateur and professional. Educators naturalists, rangers and scoutmasters—all can demonstrate and illustrate their lessons along the water trail²⁹.

Chances are your community started at the water's edge. Prior to the railroad, virtually all of community development occurred along North American's waterways. Water was the primary means of transportation. Communities great and small trace their beginnings to waterside commerce, industry, or transportation. Whether they

²⁷ Water Trails for Wisconsin. University of Wisconsin Extension.

²⁸ Water Trails for Wisconsin. University of Wisconsin Extension.

²⁹ North American Water Trails, Inc. Why Water Trails?

were Native American settlements, military encampments, early European-settled villages, trading posts, outposts on the trails west, or fishing communities or seaports, Oregon grew up along the water. As a result, water trails touch Oregon's being like no other concept.

So as a water trail proceeds, it touches and laces together sites through which our heritage can be experienced and understood. Seen from a small boat, our communities' roots are manifest. Water trails become linear classrooms for your children. And visitors will come to share your history with you³⁰.



³⁰ North American Water Trails, Inc. Why Water Trails?

IDENTIFICATION OF REGIONAL AND STATEWIDE WATER TRAILS ISSUES

Public involvement played a central and recurring role throughout the Oregon statewide trails planning process. OPRD conducted a series of 9 regional public workshops across the state during 2003 to discuss the major issues that affect the provision of water trail opportunities in Oregon.

The Public Workshop Process

During April and May of 2003, OPRD staff completed a series of 9 regional trail issues workshops across the state. Each workshop included an afternoon session open to all public recreation providers and an evening session open to the general public.

The widest possible range of “public” was invited to participate in the process. For the afternoon sessions, an invitation letter was sent to all public-sector recreation providers in the state requesting participation in their respective regional trails issues workshops. For the general public workshops (evening sessions), ads were placed for each workshop in local and regional newspapers. In addition, press releases were sent out to media outlets prior to each workshop. In keeping with the plan’s regional approach and to maximize input and participation, 9 sites were selected from around the state for the issues workshops (meeting locations are included in Table 7 on page 24).

Both afternoon and evening workshops included a brief description of the trails planning region, workshop process, and how the regional issues information was to be used in the plan. Next, participants listened to a 20-minute presentation on the statewide planning effort. Each

workshop included a separate issues gathering process for motorized, non-motorized, and water trails issues.

Trail issues were defined as any high-impact issue related to providing recreational trail opportunities within the region. Issues could be related to trail facilities, management (e.g. user conflicts), programs, projects and funding. At the conclusion of daytime and evening workshop each workshop attendees were given 3 colored dots to assist in prioritizing the importance of issues gathered. Participants placed their colored dots on those issues they felt were of most important in the planning region.

A thorough description of how top regional issues were determined is included in the Major Planning Component heading on page 22.



List of Top Regional Water Trails Plan Issues

The following list includes those issues identified as top regional water trails issues.

Northwest Trails Planning Region

(Includes Clatsop, Columbia, Multnomah, Hood River, Tillamook, Lincoln, Washington, Yamhill, Clackamas, Polk, Marion, Linn, Lane and Benton Counties.)

-
- A. Need for more public access to waterways.
 - B. Need for a designated funding source for non-motorized watercraft facility development.
 - C. Need to properly address the navigability issue and clearly define to users where they can and cannot exit their watercraft.
-



Southwest Trails Planning Region

(Includes Coos, Curry, Josephine, Jackson and Douglas Counties)



-
- A. Need for additional access to waterways and launch/landing facilities.
 - B. Need to provide adequate and consistent information resources (route maps, water classification, condition and regulatory information, web-based repository) for designated water trail routes for trip preparation and navigation.
 - C. Need for a dedicated funding source for non-motorized water trail development.
-

North Central Trails Planning Region

(Includes Wasco, Sherman, Gilliam, Morrow, Umatilla, Jefferson, Wheeler, Deschutes and Crook Counties)

A. Need to identify water trail resource impacts associated with rapid growth of water-based recreation to properly balance natural/environmental aspects with increasing use.

B. Need for additional water trail facilities (particularly close-to-home).

C. Need for leave-no-trace practices (e.g. sanitation and litter), respect for rights of waterfront landowners and need to reduce impacts on the resource.



South Central Trails Planning Region

(Includes Klamath and Lake Counties)

A. Need for public access on some waterways and information on points of water access.

B. Need for adequate public properties along water trails to reduce conflicts with waterfront property owners.

C. Need for a dedicated funding source for water trail development.



Northeast Trails Planning Region

(Includes Wallowa, Union, Grant and Baker Counties)

A. Strong need for a non-motorized boater education program providing information on how to properly launch and use a non-motorized watercraft, safety training for running rivers, and how to comply with existing federal and state regulations.

B. Need for a central information source for interested non-motorized boaters to access information regarding flat and whitewater paddling opportunities within the region.

C. Need to consider the potential for user conflict between an increasing number of non-motorized and motorized boaters using facilities developed primarily for motorized boaters.



Southeast Trails Planning Region

(Includes Harney and Malheur Counties)



A. Need to educate communities about the economic benefits associated with water trail development to offset local opposition to trail development.

B. Need for additional water access facilities, marketing and interpretive information related to water trail development.

C. There are a number of flat-water paddling opportunities within the region including Lake Owyhee, the Malheur National Wildlife Refuge, connections to irrigation canals and other remote settings that could be developed as water trails.

Determining Top Statewide Water Trails Issues

After regional water trail issues were identified, steering committee members were given a final opportunity to review the statewide issue category summaries and a listing of top regional water trail issues. Next, OPRD staff used a sheet including information presented in the first 2 columns of Table 8 (below) to provide steering committee members an opportunity to vote for a set of top Statewide Water Trails Issues. Table 8 includes the total number of committee member votes each issue received. Those issues with the highest number of votes were determined by the steering committee to be the 6 Statewide Water Trails Issues.

Water Trail Issues	Total # of Comments From Issue Scoping	# of Committee Votes For Top Issues
Need For Adequate & Consistent Information Resources Including Signs, Maps, Level Of Difficulty, Water Level Information & Statewide Website	23	9
Need To Proactively Manage Environmental Impacts (Including Effects On Wildlife, Carrying Capacity)	16	3
Need For More Public Water Access And Periodic Take-Out Points	13	9
Need For Proper Facility Development For Water Trails	13	0
Need To Proactively Address Potential Conflicts With Adjacent Landowners & Clarify Navigability Issues	12	11
Need To Identify, Develop & Promote Water Trail Opportunities	11	1
Need For Safety-Related Information, User Education & Outreach	10	5
Need To Address User Conflicts Between Non-motorized & Motorized Boaters	10	3
Need For Water Trails Planning & Design Assistance/Expertise	9	1
Need For Regional Interagency Coordination/Cooperation In Trail Planning & Management	7	2
Need For A Designated Funding Source For Non-motorized Watercraft	7	5
Need For Information On The Social & Economic Benefits Of Water Trails	6	4
Need For Private-Sector Involvement In Water Trail Facility & Service Development	5	0
Need To Use Water Trails As Vehicles For Environmental And Historic Interpretation	3	0
Need For Maintenance/Rehabilitation Of Existing Facilities Including Use of Volunteers	3	2
Need For More Urban Trails In Close Proximity To Where People Live	3	0

The final set of Top Statewide Water Trail Issues include:

- Statewide Trail Issue A: Need to address conflicts between non-motorized boaters and waterfront property owners

- Statewide Trail Issue B: Need for more public access to waterways
- Statewide Trail Issue C: Need for adequate and consistent information resources including signs, maps, level-of-difficulty and water level information and available paddling opportunities
- Statewide Trail Issue D: Need for safety-related information, user education and outreach
- Statewide Trail Issue E: Need for a dedicated funding source for water trail development
- Statewide Trail Issue F: Need for information describing the social and economic benefits of water trails



2004 Oregon Statewide Non-motorized Boater Survey

by Woody Carter and Tony Silvaggio
University of Oregon, Oregon Survey Research Laboratory

Research Background

This chapter presents key findings from the 2004 telephone survey of Oregon non-motorized boaters. The project was part of the Oregon Trails 2005-2014: A Statewide Action Plan effort, funded by the Oregon Parks and Recreation Department. The survey randomly screened over 15,000 Oregon telephone households to identify respondents reporting trail and non-motorized boat use in the past year. Separate questionnaires were administered for motorized trail users, non-motorized trail users, and non-motorized boaters.

The survey employed a random digit dial methodology to identify Oregon residents who reported qualifying trail or non-motorized boating use in the last year. Data collection was conducted in two waves. An initial list of 9,500 telephone numbers was called to identify motorized trail users, non-motorized trail users, and non-motorized boaters. At the end of this data collection sufficient motorized trail users and non-motorized boaters were not achieved, so an additional 5,950 telephone numbers were called in association with another survey. This additional screening resulted in quotas for trail and water users being achieved that permit a sampling error for each group of \pm 5-6%. The random telephone design and low sampling errors contribute to making this one of the most scientifically rigorous studies of trail users conducted to date for Oregon.

Non-motorized Boaters

The following section provides survey results specific to non-motorized boaters in Oregon.

Non Motorized Boater Demographic Information

Fourteen percent of Oregon households have a person reporting non-motorized boating participation, amounting to 185,200 households in the state. Screening procedure asked first for any motorized trail user or non-motorized boaters in the household, and those persons, if present, were interviewed about those usage patterns. The results reported here thus relate to households without any motorized trail user present, and thus will not reflect the views of non-motorized boaters who live in such households. The biases introduced due to this sampling design are believed to be negligible.

Basic demographics of non-motorized boaters are provided in the following table:

TABLE 9: Non-motorized Boater Demographics	
N = 248	
Gender:	
Male	55%
Female	45%
Age:	
18 – 29	8%
30 – 39	21%
40 – 49	29%
50 – 59	29%
60 – 69	10%
70+	3%
Education:	
Less than high school	3%
High school graduate	12%
Some college	25%
Bachelors	35%
Masters	17%
Doctorate	9%
Income:	
Less than \$18,000	4%
\$18,000 - \$24,999	4%
\$25,000 - \$39,999	18%
\$40,000 – \$69,999	33%
\$70,000 - \$99,999	22%
\$100,000+	20%
Sampling error for this question is \pm 5%	

Gender is split closely at 55% male/45% female for non-motorized boaters, and the median age is 40 – 49 years old. A sizable majority have some college (86%), with almost two-thirds being college graduates (61%). Median income is \$40,000 to \$69,999.

Frequency of Non-motorized Boating Participation

The survey asked non-motorized boaters about the frequency of their participation in different activities. The following table reports the percentage participation in each activity, and the estimated number of Oregon households that this represents³¹:

³¹ The survey did not ask how many in the household participated in each activity, so no figure for total participation can be estimated.

N = 248	Participated in Last Year	Estimated Oregon Households
White water rafting	47%	86,600
Canoeing	42%	77,400
Drift boating	36%	66,300
White water kayaking	16%	29,500
Sea kayaking	12%	22,227
Other	28%	51,862

Sampling error for the “in last year” question is $\pm 5\%$.

The survey also asked how often the respondent engaged in each activity in the last year. Non-motorized boaters report considerably less use, and less frequent use, than either motorized or non-motorized trail users. Whitewater rafting and canoeing are the two leading activities, while those who participate in drift boating and other water activities report higher levels of weekly and monthly participation:

N = 248	In Last Year	Of Participants in Last Year, How Often?			
		Weekly	2-3 a Month	Once a Month	Less Often
White water rafting	47%	3%	8%	16%	73%
Canoeing	42%	8%	8%	15%	70%
Drift boating	36%	13%	17%	25%	45%
White water kayaking	16%	5%	8%	26%	62%
Sea kayaking	12%	0%	10%	14%	76%
Other	28%	16%	17%	32%	36%

Sampling error for the “in last year” question is $\pm 5\%$. Sampling errors for the frequency questions are from $\pm 9\%$ for the most common activity to $\pm 21\%$ for the least common.

Twenty eight percent of respondents report another type of non-motorized boating including inner tubing, sailing, snorkeling, swimming, and windsurfing.

Favorite Non-motorized Boating Activity

Respondents provided a ranking of their favorite non-motorized boating activity:

TABLE 12: Favorite Non-motorized Boating Activity N = 246	
White water rafting	29%
Canoeing	26%
Drift boating	20%
White water kayaking	5%
Sea kayaking	5%
Other	16%
Sampling error for this question is $\pm 5\%$	

The list of preferred water activities is in exactly the same order as the most frequent activity.

Favorite Place for Non-motorized Boating Activity

The questionnaire asked non-motorized boaters, "For [the] activity you enjoy the most, is your favorite kind of place on flat water rivers and streams, white-water rivers and streams, lakes, freshwater wetlands, tidewaters, or the ocean?" The results are as follows:

TABLE 13: Preferred Place for Favorite Non-motorized Boating Activity			
N = 50-243	All Non-motorized Boaters	Canoeists	Drift Boaters
	N = 243	N = 63	N = 50
Whitewater rivers and streams	37%	5%	32%
Flat water rivers and streams	32%	44%	46%
Lakes	22%	38%	14%
Tidewaters	3%	5%	2%
The ocean	2%	2%	2%
Freshwater wetlands	2%	5%	2%
If volunteered: no preference	2%	2%	2%
Sampling error	$\pm 5\%$	$\pm 12\%$	$\pm 14\%$

Whitewater rivers and streams are the preferred favorite, with flat water rivers and streams a close second, followed by lakes. Different user groups have clearly different preferences.

Distance Traveled and Preferred Setting for Non-motorized Boating Activities

To reach their most frequent non-motorized boating activity, paddlers travel a median of 31 to 40 miles (one way).³² The median is the number that reflects the answer given by a cumulative 50% of respondents; half travel farther, and half not as far. They travel the same distance to reach their favorite activity, as the following table reveals. The following table shows the full breakdowns of distance traveled:

³² Since the top category for this question went above 200 miles, the mean distance would be higher.

TABLE 14: Distance Traveled for Most Frequent and for Favorite Non-motorized Boating Activities³³
N = 243

Miles Traveled (One Way)	Most Frequent Activity		Favorite Activity	
	Percentage	Cumulative	Percentage	Cumulative
1 – 10	25%	25%	23%	23%
11 – 20	14%	39%	13%	36%
21 – 30	12%	51%	12%	48%
31 – 40	6%	57%	5%	53%
41 – 50	10%	67%	10%	63%
51 – 75	10%	78%	10%	73%
76 – 100	10%	87%	13%	86%
Over 100 miles	13%	100%	14%	100%

Sampling error for this question is $\pm 5\%$

Respondents were asked about their preferred setting for these activities. The following table present the results.

TABLE 15: Preferred Setting for Non-motorized Boating Activities
N = 245-248

	Most Frequent Activity	Favorite Activity
Rural area or park	45%	41%
Remote area	35%	40%
Urban setting	9%	9%
Suburban setting	11%	10%

Sampling error for this question is $\pm 5\%$

For non-motorized boaters, differences between most frequent and favorite activities are equal to or smaller than the sampling error, indicating that they may not differ at all. Rural areas or parks and remote areas are considerably more popular than suburban or urban settings.

Preferred Water Trail Type

Respondents were asked, “The next questions ask about the type of water trail facilities and services you would like to see developed for non-motorized boaters in Oregon. How likely is it that you would use each of the following water trail types?” The following table presents the results for different trail types.

³³ Respondents were not restricted to destinations in Oregon.

TABLE 16: Preferred Non-motorized Watercraft Trail Type			
N = 241-247	Very Likely	Somewhat Likely	Not as Likely
Short, day-use water trail	66%	25%	9%
Water trail to a specific destination	53%	31%	16%
Interpretive, nature, or historic water trail	46%	40%	15%
Loop water trail	44%	25%	31%
Multi-day water trail	33%	35%	32%
Sampling error for this question is ± 5			

Day use and trails to specific destinations are most favored, but even a multi-day water trail would be used by one-third of non-motorized boaters.

Reason for Not Using Non-motorized Watercraft as Much as Desired

Over 63% of non-motorized boaters report they would like to participate in their activities more than they do.

TABLE 17: Use Trails as Much As Wanted – Non-motorized Boaters	
N = 248	
Want to use trails more	65%
Use trails as much as want to	35%
Sampling error for this question is $\pm 5\%$	

As with the other user groups studied in this report, this reflects a large reservoir of unmet needs. The survey asked for the constraints to non-motorized watercraft use:

N = 159	Mean	The Major Reason	An Important Reason	A Somewhat Important Reason	Not an Important Reason
Lack of time	1.8	55%	22%	11%	12%
Low water	3.4	4%	11%	29%	56%
Weather	3.4	3%	9%	32%	57%
Lack of money	3.5	8%	6%	19%	67%
None close by	3.5	6%	7%	16%	71%
No one to go with	3.5	5%	9%	17%	69%
Overcrowding	3.5	3%	8%	24%	66%
Lack of information	3.6	2%	8%	19%	72%
Difficult to get equipment	3.7	3%	4%	12%	81%
User fees	3.7	2%	4%	18%	76%
Hard to get to	3.7	2%	6%	13%	79%
Personal safety	3.7	1%	6%	13%	81%
Health	3.8	3%	3%	6%	89%
Poor maintenance of support facilities	3.8	1%	4%	9%	86%
Too challenging	3.9	0%	1%	5%	94%
Sampling error for this question is $\pm 7\%$					

Lack of time is by far the primary roadblock for non-motorized watercraft users. No other reason approaches lack of time as a reason preventing these respondents from enjoying their activities as much as they would like to.

Thirty-one percent of non-motorized boaters report other reasons for not participating in activities as often as they would like. Most respondents indicate family responsibilities, especially young children, as a reason. Also mentioned was the difficulty in getting permits.

Non-motorized Boater Evaluation of Services

The questionnaire asked non-motorized boating respondents to rate their satisfaction with five measures of service. The following graph and table present that data, listed in order of a decreasing “very satisfied” evaluation.

Non-motorized boaters report a high degree of satisfaction. In such satisfaction rankings, any combined “not at all/not very” satisfied score above 10% is usually justification for planning attention. All but access to water exceed this threshold, suggesting that trail planning should prioritize addressing the remaining four user group concerns, especially information (combined 22% dissatisfaction).

N = 210-245	Mean	Very Satisfied	Somewhat Satisfied	Not Very Satisfied	Not at All Satisfied
Access to water	3.5	56%	38%	5%	0%
Support facilities	3.3	42%	45%	12%	2%
Maintenance of facilities	3.3	40%	50%	8%	2%
Enforcement	3.2	40%	47%	10%	3%
Information	3.0	31%	48%	17%	5%
Sampling error for this question is \pm 6%					

Information Sources for Non-motorized Boaters

The survey asked non-motorized boater respondents for the information sources they use and for their one favorite source:

N = 248	Use Source	Favorite Source
Advice of people	91%	37%
Brochures, maps	90%	13%
Books, magazines, newspapers	79%	15%
Sporting goods stores	71%	3%
Visitor information centers	69%	3%
Gather information along the way	65%	1%
Internet	63%	15%
Phone management agencies	46%	3%
Clubs, groups, water trail organizations	19%	2%
Other	13%	4%
Sampling error for this question is \pm 5%		

A majority of respondents have used most of these information sources. A few favorites stand out: people’s advice, printed resources like brochures, maps, books, and magazines, and the internet. Clubs and groups rank low on the list, probably because only five percent of respondents report membership in a paddling organization or club. Among the other sources identified are resorts, television shows, the yellow pages, and the American Automobile Association (AAA).

Non-motorized boaters were asked about satisfaction with a variety of information sources, and they report a high level of overall satisfaction. As table below shows, dissatisfaction

passed the ten percent threshold for signage (combined 18%), level of difficulty (16%), route maps (13%), and agency responses (13%). Only respondents able to rate the information sources were included. Respondents answering “Don’t Know,” excluded from the table, amounted to 16% for agency websites and 12% for agency responses, suggesting lack of familiarity with these sources.

N = 123-233	Mean	Very Satisfied	Somewhat Satisfied	Not Very Satisfied	Not at All Satisfied
Interpretive information	3.4	51%	42%	6%	1%
Agency websites	3.3	40%	55%	4%	2%
Rules and regulations information	3.3	39%	52%	9%	0%
Route maps	3.2	39%	49%	10%	3%
Level of difficulty	3.2	38%	46%	12%	4%
Guidebooks	3.2	34%	56%	8%	2%
Agency responses to questions	3.2	33%	54%	10%	3%
Signage	3.1	33%	49%	16%	2%
Sampling error for these questions vary from $\pm 6\%$ to $\pm 8\%$					

Overall Satisfaction with Non-motorized Boating Experience

Non-motorized boaters were asked for their overall evaluation of the non-motorized boating experience in Oregon, and 75% select the highest category of “very satisfied.” This is a very high level of satisfaction. Less than one percent reports a combined not very satisfied/not at all satisfied rating.

