

MANAGEMENT CONFLICTS
IN THE BULL RUN RESERVE, OREGON

by

WALTER JEI MAH

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TABLE OF CONTENTS

ABSTRACT	1
INTRODUCTION	1
PROBLEM STATEMENT	2
STUDY AREA	3
Reserve and Watershed	5
System Description	5
METHODOLOGY	6
FINDINGS	7
Conception of Reserve	8
Opening of the Reserve to Logging	9
Opening of the Reserve to Recreation	11
The Lawsuit	14
Judge Burns' Opinion	16
FUTURE OPTIONS	18
The Draft Environmental Statement	18
BRIG-OEC Proposal	22
City Resolution	23
TELEPHONE SURVEY	24
CONCLUSION	25
FOOTNOTES	27
APPENDIX I	30
APPENDIX II	31

BIBLIOGRAPHY 33

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LIST OF FIGURES

Figure 1 Location map of Bull Run Reserve 4

Figure 2 Boundary changes for the Bull Run Reserve 13

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ABSTRACT: Bull Run Reserve was used as a case study of conflicts in management. The Bull Run Watershed supplies the Portland Metropolitan area with its water. Conflicting goals led to various management decisions. Sustained yield logging was allowed within the watershed. Concern that continued logging would lead to increased turbidity and necessitate installation of filtration facilities, led to a class action suit and the subsequent closure of the Bull Run Reserve to all activities. Resolution of the conflict is needed.

INTRODUCTION

Management of watersheds for municipal water supply has taken various forms. Many states and municipalities allow recreation of all types and other economic activities within the watershed. Some watersheds have been closed to maintain the pristine and natural quality of the water.

Watersheds that are closed to public use or protected from the public are found in the Far West and New England.¹ This approach prevents utilization of other resources within the watershed, but a high quality source of water is ensured.

The Bull Run watershed in the Bull Run Reserve, the sole source of water for Portland, Oregon, is a closed watershed.

The conflict over which benefits to utilize from the Bull Run Reserve needs study. Pro-logging interests argue that allowing the timber to be idle in the Reserve would be costly to the local economies dependent upon the timber harvest and in terms of economic wastage if the trees were allowed to die. However, hasty decisions to harvest the timber could prove risky to the water quality for Portland. Portland's water system does not utilize filtration and only chlorinates the water. Increased turbidity from logging and other uses could harbor contamination by pathogenic organisms introduced by infected individuals and may be harmful to the water users.

This case study will explore the relationships that influenced decisions about management of Bull Run Reserve.

PROBLEM STATEMENT

Bull Run Reserve has been managed for use in various ways. The viewpoints of the various managing agencies would dictate the approach to managing the Reserve. The purpose of this paper will be to examine the relationships between decisions to manage the Bull Run Reserve and various sociological, economic, and political events.

The watershed is protected from trespass by the 1904 Trespass Act, thereby insuring a pure source of domestic water supply for the Portland Metropolitan area. However, the city has condoned timber harvest in direct contrast to the initial acts which formed the Reserve.² Economic and political pressure forced Portland to allow logging under the circumstances.

In 1973 a class action suit was filed to stop logging in the Reserve. The plaintiffs feared that continued timber harvest, causing increased

turbidity, would necessitate the need for installing a filtration plant estimated at an initial cost of \$30 to \$100 million with an annual operating cost of \$1 million. This cost, they charged, would be borne by the Portland citizen and not those who caused the turbidity.

Present city plans to insure its water supply are to secure additional sources of groundwater outside the Reserve and to dilute Bull Run water if turbidity becomes a problem.³ These new sources would become available between 1981 and 1985 at an estimated cost of \$13.7 million.

On the other hand, Forest Service personnel has interpreted the 1904 Trespass Act as allowing sustained yield logging because this logging protects the watershed. They fear that if the forest is not logged, the result will be a conflagration consuming the forest. Allowing the old growth forest to degenerate and become susceptible to a conflagration would waste the timber resource and impair the water quality through erosion, turbidity, and debris.⁴ Thus, the Forest Service spokesmen state that loggers are not unlawful entrants.

