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FEDERAL ENERGY
REGULATORY
COMMISSION

November 22, 1995

Honorable Lois Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington, D.C. 20426

Re: Project No. 2643-001 (Bend Hydroelectric Project)

Dear Ms. Cashell:

Enclosed for filing with the Commission in the above project are the original and 8 copies of **SUBMISSION BY AMERICAN RIVERS, PACIFIC RIVERS COUNCIL AND OREGON TROUT OF ADDITIONAL EVIDENCE TO AID THE COMMISSION IN DETERMINING THE NAVIGABILITY OF THE DESCHUTES RIVER, OREGON.**

Copies of this document have been served on all parties listed on the attached certificate of service.

Very truly yours,

Katherine P. Ransel

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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

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COMMISSION

PacifiCorp Electric Operations)
)
)
Application for New License) Project No. 2643-001
) (Bend Hydroelectric Project)
)

**SUBMISSION BY AMERICAN RIVERS, PACIFIC RIVERS COUNCIL AND OREGON
TROUT OF ADDITIONAL EVIDENCE TO AID THE COMMISSION IN DETERMINING
THE NAVIGABILITY OF THE DESCHUTES RIVER, OREGON**

American Rivers, Pacific Rivers Council and Oregon Trout (hereinafter "Conservation Parties") hereby submit additional evidence to aid the Commission's determination of the navigability of the Deschutes River, Oregon.

I. Introduction

The Conservation Parties submit the following evidence regarding the navigability of the Deschutes River, Oregon in response to the Commission Staff's Notice and Navigability Report (hereinafter "Report") of March 6, 1995. It is intended to supplement our comments on that Report, which we filed with the Commission on September 28, 1995 (hereinafter Comments).

Our original Comments, although based only on the limited information we were able to ascertain at the time, demonstrated that the staff's navigability report was inaccurate and legally insufficient. We noted that the staff's Report failed to consider the full extent of recreational use on the Deschutes river. It also failed to consider evidence that the reasons the River is not continuously navigable year round is due to changes in the natural river, changes which clearly are man-made.

To demonstrate the extent of recreational use on the Deschutes River, our Comments included references to local users, quotes from our conversations with those users, selections from a whitewater rafting guide book rating and describing for whitewater boaters the very sections of the River that staff found were not navigable, and an article from the Bend Bulletin reporting that a group of boaters had rafted Cline Falls. See Comments at p. 3-5 and Attachment.

We also noted that the record contains evidence of current actions on the part of state and federal government and private interests to restore more natural flow conditions to the Deschutes River Basin. Id. at p. 5. After further research, we have

uncovered additional evidence of current and potential use of the River, historical flow, the effects of man-made interruptions and diversions, and programs to increase instream flows. This additional evidence further bolsters our position that the Deschutes River is currently navigable from Bend to the Columbia at least part of the year, and would be used year round commercially if it were not for human modification of the flow regime by water withdrawals.

II. Additional Evidence

We submit the following evidence for the Record to assist the Commission in its determination and to demonstrate that the Deschutes River is navigable:

1. Declarations of Morgan Smith and Bob Woodward.

These are two of the river users quoted and referenced in our Comments. The declarations demonstrate that the entire Deschutes River, from Bend to the Columbia River, is used by recreational boaters. In particular, the declarations refute the staff's finding that the River is not navigable as it flows out of Bend and is not navigable in the vicinity of Cline Falls. The declarants have personal experience on these stretches of the River. The declarations further demonstrate that the only impediment to more extensive use of the Deschutes River is the low flow caused by irrigation withdrawals.

2. Deschutes County/City of Bend, River Study (April 1986).

This study demonstrates that recreational boating is extensive on the Deschutes River and that the River could support even more extensive navigation if modifications were made to the irrigation withdrawals. As indicated in our Comments, these withdrawals are susceptible to change and therefore do not preclude a finding that the River is navigable. In any event, they are seasonal.

a. Flow Fluctuations. Pages 3-5 to 3-8 are evidence that the River's historically even flow has been drastically altered by reservoir regulation and irrigation diversions.

b. Recreational Boating. Page 7-13 describes recreational boating from Bend to Tumalo State Park, including areas described by the staff as unsuitable for navigation. Pages 7-15 to 7-17 describes the extent and economic benefit derived from recreational boating, including commercial revenues, demonstrating the commercial nature of recreational use.

c. Flow Effect on Recreation. Page 2-5 indicates that irrigation withdrawals are the reason that good boating reaches downstream of Bend are unrunnable in the Summer. Page 7-21 lists river flow as the most significant conflict with recreation. Page

2-8 indicates that there is a growing demand for access to the River below Bend during the irrigation season.

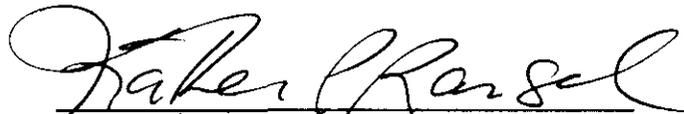
d. Feasibility of Modifying Flows. Page 2-8 notes the need to develop options to augment the River's flow. Pages 13-2 to 13-6 calls for increased stream flows.