Very Satisfied	75%
Somewhat Satisfied	24%
Not Very Satisfied	1%
Not at All Satisfied	0%
Sampling error for this question is $\pm 5\%$	

Funding Priorities for Water Trails

Non-motorized boaters were asked to prioritize a variety of funding possibilities related to developing and maintaining water trails. Maintaining existing facilities, cleaning up litter and trash, and enforcing existing rules/regulations are highest ranked priorities, with many of the remaining alternatives clumped together.

TABLE 23: Water Trail Funding Priorities
(1 = Not That Important, 4 = Very Important)

N = 242-246	Mean	Very Important	Somewhat Important	Not That Important	A Top Funding Priority ³⁴
Maintaining existing facilities	2.7	71%	28%	2%	156
Clean up litter and trash	2.7	70%	24%	5%	143
Enforcing existing rules/regulations	2.4	48%	38%	13%	93
Acquire land for public access	2.3	44%	37%	18%	84
Providing education, safety, and trail etiquette information	2.3	40%	45%	15%	79
Providing law and safety enforcement	2.2	33%	55%	11%	77
Developing support facilities	2.2	30%	60%	10%	58
Providing information, maps, signs	2.2	32%	60%	8%	57
Developing camping facilities	1.9	16%	53%	31%	34
Identify new water trail routes	1.9	17%	57%	27%	30
Providing interpretive information	1.9	11%	66%	23%	19
Sampling error for this question is \pm 5%					

Eleven percent of non-motorized boaters identify other funding priorities including waterway access, water quality and maintenance of riparian areas:

Access to waterways seems to be more for the middle or upper income levels, and I think it's valuable to make such access available to those with less resources.

Above all – water quality, the Department of Agriculture and the Department of Environmental Quality have to be central. If you don't have water quality no one's going to want to put their boat in the water.

Just the maintenance on the existing ones there. I guess they want money for more signs and such, but from what I see, they can't keep up with what they already have.

³⁴ Number of respondents selecting this answer. Asked only if respondent answered “very important.”

Activities Combined with Non-motorized Boating

The survey asked, “If you get out of your non-motorized watercraft during a trip, which of the following activities would you most likely do?” Respondent answers:

TABLE 24: Activities Combined with Non-motorized Boating N = 248	
Use bathroom	83%
Picnic	76%
Observe nature	73%
Hike	65%
Camp	62%
Swim	58%
Fish	48%
Other	9%
Sampling error for this question is \pm 5%	

The high percentages shown in the above table indicate that non-motorized boaters get out of their watercraft for a variety of shore-based activities. Top activities include using a bathroom, picnicking, and observing nature. The “other” activities include bird watching, hunting, photography, and sun bathing.

Willingness to Pay Fees for Water Trail Development and Maintenance

The survey asked non-motorized boaters “How much would you be willing to pay each year to use water trails if money was used to develop and maintain water trails in Oregon?” Starting with \$25, interviewers offered smaller and smaller amounts until the respondent agreed to a figure. The results are as follows:

TABLE 25: Amount Willing to Pay for Water Trail Use N = 243	
\$25 per year	53%
\$20 per year	15%
\$15	10%
\$10	7%
\$5	4%
Not be willing to pay anything	11%
Sampling error for this question is \pm 5%	

Eighty-nine percent of non-motorized boaters reported that they would be willing to pay a yearly fee for water trail development and maintenance. More than half of non-motorized boaters would be willing to pay \$25 per year to use water trails. The results suggest that authors underestimated non-motorized boater willingness to pay for their activities and should have started at a larger amount. Eighty-five percent would be willing to pay at least \$10. If all

Oregon households using non-motorized watercraft paid such a fee, this would generate the following revenues:

TABLE 26: Revenues Generated by Different Non-motorized Boater Fee Structures (185,222 Households)	
\$25 per year	\$ 4,630,550
\$20 per year	\$ 3,704,440
\$15	\$ 2,778,330
\$10	\$ 1,852,220
\$5	\$ 925,110
Sampling error for this question is $\pm 5\%$	

Eleven percent of the non-motorized boaters oppose fees in any form. Verbatim comments relating to this position include the following:

I'll always be against user fees. We've already paid our taxes and that's supposed to be taken care of that way. I do a lot of hiking, but just don't use trails that require user fees. I don't use trailheads, I park elsewhere and go cross country for access. The same with canoeing, if there's a fee or crowds, I won't go there. Same with campgrounds. If there's a fee, I don't use them.

When asked what method of payment they preferred, those respondents who are willing to pay a fee are almost equally split among the four offered: a voluntary boater pass, a parking fee at the put-in, an annual boat registration, and an access fee at launch sites:

TABLE 27: Preferred Methods of Fee Payment - Non-motorized Boaters N = 215	
Voluntary non-motorized boater pass	27%
Parking fee at boat access points	26%
Annual non-motorized boat registration	23%
Ramp or access fees at launch sites	21%
Sampling error for this question is $\pm 6\%$	

Importance of Water Trail Signage

The survey asked non-motorized boaters the importance of a range of types of warning and informational signs associated with water trail use. Every item received a “very important” ranking from a sizable proportion of respondents. Hazard warnings stand out as the highest priority, but non-motorized boaters value signage at all the listed locations.

TABLE 28: Importance of Signage to Water Trail Users (1 = Not That Important, 3 = Very Important)				
N = 246-248	Mean	Very important	Somewhat important	Not That Important
Hazards	2.8	81%	13%	6%
Take-out points	2.6	67%	26%	8%
At the put-in	2.5	63%	26%	11%
Portages	2.5	61%	30%	10%
On the highway	2.4	58%	26%	16%
Camping areas	2.4	53%	32%	15%
Rest areas	2.3	48%	35%	17%
Sampling error for this question is \pm 5%				

Shared Use of Water Trails

Respondents were asked, “Which of the following comes closest to your view regarding the shared use of water trails: Trails should allow multiple activities, but keep motorized and non-motorized activities at different locations, or, trails should allow both motorized and non-motorized activities at the same locations?” Non-motorized boaters overwhelmingly support the segregation of their activities from motorized water users:

TABLE 29: Shared Use of Water Trails N = 244	
Different locations for motorized and non-motorized	76%
Allow at same locations	14%
Mix of these (if volunteered)	10%
Sampling error for this question is \pm 5%	

One respondent’s comment illustrates the thinking behind a preference for different locations:

I do not support motorized water vehicles on most waterways. It's a source of pollution and is a danger concern with families. It's one of the reasons we don't go out as much as we like. When they are out, fees for them should be much higher due to the pollution.

Non-motorized Boaters Perceived Right to Use Waterways

The survey asked, “I'm going to read some common watercraft activities. For each one, please tell me whether you think you can legally participate in the following activities on rivers and waterways in Oregon.” The activities included traveling anywhere on a river where the boat will float, anchoring in a river to fish, stopping on shore to picnic, stopping on shore to fish, and portaging around a fence, rapid, or waterfall. The following table reports the results:

TABLE 30: Opinions about Non-motorized Boaters Rights to Use Waterways				
N = 215-241	Legal	Illegal	Depends (only if volunteered)	Don't Know
Anchor to fish	46%	26%	18%	10%
Travel anywhere boat will float	41%	48%	8%	3%
Stop to picnic	38%	21%	39%	2%
Fish on shore	37%	21%	34%	8%
Portage around obstacles	36%	30%	20%	14%
Sampling errors for these question are from $\pm 5\%$ to $\pm 6\%$				

Survey responses to these questions suggest existence of a sizable information gap among non-motorized boaters regarding the public's rights to use the waterways in Oregon. This gap in understanding is likely based on a gap in law and public policy regarding public access.

According the Department of State Lands (DSL), the only circumstances in Oregon where the public has absolute assurance of its rights to use the beds and banks of Oregon's streams is where they have been declared "title" navigable by the courts, the legislature or the State Land Board (there are 11 rivers so designated) or when streams border or abut or are surrounded by publicly owned land (e.g. within a National Forest). In Oregon, waterways subject to the ebb and flow of tide are state-owned usually to the line of high tide (there are about 230 such waterways); and meandered lakes are state-owned (there are about 75 meandered lakes).

The DSL, in consultation with the Oregon Department of Justice, advises that a common law right of use exists for the public to make reasonable and incidental use of the beds and banks of streams not yet determined navigable. According to Oregon court cases interpreting the public's right to use waterways, the public has the right to float waterways even where the bed is privately owned. This common law right or so called "floatage easement" means that the public has the right to be on the water surface, and may mean that boaters may get out of their watercraft to wade, anchor or portage their boat, or get out of their boat to stand on the stream bank. However, the precise limits of these rights and universal acceptance of the existence of the common law so-called "floatage easement" has not been determined or found. On streams not yet determined to be navigable, there is no legal clarity as to the public's rights to use the beds and banks for recreational purposes.

As a result, the "correct" answer to these questions is likely "it depends" (since the activities described are so fact-driven and situational). The gap can lead to person-to-person conflicts between waterfront private property owners and non-motorized boaters, each with strongly held expectations and understandings as to their individual and collective rights. This view is clearly evidenced in the statement of one respondent:

There needs to be more accessibility, and it needs to be exact, so there is no contention about it. People get into fights because the landowners think no one else has the right to fish because they think they own out to the middle of the river, and that no one has any right to fish there.

I live on the river, and own a camp on the river. I have had issues with people portaging around spots, and using my land because that is the only way they can get around it, and I would like to see there be some kind of information so that people would know more about it.

From a recreation management perspective, the survey results suggest a need for educating non-motorized boaters on where they legally can launch or access the water and shore on boatable waterways in Oregon (e.g. common rules of the trail) to ensure long-term access to waterways in a way that is considerate of the interests and concerns of private property owners.

Club Membership – Non-motorized Boaters

Non-motorized boaters were asked if they belong to a paddling club or group.

TABLE 31: Membership in a Club or Group – Non-motorized Boaters	
N = 248	
Yes	5%
No	90%
Sampling error for this question is $\pm 6\%$	

Only 5% of non-motorized boaters report membership in a group or club related to their activity. Although this represents 9,300 households in Oregon, as many as another 175,400 households contain no club or group member, reflecting a very large potential membership for such organizations.

STATEWIDE WATER TRAIL GOALS, OBJECTIVES AND STRATEGIES



Goals, Objectives and Strategies For Top Statewide Water Trail Issues

The chapter focuses on a set of long-range goals, objectives and strategies for the top six Statewide Water Trail Issues as identified through the water trails planning effort. A brainstorming session during the September 24, 2003 Water Trails Steering Committee Meeting reviewed and evaluated information gathered at the statewide workshops and produced an initial set of goals, objectives and strategies for resolving these top statewide issues and concerns.

For the purposes of this plan:

- Goals are general, broadly stated, desirable conditions toward which all non-motorized trail providers in the state should direct their efforts.
- Objectives are the proposed long-range solutions to the issues and the discrete problem areas involved. Objectives do not represent the complete solution to the identified issue, but are aspects of the solution identified during the planning process.
- Strategies are what need to be done to accomplish each objective and identify which specific outdoor recreation providers would be responsible for the strategies within the state's ten-year planning cycle.

Statewide Water Trail Issue A:

Need To Address Conflicts Between Non-motorized Boaters And Waterfront Property Owners

Recreation providers and other workshop attendees consistently reported in the planning workshops that non-motorized boating in the state of Oregon has increased substantially in recent years. This perception of non-motorized boating participation was also confirmed in the 2003-2007 Oregon SCORP. A comparison of non-motorized boating participation estimates from the 1986-1987 Pacific Northwest Recreation Study and the 2002 Oregon Outdoor Recreation Survey showed a 138% statewide increase in annual non-motorized boating participation (from .9 to 2.2 million annual user occasions).

Privately owned lands account for 4,075 miles (76%) of the 5,375 miles of lands (above normal high water) lying along the approximately 165 rivers and streams used for recreational boating and fishing in the state of Oregon.³⁵ As a result, any discussion of developing water trails to better manage for a growing number of

³⁵ Oregon State Marine Board. (1998). Managing River Recreation: A Statewide Assessment of Needs for Boating Access, Facilities, Enforcement, and Education. A Report to the Joint Legislative Interim Committee on Navigability.

non-motorized boaters on the state's waterways must take into consideration waterfront property owner concerns about impacts of recreational river use on their property.

Recreation providers and other workshop attendees clearly stated a need to proactively address potential conflicts between paddlers and waterfront property owners. Several strategies were mentioned in the issues workshops including:

- Providing a sufficient number of public access points at reasonable intervals along designated water trails.
- Developing and disseminating an appropriate assortment of information resources (signs, maps and brochures) to inform the public of all available water trail facilities.
- Incorporating water trail guidelines that emphasize a proper respect for private property.

According to recreation providers, there is a need to better inform the public about the extent and limitations of the public's interest in the state's waterways. The primary objective is to better inform non-motorized boaters on where they legally can launch or access the water and shore to ensure long-term access to floatable waterways in Oregon in a way that is considerate of the interests and concerns of private property owners.

Goal #1:

Promote a better understanding of issues and concerns related to recreational use of waterways between/among

non-motorized boaters and waterfront property owners.

Objective 1: Increase the number of non-motorized boaters who understand that the actions of paddlers often cause tension with waterfront property owners and are informed on ways to minimize those conflicts.

Strategies/Actions for Addressing Objective 1:

- Develop and distribute information to inform the paddling public of the primary causes of non-motorized boater/waterfront property owner conflict (e.g. trash and litter, vandalism, trespassing, illegal fires).
- Review existing "good boater" safety and user conduct information (e.g. materials from the Marine Board and Leave No Trace) and repackage these materials as a voluntary code of conduct for responsible water trails use (with emphasis on respecting the resource including the rights of waterfront property owners).
- Include this voluntary code of conduct in all State Designated Water Trail brochures, guides, maps, site signage and on the State Water Trails Website.
- Inform non-motorized boaters where they legally can launch or access the water and shore on floatable waterways in Oregon (e.g. common rules of the trail).

Objective 2: Develop and disseminate water trails information to enable non-motorized boaters to make informed decisions on where to paddle.

Strategies/Actions for Addressing Objective 2:

- OPRD will inventory existing water trails in the state and develop a website to disseminate information on State Designated Water Trails to the general public.
- Develop the appropriate combination of printed and placed (sign) information to clearly indicate which shoreline areas are open for public use and which are not (e.g. similar to highway rest areas).

Objective 3: Recognize the importance of sound planning and public involvement in the development of water trail routes.

Strategies/Actions for Addressing Objective 3:

- Water trail planners and managers should develop and implement a Water Trail Management Plan for existing and proposed water trails to reduce conflict along and manage non-motorized boater use of the waterway along the extent of the water trail.
- Water trail planners should identify and engage stakeholders in the water trails planning process.
- Water trail planners should engage waterfront property owners early in the water trails planning process.

- Water trail planners should engage public land managers and regulatory agencies in the water trails planning process.
- Develop a toolbox component including a process for effectively engaging waterfront property owners in water trails planning.
- Develop case studies that showcase successful efforts to involve waterfront property owners in water trail development projects.
- Develop a brochure to better inform waterfront property owners, public officials, and enforcement personnel about water trail issues.

Objective 4: Define the publics' right to use waterways.

Strategies/Actions for Addressing Objective 4:

- Educate and inform non-motorized boaters of the current laws relating to public access to floatable waterways.
- Encourage the state to more clearly define the rights of the public and waterfront property owners regarding the beds and banks of waterways of the state for which navigability has not been determined.

Goal #2:

Promote and encourage responsible water trail development and use.

Objective 1: Develop a statewide approach to water trail development.

Strategies/Actions for Addressing Objective 1:

- Create a state-administered Water Trails Program to manage water trail planning, designation and management in Oregon as a way to address recreational watercraft use of waterways.
- Hold a discussion among officials from state agencies including the Marine Board, Division of State Lands, Department of Fish & Wildlife and Oregon Parks and Recreation Department, the Governor's Office and key members of the state legislature to provide direction for implementing the plan.
- Develop a description of the Water Trails Program using information included in the Water Trails Plan Goals, Objectives and Strategies.
- Create an official "State Water Trail Designation" within the Water Trails Program to promote good planning, public involvement and design of water trails throughout the state.
- Revise appropriate Oregon Administrative Rules pertaining to Non-motorized Trail use to direct the Oregon Recreational Trails Advisory Council to provide coordination between OPRD, other

agencies and non-motorized boating stakeholders in the implementation of the water trails plan and support and enhance statewide non-motorized boating opportunities and programs.

Objective 2: Provide the appropriate framework and support for a state water trails system.

Strategies/Actions for Addressing Objective 2:

- Develop a set of water trail evaluation criteria to identify requirements that must be met in order for a water trail to become a State Designated Water Trail. As many trails take years to fully develop and may have changes over the years, the criteria will also determine at what point a trail is "open" and recognized as a State Designated Water Trail and at what point it may have lost the characteristics that make it a viable water trail and be removed from the list.
- Develop an official nomination process for water trail sponsors to apply for State Water Trail Designation and a process for determining the readiness for acceptance of new water trails as State Designated Water Trails.
- Develop a set of grant criteria for evaluating water trail project applications eligible for OPRD administered grant programs.
- Provide funding priority for grant proposals on State Designated Water Trails or for projects designed to meet specific State Designated

Water Trail qualification requirements.

Statewide Water Trail Issue B: Need For More Public Access To Waterways

Recreation providers and other workshop attendees across the state consistently reported a need for more public access to waterways to accommodate the needs of a growing number of non-motorized boaters. Both providers and other workshop attendees made a case that additional public access is needed at the starting point, at reasonable intervals along, and at the final take out point of paddling routes throughout the state. Since paddling routes often cross multiple jurisdictional boundaries, there is a need for increased coordination and communication between land management agencies to properly address jurisdictional and easement issues associated with developing public water access and parking facilities.

Attendees at the general public workshops in several regions stated that there are opportunities to work with private landowners to allow recreational access/easements to accommodate non-motorized boaters. According to other workshop attendees, there is a need to explore recreation opportunities on private timberlands and work with private landowners for access. Some keys to success for securing use on private lands are user education (respect for private property) and the purchase of recreational easements, permits or fee title.

Finally, recreation providers reported that it is often difficult to manage where people

access waterways due to conditions that vary with flow on a seasonal basis. Non-motorized boaters typically access the water where conditions allow. As a result, there is a need for design guidance to assist with water trail access, site selection, design and management that is compatible with the natural environment and changing water conditions.



Goal #3:

Facilitate the development of public access to waterways for non-motorized boaters.

Objective 1: Determine where access to waterways currently exists.

Strategies/Actions for Addressing Objective 1:

- Collect information provided by the Marine Board on existing public water access sites on public and private lands and water-based recreational facilities found at these sites (this inventory is a part of the Marine Board's Six-Year Boating Facility Plan).
- Make this water access information available to public, non-profit or

grass roots organizations interested in developing water trails in the state.

- Assist public, non-profit or grass roots organizations to inventory their significant waterway corridors to identify water trail development opportunities.

Objective 2: Identify ways to develop new access to waterways.

Strategies/Actions for Addressing Objective 2:

- Develop a set of basic criteria for water trail planners to acquire and technical assistance for developing high-quality access sites along water trails.
- Develop a set of water trail site and facility design standards.
- Inform water trail proponents of existing funding sources for acquisition and development of water trail access sites.
- Develop additional funding sources for agencies to acquire, develop and maintain water trail access sites.
- Encourage interagency partnerships to address jurisdictional and access issues and better share resources among agencies.
- Create incentives to encourage waterfront property owners to allow public access to the waterways along water trails (e.g. providing property tax breaks).

Statewide Water Trail Issue C:

Need For Adequate And Consistent Information Resources Including Signs, Maps, Level Of Difficulty And Water Level Information And Available Paddling Opportunities.

Recreation providers made a case that trails are a key economic development tool in many areas of the state. There are opportunities to develop partnerships with local chambers of commerce, the Oregon Tourism Commission, and the tourism industry regarding water trail marketing. There is a need for maps and information to promote paddling opportunities throughout the state.

Towards this end, both recreation providers and other workshop attendees made a strong case for developing a central web-based repository for interested non-motorized boaters to get information about existing flat water, moving water and white water paddling opportunities available throughout the state of Oregon. The site should be designed for trip planning and include information about water access locations, permits required, level-of-difficulty, current water conditions, navigational maps and descriptions of the type of experience visitors can expect. Such information will assist non-motorized boaters to make informed river use decisions on their trip. River guidebooks can also be used as marketing tools for drawing paddlers to a particular water route.



Goal #4:

Provide user-friendly, easy-to-find information resources for non-motorized boaters to help them engage in appropriate water trail activities.

Objective 1: Develop water trail information standards.

Strategies/Actions for Addressing Objective 1:

- Develop minimum-standard requirements for water trail guides³⁶.

³⁶ The main purpose of a Water Trail Guide is to assist trail travelers during their trip. Water Trail Guides are multiple-page documents that typically include a trail map and describe the route of the trail and suggest paddling approaches. Water Trail Guides may also list campsites and other facilities and other information directly pertinent to the trail such as information on low-impact camping, stewardship, permits and equipment required and user safety.