STUDY AREA

The Bull Run Reserve is 139,520 acres (214 sq. miles) of forested land within the Mt. Hood National Forest. The Bull Run Watershed lies between 26 and 43 miles east of Portland and supplies the city and surrounding suburbs, some 700,000 people, with their total water supply (Figure 1). The watershed lies almost entirely within the Reserve boundaries with an area of 67,329 acres (102 sq. miles). Water in the watershed is impounded in reservoirs and transmitted through aquaducts to the city and distributed with chlorination as its only treatment. Bull Run Lake

Location of Bull Run Reserve

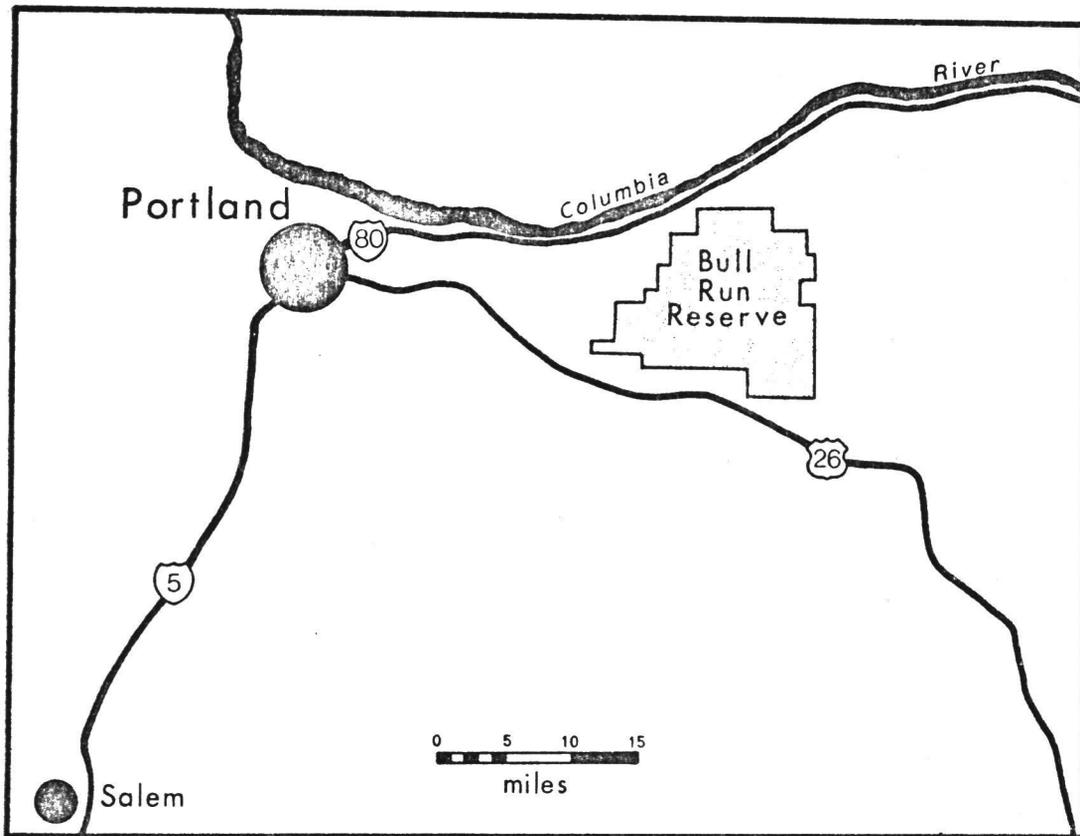


Figure 1

was formed as a result of glacial scouring during the last ice age and through underground drainage becomes the source of the Bull Run River.⁵

The annual precipitation ranges from 80 inches in the lower elevation to 140 in some higher elevations. This provides the Bull River with an average annual flow of 516 million gallons per day (mgd), well above present water demands (See Appendix 1).

Reserve and Watershed

The Bull Run Reserve was originally formed to protect the future water supply of Portland by encompassing it as a Reserve. However, owing to inaccurate drainage mapping, twice as much area was included in the Reserve. The Bull Run Watershed comprises only half of the Reserve acreage. The implication for management of the Reserve is that the non-watershed land could be utilized for other purposes without effecting the water quality.