III. Conclusion

As we noted in our Comments, the Staff's Report is incomplete in fact and law and cannot form the basis of a competent jurisdictional determination. We urge the Commission to consider fully all of the sources that we offered in our Comments, as well as the additional evidence presented here. It overwhelmingly supports a determination of navigability for the River.

Dated this 22nd day of November, 1995.

Respectfully submitted,



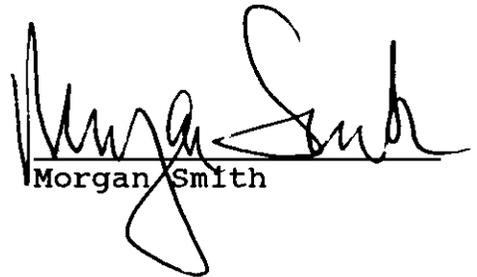
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6. The entire river below Bend is navigable April through October, when the water is not diverted for irrigation. During this period of time, the river is ideal for recreational boating. I would be teaching kayak classes in the segment from Bend to Lake Billy Chinook if it were not dewatered by irrigation withdrawals.

7. The only barrier to more extensive use of the Deschutes River is the irrigation withdrawal schedule which forces boaters to use the river during the colder winter months.

I certify under penalty of perjury that the foregoing is true and correct.

Dated this 13 day, 1995

Handwritten initials, possibly "MS", in black ink.Handwritten signature of Morgan Smith in black ink, written over a horizontal line.

Morgan Smith

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

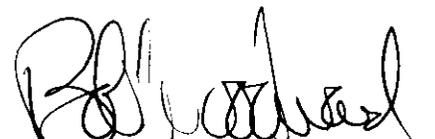
PacifiCorp Electric Operations)
)
) Project No. 2643-001
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)

DECLARATION OF BOB WOODWARD

1. I am a resident of Bend, Oregon, and a member of the Bend City Council. I am also a professional writer and was a member of the first group to kayak from Tumalo State Park to Lower Bridge, on the Deschutes River.
2. As the Deschutes River flows downstream out of Bend, it forms the "First Street Rapid," a heavily used recreation area.
3. The Deschutes River reach down river from Bend to Lake Billy Chinook is run by kayakers and experienced canoeists. This reach contains between 2 and 4 portages depending on the boater's skill level, none of which is extensive.
4. I have run the river below Bend, specifically the "Riverhouse Run" during every month that it has sufficient water, including December through March. In one of these trips, I boated from Bend to Tumalo State Park and then from Tumalo State Park to Lake Billy Chinook. Although I did not go all the way from Bend to Lake Billy Chinook in one day, I could have done so if I had started early in the day.
5. The entire stretch of the Deschutes River from Bend to the Columbia River would be extremely popular with both private and commercial boaters if there were sufficient water in it during the summer months. The recreational boating varies in difficulty, but the difficult sections can and often are, portaged.

I certify under penalty of perjury that the foregoing is true and correct.

Dated this 12th day, 1995 November



Bob Woodward

Deschutes County/City of Bend

RIVER STUDY



Benham Falls by Bill McDonald, runner-up 1985 Dot Dotson's Deschutes River Photo Contest

April, 1986

Deschutes County/City of Bend

RIVER STUDY

April, 1986

River Task Force Committee:

**Craig Nielsen, Chairman/RTFC; Bend Parks & Recreation
District Board
Bob Bristol, Bend Urban Area Planning Commission
Jim Powell, Deschutes County Planning Commission
Dave Mohla, Supervisor, Deschutes National Forest
Bill Marlett, River Task Force Planner**

Because of the high groundwater table in the LaPine area, a potential conflict that has yet to emerge is the contamination of the groundwater (and ultimately, the surface waters) due to improperly or illegally installed septic systems upstream of Sunriver on both the Deschutes and Little Deschutes Rivers. 5/ 6/ As of 1977, there were about 11,000 platted lots in the vicinity of LaPine of which only about 15 percent had been developed. 7/ It has been estimated that 6,500 of these lots are located on what are considered unsuitable soils for conventional septic systems. 8/ As time passes and the subdivisions build up, it may eventually pose a threat to health and the tourism and recreation industry.

A second natural controlling feature of the upper Deschutes River is the lava flow in the Benham, Dillon, and Lava Island Falls area. This lava flow controls the upstream gradient of the river and, as a result, the river above Benham Falls does not have very much energy for the transport of sediment. Below Benham Falls, the gradient steepens dramatically with a consequent increase in energy for sediment transport. 9/

Water Regulation:

Streamflows in most of the upper Deschutes River Basin are controlled by the influence of reservoir regulation and irrigation diversions at Bend. Upstream of Bend, the natural, even flow from month to month, which the Deschutes River experienced prior to regulation, has been replaced by lower flows during the winter storage months and higher flows during the summer irrigation season. This is illustrated in Figure 3-3 which shows average monthly flows at Benham Falls for an unregulated period (1906-1921) and a regulated period (1963-1982). 10/ Crane Prairie and the Crescent Lake Reservoirs were built in 1922; Wickiup Reservoir was completed in 1949.