- Develop minimum-standard requirements for water trail informational brochures³⁷.
- Develop minimum-standard requirements for water trail signage.

Objective 2: Encourage the use of water trail information standards in water trail development projects.

Strategies/Actions for Addressing Objective 2:

- Provide additional scoring points in trail-related OPRD administered grant programs for grant requests for water trail guides, informational brochures and water trail sign projects including minimum-standard requirements included under strategies for addressing Objective 1 (above).

Objective 3: Develop a web-based approach for providing water trail information.

Strategies/Actions for Addressing Objective 3:

- Develop a water trails website to house general information (geographic location, length of trip, level-of-difficulty, etc.) about the Oregon Water Trails Program and State Designated Water Trails.

³⁷ The main purpose of a Water Trail Informational Brochure is to serve as a promotional tool to attract new users to a Water Trail. Water Trail Informational Brochures are one-page multiple-fold documents that typically include a trail map, description of trail facilities and a brief description of the route.

- Develop a website template for water trail providers to share more site-specific information about water trails on their agency/organizational website.
- Develop a map template for water trail providers to post water trail maps online.
- Include web links from the Oregon Water Trails website to the sponsoring agency/ organization's (water trail manager's) website to allow the general public to get more site-specific information about the State Designated Water Trails and water trail planning.

- creating vendor/rental training courses requiring equipment renters to show competency to operate equipment, and
- coordinating information development delivery with other agencies including the U.S. Coast Guard, Marine Board, etc.

In addition, search and rescue efforts on isolated river stretches are often very difficult, time consuming and costly. There is a need for emergency response training to ensure that the necessary skills and knowledge are in place to avoid and properly respond to water-related emergency situations. To proactively address this problem, we need to educate people before getting on the water.

Recreation providers stated a need to establish some sort of classification system to address such things as level of difficulty (using the International Scale of River Difficulty), setting type (e.g. ROS setting), services and improvements for use in marketing water trails. They made a case that the statewide water trails inventory should gather such classification information during the data collection process.

Finally, recreation providers stated that there is a need to reduce visitor impacts to the environment along paddling routes. Environmental impacts occur from such things as improperly disposed human and solid waste, disturbing wildlife, camping or landing on private land and using soap too close to the river. As a result, there needs to be more information available on how to reduce visitor impacts such as providing programs like Leave No Trace and Tread Lightly! to develop an appropriate user ethic. There is a need for consistent, quality information, which is simple to understand

Statewide Water Trail Issue D:

Need For Safety-Related Information, User Education And Outreach.

Both recreation providers and other workshop attendees stated that there is a strong need to adequately inform people of conditions they may encounter on Oregon waterways before actually getting onto the water. Specific strategies mentioned included:

- increased non-motorized boater education,
- increased safety training specifically designed for running rivers,
- increased training to ensure compliance with existing federal and state regulations,
- increased promotion of safety-related information,
- additional safety-related outreach programs,

and includes a distinct regional flavor (e.g. need for different information on the coast as opposed to information needed in an area such as Bend).

Goal #5:

Encourage the safe and low-impact use of water trails.

Objective 1: Inform the public on the inherent risks and dangers associated with water-based recreation.

Strategies/Actions for Addressing Objective 1:

- Develop a universal non-motorized boating difficulty rating scale (for white water, flat water and moving water conditions) with individual descriptions for the inherent dangers associated with the use of such types of waterways and include this rating in all water trail brochures, guides, maps and on the State Water Trails Website. Since river conditions change due to flooding or closed due to tree snags, the applicability of rating scale information will always be subject to current water conditions.
- Develop a set of basic skill requirements for non-motorized boating for each of the rating types included in the universal non-motorized boating difficulty rating scale and include this basic skill requirement information in all water trail brochures, guides, maps and on the State Water Trails Website.



Objective 2: Provide safety-related information and services for State Designated Water Trails.

Strategies/Actions for Addressing Objective 2:

- Create a regional forum process (including input from state and federal agencies, local recreation providers, State Police, County Sheriffs Departments, Coast Guard, retailers and paddling organizations) to encourage the development of regional safety plans for State Designated Water Trails to leverage limited resources.
- Work with emergency service providers to develop appropriate response standards for State Designated Water Trails.
- Identify organizations currently providing paddling skills training in the state and develop partnerships to increase the public's access to paddling certification programs already in place.
- Include a current list of organizations providing paddling skills training on the State Water Trail website.

- Develop an "Educate-the-Paddler Program" to encourage volunteers to distribute safety and stewardship information at State Designated Water Trail access locations.
- Where applicable (e.g. on loop trails close to population centers), create a free-of-charge "Life Jacket Loan-Out Program" to encourage **each person to wear a personal flotation device** while using a State Designated Water Trail. (Could be a component strategy of the Educate-the-Paddler Program.)

Objective 3: Provide low-impact recreational use information for State Designated Water Trails.

Strategies/Actions for Addressing Objective 3:

- Using existing resources such as Leave No Trace, develop a water trail code of ethics outlining simple universal principles of conduct when accessing or using State Designated Water Trails.
- Include this water trail code of ethics in all State Designated Water Trail brochures, guides, maps, site signage and on the State Water Trails Website.
- Work with manufacturers and retailers to distribute code of ethics information for water recreation to non-motorized boaters at the point of sale.

Statewide Water Trail Issue E:

Need A Dedicated Funding Source For Water Trail Development.

Across the state, recreation providers and other workshop attendees strongly made a case for a designated funding source for water trail facility development. Currently, there are grant programs funding motorized and non-motorized terrestrial trail projects and a motorized watercraft facility grant program, but no resources specifically designated for non-motorized watercraft facility development. As a result, there is a need to explore funding opportunities/ sources such as a non-motorized boater registration fee to fund water trail development.

Goal #6:

Pursue a dedicated funding source for a State Water Trail Program.

Objective 1: Educate key stakeholders on the need for a dedicated funding source for water trail development.

Strategies/Actions for Addressing Objective 1:

- Develop and distribute a set of tangible benefits that non-motorized boaters would receive for their investment in water trail development.
- Develop and distribute a set of tangible benefits that waterfront property owners would receive as a

result of public investment in water trail development, easements, etc.

- Distribute information about the economic benefits of water trails to local communities.

Objective 2: Identify the most effective funding mechanism for water trail development in the state.

Strategies/Actions for Addressing Objective 1:

- Investigate the non-motorized boating publics' level-of-acceptance of various water trail funding mechanism options such as non-motorized watercraft registration, a boater pass, parking fees or launch access fees.
- Identify non-motorized boating funding programs or related programs successfully used in other states and examine their applicability in the state of Oregon.
- Investigate potential legal questions associated with using various non-motorized boating funding models in the state.

Statewide Water Trail Issue F:

Need For Information Describing The Social And Economic Benefits Of Water Trails.

Recreation providers stated that there is often local resistance to developing water trail opportunities and encouraging more visitors to the local area. Community members often view increasing use of nearby waterways as potentially harmful to their local quality of life. As a result,

recreation providers need information to better educate communities about the social and economic benefits associated with water trail development.

Goal #7:

Educate key stakeholders about the economic and community benefits of water trails.

Objective 1: Develop and disseminate information on the benefits of water trails.

Strategies/Actions for Addressing Objective 4:

- Compile and summarize information describing the physiological, economic, environmental, social, psychological and educational benefits associated with water trails.
- Compile and summarize information describing the demographic characteristics of non-motorized boaters in the state of Oregon.
- Distribute benefits and demographic information to a wide variety of local consumers such as policymakers, waterfront property owners, public works departments, public recreation providers, planners, business owners and leaders, chambers of commerce and developers.

A Proposed State-Administered Water Trails Program for Oregon

By Terry Bergerson

Introduction

This chapter presents a comprehensive vision for managing non-motorized boating in the state of Oregon through the development of a statewide system of water trails. For the purposes of planning consistency, an official concept description for a water trail in the state of Oregon is as follows³⁸:

"Water trails in Oregon are recreational boating routes on a lake, river, or ocean, which are suitable for canoes, sea kayaks, white water rafts and kayaks, drift boats and rowboats. Like conventional trails, water trails are corridors between specific locations. Although water trails are primarily developed for use by non-motorized watercraft, many are also open for use by motorized watercraft (unless current motorized boating restrictions are in place). Water trails are comprised of a number of public or public/private recreation facilities including a safe place to put in, parking for motorized vehicles, sanitation facilities, a safe place to take out, and in some cases day-use sites and overnight camping areas. Some water trails are simply day paddles while others stretch for hundreds of miles. Water trails provide a full spectrum of paddling experiences, from wilderness settings with minimal facility development to urban settings

with centralized facility development, and a variety of challenge levels on whitewater, moving water, flat water and tidewaters. Each water trail is unique, a reflection of Oregon's diverse geology, ecology and communities. Typically, water trails emphasize low-impact use and provide stewardship of the resource. Water trails are intended to connect people—physically, visually and spiritually—to the natural, cultural and historic resources of the state³⁹."

The proposed non-motorized boating management approach is based on findings and conclusions drawn from the Oregon water trails planning process and an investigation of non-motorized boating management and water trail development materials. Specific information sources include:

- General water trail management discussions at the March 12, 2003 and September 24, 2003 Water Trails Plan Steering Committee Meetings;
- A series of 9 water trail issues workshops held across the state during the months of April and May 2003;
- A listing of top regional and statewide water trail issues identified in the water trails planning process;

³⁸ Based on information included in the document Chesapeake Bay Gateways Network (2000). Chesapeake Water Trails: A Vision. Available on the Internet at: <http://www.baygateways.net/pubs/watertrails.pdf.pdf>

³⁹ Oregon water trails concept description finalized during the March 12, 2002 Water Trails Steering Committee Meeting. Salem, OR.

- Goals, objectives and strategies developed during the planning process for addressing top statewide water trail issues;
- Results from the 2004 Oregon Statewide Trail User and Non-motorized Boater Survey;
- Water trail program information from other areas of the country; and
- Water-based recreation information from the Oregon State Marine Board and Department of State Lands.

Two critical factors have been identified which pose a serious threat to long-term non-motorized boating access to waterways in Oregon. **These factors are a rapid increase in participation in non-motorized boating in the state and the lack of legal clarity regarding the public's rights to Oregon's waterways for recreational purposes.** It is essential that any comprehensive vision for non-motorized boating management in the state proactively address these critical factors.

The rapid growth in non-motorized boating participation was initially reported in the 2003-2007 Oregon Statewide Comprehensive Outdoor Recreation Plan⁴⁰. A comparison of non-motorized boating participation estimates from the 1986-1987 Pacific Northwest Recreation Study⁴¹ and

⁴⁰ Oregon Parks and Recreation Department (2003). Oregon Statewide Comprehensive Outdoor Recreation Plan: 2003-2007.

⁴¹ Denver Hospodarsky, Donald Field and Perry Brown (1988). The Pacific Northwest Outdoor Recreation Study: Oregon Survey. National Park Service Cooperative Park Studies Unit and Department of Forest Recreation Resources, Oregon State University.

the 2002 Oregon Outdoor Recreation Survey⁴² showed a 138% increase in annual non-motorized boating participation (from .9 to 2.2 million annual user occasions) in the state. According to the 2003-2007 Oregon SCORP, although the state enjoys a variety of high-quality paddling opportunities, additional recreational infrastructure is needed to satisfy a growing demand for paddling sports. Recreation providers felt that the Oregon Statewide Water Trails Plan should address this growing demand through the development of canoe, rafting and kayaking routes (water trails) throughout the state.

In addition to an increase in statewide participation, recreation management of non-motorized boating is further complicated by a number of issues concerning navigability law including:

- the relative obscurity of navigability law regarding the public's right to use the bed and banks of rivers and streams for recreational purposes;
- the lack of legal clarity as to the public's rights to use the beds and banks that have not yet been determined navigable for state ownership purposes; and
- commonly held and communicated misperceptions by river recreationists about the public's rights to use Oregon's waterways.

This combination of factors has led to an increasing potential for conflicts between

⁴² Rebecca Johnson (2002). Oregon's Statewide Comprehensive Outdoor Recreation Plan (SCORP): Demand and Needs Analysis. Department of Forest Resources, Oregon State University.

non-motorized boaters and waterfront property owners in the state of Oregon.

The need to address conflicts between non-motorized boaters and waterfront property owners was stressed by recreation providers and other water trails issue workshop attendees across the state. As a result, "the need to proactively address conflicts between non-motorized boaters and waterfront property owners" was identified as the top statewide issue in the water trails plan. According to recreation providers, the primary objective of a statewide non-motorized boating management strategy must be to better inform non-motorized boaters on where they legally can launch or access the water and shore to ensure long-term access to floatable waterways in Oregon.

The following Oregon Parks and Recreation Department (OPRD)-administered water trails program framework is presented as a potential comprehensive management strategy for development of a statewide system of water trails carefully designed to minimize conflicts between non-motorized boaters and waterfront property owners. This can be accomplished through encouraging water trail development that includes proper management planning, consulting with waterfront property owners, adequate public facilities along the length of the water trail (e.g. parking, sanitation facilities, designated public access points), and the provision of trip information (trail guides, maps, proper trail ethics) that will allow paddlers to safely and respectfully use Oregon's waterways in a manner that is considerate of the interests and concerns of private property owners along these waterways and other waterway users (e.g. boaters, fisherman, and so forth).

This framework is also intended to address each of the six top water trail issues and related goals, objectives and strategies identified in the statewide water trails plan. Besides the need to proactively address conflicts between non-motorized boaters and waterfront property owners, the framework will also address the other 5 top water trail issues including the:

- Need for more public access to waterways;
- Need for adequate and consistent information resources including signs, maps, level of difficulty and water level information and available paddling opportunities;
- Need for safety-related information, user education and outreach;
- Need for a dedicated funding source for water trail development; and
- Need for information describing the social and economic benefits of water trails.

Federal and State Navigability Laws and Non-motorized Boating in Oregon

The issue of who owns the beds and banks of Oregon's waterways and the determination of the public's rights to use waters of this state has been around a long time. In recent years, since 1990, the Oregon Department of State Lands (DSL) has been working to resolve this issue. However, more is needed in order to determine legal clarity regarding the public's rights to Oregon's waterways for recreational purposes.

According to the DSL, the only circumstances in Oregon where the public has absolute assurance of its rights to use the beds and banks of Oregon's streams is

where they have been declared "title" navigable by the courts, the legislature or the State Land Board (there are 11 rivers so designated) or when streams border or are surrounded by publicly owned land (e.g. within a National Forest). In Oregon, waterways subject to the ebb and flow of tide are state-owned usually to the line of high tide (there are about 230 such waterways); and meandered lakes are state-owned (there are about 75 meandered lakes).

The DSL, in consultation with the Oregon Department of Justice, advises that a common law right of use exists for the public to make reasonable and incidental use of the beds and banks of streams not yet determined navigable. According to Oregon court cases interpreting the public rights to use the waterways, the public has the right to float waterways even where the bed is privately owned. This common law right or so called "floatage easement" means that the public has the right to be on the water surface, and may mean that boaters may get out of their watercraft to wade, anchor or portage their boat, or get out of their boat and stand on the stream bank. The precise limits of these rights and universal acceptance of the existence of "floatage easement" has not yet been determined or found. On streams not yet determined to be navigable, there is no legal clarity as to the public's rights to use the beds and banks for recreational purposes. Until such legal certainty is determined, there will be a gap in law and public policy regarding public access to waterways for recreational purposes in the state of Oregon.

Another complicating factor is the ratio of private to public lands along rivers and streams used for recreational boating and fishing in Oregon. According to the

Oregon State Marine Board⁴³, as much as 76% of the 5,375 miles of lands lying along the approximately 165 rivers and streams used for recreational boating and fishing in Oregon are in private ownership.

During the statewide water trails planning effort, the DSL and OPRD were interested in learning about non-motorized boaters current understanding of their legal rights to use rivers and waterways in the state for recreational purposes. In the 2004 Oregon Statewide Trail User and Non-motorized Boater Survey, a random sample of non-motorized boaters were asked for their opinions about the legality of a number of common watercraft activities on rivers and waterways in Oregon including traveling anywhere on a river where the boat will float, anchoring in a river to fish, stopping on shore to picnic, stopping on shore to fish, and portaging around a fence, rapid, or waterfall. The following table reports the results.

⁴³ Oregon State Marine Board. (1998). *Managing River Recreation: A Statewide Assessment of Needs for Boating Access, Facilities, Enforcement, and Education*. A Report to the Joint Legislative Interim Committee on Navigability.

TABLE 32. Opinions about Non-motorized Boaters Rights to Use Waterways				
N = 215-241	Legal	Illegal	Depends (only if volunteered)	Don't Know
Anchor to fish	46%	26%	18%	10%
Travel anywhere boat will float	41%	48%	8%	3%
Stop to picnic	38%	21%	39%	2%
Fish on shore	37%	21%	34%	8%
Portage around obstacles	36%	30%	20%	14%
Sampling errors for these question are from $\pm 5\%$ to $\pm 6\%$				

The "correct" answer to these questions is likely "it depends" (since the activities described are so fact-driven and situational). Responses to this set of survey questions suggest considerable misunderstanding among non-motorized boaters regarding the public's rights to use the waterways in Oregon. This gap in understanding is likely based on the previously described gap in law and public policy regarding public access. Such misunderstanding among non-motorized boaters regarding the public's right to use the waterways in Oregon can lead to person-to-person conflicts between waterfront property owners and non-motorized boaters, each with strongly held expectations and understandings as to their individual and collective rights.

Based on existing public information and findings of the statewide water trail process, the following critical points have been identified:

- Only a small percentage of the 165 rivers and streams used for recreational boating in Oregon have been declared "title" navigable.
- Due to the length of time involved in the legal process, only a small

percentage of Oregon rivers and streams used for recreational boating in Oregon will be declared "title" navigable at the end of the water trail plan's 10-year planning horizon.

- There is no legal clarity as to the public's rights to use the beds and banks for recreational purposes on rivers and streams that have not yet been determined navigable.
- There is no reason to assume that legal clarity will be determined as to the public's rights to use the beds and banks for recreational purposes on streams yet determined to be navigable during the water trail plan's 10-year planning horizon.
- Currently, non-motorized boaters do not understand the navigability issues regarding the public's right to use waterways in Oregon.
- In recent years, there has been substantial growth in non-motorized boating participation in the state of Oregon.
- Public recreation providers, workshop attendees, and water trail steering committee members have

identified the need to proactively address potential conflicts between paddlers and waterfront property owners as the top statewide issue that must be addressed in order to ensure long-term access to floatable waterways in Oregon.

It is evident that the gap in law and public policy regarding public access to Oregon's waterways is creating an increased potential for conflicts between a growing number of non-motorized boaters and waterfront property owners. From a recreation management standpoint, it would be unfair to both waterfront property owners and Oregon's non-motorized boaters to simply ignore this problem until the time that the legislature or the courts finally resolve the uncertainty as to the public's rights to use the beds and banks for recreational purposes on rivers and streams that have not yet been determined navigable.

During the September 24, 2003 water trails steering committee meeting, a discussion was held regarding potential management strategies for resolving top statewide water trail issues. There was consensus among committee members that the state should consider the creation of a state water trail program. The purpose of a state water trail program would be to promote the development of a "water trails system" to better manage waterways for a rapidly growing number of non-motorized boaters in Oregon. A key objective of the program would be to actively engage service providers, local non-profit trails organizations and waterfront property owners in the early stages of water trail development in Oregon in order to proactively address the potential for conflicts between water trail users and waterfront property owners.

A Proposed Oregon Water Trails Program

The need for a state water trail program is certainly not unique to the state of Oregon. A number of state and regional water trails programs currently exist across the country. Examples of successful programs include the:

- Chesapeake Bay Gateway Network - Water Trails Program;
- Florida Greenway and Trails Program;
- Humboldt Bay Water Trails Program;
- Maryland Water Trails Program;
- North Carolina Water Trails Program;
- Northeastern Illinois Water Trails Program; and
- Pennsylvania Water Trails Program.

The primary mission of such regional or state water trails programs is to develop a statewide/regional system of water trails to complement the existing statewide/regional non-motorized terrestrial trail network. An outstanding example of a well-designed water trail program is the Chesapeake Bay Gateway Network, a partnership organization in the Chesapeake Bay Watershed (including portions of Maryland, Virginia, Delaware, Washington D.C., and Pennsylvania). The goal of the organization is to create a system of biking, water and walking trails and driving routes linking parks, wildlife refuges, historic communities, maritime museums, and waterways. The Chesapeake Water Trails mission⁴⁴ is, "To

⁴⁴ Chesapeake Bay Gateways Network (2000). Chesapeake Water Trails: A Vision. Available on the Internet at: <http://www.baygateways.net/pubs/watertrails.pdf>

establish interconnected water trails and important resource areas within the Chesapeake watershed through local grassroots initiatives coordinated across jurisdictional boundaries in the creation, management, and promotion of individual trail components." Water trail programs also promote environmentally responsible recreation and encourage resource awareness, stewardship, and conservation by water trail users.