The Reserve is well forested, consisting of old growth Douglas Fir at the lower elevation, with hemlocks and true firs at the higher elevations. It is estimated that the Reserve contains 4 billion board feet (bbf) of timber with 2.7 bbf of trees in the watershed area. The average size of a mature tree in the Reserve ranges from 35-50 inches diameter at breast height. However, old growth Douglas Fir are found that average 5-6 feet in diameter. Although there is evidence of previous slides, the watershed is stable compared to similar watersheds in the coast or Cascade range.⁶

System Description

The water supply system for Portland consists of the Bull Run Lake and three reservoirs which have a total storage of 22.6 billion gallons. The three conduits deliver an average of 104.5 mgd with a capacity of 225 mgd, while usage ranges from 72 to 250 mgd. The storage capacity of the distribution system is 250 mgd which would satisfy one day's use. Daily per capita consumption is 156 gallons and the number of people served is generally quoted as 700,000. As of 1968, the system was worth \$50

million.⁷

In 1972 the Environmental Protection Agency (EPA) classified the Portland water system as "provisionally acceptable." This surprised many of the water users given the pureness of the source of the water. The classification was given because the system has a low reliability, owing to turbidity problems, lack of filtration, and Portland's use of six uncovered storage reservoirs.⁸ Furthermore, the major reservoirs are all in line and all three conduits take water from the lowest reservoir in an area of about 1 sq. mile. The conduits lie parallel to each other and cross over old slide areas and would be susceptible to damage from future slides. Two of the conduits cross the Willamette River under the same bridge and many of the cities holding reservoirs are uncovered.⁹ What the EPA was concerned with was the end product from the taps rather than the source of the water.

METHODOLOGY

A review of pertinent literature was undertaken to gain appropriate background information concerning the economic, ecological, technical, and legal aspects of managing the Bull Run Reserve.

The position on use of the Reserve by managers of the Bull Run Reserve and interested social and economic groups was elicited through the use of interviews and position statements. These positions were compared to see what, if any, influence exists in formulation of management decisions for the Reserve.

A public telephone survey was conducted in the Portland Metropolitan area drawing a random sample from the telephone book. The sampling

instrument elicited responses revealing the public's position concerning management of the Bull Run Reserve. It covered the topics of use of the land within the watershed, use of the land outside the watershed but within the Reserve, who should make decisions about use, and future additional costs for a water supply. The position elicited was then compared to the opinion of various managers of the Reserve.

FINDINGS

The existing problem is one of providing multiple uses without conflict. Managerial perception plays a major role in dealing with the conflict. First, a manager's attitude can reduce or eliminate the conflict by trivializing or ignoring the problem. And second, it can limit the modes of actions or tacts that can be taken.

Watersheds are managed for various degrees of use in the United States. A pattern of municipal watershed use can be discerned in which restricted use is found in the Northeast and the Far West while the rest of the U. S. allows various degrees of use.¹⁰

In the Northeast, the restrictive policy is a result of state action, whereas in the Far West, the restrictive policy is a result either of community action or legislative decree.¹¹ In Washington, Tacoma's Green River watershed and Seattle's Cedar River watershed have restricted public access policies and each supports logging in the watershed.¹² Unlike Portland's Bull Run Watershed, however, both watersheds are approximately twice as large and could dilute a large influx of turbidity and each city has additional sources of supply. The lack of a reserve water supply increases the conflict for management of Bull Run Reserve.

Conception of Reserve

Originally, Portland took its water supply from the Willamette River. By 1882, an increase in the amount of sewage in the River caused a search for another source of water.