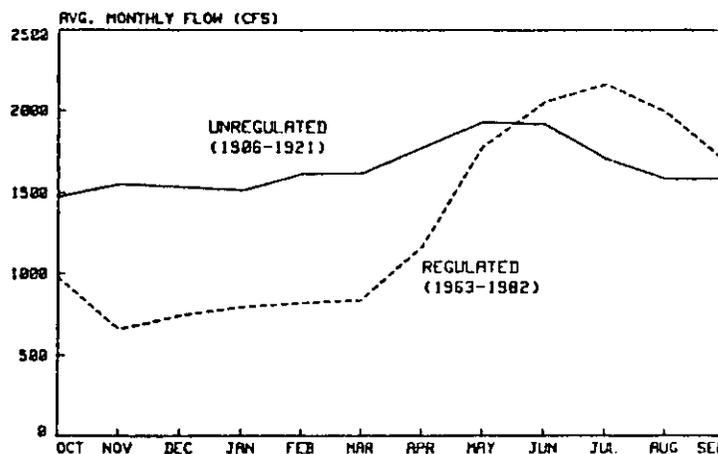


FIGURE 3-3. REGULATED VERSUS UNREGULATED FLOWS AT BENHAM FALLS

SOURCE: McCammon, Bruce 1985(b)

The effects of this alteration in flow have not been fully quantified, however, observations of the river's physical condition allows for the following subjective evaluations: the lower flow levels occur during the winter months when the pumice soils are most subject to frost heave and loosening. The sustained, above-normal flows provide the energy for streambank erosion and moving eroded bank material downstream. In addition, the longer duration of higher-than-normal flows means that the bank area is subject to the forces of moving water for a longer period of time than under natural conditions. Since this is a low-energy (low gradient) reach of the river, sediment transport capability is minimal and the stream should respond to the increased sediment load through deposition and accelerated lateral migration. In addition to becoming wider and shallower, the multitude of raw banks and undercut mass failure occurrences confirm this expectation. 11/ 12/ 13/ Based on the results of a streambank erosion survey conducted in 1978 from Wickiup Dam downstream to below Benham Falls, estimated streambank erosion rates generally range from zero to two inches per year. At several locations, however, rates of up to eight inches per year were also estimated to be occurring. No attempt was made in the survey to quantify how much of the streambank erosion is the direct result of the altered flow regime relative to what would occur under natural (unregulated) conditions. 14/

The Little Deschutes River heads in Klamath County and flows into the mainstem at Sunriver (RM 193). It is uncontrolled except for Crescent Lake Reservoir on Crescent Creek and the Gilchrist Lumber Company mill pond at Gilchrist. The only major diversion is the Walker Basin canal which irrigates 1,500 acres south of LaPine, with a maximum diversion right of 37.5 cfs.

The effects of the altered flow pattern discussed above also applies to the Little Deschutes River, but to a significant lesser degree. The flow regime of the Little Deschutes is not as exaggerated as the mainstem because the regulated flow from Crescent Lake Reservoir is not as great as those from Crane Prairie and Wickiup Reservoirs. In addition, the Little Deschutes River has a well-defined period of spring runoff which is reflected in the flooding that typically occurs. Typically, the peak flows that occur during the spring are much greater than the flows associated with storage release from Crescent Lake Reservoir which occur later in the summer.

The U.S. Geological Survey has maintained a continuous stream-gaging station and kept records of river stages on Little Deschutes River near LaPine since 1925. From that information and from studies of possible future floods on the Little Deschutes River, a knowledge of the local flood situation has been developed. The annual flood season extends from October through June, with a majority of the floods occurring during the period from February through June. During the winter, storms move inland from the Pacific Ocean, bringing periods of intense rainfall over the Pacific Northwest. Floods are a possibility

whenever the rainfall is abnormally intense or prolonged. Floods in the study area may occur several times during a single flood season. Snowmelt floods occur in the spring and early summer when freezing levels rise rapidly, causing rapid melting of accumulated snow. Winter floods are usually caused when the weather suddenly warms while the ground is still frozen and rainfall melts the snowpack. With the ground frozen or saturated, runoff becomes greater and more rapid. The direction of the storm path also influences the rate of runoff. Higher flows are generated when the storm front moves in a downstream direction, producing a build-up of flood waters. The Little Deschutes River generally remains above bankfull stage for two to three days during winter floods and six to seven days during spring snowmelt floods. 15/

Downstream of Bend, diversions of flow have resulted in extremely low water conditions in the summer and, in general, lower than average flows in the winter (due to upstream storage). Figure 3-4 illustrates the dramatic variation in flow from the headwaters of the Deschutes River to Lake Billy Chinook. The graphs show the average monthly flows between 1963 and 1982 for six locations on the Deschutes River. All six graphs are drawn to the same scale so comparison is possible. Also shown on each graph is the annual hydrograph for a wet year (1972) and a dry year (1978) within this 20-year time period. By looking at these graphs, one can see the increase in flows as the river moves from the upstream station (just below Snow Creek) until it reaches Benham Falls. The graphs for the stations at Bend and near Culver show the effects of irrigation withdrawal during the summer months. The flow near Culver is higher than that at Bend due to inflow of Tumalo Creek, Squaw Creek, springs near Lower Bridge, and irrigation return flow.