Typically, state water trail programs assist with water trail funding, provide services to water trail development efforts, ensure that adequate, consistent information and planning methods are used, leverage public and private resources and target gaps in water trail formation. Organizations proposing to add their water trail to the system agree to adhere to common standards such as:

- water trail management planning;
- access identification;
- route planning;
- public outreach;
- signage, mapping, both in printed and internet formats; and
- trail stewardship.

In water trail programs where grant monies are available (such as the Chesapeake Bay Water Trails Program), funding is conditional on compliance with such trail standards. These common trail infrastructure and management elements create a connection between the user and the statewide system. According to the Chesapeake Bay Water Trails Vision, this connection is strengthened through involvement with trail maintenance, resource monitoring, educational activities and trail associations.

An Official "Oregon Water Trail" Designation

Several states including North Carolina and Pennsylvania have developed an official "State Water Trail Designation" to showcase premier water trails in their respective states. The intent of this designation is to ensure that all state designated water trails provide consistent information, quality experiences and meet paddler expectations. The trail designation process would include developing and adopting a set of standards to determine the readiness for acceptance of new paddling trails into the state system. All groups wishing to add their local water trail to the water trail system would need to meet the requirements included in this set of criteria.

The Oregon Water Trails Program should create an official "Oregon Water Trail" designation as was done in North Carolina, Pennsylvania and Chesapeake Bay Water Trail Programs. During the March 12, 2003 Water Trail Advisory Committee Meeting, committee members reviewed and proposed a set of minimum requirements for identifying which paddling routes might be considered for state designation in Oregon. Those criteria include:

- A nonprofit or local grass roots organization, public agency or water trail association responsible for management and maintenance of any facilities associated with the water trail.
- Support of the local government(s) in whose jurisdiction the water trail lies.
- A water trail management plan or management plan addressing recreational use of the waterway.
- Basic facilities including a safe place to put in, designated and signed

parking for motorized vehicles, sanitation facilities at designated access points and a safe place to take out.

- A published water trail guide for the water trail with a set of standard minimum information requirements.

Only those water trails meeting all these minimum requirements would be considered for official "Oregon Water Trail" designation. Since some water trails will be more developed with demonstrated success and public support than others, the state should consider establishing more than one category of "Oregon Water Trails" (e.g. small grants and large grants) to encourage new water trails to develop over time.

An Oregon Water Trail Advisory Group (with non-motorized boating management experience) could be created to provide technical assistance to state agency staff in addressing standards, coordinating promotion and user information, and for developing a website for the water trails program. The advisory group would be a subcommittee of the existing Oregon Recreational Trails Advisory Council.

In addition, the state will need to develop a nomination process for water trail sponsors to apply and determine readiness for official "Oregon Water Trail" designation. The decision to officially designate an "Oregon Water Trail" should be made by the Oregon Water Trails Advisory Group.

A Better Understanding Between Paddlers and Waterfront Property Owners

The water trails program should also be used to promote a better understanding of issues and concerns related to recreational

use of waterways between/among non-motorized boaters and waterfront property owners. This is of particular importance, since there has been no comprehensive, ongoing information campaign to educate non-motorized boaters about navigability issues by the state.

The following are a number of specific water trail program educational strategies that should be considered.

Strategy 1: Develop and distribute information to inform the paddling public of the primary causes of non-motorized boater/property owner conflict.

The Oregon State Marine Board's Report to the Joint Legislative Interim Committee on Navigability⁴⁵, identified a list of the most common problems on Oregon's rivers as reported by river users, federal managers, state and local providers, and law enforcement personnel. The top problems identified (in order of magnitude) include trash and litter, vandalism, trespassing, theft, public nuisance, illegal fires, public urination, and harassment. The water trails program should develop printed materials and public outreach strategies to inform non-motorized boaters of these primary causes of conflict. In addition, organized river clean-up events and adopt-a-water trail and water trail monitoring programs could be used to address many of these problems.

⁴⁵ Oregon State Marine Board (1998). Managing River Recreation: A Statewide Assessment of Needs for Boating Access, Facilities, Enforcement, and Education.

Strategy 2: Review existing "good boater" safety and user conduct information (e.g. materials from the Marine Board and Leave No Trace) and repackage these materials as a voluntary code of conduct for responsible water trail use (with emphasis on respecting the resource including the rights of adjacent landowners.)

While paddlers generally have a minimal impact on the environment while on the water, their use of the land for access, camping and picnicking can result in common recreational impacts. Typical problems include soil erosion and compaction, vegetation loss, disturbance of nesting wildlife, introduction of invasive species and improper disposal of trash and human waste⁴⁶.

It is common for water trail programs across the country to embrace the "Leave No Trace" code of outdoor ethics that promote the responsible use and enjoyment of the outdoors. Leave No Trace (LNT), Inc. is a non-profit organization dedicated to establishing a nationwide code of outdoor ethics by which to shape a sustainable future for natural lands. LNT skills and ethics publications are typically based on a set of seven principals including:

- Plan Ahead and Prepare;
- Travel and Camp on Durable Surfaces;
- Dispose of Waste Properly;
- Leave What You Find;
- Minimize Campfire Impacts;
- Respect Wildlife; and
- Be Considerate of Other Visitors.

⁴⁶ N. Settina and R. Kauffman. (2001). Water Trails. Parks and Recreation. National Parks and Recreation Association, September.

There was concern among steering committee members that, due to the diversity of paddling conditions across the state (e.g. waterways in mountains, deserts, rainforests and marine environments), a series of responsible water trail use messages and ethics may be required—not just a single generic message for all areas of the state.

Once completed, the responsible water trail messages and ethics should be included on all water trail maps, guides, signs, and public outreach efforts.

Strategy 3: Inform non-motorized boaters on the rules of the trail (e.g. where they can legally launch or access the water and shore on water trails, etc.).

As mentioned earlier, privately owned lands account for 76% of lands lying along the approximately 165 rivers and streams used for recreational boating and fishing in Oregon. As such, many water trails will be narrow ribbons of public access through a privately owned landscape (water trails are commonly referred to as ribbons of discovery). Water trail facilities, rules, maps and guides are specifically designed to provide the non-motorized boater with the ability to travel through this narrow ribbon of public access in a legal and responsible manner.

A non-motorized boater paddling on a water trail is analogous to an automobile driver traveling on an interstate highway. Along the course of the highway, a number of entrance and exit ramps are located for access and egress. Similarly, well marked, designed, and located public access points allow the water trail user a place to park their vehicles and legally (and

safely) launch or access the water and shore on water trails.

In addition, the highway includes a number of public rest stop areas where travelers can stretch their legs, picnic, and use restroom facilities. In the same manner, longer distance water trails may have public day-use areas with appropriate facilities at reasonable paddling intervals along the route. On multi-day trails, camping facilities will also be provided.

Finally, highway rules enable the driver safe passage down the highway corridor. Similarly, water trail maps and guides, signs (should minimize visual pollution, high maintenance, vandals, flood, targets, theft) and public outreach efforts will include an easy to understand description of the public's rights and limitations for use of the waterway for recreational purposes over the entire course of the water trail. In addition, maps and appropriate route markers will enable the user to determine their current position and the location of water trail facilities while on the trail corridor.

Strategy 4: Develop a web-based toolbox that describes a process for effectively engaging waterfront property owners in the water trails planning process.

Waterfront property owners may have a number of concerns, fears, and misconceptions and actual experiences regarding water trail development. Open communications throughout the water trails planning process can address landowner concerns and often dispel fears and misconceptions. It is important to recognize that landowner concerns are legitimate and must be met for any potential trail development that will take place on private lands. The water trails

program would develop a toolbox to assist in engaging landowners throughout the planning process for any water trail. The toolbox effort should also investigate tax strategies that could encourage recreational easements on private lands.

Facilitate the Development of Public Access To Waterways

During the regional issues workshops, recreation providers and other workshop attendees across the state consistently reported a need for more public access to waterways to accommodate the needs of an increasing number of paddlers in the state. Both providers and other workshop attendees made a case that additional public access is needed at the starting point, at reasonable intervals along, and at the final take out point of paddling routes throughout the state. Since paddling routes often cross multiple jurisdiction boundaries, there is a need for increased coordination and communication between land management agencies to properly address jurisdictional and easement issues associated with developing public water access and parking facilities.

The water trails program could be used to facilitate the development of public access to waterways for non-motorized boaters. The following are a number of specific water trail program strategies that should be considered to facilitate the development of public access to waterways.

Strategy 5: Assist public, non-profit or grass roots organizations to inventory their significant waterway corridors to identify water trail development opportunities.

According to the Chesapeake Water Trail Vision, the first step in any water trail planning effort is to conduct an objective

analysis of suitability and feasibility for a water trail. If the proposed water corridor is determined appropriate for establishing a water trail, the next step is to conduct a comprehensive water trail resource assessment. A water trail resource assessment should include an examination of items such as physical features, resource needs, flora/fauna, historic and cultural attributes, existing recreational facilities, scenery, educational opportunities, hazards, access, ownership, water quality/quantity, and potential day use, camping and interpretive sites.

It is essential that limited water trail program funding be directed towards those water trails that will provide paddlers with a safe and enjoyable experience. As a result, **the suitability and feasibility analysis and resource assessment are critical planning components** in identifying which water trail development projects are appropriate for development. Due to the technical expertise required for such analysis, water trail program staff should assist public, non-profit or grass roots organizations in conducting such critical analysis to **identify water trail development opportunities that are worthy of an investment of limited state resources.**

Strategy 6: Identify a "trail manager" for existing and proposed water trails.

The intent of this strategy is to identify a principal point of contact for each existing and proposed water trail. The trail manager does not have to be a managing entity, but must be easily accessible and responsive to questions and issues involving water trail planning, development and management—and must represent consensus of all the trail owners/managers.

Strategy 7: Develop a set of water trail site and facility design standards.

As mentioned earlier, the intent of establishing an official "Oregon Water Trail Designation" is to ensure that all state designated water trails provide consistent information, quality experiences and meet paddler expectations. The Oregon Water Trail Program and the Oregon Water Trails Advisory Group should develop a formally recognized set of water trail development standards suitable for Oregon's natural environment.

Water trail development standards should define consistent standards for water trail improvements, such as site location and spacing, campsites, launching/landing sites and rest areas planned for the water trail. Due to the wide variety of paddling experiences and settings available in Oregon (e.g. a variety of challenge opportunities on whitewater, moving water, flat water and tidewater in a variety of settings from wilderness to urban), a range of standards should be developed that reflect Oregon's diversity and the diverse interests of paddlers. For example, it would be appropriate for more minimal facility development standards for water trails in wilderness settings where paddlers seek a more self-reliant experience testing their outdoor skills⁴⁷. On the other hand, more hardened, centralized facility development standards would be appropriate on water trails in high-use urban settings where paddlers are looking for the convenience of facility development and the user may be less skilled in outdoor

⁴⁷ The intent of the National Wild and Scenic River designation is to preserve the natural character of the river as much as possible. The desired experience is natural or primitive and the goal for overnight camping is to minimize evidence of prior or routine use.

travel. The standards should serve strictly as a guideline for the design and development of water trails and should be adapted to local environmental and site conditions. The appropriate level of facility development should create a balance between user desires and the need to manage the impacts of use.

Strategy 8: Encourage interagency partnerships to address jurisdictional and access issues and better share resources among agencies when water trails cross jurisdictional boundaries.

Recreation providers and other workshop attendees consistently reported that successful water trail development and management relies on good coordination and communication between trail organizations, federal, state, and local agencies, tribal governments and other stakeholders. In many regions, providers and user groups stressed the need for regional coordination and information sharing between agencies for water trail planning, operations and management.

Regional water trail coordination and communication should also encourage:

- Adopting consistent design, construction and maintenance standards;
- Developing and implementing directional and regulatory signing consistency;
- Developing regulatory and law enforcement consistency;
- Sharing limited trail maintenance resources and equipment;
- Addressing trail capacity issues;
- Addressing user conflict (e.g. motorized and non-motorized boaters);

- Developing and distributing trail information and other promotional materials;
- Identifying water trail grant funding priorities; and
- Connecting existing trails where opportunities exist.

The Oregon Water Trails Program and the Oregon Water Trails Advisory Group should develop and implement a regional water trails planning forum process to promote interagency coordination in developing the Oregon Water Trail System. Regional boundaries will be determined through consensus among recreation providers in a specific geographic area of the state.

Provide User Friendly, Easy-To-Find Information Resources

During the regional issues workshops, recreation providers made a case that trails are a key economic development tool in many areas of the state. Water trails as a recreation destination provide rural communities with income to local boat liveries and outfitters, motels and bed and breakfasts, restaurants, grocery stores, gas stations and shops.⁴⁸ For example, an Oregon study of guides and packers⁴⁹ indicates that in 1986, the outfitter/guide industry in Oregon (for river, land and marine activities) had a direct impact of \$42.5 million. This resulted in a total economic impact of \$300 million to the overall Oregon economy.

⁴⁸ Water Trails For Wisconsin. University of Wisconsin Extension.

⁴⁹ Bureau of Land Management (1987). Recreation 2000. Washington, D.C. U.S. Department of the Interior, Bureau of Land Management.

Both recreation providers and other workshop attendees made a strong case for developing a central web-based repository for interested non-motorized boaters to get information about existing flat water, moving water and whitewater paddling opportunities available throughout the state of Oregon. The site should be designed for trip planning and include information about water access locations, permits required, level-of-difficulty, current water conditions, navigational maps and descriptions of the type of experience visitors can expect. Such information will assist non-motorized boaters to make informed river use decisions on their trip. River guidebooks can also be used as marketing tools for drawing paddlers to a particular water route.

Specific water trail program strategies that should be considered to facilitate the development of easy-to-find information resources for water trails include the following.

Strategy 9: Develop a statewide website to house general information about the Oregon water trails program and information about trails with "Oregon Water Trail" designation (geographic location, length of trip, level-of-difficulty, and so forth).

A number of water trail programs (Maryland, North Carolina, Chesapeake Bay) use a central program website to disseminate system-wide water trails information (e.g. planning, design, and user information). Those programs with an official water trail designation typically feature user information about trails accepted into the statewide/ regional system (an additional incentive for becoming a part of the system). User

information typically includes a system-wide map, a general description of each water trail, and safety-related information about non-motorized boating in the state. Such information assists users to gain basic information about the paddling route and to determine if they have the appropriate set of skills to negotiate the water trail route. Web links are included to managing agency websites to allow users to access more detailed information about specific water trails.

Strategy 10: Develop a set of minimum standards for water trail providers to share site-specific information and a map template for posting water trail maps online.

It would not be reasonable for a statewide water trail program to be responsible for presenting and updating site-specific water trail information on a central website over time. To provide consistent site-specific water trail information for each official "Oregon Water Trail" the Water Trail Program should develop a set of minimum standards for water trail providers to use to present water trail information to the boating public. Minimum requirements would include items such as route descriptions, water trail guides, brochures, maps, rules and regulations, permits required, trail closure information, safety information, emergency response information, listings of local livery service providers (equipment rentals) and camping/lodging information.

As previously mentioned, a non-motorized boater paddling on a water trail is analogous to an automobile driver traveling on an interstate highway. High-quality trail maps and appropriate route markers are essential to enable the water trail user to determine their current position and the location of water trail facilities while on the

trail corridor. Each website should include a downloadable map with sufficient detail to allow users to navigate the entire length of the water trail corridor.

Strategy 11: Develop minimum-standard requirements for water trail guides⁵⁰, water trail informational brochures⁵¹, and water trail signage.

The Chesapeake Bay Network has developed an outstanding set of graphic design guidelines for their Water Trail Network⁵². The guidelines can serve as a model to enhance the identity of the network as a key tool for exploring, learning about, enjoying and conserving Oregon's waterways. This is achieved by developing a degree of consistency throughout the network, while respecting the diversity of the unique characteristics of individual water trails. The guide provides models for effective graphic design and requirements and options for use of the "Oregon Water Trails" logo, fonts and design principals in publications, signage

⁵⁰ The main purpose of a Water Trail Guide is to assist trail travelers during their trip. Water Trail Guides are multiple-page documents that typically include a trail map and describe the route of the trail. Water Trail Guides may also list campsites and other facilities and other information directly pertinent to the trail such as information on low-impact camping, stewardship, permits and equipment required and user safety.

⁵¹ The main purpose of a Water Trail Informational Brochure is to serve as a promotional tool to attract new users to a Water Trail. Water Trail Informational Brochures are one-page multiple-fold documents that typically include a trail map, description of trail facilities and a brief description of the route.

⁵² Gateway Network Graphic Style Manual. Available on the internet at: <http://www.baygateways.net/graphicstandards.cfm>

and other communications. The Oregon Water Trail Program should develop a similar guide to graphic standards, an official "Oregon Water Trail" logo, and signage examples for placement on the statewide water trails program website.

Providing Safety-Related Information, User Education and Outreach

Both recreation providers and other workshop attendees stated that there is a need to adequately inform people of conditions they may encounter on Oregon's waterways before actually getting on the water. In addition, search and rescue efforts on isolated river stretches are often very difficult, time consuming and costly. There is a need for emergency response training to ensure that the necessary skills and knowledge are in place to avoid and properly respond to water-related emergency situations. To proactively address this problem, we need to educate people before getting on the water. The following are a number of specific water trail program strategies that should be considered to facilitate the provision of safety-related information, user education and outreach.

Strategy 12: Develop a universal non-motorized boating difficulty rating scale.

The Water Trail Program should research existing universal non-motorized boating difficulty rating scales (for whitewater, flat water and moving water conditions) for modification and use in Oregon. The scale(s) should include individual descriptions for the inherent dangers associated with the use of such types of waterways and include this rating in all water trail brochures, guides, maps and on the State Water Trails website. Since river

conditions change due to flooding or trails are closed due to tree snags, the applicability of rating scale information will always be subject to current water conditions.

Strategy 13: Develop a set of basic skill requirements for non-motorized boating.

The Water Trail Program staff should research basic skill requirements for non-motorized boating for each of the rating types included in the universal non-motorized boating difficulty rating scale and adapt them for use in Oregon. This basic skill requirement information should be included in all water trail brochures, guides, maps and on the State Water Trails website.

Strategy 14: Create a regional forum process to encourage regional water trail safety plans.

The Oregon Water Trails Program will create a regional forum process (including input from state and federal agencies, local recreation providers, State Police, County Sheriffs Departments, Coast Guard, retailers and paddling organizations) to encourage the development of regional safety plans for designated "Oregon Water Trails" to leverage limited resources. Again, regional boundaries will be determined through consensus among recreation providers in a specific geographic area of the state.

Strategy 15: Develop appropriate emergency response standards.

The Oregon Water Trails Program will work with emergency service providers to develop appropriate response standards for designated "Oregon Water Trails."

Strategy 16: Enhance paddling skills training.

The Oregon Water Trails Program will identify organizations currently providing paddling skills training in the state and develop partnerships to increase the public's access to paddling certification programs already in place.

Strategy 17: Develop an "Educate-the-Paddler Program."

The Oregon Water Trails Program will develop an "Educate-the-Paddler Program" to encourage volunteers to distribute safety and stewardship information at designated "Oregon Water Trail" access locations. This program could be tied into existing "SOLV" and "Down by the Riverside" programs.

Strategy 18: Develop a "Life Jacket Loan Out Program."

The Oregon Water Trails Program will, where applicable (e.g. on loop trails close to population centers), create a free-of-charge "Life Jacket Loan-Out Program" to encourage each person to wear a personal flotation device while using designated "Oregon Water Trails" (e.g., the Leaburg Fire District life jacket loan-out program on the McKenzie River). This could be a component of the Educate-the-Paddler Program or a reward for training.

A Dedicated Funding Source

The key to creating an "Oregon Water Trail System" is establishing a stable funding source for water trail development. During the issues workshops, recreation providers and other workshop attendees throughout the state strongly made a case for a designated funding source for water trail facility development. Currently, there are grant programs funding motorized and non-motorized terrestrial trail projects and a motorized watercraft facility grant

program, but no resources specifically designated for non-motorized watercraft facility development. As a result, the need for a funding source for water trail development was identified as a top statewide water trail issue.

After the need for funding was identified, OPRD added a series of questions in the 2004 Oregon Statewide Non-motorized Boater Survey to gather information about non-motorized boaters willingness to pay for water trail development and maintenance. The survey questions were designed to test the willingness of those individuals who derive direct benefit from water trails to invest in their chosen activity, rather than asking all state taxpayers—even those who would never use water trails—to pay more. The following results are taken from the survey report.