In 1885 the Oregon State Legislature authorized the formation of a water committee to search for a new source of water for the growing city. Potential long-term sources were investigated after the Portland Water Company was purchased which supplied water with wells and pumps from the Willamette River. Of the several sites that the committee chose, Bull Run was determined the best, owing to its high elevation and its undisturbed quality.¹³

Most of the land was owned by the federal government and on June 17, 1892, the Bull Run Division was proclaimed a public Forest Reserve by President Benjamin Harrison under the provision of the Act of March 3, 1891, 16 USC 471, which enabled national forests to be formed by decree of the President of the United States.¹⁴ In 1897 Congress enlarged the purpose of forest reserves to specifically include municipal watersheds.¹⁵

The Reserve was further protected in 1904 by an Act of Congress which prohibited trespass by any person not directly related to the protection of the watershed.¹⁶ Those exempted included forest rangers, federal and state officers, and employees of the water board of the City of Portland conducting their duties. This Act was "An Act for the protection of the Bull Run Reserve and the sources of the water supply of the City of Portland, State of Oregon; commonly called the 1904 Trespass Act." The situation remained the same, with public entry restricted, until the mid 1950's.

Opening of the Reserve to Logging

"Logging began in 1935 with a small blowdown operation, on city owned land, involving about 40 acres. From then on until 1955, it was desultory . . . limited to a very few selective blowdown and other salvage-type operation."¹⁷

Logging increased in the Bull Run Reserve between 1954-1958. Since 1958 a total of 870 million board feet (mbf) have been cut, 579 mbf inside the watershed and 290 mbf inside the Reserve but outside the watershed. By 1975 the area cut was equal to 15% of the Reserve. The annual cut in clearcuts of 16-40 acres equals 1% of the Reserve acreage and usually accounts for 16% of the total cut for Mt. Hood National Forest. From 1973 to 1977 the Forest Service planned to conduct 78 timber sales involving 28 mbf, operate 19 rock quarries, construct 50.4 miles of road, and pave 68.4 miles of existing road in the Bull Run Reserve.¹⁸

The Reserve, as previously noted, is heavily forested predominantly with old growth Douglas Fir, 400-600 years old. Pressure to utilize this resource came from the Forest Service and from Congress. The first fear was that fire was becoming an increasingly dangerous hazard. Even though the area receives a large annual amount of precipitation, the great number of snags present due to age and previous lightning strikes greatly increase the risk of a major conflagration. Second, old growth forests become more susceptible to insect infestation and disease. An increase in the numbers of dead trees would provide fuel for fires. Since the watershed was closed, a road system was not present to be able to facilitate fire suppression or removal of dead or down trees. The city acknowledged the need for access roads for fire protection and suppression in 1954.

Third, an increase in the demand for timber in the United States brought attention to this resource. In an attempt to convince the City of Portland that timber harvest in the watershed was feasible, the Forest Service set up an experiment within the watershed during which three smaller watersheds would be logged and the water quality would be monitored for these watersheds. The clearcuts were small and the timber harvested worth \$75,000 was given to the city in 1955. This was called the B-1 study and was to be ongoing for 20 years. Fourth, the amount of timber in the Reserve, estimated at 3.6 bbf, would be too much to waste simply by allowing it to pass through old age and die.

It was reported to Congress by Comptroller General Joseph Campbell, that failure to log Bull Run was costing an estimate of one million annually.¹⁹ The Comptroller General was critical of the 1955 transaction to give Portland 1.8 mbf worth \$75,000 to prove no damage to water quality. He felt that the city should compensate for the loss of revenue under the Forest Management Act of 1940.²⁰ The Act states that if a municipality objects to the utilization of timber or other resources on national forest lands and the Secretary of Agriculture agrees to withhold such resources from utilization, the municipality shall reimburse the Forest Service for the loss of net revenues which would have been derived from the resources.

In 1958, under this perceived threat, Portland offered to buy the land at a nominal fee but was turned down.²¹

By 1959, the Portland City Council was convinced that timber harvest was desirable under the circumstances, and it entered into a cooperative agreement with the Forest Service.²² This agreement of March 11, 1959

stated that the Forest Service would manage the timber harvest for both city and federal lands in the watershed.²³ They estimated that an annual rate of 4.5 mbf would be cut from the city's land at a return of \$200,000. The reported reasons for the commencement of logging were protection from serious forest fires and to salvage diseased timber.