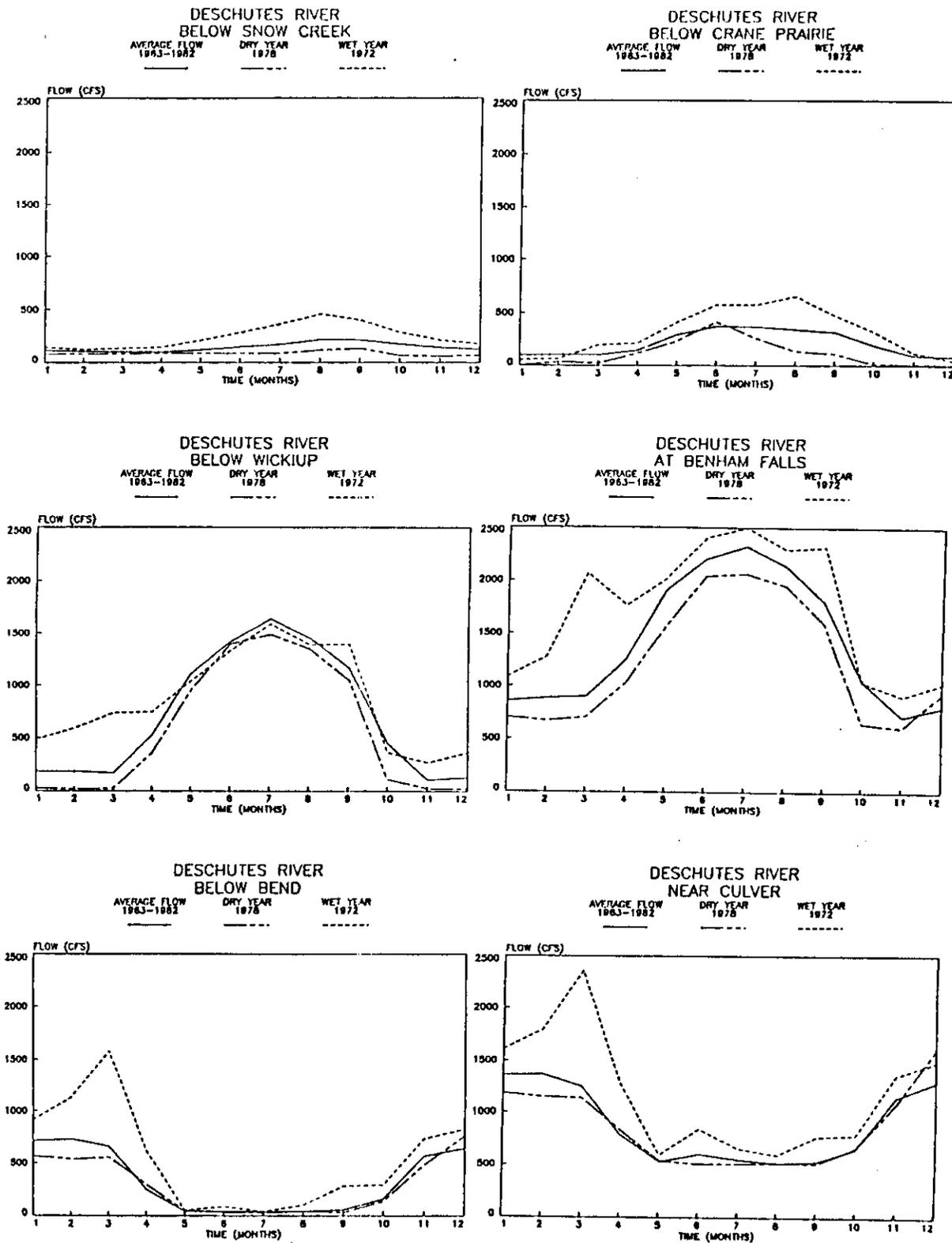


FIGURE 3-4. AVERAGE MONTHLY FLOWS AT SIX STATIONS ON THE DESCHUTES RIVER

SOURCE: McCammon, Bruce et al, 1984; pages 6 and 7

8. Steidl (North Canal) Dam; major.
9. Sawyer Park foot bridge too low; minor.
10. Rimrock West Road bridge too low; minor.