The survey asked non-motorized boaters "How much would you be willing to pay each year to use water trails if money was used to develop and maintain water trails in Oregon?" Starting with \$25, interviewers offered smaller and smaller amounts until the respondent agreed to a figure. The results are as follows:

\$25 per year	53%
\$20 per year	15%
\$15	10%
\$10	7%
\$5	4%
Not be willing to pay anything	11%
Sampling error for this question is ± 5%	

Eighty nine percent of non-motorized boaters reported that they would be willing to pay a yearly fee for water trail

development and maintenance. More than half of non-motorized boaters would be willing to pay \$25 per year to use water trails. If a \$25 annual fee were instituted, it would generate over \$4.6 million annually just from Oregon households reporting use of non-motorized watercraft in the last year (based on survey estimates of 185,200 households in the state having one or more persons participating in non-motorized boating).

When asked what method of payment they preferred, those respondents who are willing to pay a fee are almost equally split among the four options offered: a voluntary boater pass, a parking fee at the put-in, an annual boat registration, and an access fee at launch sites:

Voluntary non-motorized boater pass	27%
Parking fee at boat access points	26%
Annual non-motorized boat registration	23%
Ramp or access fees at launch sites	21%
Sampling error for this question is ± 6%	

In the past, state agencies have run into strong opposition to proposals for establishing a non-motorized boater registration fee system in the state of Oregon. The results of the 2004 Oregon Statewide Non-motorized Boater Survey indicate that this strong opposition is not representative of the opinions of the general Oregon non-motorized boating population.

A more detailed discussion of the history of non-motorized boat registration in Oregon

and an analysis of non-motorized boat registration in other states is included in the 2001 Oregon State Marine Board report entitled, *Non-motorized Boat Registration: An Assessment of Programs in Other States*⁵³.

Using a Dedicated Funding Source

As with other water trail programs in the country, a certain portion of the user-fees would be earmarked for administration of the water trails program for dedicated staff to provide services to water trail development efforts, ensure that adequate, consistent information and planning methods are used, leverage public and private resources and target gaps in water trail information. Many of the administrative expenses would be associated with program needs previously identified in this chapter. In addition, a portion of the user fees would be used to administer the centerpiece of the water trails program—the water trails grant program. Finally, an amount would be kept in reserve to deal with emergency program needs.

The majority of user-fees collected would be directed towards the development of a statewide system of water trails to complement the existing statewide non-motorized trail network. An OPRD-administered "Oregon Water Trails Grant Program" could be created for the purpose of administering and awarding grant funding towards the creation of a statewide system of water trails. The remainder will be used to fund staff to develop the program's structure, operating principles, website, coordination with other

⁵³ Jeanine Stier (2001). *Nonmotorized Boat Registration: An Assessment of Programs in Other States*. Oregon State Marine Board.

state agencies, and keep a solid foundation under the program.

The following organizations would be eligible for water trail grant funding through the proposed Oregon Water Trails Grant Program:

- Non-profit organizations that are registered with the State of Oregon as a non-profit, will name a successor at the time of any change in organizational status, and which does not discriminate on the basis of age, disability, gender, income, race, and religion.
- Municipal agencies (cities, towns, special park and recreation districts).
- State agencies (Oregon Parks and Recreation Department, Oregon State Marine Board, Oregon Department of Transportation, Oregon Department of Fish & Wildlife, Oregon Department of Forestry, and Oregon Department of State Lands).
- Federal government agencies (U.S. Forest Service, National Park Service, Bureau of Reclamation, U.S. Army Corps of Engineers, Bureau of Land Management, U.S. Fish & Wildlife Service).
- Other government entities (Indian tribal governments, regional governments, port districts).

As with the Chesapeake Bay Water Trail Program, Oregon Water Trails Grant Program funding would be directed through local grassroots initiatives coordinated across jurisdictional boundaries in the creation, management, and promotion of individual trail components. Grant funding would be conditional on compliance with system-wide

management planning, access identification, route planning, public outreach, signage, mapping and trail stewardship standards. This program approach is also similar to the successful National Scenic Byways Program.

Projects eligible for Oregon Water Trails Grant Program funding would include:

- Water trail management planning;
- Water trail land acquisition;
- Water trail facility development (new and additional);
- Water trail maintenance;
- Water trail operations and maintenance equipment;
- Water trail information resources (e.g. guides, informational brochures, maps, sign projects, websites);
- Water trail enforcement of rules/regulations; and
- Water trail safety.

Grant funding would be available for designated "Oregon Water Trails," new water trail projects requesting grant funding to meet specific nomination criteria requirements, and for land banking for water trail put-in, rest areas and take-out parcels (when such parcels have been identified in a water trail management plan). It is important to note that water trail funding would be available for a wide variety of water trail types ranging from minimal facility development in wilderness settings to more hardened, centralized facility development in high-use urban settings. For example, a white-water trail on a Wild and Scenic River might have hardened put-in and take-out facilities with little facility development between these points.

An early administration task would be to develop an Oregon Water Trail Grant Program evaluation process including a set of evaluation criteria for rating and identifying projects to receive funding. The evaluation criteria should be directly tied to priorities identified in the Statewide Water Trails Plan. As with a number of other OPRD-administered grant programs, the previously mentioned Oregon Water Trail Advisory Group (with non-motorized boating management experience) would be responsible for evaluating grant proposals and determining funding recipients in a fair and impartial manner.

Since the Oregon Water Trails Program will ask non-motorized boaters to directly invest in the creation of a statewide water trail network, the program must be able to quickly demonstrate a return on investment by putting new facilities on the ground. Therefore, an annual report card should be established to let non-motorized boaters know how their fees are being used in a timely and responsible manner.

Next Steps

This chapter concludes with a set of critical initial steps that must be undertaken in order to move the Oregon Water Trails Program from concept to reality. These steps include:

Step 1

Holding a discussion among officials from state agencies including the Marine Board, Department of State Lands, Department of Fish & Wildlife and Oregon Parks and Recreation Department, the Governor's Office, appropriate federal agencies, tribes, private property interests, recreation groups and key members of the state legislature to develop a legislative strategy for creating an Oregon Water Trails Program administered

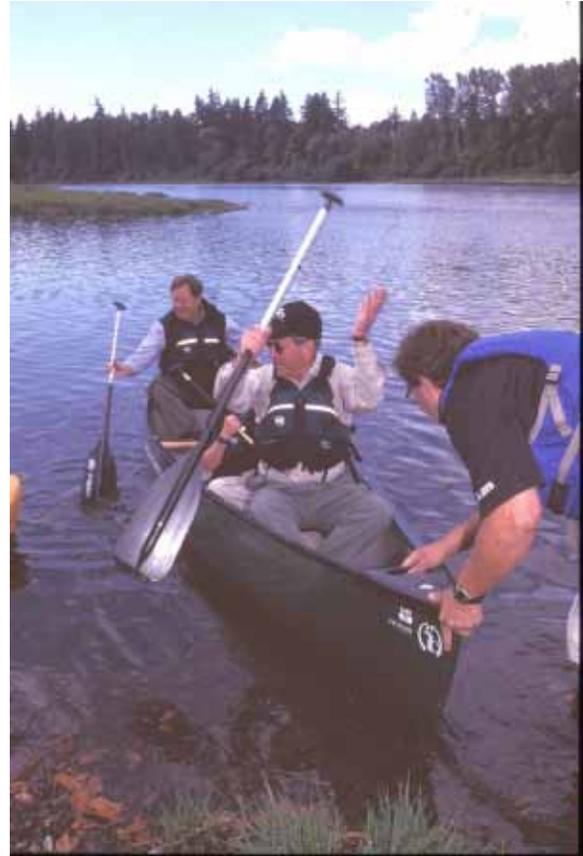
by the Oregon Parks and Recreation Department.

Step 2

Pursuing a dedicated funding source for statewide water trail planning and development. This effort will involve:

- Identifying non-motorized boating funding programs or related programs successfully used in other states and examine their applicability in the state of Oregon.
- Investigating potential legal questions associated with using various non-motorized boating funding models in the state.
- Distributing benefits of water trails information to policymakers, local communities, public works departments, public recreation providers, planners, business owners and leaders, chambers of commerce, and developers.
- Working with the state legislature to establish necessary legislation for a user-based fee collection program.

to accommodate an OPRD-administered water trails program.



Step 3

Properly staffing the Oregon Water Trails Program within the Oregon Parks and Recreation Department.

Step 4

Creating an Oregon Water Trails Advisory Group within the Oregon Recreational Trails Advisory Council to provide technical assistance, address standards, coordinate promotion and user information, and a website for the statewide system of trails.

Step 5

Revising appropriate Oregon Administrative Rules pertaining to non-motorized trail use

APPENDICES

APPENDIX A: TRAIL DESIGN, MAINTENANCE AND ACCESSIBILITY PUBLICATION LIST

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
An Axe to Grind: A Practical Ax Manual	1999	Bernie Weisgerber and Brian Valchowski. USDA Forest Service and Federal Highway Administration, U.S. Department of Transportation.	A practical and detailed handbook about axes and their historic and continuing usage. Describes types and patterns of axes and adzes, with many photos and illustrations. Shows how to hang (rehandle) and sharpen axes. Describes proper ax usage for tree felling, limbing, bucking, splitting and hewing. Lists procurement sources and selected references.	http://www.fhwa.dot.gov/environment/fspubs/99232823/index.htm	Phone: 406.329.3900
Appalachian Trail Design, Construction and Maintenance - 2nd Edition	2000	William Birchard, Jr., Robert Proudman and the Appalachian Trail Conference	The second edition of the definitive handbook on trail work including standards and technical details of trail design, construction and maintenance.	No	http://www.atctrailstore.org/catalog/iteminfo.cfm?itemid=111&compid=1
ATV Utility and Gravel Trailer	1997	Brian Vachowski: Project Leader - USDA Forest Service, Technology and Development Program	The Missoula Technology and Development Center (MTDC) has construction drawings available for a rugged, steel trailer designed to be pulled behind an all-terrain vehicle. The trailer has been used on the Palouse Ranger District, Clearwater National Forest, over the past several years. It has proven invaluable for hauling gravel and supplies for trail work on their ATV trail system. It should be equally well suited for other project work like hauling supplies on fires, for fencing projects, or wherever an ATV is a safe and appropriate tool to help get the job done.	http://www.fhwa.dot.gov/environment/fspubs/97232310/index.htm	No

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Backcountry Sanitation Manual	2001	The Appalachian Trail Conference	This 220-page manual addresses the management of human waste in the backcountry. Proper management of human waste protects hikers, the environment and trail maintainers. The manual was created in the belief that all remote recreation areas will benefit from an expanded discussion of backcountry sanitation. It also introduces a new, simpler and often safer method of composting human waste in the backcountry- the moldering privy.	http://www.appalachiantrail.org/protect/pdfs/Sanitation_Manual_rev.pdf	http://www.atctrailstore.org/
Boulder Buster - Breaking Rocks Without Explosives	1998	Bill Killroy and Jim Tour. USDA Forest Service, Technology and Development Program	Describes using the Boulder Buster rather than explosives to break rocks larger than 2 meters in diameter or rock walls in 2-meter lifts. The Boulder Buster uses a cartridge resembling a shotgun shell and a column of liquid to generate a high-pressure wave. The wave fractures the surrounding structure. The Boulder Buster does not produce flyrock, so operators can be 25 meters away when they pull a lanyard to fire the device. Because the Boulder Buster is not an explosive device, operators do not require explosives certification. No special transportation or storage regulations apply. The Boulder Buster is a commercial product made in South Africa. During Forest Service field tests, the Boulder Buster was used to break a large rock that had fallen alongside a roadway, break rocks to lower spillways on two dams, and break a rock beneath a bridge where explosives could not have been used without damaging the	http://www.fhwa.dot.gov/environment/fspubs/98672840/index.htm	No

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Building Better Trails: Designing, Constructing and Maintaining Outstanding Trails	2002	International Biking Association	bridge. Building Better Trails is an essential resource for mountain bikers, land managers and other trail enthusiasts. The 72-page book teaches readers how to build sustainable trails by offering step-by-step instructions for trail design, construction and maintenance. The book also provides trail building resources, and includes a section on a new trend: building challenging, technical trails that are environmentally sustainable.	http://www.imba.com/resources/trail_building/trailbuilding_basics_index.html	Phone: 303.545.9011 Email: webmaster@imba.com
Building Crusher Fines Trails	2002	Lois Bachensky, USDA Forest Service on American Trails Website	How to use Crusher Fines (finely crushed compacted rock) as a trail surface material.	http://www.americantrails.org/resources/railbuilding/BuildCrushFinesOne.html	No
Camping Impact Management on the Appalachian National Scenic Trail	2003	Jeffrey Marion-The Appalachian Trail Conference	The report addresses the management of overnight use and associated impacts along the Appalachian National Scenic Trail (A.T.) This effort was initiated in response to agency and Appalachian Trail Conference (ATC) management concerns regarding the resource and social impacts of increasing overnight visitation, particularly in high use areas. Report findings are primarily based on a series of on-site investigations at 17 problem areas selected by A.T. clubs and ATC staff.	http://www.appalachiantrail.org/protect/pdfs/AT_Camping_Impacts.pdf	http://www.atctrailstore.org/catalog/iteminfo.cfm?itemid=111&compid=1

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Cattle Guards for Off-Highway Vehicle Trails	1998	USDA Forest Service - Brian Vachowski: Project Leader	Designs for trail cattle guards suitable for trails used by ATV's, motorcycles, mountain bikes and hikers that are successfully used on U.S. Forest Service lands.	http://www.fhwa.dot.gov/environment/fspubs/98232826/index.htm	http://www.fhwa.dot.gov/environment/rec/trails/trailpub.htm
Crosscut Saw Guards	1997	George Jackson: Project Leader - USDA Forest Service, Technology and Development Program	Crosscut saws are an efficient tool for cutting timber, but they can represent a safety hazard if they are carried improperly. The Washington Office staffs in Recreation, Fire and Aviation, and Engineering asked the Missoula Technology and Development Center (MTDC) to recommend ways to safely transport crosscut saws. The primary objective is to protect personnel and pack stock from accidentally contacting the saw's cutting teeth.	http://www.fhwa.dot.gov/environment/fspubs/97232341/index.htm	No
Floating Trail Bridges and Docks	2002	Jansen Neese, Merv Erickson and Brian Vachowski - USDA Forest Service and Federal Highway Administration, U.S. Department of Transportation.	The Missoula Technology Development Center evaluates the use of floating bridges for trail crossings in very wet areas. The report includes information about floating docks, floating bridge designs, anchorage systems, and devices that allow the dock to adjust itself to varying water levels.	http://www.fhwa.dot.gov/environment/fspubs/02232812/index.htm	http://www.fhwa.dot.gov/environment/rec/trails/trailpub.htm
Florida Greenways and Trails System Design Guidelines for Unpaved and Paddling Trails.	1998	Florida Recreational Trails Council	Guidelines for the design and development of unpaved trails in the Florida Greenways and Trails System.	http://www.dep.state.fl.us/gwt/community/refguide/pdf/appende.pdf	Phone: 850.245.2052

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Geosynthetics for Trails in Wet Areas	2000	Steve Monlux and Brian Vachowski - USDA Forest Service and Federal Highway Administration, U.S. Department of Transportation.	Geosynthetics are synthetic materials that are used with soil or rock in many types of construction. They perform three major functions: separation, reinforcement, and drainage. This report describes several types of geosynthetics; explains basic geosynthetic design and utilization concepts for trail construction in wet areas; and provides geosynthetic product information. Detailed product specifications and procurement sources are listed.	http://www.fhwa.dot.gov/environment/fspubs/00232838/index.htm	http://www.fhwa.dot.gov/environment/rec/trails/trailpub.htm
Gravel Bags for Packstock	1995	Brian Valchowski. USDA Forest Service, Technology and Development Program.	The Missoula Technology and Development Center was asked to develop plans, and fabricate and test fabric bags that could be mounted on packsaddles. MTDC worked from a design developed in the 1970's by retired Wallowa-Whitman National Forest employee Ivan Carper. Missoula smokejumper Tony Petrilli fabricated the bags for MTDC in 1994 and they were tested on a partnership turnpike construction project on the Rocky Mountain Ranger District of the Lewis and Clark National Forest that same year. MTDC also tested and evaluated some bags that closely followed the original Carper design built by the Professional Wilderness Outfitters Association (PWOA), and some off-the-shelf fruit picking bags. Included in this report are test results, recommendations, a design pattern, and some alternatives.	http://www.fhwa.dot.gov/environment/fspubs/95232840/index.htm	Phone: 406.329.3900

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Green Trails: Best Practices for Environmentally Friendly Trails	2004	Metro Parks and Greenspaces	This publication is intended to provide guidelines for environmentally friendly or green trails that support the goals of Metro's Greenspaces Master Plan. Those goals seek to promote an interconnected system of parks, natural areas, trails and greenways for fish, wildlife and people throughout the Portland metropolitan region and still maintain biodiversity and protect water quality. The guidelines are not standards; they are recommendations to complement existing standards and guidelines adopted by local parks and watershed groups in the region.	http://www.metro-region.org/library_ps.cfm?id=5	Phone: 503.797.1850
Greenways: A Guide to Planning, Design, and Development	1993	Charles Flink, Kristine Olka and Robert Searns	A "soup-to-nuts" guide to the practical issues involved in planning and designing greenways and trails. It offers guidance on the overall process of greenway creation while detailing each step along the way. Explains topics such as land acquisition and trail design, development and maintenance, safety and liability, public relations and mapping, organizing volunteers and managing multi-user conflicts.	No	http://www.amazon.com/exec/obidos/tg/detail/-/1559631368/002-4882275-7580031?v=glance
Hand Drilling and Breaking Rock for Wilderness Trail Maintenance	1984	Dale Mrkich and Jerry Oltman - USFS Technology and Development Program	Percussive or hammer drilling is most often used to drill rock. In Forest Service trail work, gasoline-powered hammer drilling is common. Hand drilling is sometimes necessary however, because machines cannot be used. This manual describes elementary tools and techniques for hand drilling rock.	http://www.fhwa.dot.gov/environment/fspubs/84232602/index.htm	No

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Handtools for Trail Work	Revised, 1997	William Hutcheson, Dale Mrkich and Jerry Oltman - USDA Forest Service and Federal Highway Administration, U.S. Department of Transportation.	Describes the handtools commonly used by Forest Service trail crews for sawing, chopping, grubbing, digging and tamping, brushing, pounding and hammering, lifting and hauling, peeling and shaping, sharpening, and rehandling. Includes many illustrations of the tools.	http://www.fhwa.dot.gov/environment/fspubs/88232601/index.htm	http://www.fhwa.dot.gov/environment/rec/trails/trailpub.htm
Lightly on the Land	1996	Robert Birkby, Student Conservation Association, Inc.	A 267-page comprehensive trail construction guide compiled by the Student Conservation Association (SCA) designed for trail crew leaders and crew members of SCA crews. Chapter titles include Trails, Crew Leadership, Camping with Work Crews, Safety, Tools, Crosscuts and Chain Saws; Measuring Distances, Grades, and Heights; Trail Survey and Design, Trail Construction, Trail Drainage, Trail Maintenance, Building with Rock, Felling and Bucking, Building with Timber, Bridge Construction, Revegetation and Restoration, Rigging, Knots, and History of the SCA Work Skills Program.	No	http://www.thesca.org/res_trail.cfm
Logical Lasting Launches: Design Guidance for Canoe and Kayak Launches	2004	Caroline Wolf, Student Conservation Association. National Park Service Rivers, Trails & Conservation Assistance Program.	This guide provides design guidance for developing canoe and kayak launches for a variety of access sites. Case examples, designs, and photos of launch sites are included.	http://www.nps.gov/rctca/helpfultools/ht_launch_guide.html	No

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Managing Degraded Off-Highway Vehicle Trails in Wet, Unstable, and Sensitive Environments	2002	Kevin Meyer - National Park Service Rivers, Trails, and Conservation Assistance Program, USDA Forest Service and Federal Highway Administration, U.S. Department of Transportation.	A 48-page report describing techniques that have been used to manage off-highway vehicle trails in Alaska. The report explains why off-highway vehicle trails become degraded and suggests management options to prevent degradation. It also reports the results of test comparing different options for hardening off-highway-vehicle trails. Appendixes provide installation instructions for porous pavement panels and a list of locations where trail-hardening systems are being tested in cooperation with the National Park Service Rivers, Trails, and Conservation Assistance program.	http://www.fhwa.dot.gov/environment/fspubs/02232821/index.htm	http://www.fhwa.dot.gov/environment/rec/trails/trailpub.htm
Mechanized Trail Equipment	1996	Ralph Gonzales - USDA Forest Service. San Dimas Technology and Development Center	This 94-page report documents an effort to catalog mechanized trail maintenance and construction equipment. The publication provides information on mechanized trail equipment, specifically earthmoving and hauling machinery. Earthmoving equipment includes excavators, dozer, and trail machines with a width not exceeding 72 inches. Hauling equipment includes motorized wheelbarrows, totters, and ATVs. Specifications and line drawings or pictures are provided to give the user information about the equipment.	http://www.fhwa.dot.gov/download/hep/fspubs/pdf96231207.pdf	No
Mountain Bike Accessories For Trail Work	1998	Brian Vachowski: Project Leader - USDA Forest Service and Federal Highway Administration, U.S. Department of	It should come as no surprise that mountain bike enthusiasts who also maintain trails have seen the benefits of using mountain bikes for trail work. This case study shows how the Seward Ranger District on the Chugach National	http://www.fhwa.dot.gov/environment/fspubs/98232812/index.htm	http://www.fhwa.dot.gov/environment/rec/trails/trailpub.htm