The City of Portland had little to gain from this outcome. The gain of \$200,000 would have been a small fraction of their total budget while the risk to their water supply was high. However, there was little Portland could do as extensive logging had commenced two years prior to their agreement and the possibility of an annual payment of \$1 million to the Forest Service could not be shrugged off.

With the decision to allow logging in Bull Run, the Forest Service and the timber related industries gained the use of the timber resource. This decision was in concurrence with Forest Service policy which declared uses for the national forests' to include timber, range, recreation, watersheds, and wildlife and fish purposes. The Forest Service felt that this was supplemental to, but not derogatory to, the purpose for which Bull Run Reserve was established. The goals of the Forest Service are optimum efficiency and public benefit, not necessarily the combination of uses that would yield the greatest dollar return or greatest unit output.²⁴ The Forest Service followed this when they opened the Reserve to recreation in 1959.

Opening of the Reserve to Recreation

On August 12, 1959, an Administrative Order issued by the Forest Supervisor of Mt. Hood National Forest opened 41,600 acres (65 sq. miles)

of the original Reserve to public use (Figure 2). The area opened was not in the Bull Run watershed and therefore did not affect the water quality. This was done in concordance with Forest Service policy for multiple use of forest lands and in response to the rising demand for recreational opportunity. Since WWII, increasingly more people had additional time and money to use as they pleased. Recreation proved to be an increasingly prominent outlet. The area in Bull Run set aside for public access was developed through the years for recreation pastimes so that today it includes vistas, campgrounds and hiking trails for handicapped persons.

The obvious beneficiaries of this decision were the recreationists. These areas situated only 30 to 40 miles from Portland were ideally located for the residents of the Portland Metropolitan area.

What was lost in these two decisions were natural forest areas for study and research, in addition to natural wildlife habitats and animals dependent on those habitats. However, at that time, the conservation movement had not become popular so that there was no public outcry at the loss. The general attitude of the public was reflected in part by the Oregonian editorials extolling the virtues of the pure Bull Run water and suggesting use within the Reserve while not impairing the water quality.²⁵

Recreation will not be extended into the watershed for many reasons. The public attitude is strongly against recreation in the watershed. In 1971 when the Larch Mountain-Bull Run Management Plan was released which would have allowed recreation to extend to the watershed, public sentiment was vehemently against it.²⁶ Moreover, the Portland City Council, Portland Bureau of Water Works, and the State Health Department have taken