- Critical use areas within Bend urban area

1. Mirror Pond used for family recreation; only impounded water in entire reach except above the North Canal Dam.
2. First Street rapids used for whitewater training; need flows of 1100 cfs+. Used by:
 - a) Deschutes River Kayak and Canoe Club.
 - b) COCC Wilderness Training.
 - c) COCC Whitewater Race Club.
 - d) Nonaffiliated whitewater canoers and kayakers.

- North Canal Dam to Tumalo State Park; Class III+; need flows of 600 cfs+ as a minimum; becomes safer at higher levels except for one rapid.

Other River-Associated Recreation:

In addition to boating activities, hunting, fishing, and considerable recreational pursuits occur along the banks. Trail use by sightseers, horserides, skiers, hikers, bikers, photographers, wildlife buffs, campers, picnickers, etc., is common. This traffic has placed demands on trail maintenance and sanitation facilities within parks and on the Deschutes National Forest and created some trespass problems on private lands. 44/ 45/ 46/

Two of the area's resorts, Central Oregon Community College, and Bend Metro Parks and Recreation District, offer recreational programs that use the trails and lands adjacent to the river and provide some land "etiquette" education as well. 47/ Both Sunriver and the Inn of the Seventh Mountain provide horseback riding opportunities along the banks of the upper Deschutes; as shown in Table 7-9, 20,000 people availed themselves of this option in 1984. Bicycling and cross-country skiing are popular in Sunriver and on the roads and trails along the reaches from Benham Falls north and south to Sunriver and the Inn. The Inn has recently introduced snowmobile and mountain bike tours along these same routes. 48/ 49/

Numerous campgrounds, both developed and undeveloped, and parks are provided by the U.S. Forest Service, Oregon State Parks and Recreation Division, and Bend Parks and Recreation District around the reservoirs and along the rivers, particularly the Deschutes River. Most allow visitors to use the reservoir's or river's recreational amenities. Drake Park within Bend centers around the scenic and recreational values of the river and serves as a community focal point. 50/ 51/

TABLE 7-9
CHARACTERISTICS OF RECREATION ACTIVITIES
ON THE UPPER DESCHUTES RIVER

<u>TYPE</u>	<u>NUMBER OF 1984 PARTICIPANTS</u>	<u>PRICE</u>	<u>TOTAL REVENUES</u>	<u>% VISITOR PARTICI-PATION</u>	<u>% RESIDENT PARTICI-PATION</u>
BOATING					
Rafting	21,408**	\$14	\$299,712	14.4*	19.8
	2,500**	\$14	\$ 35,000		
	1,050***	N/A	N/A		
Canoeing	3,000a/	\$ 7	\$ 21,000	14.4*	18.3
	8,200b/	\$14	\$115,800		
Kayaking	1,050***	N/A	N/A	14.4*	3.9
FISHING	34 Guided Trips	\$75-\$100 (1st person) \$35-\$75 (ea. addtl.)	\$ 5,000	27.4 (lake) 18.6 (stream)	66.2 (lake) 62.0 (stream)
OTHER RECREATION					
Horseback Riding	10,000a/ 10,000b/	\$ 9-\$11 \$10-\$35	\$312,000	7.8	10.8
Bicycling	Unknown	Unknown	\$150,000	Unknown	Unknown

* Rafting, canoeing, and kayaking were combined in one question on our visitor survey. 14.4 percent of the respondents participated in one or more of these three activities.

** Commercial Outfitters

*** Private

a/ Inn of the Seventh Mountain

b/ Sunriver

SOURCE: U of O, 1985; page 3-5

Table 7-10 identifies the locations visited by visitors and residents responding to the surveys.

TABLE 7-10
LOCATIONS VISITED IN CENTRAL OREGON
BY VISITORS AND RESIDENTS

<u>LOCATION</u>	<u>VISITORS a/</u>	<u>RESIDENTS b/</u>
Bend	88.2%	79.8%
Deschutes River	49.9	75.3
Century Drive/High Lakes	25.1	66.9
High Desert Museum	35.3	61.1
Sisters	44.3	56.9
Wickiup/Davis/Crane Prairie	28.1	52.4
Mount Bachelor	30.6	52.4
Sunriver	33.6	51.2
Redmond	32.0	50.9
Paulina/East Lakes	16.9	44.9
Bend River Parks		43.7
High Desert Area	13.3	41.6
Tumalo/Sawyer/Cline Falls Parks	15.3	41.3
Camp Sherman/Metolius River	13.5	41.0
Lavalands	31.3	40.4
Tumalo Falls		40.1
Smith Rock	7.0	39.5
Shevlin Park		37.7
LaPine	33.1	36.1
Benham Falls	2.9	31.9
Little Deschutes River		28.3
Dillon Falls	2.8	28.0
Three Sisters Wilderness	10.0	27.4
Black Butte Ranch	10.7	25.6
Fall River		22.0
Paulina Creek		21.7
Three Creeks Lake		21.1
LaPine Recreation Area		16.0
Crooked River Ranch	1.6	14.5

a/ Visitor parties (Number of Respondents: 684)

b/ Resident households (Number of Respondents: 332)

SOURCE: Ragatz (1985); adapted from Table 5-3

Table 7-11 shows the recreation activities of residents and visitors to Deschutes County.