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
		Transportation.	Forest uses mountain bikes. In addition, it describes how the Missoula Technology Center worked with the District trail crews to develop a bicycle-mounted chain saw carrier and evaluate several single-wheeled bicycle cargo trailers.		
North American Water Trails. A Guide to Establishing and Maintaining Recreational Waterways on Fresh and Salt Water. Second Edition	2000	David R. Getchell, Sr. A Publication of North American Water Trails. Inc.	The publication includes 3 sections. The first is a how-to guide covering the five steps in setting up a water trail: planning, promoting, funding, organizing, and operating. The second section has a listing and description of many of the existing North American water Trails. The third section lists resources that may prove useful to project managers.	No	NAWT RR1, Box 3358 Appleton, ME 04862
Off-Highway Motorcycle & ATV Trails Guidelines for Design, Construction, Maintenance and User Satisfaction. 2nd. Edition	1994	Joe Wernex. Published by the American Motorcyclist Association.	This book was written to aid planners in the development of trail bike trails in a mountainous forest environment. However, others have indicated that the techniques described have broad application and are useful in developing trails in many environments and for ATV recreation as well. The author's goal was to provide a tool that would help public lands managers meet their responsibility to provide high quality outdoor recreation opportunities for trail bike enthusiasts - on an equitable basis with other trail users.	http://www.nttp.net/resources/motors/WernexReport.pdf	Phone: 641.856.1900

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Oregon Bicycle and Pedestrian Plan: An Element of the Oregon Transportation Plan	1995	Oregon Department of Transportation	The Oregon Bicycle and Pedestrian Plan offers the general principals and policies that the Oregon Department of Transportation (ODOT) follows to provide bikeways and walkways along state highways. It also provides the framework for cooperation between ODOT and local jurisdictions, and offers guidance to cities and counties for developing local bicycle and pedestrian plans.	http://www.odot.state.or.us/techserv/bikewalk/planimag/toc-imag.htm	http://www.odot.state.or.us/techserv/bikewalk/obpplanold.htm
Pedestrian Facilities Guidebook: Incorporating Pedestrians into Washington's Transportation System	1997	Otak, Inc. Sponsored by the Washington State DOT, County Road Administration Board, & the Assoc. of Washington Cities	As part of the planning process that culminated in the development of the 1994 Transportation Policy Plan for Washington State, the subcommittee responsible for creating the Pedestrian Policy Plan recommended that the Washington DOT coordinate with other state and local jurisdictions to develop a pedestrian design manual that recommends appropriate design practices for pedestrian facilities and provides common sense approaches to improving the pedestrian environment.	http://ntl.bts.gov/lib/12000/12200/12220/12220.pdf	Phone: 360.705.7258 Email: Reeves@wsdot.wa.gov
Personal Backpacks for Carrying a Chain Saw	2001	Bob Beckley: USDA Forest Service, Technology & Development Program, Missoula, Montana	Describes field tests of backpacks designed to carry chain saws. Two models were found to be satisfactory for field use: the MacKenzie "Mack" chain saw backpack manufactured by Frontline Safety Gear of Cook, MN, and the Epperson chain saw backpack manufactured by Epperson Mountaineering in Libby, MT. The main concern identified by the Missoula Technology and Development Center was the possibility that either pack	http://www.fhwa.dot.gov/environment/fspubs/01232334/lc01232334.htm	Phone: 406.329.3978

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
			would be contaminated by fuel and oil from the saw or the fuel and oil containers.		
Natural Surface Trails by Design: Physical and Human Essentials of Sustainable, Enjoyable Trails	2004	Troy Scott Parker	Explains the real keys to all types of natural surface (soil, rock, crushed stone) trails. For any trail use or location, it builds the critical foundation of a system of thought that can generate a sustainable, enjoyable trail.	No	http://www.natureshape.com/pubs/nstbd.html
Off-Highway Vehicle Trail and Road Grading Equipment	1998	Brian Vachowski and Neal Maier - USDA Forest Service and Federal Highway Administration, U.S. Department of Transportation.	Describes light-duty grading equipment that can be pulled by an all-terrain vehicle to maintain wide trails and roads. Three pieces of equipment were tested on a sandy motorcycle trail and a trailhead access road in the Francis Marion National Forest in South Carolina: a modified trail rock rake, a trail drag, and a commercial product, the Ultra Light Terrain Grader. All three pieces of equipment removed the wash boarded "whoop-de-doo" in the sandy soil. Narrower equipment would have worked better on trails. The equipment worked very well on roads and offers an affordable alternative to heavier graders for light-duty use. Other trail-grading accessories and drags for small tractors are also described.	http://www.fhwa.dot.gov/environment/fspubs/98232837/index.htm	http://www.fhwa.dot.gov/environment/rec/trails/trailpub.htm

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Park Guidelines For Off Highway Vehicles (OHVs): A Resource Guide to Assist in the Planning, Development, Enhancement, and Operation of OHV Recreation Facilities	2002	George Fogg in association with the National Off-Highway Vehicle Conservation Council.	The 196-page document summarizes a practical approach to a multifaceted effort required to bring about a new or revised off-highway vehicle park project and keep it in good condition throughout its lifespan.	No	Phone: 800.348.6487 Email: trailhead@nohvcc.org
Planning Trails With Wildlife in Mind: A Handbook for Trail Planners	1998	Trails and Wildlife Task Force, Colorado State Parks, Hellmund Associates	A 56-page handbook for trail planners and builders to better balance the benefits of creating trails and being stewards of nature, especially wildlife.	http://www.rmc.ca.gov/projects/guidance_recipients/trailshandbook.pdf	Phone: 303.866.3437
Portland Pedestrian Design Guide	1998	City of Portland, Oregon. Office of Transportation, Engineering and Development. Pedestrian Transportation Program	The public right-of-way houses many transportation activities, including walking, bicycling, transit, freight movement, and automobile travel. Each of these functions has specific design needs and constraints. In the past, conflicts between the design needs of competing functions occasionally have produced conditions that discourage pedestrian travel. The purpose of Portland's Pedestrian Design Guide is to integrate the wide range of design criteria and practices into a coherent set of new standards and guidelines that, over time, will promote an environment conducive to walking.	http://www.trans.ci.portland.or.us/DesignReferences/Pedestrian/DesignGuide.PDF	If you would prefer to purchase a hard copy from the Office of Transportation, please send US \$15 drafted on a United States bank to: Pedestrian Coordinator, Office of Transportation. City of Portland. 1120 SW Fifth Ave. Suite 800 Portland, OR. 97204
Rail-Trail Maintenance: Preparing for the Future of Your Trail	1996	Susan Thagard, USDA Americorps. Pennsylvania Rails-to-Trails Conservancy	A 49-page study report providing trail builders with the tools to plan maintenance and management budgets and to enable them to build more cost-effective and durable trails.	http://www.trailsandgreenways.org/resources/development/manage/PA_maintenance.pdf	Phone: 877.476.9297

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Recreational Trail Design and Construction	1997	David M. Rathke and Melvin J. Baughman	A concise and easy-to-read 28-page booklet on natural surface trails. This publication is a guide for private woodland owners, organizations, and businesses (including nature centers, youth groups, schools, conservation clubs, and resorts) that are interested in designing and constructing trails. It describes step-by-step construction methods, ways to handle trail obstacles, and recommended standards for the most common types of trails.	http://www.extensio.n.umn.edu/distribution/naturalresources/DD6371.html	Phone: 800.876.8636
Ripper Retrofit for the Sweco 480 Trail Dozer	2000	Bob Beckley: USDA Forest Service, Technology & Development Program, Missoula, Montana	Describes modifications to the ripper system for the Sweco 480 Trail Dozer. When the operator backs the dozer without lifting the ripper system, slots that individual rippers fit into become elongated, allowing the rippers to fall out. Modifications to repair this problem and prevent future problems require welding and take about 2 hours. Newer versions of the Sweco 480 Trail Dozer ripper system include this modification.	http://www.fhwa.dot.gov/environment/fspubs/00232310/index.htm	Phone: 406.329.3900
Signposts For Snow Trails	1998	Brian Vachowski: Project Leader - USDA Forest Service and Federal Highway Administration, U.S. Department of Transportation.	Describes signpost systems that work in shallow, moderate, and deep snowpacks. Traditional signposts anchored firmly in the ground work best for trails with low and moderate amounts of snow. Free-floating signposts supported only the snow around them work best in moderate to deep snowpacks. Telescoping signposts and signposts with temporary bases work for shallow, moderate, and deep snowpacks, but these systems are rarely used because they are more expensive	http://www.fhwa.dot.gov/environment/fspubs/98232806/index.htm	Phone: 406.329.3900

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
			and harder to install and maintain than traditional of free-floating signposts.		
Standard Specifications for Construction and Maintenance of Trails (Part 1: Text)	1996	USDA Forest Service - Engineering Staff	A 97-page text-only book presenting the standard specifications for construction and maintenance of trails developed for guidance of U.S. Forest Service employees, its contractors, and cooperating federal and state government agencies.	http://www.fs.fed.us/r1/helena/contracting/96_Trail_Specs_English.pdf	http://bookstore.gpo.gov/sb/sb-231.html
Standard Specifications for Construction and Maintenance of Trails (Part 2: Trail Drawings & Specifications)	1996	USDA Forest Service - Engineering Staff	Trail construction related drawings and specifications described in Part 1 (above).	http://www.fs.fed.us/ftpoot/pub/acad/dev/trails/trails.htm	http://bookstore.gpo.gov/sb/sb-231.html
Stock-Drawn Equipment for Trail Work	1996	Steve Didier and Dianne Herzberg - USDA Forest Service, Technology & Development Program, Missoula, Montana	Includes photos of stock-drawn plows and grading equipment that can be used to build and maintain trails in the backcountry. Describes the advantages and disadvantages of different types of equipment. Includes sources where the equipment can be purchased.	http://www.fhwa.dot.gov/download/hep/fspubs/962802hi.pdf	Phone: 406.329.3978
The Complete Guide to Trail Building and Maintenance, 3rd Edition	1998	Carl Demrow & David Salisbury	A 256-page classic manual for trail building. The book was developed by the Appalachian Mountain Club for workers on the Appalachian Trail, but has been widely used for natural surface trails by trailbuilders everywhere. You'll learn new techniques and be introduced to new tools, environmentally sound erosion control, and naturalizing trails with minimum impact on the backcountry.	No	http://www.engineering-shop.com/Complete_Guide_to_Trail_Building_and_Maintenance_3rd_1878239546.html

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
The Trail Assessment Handbook	1993	The Appalachian Trail Conference	The 26-page handbook describes a trail assessment process designed to analyze trail maintenance and land management needs for the Appalachian Trail to identify the most significant trail maintenance and land-management priorities and problems.	http://www.appalachiantrail.org/protect/pdfs/TA_Handbook_scren.pdf	http://www.atctrailstore.org/catalog/iteminfo.cfm?itemid=111&compid=1
Trail Bridge Catalog	2003	Merv Eriksson: Project Manager - USDA Forest Service, Technology & Development Program, Missoula, Montana	The web site is intended to help land managers and engineers select trail bridge types, decks, rail systems, abutment systems, and materials. The site is divided into five sections: Trail Bridge Types, Trail Bridge Decks, Trail Bridge Rail Systems, Trail Bridge Abutments, and Trail Bridge Materials. The Trail Bridge Types, Decks, Rail Systems, and Abutments sections contain sketches, pictures, example and/or standard drawings, and guidelines for appropriate use with the USDA Forest Service Recreation Opportunity Spectrum (ROS) classifications. Standard drawings, or example drawings, are intended for informational purposes only.	http://www.fs.fed.us/na/wit/WITPages/bridgecatalog/	No
Trail Construction and Maintenance Notebook	2000 Edition	USDA Forest Service - Technology Development Program	This notebook describes techniques used to construct and maintain trails. It is written for trail crew workers and is intended to be taken along on work projects. Numerous illustrations help explain the main points. The notebook was printed in 1996 and has been revised slightly during two reprinting. Revisions in this edition update references and reflect minor editorial changes.	http://www.fhwa.dot.gov/download/hep/fspubs/pdf00232839.pdf	http://www.fhwa.dot.gov/environment/recre/trails/trailpub.htm

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Trail Manual for the Florida Trail System	2001	Florida Trail Association, Inc.	The manual is to guide trail development, construction and maintenance techniques for the Florida National Scenic Trail and the Florida Trail System.	http://www.florida-trail.org/traildocs/trailmanual.pdf	Phone: 800.343.1882
Trail Shorts: A cursory look at Trail Maintenance	1996	California State Department of Parks and Recreation	A 9-page document focusing on general design and maintenance guidelines to prevent most trail deterioration and minimize maintenance costs. The document focuses on wilderness trails and is intended to be used as a reference by trail maintenance crews.	http://www.foothill.net/fta/work/trailmaint.html	No
Trail Solutions: IMBA's Guide to Building Sweet Singletrack	2004	International Biking Association. Project was supported by a grant from the Federal Highway Administration's Recreation Trails Program	The 272-page book combines cutting-edge trail building techniques with proven fundamentals in a colorful, easy-to-read format. "Trail Solutions" is an essential tool for land managers and volunteer trail builders aspiring to raise their trail systems to the next level. The book is divided into eight sections that follow the trailbuilding process from beginning to end including trail planning, tool selection, construction and maintenance. It also describes how to secure funding and support volunteers to get the job done.	No	Phone: 888.442.4622 http://www.imba.com/resources/trail_building/trail_solutions.html
Trail Traffic Counters: Update	1999	Dave Gasvoda: Project Leader. USDA Forest Service, Technology & Development Program, Missoula, Montana	This report updates a 1994 report entitled Trail Traffic Counters for Forest Service Trail Monitoring. Three types of trail counters were evaluated: active infrared, passive infrared, and seismic. The report recommends an active infrared system for most trail monitoring situations because these systems provide the most accurate counts. One	http://www.fhwa.dot.gov/environment/fspubs/99232835/index.htm	Phone: 406.329.3978

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
			disadvantage of infrared systems is that they are harder to hide from vandals than seismic systems, particularly the active infrared systems that require bright reflectors to return the beam to the sending unit. Passive infrared systems should be reserved for situations that require a small, lightweight unit that must be set up quickly. Seismic systems may be used when problems with vandalism outweigh the need for accuracy.		
Trails Design and Management Handbook	1993	Troy Parker: Pitkin County Open Space and Trails Program	The 230-page handbook was commissioned by the Pitkin County Colorado (Aspen area) Open Space and Trails Program for development of a county trail system. The handbook is designed to help produce unique trails that are uniquely suited to their sites and users. It is intended to provide recognizable design consistency between trails and to eliminate the need to start from scratch with every trail. Major sections include Trail Design Process and Guidelines, Multiple Use Hard Surface Trail Specifications, Crusher Fines Trail Specifications, and the Trail Proposal and Evaluation Process.	(Table of Contents Only) http://www.trailbuilders.org/resources/link_resources/Pitkin_Trail_Design_Intro.pdf	Pitkin County Open Space and Trails Program 530 E. Main Street, Aspen, CO 81611 Phone: 970.920.5232 or Email: tsparker@natureshape.com
Trails For the Twenty-First Century: Planning, Design, and Management Manual for Multi-Use Trails, 2nd Edition	2001	Charles Flink, Kristine Olka and Robert Searns: Rails-To Trails Conservancy	A 212-page comprehensive guidebook for planners, landscape architects, local officials, and community activities interested in creating a multi-use trail. It provides a guide through the process of creating a trail from start to finish and managing the trail for the future.	No	http://railtrails.tranguard.com/square.asp?tgs=133662:9506043&cart_id=&item_id=87

Trail Design & Maintenance Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Trails, Bridges and Boardwalks	1994	Alan Long and Anne Todd-Bockarie - University of Florida School of Forest Resources and Conservation	This 19-page paper provides practical information for planning and developing recreational trails on forest land. It describes general designs and construction methods as well as some of the structures that may be important components of your trails, such as bridges, boardwalks, and benches. Costs are mentioned with the cautionary disclaimer that they may be highly variable depending on how you implement your recreation plans.	http://www.sfrc.ufl.edu/Extension/pubtxt/Framefor5.htm	No
Using Roundup to Treat Trail Surface Vegetation	1997	Ellen Eubanks- USDA Forest Service, Technology and Development Program.	Technical paper on using Roundup as a safe and economical way to eradicate vegetation and weeds that grow through the surfaces of trails.	http://www.fhwa.dot.gov/environment/fspubs/97231305/index.htm	Phone: 406.329.3978
Wetland Trail Design and Construction	2001	Robert Steinholtz and Brian Vachowski: USDA Forest Service in cooperation with the Federal Highway Administration, United States Department of Transportation	This 82-page manual describes materials and techniques used to construct trails in wetlands. This manual is written primarily for workers who are inexperienced in wetland trail construction, but it may also be helpful for experienced workers. Techniques suitable for wilderness settings and more developed settings are included. Drawings by the author illustrate all important points. A glossary is included, as are appendixes with material specifications.	http://www.fhwa.dot.gov/environment/fspubs/01232833/	http://www.fhwa.dot.gov/environment/rec/trails/publications.htm

Trail Accessibility Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Designing Sidewalks and Trails for Access, Part 1, Review of Existing Guidelines and Practices	1999	U.S. Dept. of Transportation	In an effort to determine when Americans with Disabilities Act Accessibility Guidelines (ADAAG) provisions apply to sidewalks and trails, the Federal Highway Administration sponsored a project to research existing conditions on sidewalks and trails for people with disabilities. Phase I of this project reports the history of accessibility legislation; travel characteristics of people with disabilities, children, and older adults are analyzed in relation to their use of sidewalks and trails; the effects of current legislation pertaining to sidewalk and trail project planning and funding are analyzed; and current design practices used in the design of sidewalks and trails are described and analyzed in terms of accessibility, engineering, and construction.	http://www.fhwa.dot.gov/environment/sidewalks/	http://www.fhwa.dot.gov/environment/rec/trails/trailpub.htm
Designing Sidewalks and Trails for Access, Part 2, Best Practices Design Guide	2001	U.S. Dept. of Transportation	Phase II of the project focused on designing sidewalks and trails for access. It was created to provide planners, designers, and transportation engineers with a better understanding of how sidewalks and trails should be developed to promote pedestrian access for all users, including people with disabilities.	http://www.fhwa.dot.gov/environment/sidewalk2/	http://www.fhwa.dot.gov/environment/rec/trails/trailpub.htm

Trail Accessibility Publication	Year Published	Author	Description	Available On Web	To Order A Hardcopy
Soil Stabilizers On Universally Accessible Trails	2000	The Architectural and Transportation Barriers Compliance Board (Access Board)	The Americans with Disabilities Act Accessibility Guidelines state that ground and floor surfaces should be firm, stable, and slip-resistant. This publication provides field personnel with the results of soil stabilizers on universally accessible trails. The study areas were the Wood River Accessible Fishing Site and Day Use Area on the Winema National Forest and the Bell Rock Pathway on the Coconino National Forest. Seven types of trail surfacing products are discussed.	http://www.fhwa.dot.gov/environment/fspubs/00231202/lc00231202.htm	http://www.fhwa.dot.gov/environment/rec/trails/trailpub.htm
The Final Report on the Regulatory Negotiations Committee on Accessibility Guidelines for Outdoor Developed Areas	1999	National Center on Accessibility	Proposes accessibility guidelines under the Americans with Disabilities Act for Trails, outdoor recreation access routes, beach access routes, and picnic and camping facilities.	http://www.access-board.gov/outdoor/outdoor-rec-rpt.htm	Phone: (800) 872-2253 Email: info@access-board.gov
Universal Access to Outdoor Recreation: A Design Guide	1993	Federal Highway Administration, U.S. Department of Transportation and U.S.D.A. Forest Service	This award-winning book provides universal design concepts and guidelines for outdoor environment, establishing a framework for determining the appropriate level of access in outdoor sites. It presents detailed design guidelines for the systems and elements necessary for ensuring accessibility to recreational trails, campsites, picnic areas, group meeting areas, and more. Examples demonstrate how the guidelines can be applied in typical outdoor settings to achieve a range of recreational opportunities for individuals of varying abilities.	No	http://www.amazon.com/exec/obidos/tg/detail/-/0944661254/104-8615295-4367951?v=glance
What is an Accessible Trail?	2002	Project Play and Learning in Adaptable Environments (PLAE) Inc.	A technical assistance paper for developing accessible trails.	http://www.ncaonline.org/monographs/8-accessible-trails.shtml	Phone: (812) 856-4422