Boundary Changes for the Bull Run Reserve

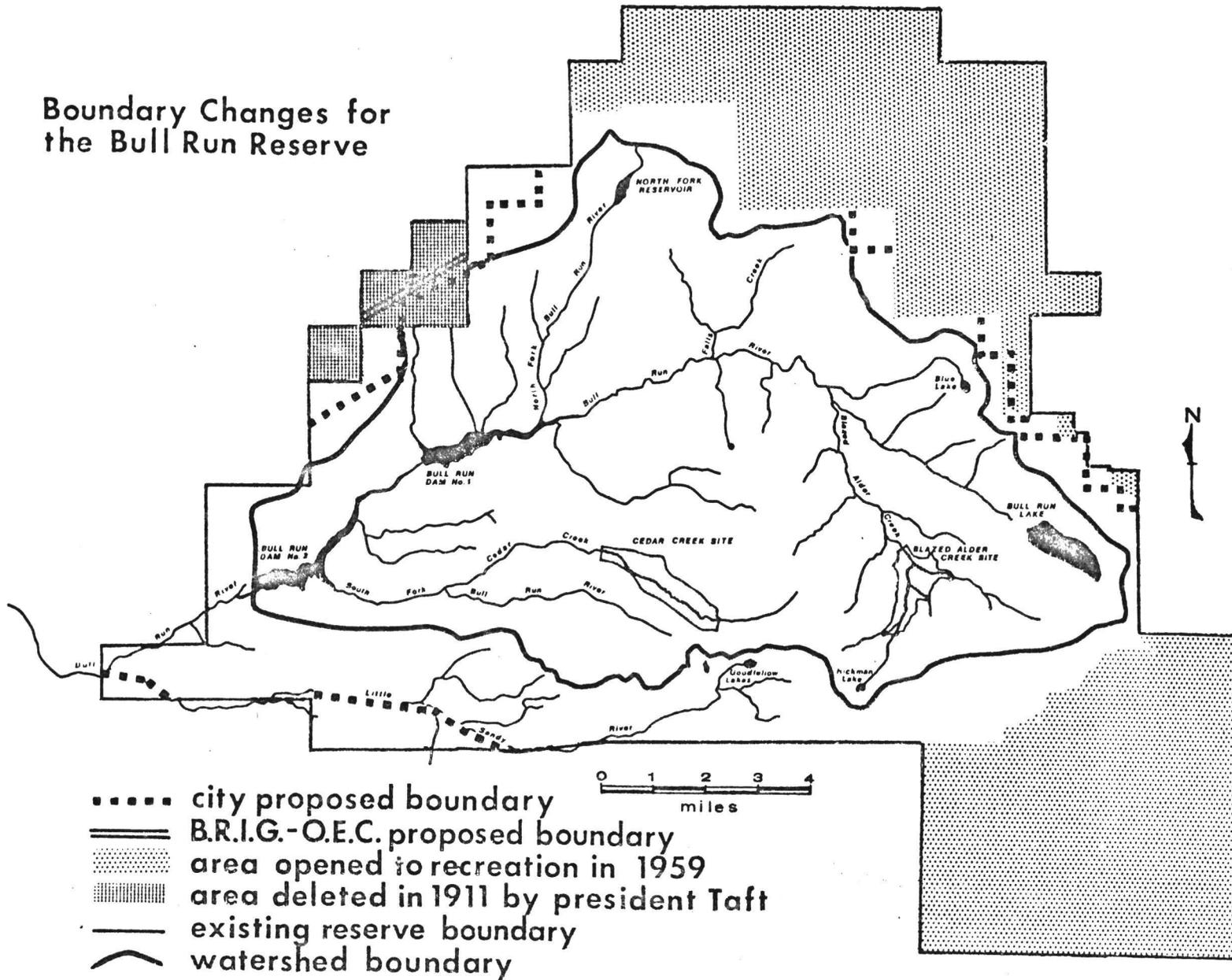


Figure 2

stands against recreation as it would be too risky without filtration.²⁷

The Lawsuit

The lawsuit was filed as a class action suit by Dr. Joseph L. Miller, Jr., Amy Miller, the Oregon Environmental Council, and the Northwest Environmental Defense Center on behalf of the water users of Portland. It asked that logging in the Reserve be enjoined. The plaintiffs felt that the logging operations in the Reserve endangered the water quality and they wished to avoid the costs of installing a filtration plant. They also charged that the Forest Service was not fulfilling its obligation to protect the Reserve. The Forest Service countered that it was fulfilling its obligations to the utmost and that closure of the Reserve would create severe economic problems.

The plaintiffs claimed that the Forest Service actions were wrong because not only did they breach public trust, but also violated four acts.²⁸ First, the Organic Act of 1897 which forbid removal of trees other than dead, mature, or large trees marked for cutting in the natural forests. Second, the National Environmental Protection Act of 1968 because logging activity, such as harvest, road construction, rock quarrying and public access was allowed without preparation of an Environmental Impact Statement (EIS). Third, the Multiple Use Sustained Yield Act of 1960 which required management of renewable resources in national forests so that they are utilized in the combination of uses best meeting the needs of the American people; without impairment of the land's productivity; not the greatest output or return. And fourth, the 1904 Trespass Act which states that its purpose was for "the protection of the Bull Run Forest

Reserve and the sources of the water supply of the City of Portland, State of Oregon." Exempt persons were forest rangers, and employees of the Portland Water Board and federal and state officers in the discharge of their duties.

Both sides agreed that the Trespass Act of 1904 was the most expedient law to rule on and was the basis of argument. If the plaintiffs won on this claim, then resolution under the other claims would prove unnecessary.