TABLE 7-11
RECREATION ACTIVITIES IN CENTRAL OREGON
OF VISITORS AND DESCHUTES COUNTY RESIDENTS

<u>RECREATION ACTIVITY</u>	<u>VISITORS a/</u>	<u>RESIDENTS b/</u>
Camping/Swimming/Picnicking		80.5%
Shopping	55.1%	
Sightseeing the Area		71.9
Sightseeing the Mountains	52.8	
Sightsee in Town	48.7	
Sightsee along Deschutes River	47.2	
Sightsee in Desert	24.7	
Visit a Museum or Historic Site	47.2	68.6
Visit a State Park	42.4	68.0
Restaurants/Clubs for Entertainment	36.7	
Visit Friends/Relatives	35.7	
Lake Fish	27.4	66.2
Attend Fair/Festival/Rodeo	4.8	64.7
Stream Fish	18.6	62.0
Hunt	3.4	48.5
Hike/Backpack/Climb	24.1	47.0
Viewing/Studying Wildlife	21.2	39.8
Cross Country Skiing	8.8	33.2
Attend Cultural/Arts Events	6.0	33.2
Attend Organized Sports Events	4.1	30.2
Attend a Class, Workshop, or other Educational Activity	3.3	28.4
Downhill Ski	8.8	24.9
Golf	7.3	23.7
Waterski/Other Powerboating	4.3	23.4
Off-road Vehicle Use	2.5	21.9
River Rafting/Kayaking/Canoeing	14.4	
Raft on the River		19.8
Canoe on the River		18.3
Horseback Riding	7.8	10.8
Sail/Windsurf	1.2	5.4
Kayak on the River		3.9

a/ Visitor parties (Number of Respondents: 677)

b/ Resident households (Number of Respondents: 334)

SOURCE: Ragatz, 1985; adapted from Table 5-6

timber industries. The other critical issue was the need to plan for long-term resource use in a climate of rapid regulatory change. There is a concern that major restrictions on mining and timber harvesting will be imposed in the current political climate that will severely restrict future resource use. Another issue discussed was trespassing, particularly by off-road vehicles, in resource extraction areas. There were some concerns expressed about cattle grazing in the river corridor.

- ** - Setbacks
- * - Visual Impacts
- Noise
- Public Awareness
- Wildlife Displacement
- Loss of Gravel Deposits

Boating:

Three distinct issues received most attention in the boating workshop--motorboat use, insufficient and excessive flows, and problems with access. Two concerns were cited about motorboat use--safety hazards to other users from reckless use and increases in streambank erosion caused by boat wakes. These concerns apply to the segment from Wickiup Reservoir to above Benham Falls, but particularly from LaPine State Recreation Area to Benham Falls. The concerns about flows are also specific to segments. Good potential boating reaches downstream of Bend are unrunnable in the summer months due to upstream irrigation withdrawals. In the commercially-run segment from Aspen Camp to Lava Island Camp, the concern is excessive flows at times in the irrigation season which render some reaches unsafe for boating. Access problems are already well documented--the need for a portage at Pringle Falls, a public takeout below the Colorado Street Bridge, and additional access along the Little Deschutes River. There was also some discussion of problems related to heavy use in the commercially-boated segment and the need for improved sanitation and public education.

- ** - Riverflow
- * - Motorboats
- Lack of Public Access
- Signing
- Sanitation

Irrigated Agriculture:

The primary concern expressed by irrigation district representatives in this workshop was supplying water to their landowners as efficiently as possible. There was strong interest expressed in conserving water by lining canals, but the absence of incentives for conservation was repeatedly cited as a problem. There was concern about public and political pressure developing for the reallocation of water rights currently owned within the irrigation districts. The prevailing attitude was that some

OPEN SPACE AND RECREATION CONFLICTS

In addition to the conflicts previously mentioned in the discussion of the individual state parks, most conflicts with undeveloped land next to rivers and streams are in some way related to private lands and existing development that impair public access and/or diminish visual quality. Based on the River Task Force Committee's workshops, the following conflicts were felt to be the most significant as they relate to open space and recreation:

- River Flow
- Lack of Public Access and/or Trail System
- Harrassment and Disturbance of Wildlife

To a lesser degree, the following conflicts and issues were also identified:

- Motorboat Use
- Vandalism
- Inadequate Sanitation Facilities
- User Conflicts
- Riverbed Ownership
- Development Setbacks
- Future Access
- Signing on River
- Land Ethics/Public Awareness

However, it should be noted that there are development interests that are pertinent to this assessment that must also be accommodated and encouraged. A good example of the need to have intensively developed areas along the Deschutes River would include land within the Bend city limits and, to a lesser degree, outside the city limits (but within the urban growth boundary), Sunriver, and the Tumalo rural service center. Even in these cases, however, it is important that the public have access to as much river frontage as possible with an emphasis on continuity and providing a riverfront "atmosphere".