APPENDIX B: POTENTIAL TRAIL FUNDING SOURCES IN OREGON

FUNDING SOURCE	PROGRAM NAME	WEB ADDRESS	USES						APPLICANTS						
			Plan	Program	Develop	Acquire	Education	Equipment	Non Profit	School	City	County	State	Federal	Other
American Canoe Assoc.	Club Fostered Stewardship	http://www.acanet.org/conserve-cfs.htm			X	X									Clubs
American Hiking Society	National Trails Endowment	www.americanhiking.org			X	X									
Americorps		http://www.americorps.org/joining/direct/direct_or.html			X			X		X	X	X	X		
Avista Foundation	Avista Foundation Grants	http://www.avistafoundation.org/application.asp			X				X						
Barnes & Nobles	Affiliates Program	www.barnesandnoble.com		X					X						
Bikes Belong Coalition	Bikes Belong Grants Program	http://bikesbelong.org/site/page.cfm?PageID=21			X				X		X	X	X	X	
Boeing Charitable Foundation	Civic and Environmental Contributions	http://www.boeing.com/companyoffices/aboutus/community/charitable.htm	X	X	X	X			X	X					
Center for Disease Control (CDC)	Preventive Health & Health Services Block Grant Program	http://www.cdc.gov/nccdphp/aag/aag_blockgrant.htm		X	X						X	X	X		
Coors Brewing Company	Coors Pure Water 2000 Grants	http://www.coors.com/community/philanthropy.asp			X	X									
Eastman Kodak Company	Kodak American Greenways Program	www.conservationsfund.org	X							X	X	X	X		
Federal Dept.	Healthy	www.health.gov/h	X	X						X	X	X			

FUNDING SOURCE	PROGRAM NAME	WEB ADDRESS	USES						APPLICANTS						
			Plan	Program	Develop	Acquire	Education	Equipment	Non Profit	School	City	County	State	Federal	Other
of Health & Human Services	People 2010 Implementation Grants	ealthypeople													
Federal Highway Admin.	Recreational Trails Program National Program	www.fhwa.dot.gov/environment/recretrail.htm			X	X				X		X	X	X	X
Ford Family Foundation	Rural Civic and Community Enhancement Program	http://www.tfff.org/main/guidelines.html#a			X					X					
Honda Motor Company	American Honda Foundation	http://www.hondacorporate.com/community/index.html?subsection=foundation		X						X					
Kongsgaard Goldman Foundation	Environmental Protection and Conservation Program	http://www.kongsgaard-goldman.org/program.html	X		X					X					
M.J. Murdock Charitable Trust	Programs to Strengthen the Contemporary American Family	http://www.murdock-trust.org/		X						X					Universities
Metro	Parks & Greenspaces Grants Program	www.metro-region.org								X	X	X	X		
Meyer Memorial Trust	General Purpose Grants	http://www.mmt.org/		X	X			X		X	X	X	X	X	X
National Endowment for the Arts	Challenge America Fast Track Grants	www.arts.gov		X						X					

FUNDING SOURCE	PROGRAM NAME	WEB ADDRESS	USES						APPLICANTS						
			Plan	Program	Develop	Acquire	Education	Equipment	Non Profit	School	City	County	State	Federal	Other
National Fish & Wildlife Foundation		www.nfwf.org								X	X	X	X	X	X
National Park Service	Challenge Cost-Share Program (CCSP)	http://www.nps.gov/chal/sp/jchalapp.htm		X	X			X							
National Park Service	River Trails & Conservation Assistance Program	http://www.nps.gov/ccso/rtca/application.html	X	X						X		X	X	X	X
National Park Service	Disposal of Federal Surplus Real Property for Parks and Recreation and Historic Monuments	http://www.cfda.gov/public/viewprog.asp?progid=471					X		X			X	X	X	
National Tree Trust	Multiple Programs	www.nationaltreetrust.org		X	X					X	X	X	X	X	X
New England Foundation for the Arts	Art and Community Landscapes Program	http://www.nefa.org/grantprog/acl/	Trail side Art						X		X	X	X	X	
Nike - Community Investment	Community Investment Program	http://www.nike.com/nikebiz/nikebiz.html?page=26&item=giving		X						X					
Oregon Dept. of Trans.	Transportation Enhancement Program	http://www.odot.state.or.us/techserv/engineer/pdu													

FUNDING SOURCE	PROGRAM NAME	WEB ADDRESS	USES						APPLICANTS						
			Plan	Program	Develop	Acquire	Education	Equipment	Non Profit	School	City	County	State	Federal	Other
Oregon Dept. of Trans. / Oregon Dept. of Land Conservation & Development	Transportation and Growth Management Program	http://www.lcd.state.or.us/tgm/grants.htm	X								X	X			CO Gs, METRO
Oregon Economic and Community Development Dept.	Needs and Issues Inventory	http://www.econ.state.or.us/needs_issue.htm			X				X		X	X			
Oregon Parks & Recreation Dept.	ATV Fund	http://atv.prd.state.or.us/grant	X	X	X	X	X	X	X		X	X	X	X	
Oregon Parks & Recreation Dept.	Recreation Trails Program	www.prd.state.or.us/grants-rectrails.php			X	X	X	X	X		X	X	X	X	X
Oregon Parks & Recreation Dept.	Land & Water Conservation Fund	www.prd.state.or.us/grants_lwcf.php			X	X					X	X	X		X
Oregon Parks & Recreation Dept.	Local Government Grant Programs	www.prd.state.or.us/grants-localgov.php			X	X					X	X	X		X
Oregon Watershed Enhancement Board	Small Grant Program	http://www.oweb.state.or.us/SmallGrant/smallgrant.shtml			X				X		X	X	X	X	
Patagonia	Environmental Grants Program	www.patagonia.com	X	X					X		X	X			
Polaris Industries	Trail Safety and Grants	http://www.polarisindustries.com		X					X				X	X	
Power Bar	Direct impact on Rivers and Trails (DIRT)	www.powerbar.com		X											

FUNDING SOURCE	PROGRAM NAME	WEB ADDRESS	USES						APPLICANTS						
			Plan	Program	Develop	Acquire	Education	Equipment	Non Profit	School	City	County	State	Federal	Other
	Program														
Recreation Equipment Inc. (REI)	Recreation and Conservation Grants	www.rei.com		X						X					
Robert Wood Johnson Foundation		www.rwjf.org													
Rockefeller Family Fund		www.rfund.org	X	X	X										
SOLV	Project Oregon	http://www.solve.org/programs/project_oregon.asp	X	X	X				X	X	X	X	X	X	
Surdna Foundation		www.surdna.org		X	X					X		X	X	X	
The Collins Foundation		http://www.collinsfoundation.org/			X			X		X					
The Conservation Alliance		http://www.conservationalliance.com/grants.m			X	X				X					
The Hugh & Jane Ferguson Foundation	Foundation Grant Fund	http://fdncenter.org/grantmaker/ferguson/guide.html	X		X					X					
The Kresge Foundation	Bricks & Mortar Program	http://www.kresge.org/programs/index.htm		X	X					X	X	X	X	X	X
The Mountaineers Foundation		www.mountaineersfoundation.org						X	X	X	X				X
The Oregon Community Foundation	Oregon Historic Trails Fund	http://www.ocf1.org/grant_programs/grant_programs_fr.htm		X	X	X	X	X		X		X	X	X	X
The Oregon Community Foundation	Community Grants Fund	http://www.ocf1.org/grant_programs/community_grant		X	X			X		X					

FUNDING SOURCE	PROGRAM NAME	WEB ADDRESS	USES						APPLICANTS						
			Plan	Program	Develop	Acquire	Education	Equipment	Non Profit	School	City	County	State	Federal	Other
		fr.htm													
The Trust for Public Land		http://www.tpl.org/tier2_sa.cfm?folder_id=1825								X	X	X	x	x	
Tom's of Maine/National Park Foundation	River Conservation Grants	http://www.tomsomaine.com/toms/community/rivers2004/frameset_overview.asp			X	X	X		X						
Tread Lightly!	Restoration For Recreation	http://www.treadlightly.org/restore.mv		X					X	X	X	X	X	X	X
U.S. Dept. of Agriculture	The Conservation Reserve Program	www.fsa.usda.gov													
U.S. Dept. of Commerce Economic Development Administration	Various Grant Programs	http://www.eda.gov/InvestmentsGrants/Pgmguide.xml	X		X						X	X			
U.S. Dept. of Health & Human Services	Steps to a Healthier U.S. Initiative (STEPS)	http://www.healthierus.gov/steps/	X	X				X		X	X				Tribes
U.S. Dept. of Transportation	Transportation & Community & System Preservation Pilot Program	http://www.fhwa.dot.gov/tcsp/	X		X						X	X	X		
U.S. Fish & Wildlife Service	Partnership for Wildlife	http://federalaid.fws.gov/pw/partwld.html			X								X		
U.S. Fish & Wildlife Service	Jobs in the Woods Program	http://pacific.fws.gov							X		X	X	X		

FUNDING SOURCE	PROGRAM NAME	WEB ADDRESS	USES						APPLICANTS						
			Plan	Program	Develop	Acquire	Education	Equipment	Non Profit	School	City	County	State	Federal	Other
U.S. Forest Service	Cooperative Programs - Rural Community Assistance: Economic Recovery Program	http://www.fs.fed.us/r6/coop/Oregon%20State%20Coordinators			X					X		X	X	X	
U.S. Forest Service	Cooperative Programs - Rural Development Program	http://www.fs.fed.us/r6/coop/Oregon%20State%20Coordinators			X					X		X	X	X	
U.S. Forest Service	Urban & Community Forestry Program	http://www.fs.fed.us/ucf/			X					X		X	X	X	
Wal-Mart Foundation		www.walmartfoundation.org								X	X	X	X	X	X
Wild Bird Unlimited	Pathway to Nature Conservation Fund	www.pathwaystonature.com/index.htm			X										X

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Water Trail Brochures

Lower Columbia River Water Trail

Lower Columbia River Estuary Partnership

Available from the Lower Columbia River Estuary Partnership

Phone: (503) 226-1565

Email: lcrep@lcrep.org

Why Water Trails?

North American Water Trails, Inc.

Available from North American Water Trails, Inc.

PO Box 53329

Washington, D.C. 20009-9329

APPENDIX D: LIST OF REGIONAL WATER TRAIL ISSUE COMMENTS

REGIONAL WATER TRAIL ISSUE COMMENTS

NORTHWEST REGION (Portland) 5/21/03

(Northwest Region includes Clatsop, Columbia, Multnomah, Hood River, Tillamook, Washington, Yamhill, Clackamas, Polk, Marion, Linn, Lincoln, Benton and Lane Counties)

Public Recreation Provider Session (Portland)

(Daytime Session)

Attendance: 21 people attended the meeting including representation from:

Oregon Parks & Recreation Department	City of Aurora
Bureau of Land Management	City of Gresham
U.S. Forest Service	City of Hubbard
Oregon Department of Forestry	City of Oregon City
METRO	City of Portland
Tualatin Hills P&R Dist.	City of Salem
Oregon Historic Trails Advisory Council	City of Tigard
Clackamas County	City of Woodburn
Tillamook County	
Oregon Recreational Trails Advisory Council	

Water Trail Issues

1. There is a need for more public water access in the region (13 dots).
2. There is a need for a designated funding source for non-motorized watercraft facility development. Currently, there are motorized and non-motorized terrestrial trail grant programs and a motorized watercraft facility grant program, but no resources specifically designated for non-motorized watercraft facility development. As a result, there is a need to explore funding opportunities/sources such as a boater registration fee—although such a proposal would be extremely controversial (7 dots).
3. There is a need to develop linkage/partnerships with the Tourism Council to promote our trail resources, interpret our natural and cultural history, and promote trails as an Oregon tourism attraction. Because of its scenic beauty and weather, Oregon should own summer tourism. There is a need to develop a central clearinghouse for trail opportunities including ordinance maps (6 dots).
4. The increase in non-motorized boating is having an impact on existing recreational facilities such as day-use and overnight parking at put-in and take-out areas and creating issues associated with safety and security, lack of fee payment and other management issues (5 dots).
6. There is a need for information resource standards including signage, way finding and maps/guides (4 dots).
5. It is often difficult to get support from land managers for developing non-motorized boating facilities and paddling opportunities where paddlers do not have to be exposed to motorized boat wakes (3 dots).

7. There is a need for proper facility development for water trails including adequate restroom facilities (3 dots).
9. There is a need for technical expertise and resources for water trail planning and development within the region (3 dots).
8. There is a need for coordination with local law enforcement in order to assure that they are informed of the need for safety and rescue expertise (2 dots).
10. The advantage of a statewide trails plan and system is that smaller communities have any opportunity for recognition and participation (1 dot).
11. There is a need to better manage for trail-related environmental impacts and resource protection through careful selection of trail area locations, planning, design and public education (1 dots).
12. There is a need to simplify the complexity of the user fee and permit requirements for recreational use within the region (0 dots).
13. Water trail development should take into consideration the management of the fishery resource (0 dots).
14. There is a need for case study information regarding successful water trail development projects (0 dots).
15. There are safety and health issues associated with bridges, sewer pipes and other waterway obstructions (0 dots).
16. There is a need to identify water trail opportunities and routes within the region (0 dots).

General Public Session (Portland)
(Evening Session)

Attendance: 15 people attended the meeting.

Water Trail Issues

1. There is a need for a Willamette River Water Trail that ties into history, culture and connects people to the past. There are also opportunities for natural resource interpretation (plants and animals) along the trail. Needed land based facilities include water access, parking, launch sites, restrooms, access to existing camping and campsite development along the river (2 dots).
2. There is a need for overnight camping facilities on the Lower Columbia River Water Trail. Until such facilities are available, long-distance paddlers on this water trail should be able to access (by reservation only) State Park day-use areas for camping (1-hour before sunset to 1-hour after sunrise) to accommodate long-distance paddlers by utilizing existing day use facilities. Each site should have a self-contained volunteer on hand to manage overnight use (2 dots).
3. There are opportunities to develop additional overnight camping facilities on the North Shore of Government Island. There are also potential interpretive opportunities on the island including the site

where the Lewis and Clark Expedition camped in 1805 and in-water petroglyphs around Fishers Landing (1 dot).

4. There is a need for maps and information about existing water trails in the region (0 dots).
5. There is a need for cooperation between local communities and water trail organizations to develop plans and funding opportunities in the region (0 dots).
6. There is a need for grant funding for water trails on a par with motorized and non-motorized trail grant programs (0 dots).
7. There is a need for an outreach program to communicate to farmers that water trail interpretation is all about appreciating their way of life and culture and sharing that culture with the greater community (0 dots).
8. There is a need for educational guidelines for respecting individual (and corporate where applicable) landowner rights/properties along water trails (0 dots).

NORTHWEST REGION (Lincoln City) 5/20/03

(Northwest Region includes Clatsop, Columbia, Multnomah, Hood River, Tillamook, Washington, Yamhill, Clackamas, Polk, Marion, Linn, Lincoln, Benton and Lane Counties)

Public Recreation Provider Session (Lincoln City) (Daytime Session)

Attendance: 7 people attended the meeting including representation from:

- Oregon Parks & Recreation Department
- Bureau of Land Management
- Oregon Department of Forestry
- City of Newport
- Tillamook County

Water Trail Issues

MM. There is a need for increased promotion of safety-related information (permits, licensing, training), outreach programs, and more safety training facilities, instructors, and more user-friendly training schedules (times and locations). Cautionary messages should be displayed at water access points including information related to river classification and understanding changing water conditions. Special safety considerations in the region include the fact that coastal rivers rise and fall very quickly with rain events and that changing tide and wind conditions must be considered before paddling in coastal areas. Finally, there is a need for education related to commercial traffic on the Columbia River (7 dots).

NN. There is a need for increased coordination and communication between agencies such as the BPA and ODOT to properly address jurisdictional and easement issues associated with developing public water access and parking facilities in the region (5 dots).

OO. There is a need to proactively address potential conflicts between private landowners and paddlers in the region. As a result, water trails should include a sufficient number of publicly accessible take-out points at reasonable intervals and to clearly indicate which shoreline areas are open for public use and which are not (e.g. similar to highway rest areas) (4 dots).

PP. There is a need to make the trail inventory a living document/resource. As new trails are designated they should be added to the inventory. The long-term objective should be to keep the inventory as up-to-date as possible (2 dots).

QQ. There is a need for better information on paddling opportunities on coastal areas in the region (1 dot).

RR. There is a need for emergency response training to ensure that the necessary skills and knowledge are in place to properly respond to trail-related emergency situations (1 dots).

SS. People are now looking for a more diverse offering of outdoor recreational opportunities during their overnight camping trips including activities on both terrestrial and water trails. If a destination area doesn't have something for them to do, they will go elsewhere (1 dots).

TT. There is a need for water trails planning assistance in the region—particularly along the Nehalem and the Wilson Rivers (0 dots).

UU. A growing number of canoers and kayakers are using the rivers in the Tillamook State Forest (0 dots).

VV. Canoers and kayakers can be a difficult to engage in the public input process of recreational planning (0 dots).

WW. There is an opportunity to use scuba diving access facilities for non-motorized boater access along coastal areas in the region (0 dots).

XX. There appears to be a growing demand for guided sea kayaking tours on coastal areas of the region (0 dots).

YY. Steep creeking is gaining popularity in the region (0 dots).

General Public Session (Lincoln City)
(Evening Session)

Attendance: 9 people attended the meeting.

Water Trail Issues

HHHH. There is a need to consider reuse of roads on federal lands for recreation purposes (7 dots).

IIII. There is a need to consider the capacity of riding areas and incentives to disperse use (6 dots).

JJJJ. There is a need for quality information regarding regulation (impacts of non-compliance), level of difficulty (guidelines, definitions and standards), route maps, and consistent signing across agencies (4 dots).

KKKK. There is a need to maintain access to beaches for all users (3 dots).

LLLL. There is a need for increased public access to waterways in the region (3 dots).

MMMM. There is a need to properly address the navigability issue and clearly define to users where they can and cannot exit their watercraft (2 dots).

NNNN. There is a need to maintain water quality and other environmental factors potentially affected by water trail development/use (2 dots).

OOOO. There is a need to properly survey rivers/bays to identify future water trail opportunities within the region. There are 5 major rivers in Lincoln County alone, with great estuary, white water and flat-water water trail development opportunities (1 dot).

PPPP. There is a need to explore recreation opportunities on private timberlands and work with private landowners for access. Some keys to success for securing use on private lands are user education (respect for property) and the purchase of recreational easements (0 dots).

NORTHWEST REGION (Eugene) 5/22/03

(Northwest Region includes Clatsop, Columbia, Multnomah, Hood River, Tillamook, Washington, Yamhill, Clackamas, Polk, Marion, Linn, Lincoln, Benton and Lane Counties)

Public Recreation Provider Session (Eugene)

(Daytime Session)

Attendance: 14 people attended the meeting including representation from:

Oregon Parks & Recreation Dept.

Willamalane Park & Recreation Dist.

Bureau of Land Management

City of Corvallis

Lane Council of Governments

City of Eugene

Port of Siuslaw

Siuslaw Watershed Council

Water Trail Issues

RRR. Trails are a key economic development tool within the region. Policy makers and planners should keep this in mind with respect to state planning, leadership, and in making resource allocation decisions. There are opportunities for collaboration with local chambers of commerce and the tourism industry regarding water trail marketing. For example, whitewater users are interested in more full-service "family" packaged trips (4 dots).

SSS. There is a need for access to waterways within the region. There are also opportunities to work with private landowners regarding waterway access (3 dots).

TTT. There is a need for clarification on navigability issues relating to water trail management and design. There is an ongoing conflict between the navigability, recreation use, environmental protection and public safety (2 dots).

UUU. There is a need to manage not only the trail, but the landscape around trails to minimize erosion and movement of invasive species (2 dots).

VVV. There is a need to design water trails to accommodate specific types of uses (non-motorized) and the natural character of the waterway. The water trails toolbox needs to be expanded to address these non-motorized types of uses (2 dots).

WWW. There is a need for more safety/security at trailheads and parking lots within the region (2 dots).

XXX. There is a need for regional coordination and information sharing between agencies for trail planning and coordinating for funding. There is a need to develop a regional trails planning process including design and construction standards (2 dots).

YYY. There is a need for coordination at the state level that matches funds with projects. OPRD administers a variety of grant funding programs (LWCF, local, ATV, and RTP). Applicants often have a difficult time deciding which pot of money to go after for their project. OPRD should provide guidance at the statewide level to match projects with dollars so that everyone has the best chance to succeed in getting grant dollars. OPRD should also provide information about the timing, content and requirements of the grant programs and to allow applicants to better understand grant funding priorities (1 dot).

ZZZ. There is a need to use water trails as vehicles for the education and interpretation of issues such as protection and appreciation of the resource and understanding of natural systems and sustainability (1 dot).

AAAA. There is a need for funding for water trail planning and development (1 dot).