Water flows and access problems were identified as the two major conflicts with recreational boating (refer to discussion of recurrent issues in the "Citizen Involvement" chapter). While water flows are stabilized by the lava flow at Benham Falls on the Deschutes, irrigation impoundment during the nonirrigating season lowers flows below Wickiup Dam to the confluence of the Fall River. The Deschutes below the North Canal Dam provides kayaking opportunities during the nonirrigating season, but has minimal flow during periods of water diversion. Released irrigation waters both help and hinder the whitewater activities in the upper Deschutes. The released irrigation waters help supplement natural flows, but sometimes are high enough to make whitewater activities unsafe and unfeasible in some of the

At Pringle Falls, a portage route could easily be acquired to bridge the private property between two popular boating reaches. A legal takeout at the Colorado Street Bridge and more access along the Little Deschutes River are other projects with a documented need and a definable solution. One of the challenges that the public agencies and private organizations along the Deschutes will have to face is providing for future needs to access. There is a growing demand for access to the river below Bend and on Tumalo and Squaw Creeks. This demand must be anticipated with a program to provide legal and physical access to these areas before options to acquire sites and corridors are foreclosed by land speculation and development.

Low Flows: Concerns about low flow surfaced in the fisheries, wildlife, boating, land use development, and irrigation workshops. Flow reductions in the Deschutes River below Bend and Squaw and Tumalo Creeks during the irrigation season, and in the Deschutes River below Wickiup Reservoir in the winter were the main issues. Flow reductions are the result of irrigation storage and diversion under water rights allocated in the early 1900s. There has been considerable public discussion about minimum streamflows on the Deschutes River, some of which has disregarded the legal and economic repercussions of transferring water rights without compensation to augment instream flows. Irrigation district members are justifiably concerned that their legal rights to water will be usurped politically. It is absolutely critical that this issue be resolved through the cooperation and consent of the irrigation districts and irrigators. Options to augment flows through water conservation, legal transfers, or a system of incentives to the irrigation districts were discussed, including the needed revisions to Oregon water law to pursue these options.

Other recurrent issues, to a lesser degree, included the following:

- Visual Impacts
- Setbacks
- Vandalism
- Water Quality
- Sanitation
- Wildlife Displacement
- Land and Water Ethics
- Public Awareness and Education

GOALS AND POLICIES

Water Resources

It is recognized that many of the following goals are beyond the scope of county or city jurisdiction and require action by state agencies or the Legislature. These goals are included because they have a crucial role in the preservation and revitalization of the Deschutes River Basin.

GOALS

- A. Stabilize the flow regime of the upper Deschutes River basin so as to maintain or enhance a healthy aquatic and riparian environment while providing for irrigation and recreation needs. The minimum streamflows recommended by the Oregon Department of Fish and Wildlife should be considered as target minimum flows for the respective river reaches.

Policies:

1. The City of Bend and Deschutes County shall establish a water conservation committee including, but not limited to, local representatives from the irrigation districts, Departments of Water Resources and Fish and Wildlife, USFS, Deschutes County and City of Bend Planning Departments, and Deschutes County and City of Bend Planning Commissions to provide an ongoing forum regarding water management on the Deschutes River and its tributaries and making recommendations to appropriate agencies. The committee should:
 - a) Request assistance through BPA's technical assistance program for technical improvements in methods of irrigation and means of conservation of both water and energy.
 - b) Request assistance from the Water Resources Department, Bureau of Reclamation, and Mid-State Soil and Conservation District, to initiate an in-depth study and priority of actions that should be taken to improve the irrigation districts' delivery systems.
 - c) Assist in the implementation of the goals and policies of this section.

B. Support the designation of instream use as a beneficial use.

Policies:

1. The County and City of Bend shall petition the Water Resources Department to amend the appropriate provisions in the Deschutes River Basin Plan to reflect the results of this River Study.
2. The County and City of Bend shall petition the State Legislature to initiate the necessary changes in state law to designate instream use a beneficial use and to ensure that rights designated to instream use shall not be subject to downstream appropriation by holders of equal or junior rights. In conjunction with the designation of beneficial instream uses, the Water Resources Department should be asked to adopt a uniform, easily-accomplished process for the transfer of water rights to instream use.

C. Increase streamflow below Wickiup Dam during the nonirrigation season. Establish a flow release during the irrigation season that will reduce bank erosion while providing for irrigation, fisheries, wildlife, and recreation needs.

Policies:

4. The County and City of Bend shall request the Bureau of Reclamation to conduct a feasibility study on the Monner Reservoir site, including (1) the nonirrigation flow required for filling, (2) to what extent gravity feed irrigation would be possible, and (3) to what extent low flows below Wickiup Dam would be augmented during the nonirrigation season.
5. The County and City of Bend shall request the Bureau of Reclamation, United State Forest Service (USFS), United State Geological Survey (USGS), and Department of Environmental Quality (DEQ), to establish a bedload sediment monitoring program and to determine an appropriate maximum discharge from Wickiup Dam. This determination should address the effects of bank erosion on rehabilitation of spawning habitat, riverfront property, recreation, and scenic values. Determination of flow regimes shall be accomplished through interagency cooperation with the affected irrigation districts.
6. The County and City of Bend shall request the Bureau of Reclamation to determine what the consequences would be to irrigation districts, recreation use, and the stabilizing of water releases below Wickiup Dam by maintaining a lower level of water in Crane Prairie

Reservoir, and diking off known high loss areas within the reservoir to minimize excess seepage.