BBBB. There is a need for user information regarding where to go for paddling opportunities, regulations and to market paddling opportunities (0 dots).

CCCC. Water trail development leads to impacts on shorelines and waterways associated with adjacent properties. There is a need for guidance to assist with access design that is compatible with the natural environment and does not conflict with motorized users. It is difficult to manage where people access waterways due to changing shoreline conditions. Users typically end up accessing at a point where the river allows access at a particular point in time (0 dots).

DDDD. There is a need for case study information showing successful development projects both inside the state and in the U.S. (0 dots).

EEEE. There is a need for a water trails advocacy organization within the state (0 dots).

FFFF. There is a need for integrated trail system planning to accommodate the shuttling of vehicles and how to handle emergency situations (0 dots).

GGGG. There is a need for a hierarchy of water trail opportunities depending on the amount and types of use (e.g. family/single kayaker). As a result, there is a need for varied levels of improvements and services associated with specific situations (0 dots).

HHHH. There are opportunities for vendors and services associated with water trail development such as guided trips and shuttles (0 dots).

IIII. There is a need for information resources coordination including maps, regulations, signage and providing trail users with information to make informed decisions (0 dots).

JJJJ. As the fees for outdoor recreation use grow, there is a growing need/opportunity for the private sector to get involved in providing trail facilities and opportunities in the region (0 dots).

KKKK. There is a need to address conflicts on multiple-use trails through design, site selection, planning and education (0 dots).

LLLL. There is a need to understand and capitalize on transportation and recreation projects through better coordination in planning, project development and funding (0 dots).

MMMM. There is a need for historical, cultural and natural interpretation/education opportunities on trails. There are also opportunities to engage school-age children in trail-related interpretation (service learning and other types of learning opportunities) (0 dots).

NNNN. There is an opportunity for shared use of scuba diving/ snorkeling and non-motorized boater access facilities in the region (0 dots).

OOOO. There is a need to be creative in terms of partnerships and funding (0 dots).

PPPP. There is a need to address impacts associated with competitive/organized trail events. Such events must be matched with those trail resources designed for such a use. Many trails are not designed to handle such intensive use (0 dots).

QOOO. There is a need to explore options to generate revenues associated with trail use (0 dots).

RRRR. Liability is a deterrent to private-sector provision of trail opportunities in Oregon. If you charge a fee for recreational use you can be held liable for injuries/damages occurring on private lands (0 dots).

SSSS. The prioritization of trail development projects should be done at a regional level using a peer review process. At the local level, projects should be developed using groups such as community solutions teams to get a broader perspective on what other governmental agencies are doing which might affect trail development (0 dots).

General Public Session (Eugene)
(Evening Session)

Attendance: 19 people attended the meeting.

Water Trail Issues

TTTTTT. There is a need for additional/adequate public access (access/egress/stopping points) on waterways within the region (9 dots).

UUUUUU. There is a need for maintenance/upgrades of existing facilities to be a higher funding priority (6 dots).

VVVVVV. There is a need for a funding source (similar to motorized watercraft) for constructing non-motorized boating facilities (5 dots).

WWWWWW. There is a need for a central website location where users can go for information on trip planning including information such as current trail condition, GIS and mapping (5 dots).

XXXXXX. There is need for more trails close to urban areas (4 dots).

YYYYYY. There is a need to make greater use/coordination of volunteers for trail maintenance because agencies do not have sufficient resources (4 dots).

ZZZZZZ. There has been a loss of some water access points in the region to closure (3 dots).

AAAAAAA. Technical changes cause different trail needs (3 dots).

BBBBBBB. There is a need for adequate sanitary facilities at resting/stopping areas (3 dots).

CCCCCCC. There is a need to address environmental impacts including wildlife, need for good planning and design, capacity issues, soil issues and the value in study of impacts (3 dots).

DDDDDDD. There are opportunities to work with private landowners to allow recreational access/easements within the region (3 dot).

EEEEEEE. There is a need to make sure that trails not regularly maintained are not lost (2 dots).

FFFFFFF. There is a need for a central location where users can go for information on trip planning (2 dots).

GGGGGGG. There is a need for enforcement and education involving trespass on private property (2 dots).

HHHHHHH. There is a need to address the noise issue on trails within the region. Trails planners should carefully consider compatibility (associated with noise) during the development of multi-use trails. There is also a need for greater tolerance between user groups on multi-use trails (1 dot).

IIIIIII. There is a need for trailheads with adequate facilities such as proper accommodations for trailers (1 dot).

JJJJJJJ. There is a need for additional user education (including noise, and trail etiquette) that targets new users (1 dot).

KKKKKKK. There is a need for more active trail management by the federal agencies (1 dot).

SOUTHWEST REGION (Bandon) 4/17/03

(Southwest Region includes Coos, Curry, Josephine, Jackson and Douglas Counties)

Public Recreation Provider Session (Bandon)

(Daytime Session)

Attendance: 12 people participated in the workshop including representation from:

Oregon Parks & Recreation Department

U.S. Forest Service

Bureau of Land Management

Coos County

City of Powers

Water Trail Issues

LL. There is a need for a funding source for non-motorized water trail facility development within the region (8 dots).

MM. There is a need to consider potential conflicts between an increasing number of non-motorized boaters and motorized boaters associated with sharing water-based resources and waterways within the region (6 dots).

NN. There is a need to address safety issues associated with water trail development including user education programs, vendor/rental training courses requiring equipment renters to show competency to operate equipment, and user information on what and where educational opportunities are available (5 dots).

OO. The sport of paddling provides quiet access to wildlife in ways that can have negative impacts on birds and marine mammals. As a result, there needs to be more information available on how to reduce impacts such as provided by programs like Leave No Trace and Tread Lightly to develop an appropriate user ethic. There is a need for consistent, quality information, which is simple to understand and includes a distinct regional flavor (e.g. need for different information on the coast as opposed to information needed in an area such as Bend). There is a tendency for groups such as Leave No Trace and Tread Lightly to lose touch with the simplicity of their original message as they become more sophisticated and business oriented in packaging and marketing their products (3 dots).

PP. There is a need to consider the potential conflicts between an increasing number of people using public waterways and adjacent landowners over the question of ownership of the waterways. Landowners will eventually attempt to get legislation passed to get boaters off the water (3 dots).

QQ. There is a need for more public access to waterways and public places to stop along paddling routes so they are not getting out in someone's front yard (2 dots).

RR. There is a need for overnight facilities such as large car camping opportunities and overnight paddle trip landings and campsites along water trail routes (2 dots).

SS. There is a need to consider the impacts that water trail development will have on the natural environment in sensitive areas such as the South Slough National Estuarine Research Reserve (0 dots).

TT. There is a need to develop facilities specifically designed for non-motorized boaters such as ramps for kayaks or canoes (0 dots).

UU. There is a need to work with existing funding agencies such as the Marine Board to provide non-motorized facilities as a way to address demand and conflicts on existing motorized facilities (0 dots).

General Public Session (Bandon)
(Evening Session)

Attendance: 6 people attended the meeting.

Water Trail Issues

YYY. There is a need for additional access to waterways (public land or access on private land) and launch/landing facilities (7 dots).

ZZZ. Motorized boating facilities need to be adapted to accommodate non-motorized watercraft (4 dots).

AAAA. There is a need to identify and designate water trail routes and provide good information for trip planning and navigation. There is also a need for a web-based repository for accessing water trail information (4 dots).

BBBB. There is a need to recognize the economic benefits of trails such as the importance of trails in business location, quality of life, and where people want to live (2 dot).

CCCC. There is a need for water trails in close proximity to where people live (1 dot).

DDDD. There is a need for water trails in a variety of setting types (urban to wilderness, flat water to white-water) (0 dots).

SOUTHWEST REGION (Grants Pass) 4/16/03

(Southwest Region includes Coos, Curry, Josephine, Jackson and Douglas Counties)

Public Recreation Provider Session (Grants Pass)
(Daytime Session)

Attendance: 6 people participated in the workshop including representation from:

Oregon Parks & Recreation Department
U.S. Forest Service
City of Rogue River
City of Ashland

Water Trail Issues

Z. There is a need for identification and promotion of water trail opportunities within the region (5 dots).

AA. There is a need for information related to the class of waterway, conditions and regulations on water trails within the region (4 dots).

BB. There is a need for designated areas along water trails to allow paddlers to get out of their boats. Such areas should be included on maps and brochures with a listing of on-shore facilities available (2 dots).

CC. The publication "Fishing in Oregon" should be used as an information source during the inventory of existing water trails within the region (1 dot).

DD. Threatened and Endangered Species impacts will need to be evaluated in planning water trails within the region (1 dot).

EE. Seasonal water flows will impact when water trails will be usable over the course of the year (0 dots).

FF. There is a need for safety education and training within the region (0 dots).

GG. There are opportunities to connect land-based trails with water trails within the region (0 dots).

General Public Session (Grants Pass) (Evening Session)

Attendance: 7 people attended the meeting.

Water Trail Issues

WWW. There is a need for additional funding for non-motorized/small craft boating facilities within the region (5 dots).

XXX. There is a need for water-based camping facilities within the region (4 dots).

YYY. There is a need for paddling education, training opportunities and outreach programs for inexperienced paddlers within the region (3 dots).

ZZZ. There is a need for water trail facility development and maps showing put-in and take-out locations (3 dots).

AAAA. The water trail planning process should include the involvement of private-sector businesses such as equipment rental shops (2 dots).

BBBB. There is a need to categorized water trails according to level-of-difficulty (1 dot).

CCCC. There is a need to provide seasonal water change information for water trails within the region. In many situations difficulty classifications will vary with water flow rates and the regulation of water flow through reservoir systems (0 dots).

NORTHCENTRAL REGION (Bend) 4/3/03

(North central Region includes Wasco, Sherman, Gilliam, Morrow, Umatilla, Jefferson, Wheeler, Deschutes and Crook Counties)

Public Recreation Provider Session (Bend) (Daytime Session)

Attendance: 11 people attended the meeting including representation from:
Oregon Parks & Recreation Department
Bureau of Land Management
Bend Metro Parks & Recreation District
City of Sisters

Water Trail Issues

X. There is a need to establish some sort of classification schema to address such things as level of difficulty (using the International Scale of River Difficulty) setting type (e.g. ROS setting), services and improvements for use in marketing water trails within the region. The statewide water trails inventory should gather such classification information during the data collection process (4 dots).

Y. There is a need for user education including leave-no-trace practices (e.g. sanitation & litter), respect for private property rights and respect for impacts on the resource (3 dots).

Z. There is a need for additional water trail facilities including water access, restrooms, overnight facilities, potable water, and portage facilities in the region (2 dots).

AA. There is a need to properly balance the natural/environmental aspects with increasing recreational use on waterways in the region (2 dots).

BB. There is a need to develop a monitoring system methodology to help identify when a permit system might become necessary to ensure that the user experience doesn't degrade to unacceptable levels. Such a system should determine the limits to acceptable change including factors such as resource capacity, social impacts and carrying capacity. The methodology should also allow for the establishment of baseline monitoring measurements to establish a clear picture of the condition of a river at a certain point in time (1 dot).

CC. Regarding comment BB, the river systems should be studied to ensure adequate assessment of resource capacity. River corridors with properly developed access points should be designated for high traffic use and be marketed as such. This will take pressure off of the less developed areas that will be affected by limiting entry on a high-capacity river system (on-line comment).

DD. There are many opportunities to develop water trails on central Oregon lakes and reservoirs (0 dots).

EE. Private landowners should be given an opportunity to provide services (food, lodging, etc.) along water trails in the region (0 dots).

FF. Private property trespassing concerns should be heard and incorporated into the local water trail development planning process (0 dots).

GG. There is a need for an application/permit/reservation system on heavily used waterways within the region to ensure a high-quality user experience (0 dots).

HH. Regarding comment GG, river systems with a high level of use should be studied to see if the use is adversely impacting the resource. If the river system has adequate infrastructure in place to handle the traffic, then use should be encouraged on the river to keep the users from shifting to other less used rivers that do offer a more pristine experience. We can't make every high-use river the Middle Fork of the Salmon, or all of our low-traffic rivers will be permanently degraded by displaced river traffic. The users will move to other rivers when they can't get the permit they want, thereby clogging the less developed rivers

General Public Session (Bend)
(Evening Session)

Attendance: 48 people attended the meeting.

Water Trail Issues

QQQ. There is a need for improved in-stream flow/water levels for recreational use of waterways within the region. There is a need to recognize the economic benefits of recreational use of water. For example, reservoirs receive much more recreational boating use (and inflow of tourism dollars) when there is a sufficient water level for such use (4 dots).

RRR. There is a need to identify water trail (resource) impacts associated with rapid growth of water-based recreation in the region. Such impact will need to be properly addressed through site improvements such as launch sites, restroom facilities, campgrounds and ADA accessibility (4 dots).

SSS. There is a need for close-to-home water trail development in urban settings within the region. Such projects will require a coordinated public/private planning effort to ensure that the necessary water access and support facilities are identified and developed (3 dots).

TTT. There is a need to accommodate the needs of both guided and non-guided travel groups during water trail planning and development (2 dots).

UUU. There is a need to develop whitewater parks/play areas, training and instructional areas in the region (2 dots).

VVV. There is a need to properly publicize and communicate the development of water trails and their appropriate uses within the region (1 dot).

WWW. There is a need to establish guidelines (e.g. Memorandums of Understanding) that will assist agencies in making multi-jurisdictional decisions and to ensure that water trail development goals, objectives and strategies are implemented (1 dot).

XXX. The water trail development process must consider the special needs of all user groups (e.g. canoers, kayakers, rafters, etc.) and ensure that the planning and decision-making processes are equally open to all user groups (0 dots).

YYY. Water trail rules of use should emphasize a proper respect for private property/navigability issues to ensure long-term access to the resource (0 dots).

ZZZ. There is a need to research and evaluate water trail development processes used in other states for application in Oregon water trail projects (0 dots).

AAAA. We need to recognize that paddling competitions, paddle tests and other water-related events are a valid use of public lands (0 dots).

BBBB. There is a need to consider the development of an Oregon Coastal Water Trail (0 dots).

SOUTHCENTRAL REGION (Klamath Falls) 4/15/03

(South central Region includes Klamath and Lake Counties)

Public Recreation Provider Session (Klamath Falls)

(Daytime Session)

Attendance: 6 people attended the meeting including representation from:

Oregon Parks & Recreation Department

U.S. Forest Service

Klamath Rails to Trails

Jackson County Roads/Parks

Water Trail Issues

JJ. There is a need for a funding source for water trail development within the region. The Marine Board funds are primarily for motorized boating facility development with limited funding for non-motorized boat facilities (5 dots).

KK. There is a need for maps and information to promote paddling opportunities within the region (4 dots).

LL. There is a need to better define the public use status of waterways within the region. The definition should include a description of navigability, which waterways are designated as navigable and specific public use restrictions on non-navigable waterways within the region (3 dots).

MM. There is a need for safety/user ability standards (such as the International Scale of River Difficulty) to identify the level of expertise needed for using water trails within the region (2 dots).

NN. Education and interpretation should be a major component of water trail development within the region (2 dots).

OO. There are many water trail development opportunities within the region—the problem is inadequate public access (1 dot).

PP. Existing water trail opportunities need to be identified and promoted (1 dot).

QQ. The current Division of State Land permit process for development of water-based facilities on navigable waters can be very prohibitive. The application process can take up to 2 years in duration for new development projects—by that time the biennium is over and all the funds have been used elsewhere (0 dots).

RR. There are many exciting water trail development opportunities on marshes and lakes within the region (0 dots).

SS. There is a need for public/private areas along water trails to provide paddlers with an opportunity to get out of their boats (0 dots).

TT. There is a need to resolve jurisdiction issues such as on Reservation Lands (0 dots).

UU. There is a need for standards for structures crossing waterways (e.g. bridges and power lines) (0 dots).

VV. Water trail development will need to address Threatened and Endangered species impacts (0 dots).

WW. There is a need to consider navigation needs and other issues associated with GPS technology in water trail development (0 dots).

XX. There will be additional user conflict issues between motorized and non-motorized boaters associated with water trail development (0 dots).

General Public Session (Klamath Falls)

(Evening Session)

Attendance: 6 people attended the meeting.

Water Trail Issues

SSS. There is a need for adequate public properties along water trails to reduce conflicts with private-land owners (8 dots).

TTT. There is a need for public access on some waterways (e.g. Applegate) and information on points of water access (8 dots).

UUU. Due to seasonal water variation, there is a need to provide good seasonal use information for water trails within the region (1 dot).

VVV. There is already a good base of water-related industry and users within the region (0 dots).

NORTHEAST REGION (Union) 4/1/03

(Northeast Region includes Wallowa, Union, Grant and Baker Counties)

Public Recreation Provider Session (Union)

(Daytime Session)

Attendance: 11 people attended the meeting including representation from:

Oregon Parks & Recreation Department

U.S. Forest Service

Bureau of Land Management

Morrow County

City of La Grande

Water Trail Issues

EE. There is a strong need for a non-motorized boater education program providing information on how to properly launch and use a non-motorized watercraft, safety training for running rivers (e.g., what they will need and what to expect), how to comply with existing federal and state regulations, and so forth. Simply providing information at launch area kiosks and in brochures is not adequately preparing people for dangerous conditions they may encounter during their river trip. In addition, search and rescue efforts on isolated river stretches are often very difficult, time consuming and costly. To proactively address this problem, we need to educate people before getting on the water (13 dots).

FF. There is a need for central information source for interested non-motorized boaters to access regarding flat water and whitewater paddling opportunities within the region (such as the OPRD website). The site could include information such as access locations and other trip information (10 dots).

GG. We should consider the potential for conflict between an increasing number of non-motorized watercraft using current facilities developed and paid for by motorized boaters. Non-motorized boaters often take much more time to clear the boat ramp area than motorized boaters (4 dots).

HH. There are a large number of range fences crossing waterways in Northeastern Oregon posing a potential risk to paddlers on these waterways (3 dots).

II. There is a need for guide brochures for paddling rivers in the region. River Guides typically include information such as put in and take out locations, route maps, campsite and day-use locations and public and private land ownership boundaries. Such information will assist paddlers to make the right river use decisions on their trip. River guides can also be used as a marketing tool for drawing paddlers to the particular water route (1 dot).

JJ. There is a need for overflow parking facilities when launch site parking is full (1 dot).

KK. There is a need for boat launch hosts at major launch and landing areas within the region to provide necessary safety information at the time of departure (1 dot).

LL. Paddling opportunities in this part of the state are very seasonal due to seasonal flow rate cycles. As a result, we need to provide information regarding the times of the year with adequate water levels for paddling (0 dots).

MM. Current water access facilities within the region are minimal and in need of maintenance (0 dots).

NN. There is a need for a water trails toolbox for water trails planning within the region (0 dots).

General Public Session (Union)
(Evening Session)

Attendance: 22 people attended the meeting.

Water Trail Issues

No issues generated.

SOUTHEAST REGION (Burns) 4/2/03

(Southeast Region includes Harney and Malheur Counties)

Public Recreation Provider Session (Burns)
(Daytime Session)

Attendance: 5 people attended the meeting including representation from:

Oregon Parks & Recreation Department

Bureau of Land Management

City of Burns

Water Trail Issues

U. There are a number of flat-water paddling opportunities within the region (e.g. Lake Owyhee) that could be developed as water trails (3 dots).

V. There may be local resistance (e.g. range fences and adjacent property ownership issues) to developing water trail opportunities and encouraging more visitors to the region. A typical comment heard is that things are nice and quiet out here — and we want to keep it that way. As a result, recreation providers need to educate communities about the economic benefits associated with water trail development (2 dots).

W. There are water trail development opportunities on the Malheur National Wildlife Refuge and connections to irrigation canals (2 dots).

X. There is a need for more developed water trails within the region (1 dot).

Y. There is an opportunity to develop water trails in remote settings within the region (1 dot).

Z. There is a need for additional water access facilities, marketing and interpretive information related to water trail development within the region (1 dot).

AA. There are some great low-water long-distance paddling opportunities on the Owyhee River (e.g. from Rome to Birch Creek) that could be easily accessed by canoers and kayakers with sufficient paddling experience (1 dot).

BB. There is a concern that increased non-motorized boater use could contribute to the spread of noxious weeds on moving water within the region (1 dot).

CC. There is great interest and potential within the region to develop water trails as a potential economic development strategy (0 dots).

DD. There are a large number of out-of-state non-motorized boaters currently recreating within the region (from Idaho cities such as Boise and Treasure Valley). As a result, it will be important to capture their needs and opinions in the statewide trails planning process. Potential alternatives are including a sample of people from Boise and Treasure Valley in the user survey and holding an issues workshop in Boise (0 dots).

EE. Wilderness limitations on the Owyhee River will restrict new water trail facility development between existing put-in and take out facilities (0 dots).

General Public Session (Burns)

(Evening Session)

Attendance: 5 people attended the meeting.

Water Trail Issues

No issues generated.