D. Implement and enforce incentives for water conservation.

Policies:

7. The County and City of Bend should encourage the Water Resources Department, irrigation districts, and municipalities utilizing diverted waters to enforce the "without waste" provision in water rights.
8. The County and City of Bend should support efforts by the irrigation districts to provide financial incentives to conserve water. This incentive could be determined, for example, by a water use fee on the minimum amount of water required (commensurate with the plant/soil requirements determined by the Midstate Soil and Water Conservation District) and an excess charge for water used over the base amount.
9. Deschutes County and the irrigation districts should explore developing an intergovernmental agreement to provide that developers partitioning land and attendant water rights be responsible for the efficient distribution of water and shall have the affected irrigation district's approval before final plat approval by the County. The irrigation district should not deliver water to the subdivision greater than that which would have been due to the parcel as a whole (i.e., the district shall not replace water lost by subdivision distribution).
10. The irrigation districts should continue to give consideration to shortening the summer irrigation season when soil moisture conditions and cistern reserves allow.
11. The County and City of Bend should support efforts by the irrigation districts within the upper and middle Deschutes River Basin to allow expansion of irrigated land within a district's boundaries, as part of a means to share conserved water, for those districts that implement water conservation and instream flow enhancement programs.
12. The irrigation districts should be encouraged to stagger their withdrawals of water during the winter, when weather conditions permit.

E. Maintain streamflows in the Little Deschutes River and its tributaries that will provide for irrigation, fisheries, wildlife, and recreation needs.

Policies:

13. The Oregon Department of Fish and Wildlife and Tumalo Irrigation District should be encouraged to negotiate a minimum release out of Crescent Lake.
- F. Increase instream flow below the North Canal Dam during periods of water diversion.

Policies:

14. The County and City of Bend should explore, with the irrigation districts and Water Resources Department, options for providing additional flows below the North Canal Dam during the irrigation season. These additional flows shall not take place of the current 30 CFS spilled by agreement with Central Oregon Irrigation District (COID) and North Unit Irrigation District (NUID). Options that might be considered include shared conserved water, public participation in irrigation district improvements, public "buy down" of interest rates on improvement loans, and public or private purchase/transfer of water rights for instream use.
- G. Increase streamflow below the irrigation diversions on Tumalo Creek during periods of water diversion.

Policies:

15. The City of Bend shall continue to implement a water conservation program that emphasizes enforcement, metering, and other methods to avoid wasting water.
16. The City of Bend should continue to replace the Tumalo water supply pipeline. When this pipeline is complete, gates should be installed at the intake, which would help stabilize withdrawals from Tumalo Creek.
17. The City of Bend and Tumalo Irrigation District should explore options to improve instream flows in Tumalo Creek. Tumalo Irrigation District should consider apportioning their water draws to maximize the use of the Tumalo Feed Canal rather than the Columbia Southern Canal. This action should increase water flows through Shevlin Park and minimize the excessive water losses that now occur in the Columbia Southern Canal.
18. Tumalo Irrigation District should explore means to eliminate the Columbia Southern Canal. A portion of the water saved should revert to instream use to maintain a minimum flow in Tumalo Creek below the Tumalo Feed Canal diversion.

- H. Increase streamflow below the main irrigation diversion on Squaw Creek during periods of water diversion.

Policies:

19. The County and City of Sisters, in conjunction with the Squaw Creek Irrigation District and the Water Resources Department, should explore options for providing additional flow below the irrigation diversions on Squaw Creek. These options might include, but not be limited to, shared conserved water, public participation in irrigation district improvements, public "buy down" of interest rates on improvement loans, and public or private purchase/transfer of water rights for instream use.

20. The County shall request the Oregon Department of Fish and Wildlife to petition the Water Resources Department to withdraw Squaw Creek from any further appropriations.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PacifiCorp Electric Operations)
)
) Project No.: 2643-001
) (Bend Hydroelectric Project)
Application for New License)
)
_____)

**SUBMISSION BY AMERICAN RIVERS, PACIFIC RIVERS COUNCIL AND OREGON
TROUT OF ADDITIONAL EVIDENCE TO AID THE COMMISSION IN DETERMINING
THE NAVIGABILITY OF THE DESCHUTES RIVER, OREGON**

CERTIFICATE OF SERVICE

I, Katherine P. Ransel, hereby certify, under penalty of perjury, that on November 22nd, 1995, a copy of the foregoing was mailed to the following parties and/or counsel for parties in the above captioned matter:

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