Forest Service spokesmen believe that they are acting in a right and reasonable manner. They felt that after consideration of the value of the watershed, including water quality, timber value, county economic welfare, and fire hazard, their actions are in the best interest of all concerned over the long run. Their main fear concerns a widespread conflagration occurring in the watershed. Simply put, their contention is that the Bull Run watershed is forested with even age stands of trees from 400-600 years old, that germinated after some catastrophe leveled the previous forest (presumably a forest fire), and that this forest is ripe for another conflagration, owing to the increasing amount of burnable fuels in the watershed. There is no evidence of any severe widespread fires in the past 300-500 years.

As stated in the lawsuit proceedings, this is just a theory. Yet maps of past fires for the west slope Cascades based on even aged stands of trees indicate Bull Run as an island where there has been no large recent fires.³⁰ Forest Service spokesmen believe that with the increasing presence of man, the numbers of fires will be high in the short run, but that the area burned will be small and a catastrophic fire will be avoided

as long as timber harvest and road building continue. They believe they are doing what they can with current science and technology without affecting the water quality.

Judge Burns' Opinion

On March 3, 1976, Judge James M. Burns handed down his opinion in which he enjoined both logging and recreation in the Reserve. He ruled that both activities were illegal under the 1904 Trespass Act. According to Judge Burns' Opinion, the intent of the law was clearly to exclude activities such as logging and recreation, although they were not specifically listed. "No logging was going on in the Reserve at the time. None was apparently contemplated. Thus, the water board had no reason to name that specific activity as one to be forbidden in pursuit of the purposes to protect against fire and pollution."³¹

Judge Burns issued a detailed analysis on whether or not recreation or logging protected the forest, as claimed by the Forest Service. He stated that recreation in the Reserve as allowed by the Regional Forester was illegal. He also noted that the Forest Service did not seriously contend that recreation would protect the watershed and that the presence of man in the form of hikers and fishermen was a major source of danger to the water quality.

However, the Forest Service does contend that logging protects the forest. Judge Burns presented his conclusions on the dangers from which the forest must be protected. They include landslides, blowdown, disease, insects, and fire. In weighing the benefits to the risks involved, Judge Burns felt that continued logging was not justified for the following

reasons. First, as far as landslides are concerned, "logging contributes nothing" to the protection of the forest.³² Second, blowdown, disease, and insects are dangers in that they increase the fire potential. Selective logging may reduce this potential, but clearcut logging contributes to the problem by exposing previously sheltered trees to the wind. Third, insect infestations were not known on the west slopes of the Cascades until clearcutting became common. According to Professor Nagle, entomologist at Oregon State University, the bark beetle thrives in the large amount of slash left after clearcutting.³³ And fourth, as to the fire hazard, Judge Burns concluded that the logging does not reduce the fire risk. In his mind, the presence of the loggers in the Reserve represented a greater fire potential. Typically, an old growth Douglas Fir forest would have 30 tons per acre of ground fuel. When it is logged, 300 tons per acre of slash must be disposed of. This in itself represents a greater fire potential and should be removed. From 1970 to 1973, 8,676 acres were logged and only 3,991 acres of slash were burned. Moreover, when the slash is burned, only half is consumed by the fire.³⁴

From 1900 to 1959, before the Reserve was open to logging or recreation, eight man-caused fires burned 5,014 acres while 27 nature-caused fires burned 8,424 acres. After opening of the Reserve until 1973, 15 man-caused fires burned 1,472 acres and 7 nature-caused fires burned 7 acres. The Opinion read that ". . . to say that large scale commercial logging increases rather than diminishes protection of the forest from fires is to say black is white."³⁵ Judge Burns felt that the Forest Service aims to reduce fire potential were not being met.

With regards to roads, he felt that they were not designed for fire fighting and did not follow the 1954 Fire plan agreed to by the city. They were constructed in the best places to get the timber out.³⁶ Moreover, only a change in the weather could suppress a fire of catastrophic proportion.

Undoubtedly, the water users of Portland gain the most from the decision. Portland remains the preferred user of the watershed and the water quality is protected with a small loss of \$200,000 annually from the timber harvest. Conservation, education, and research interest win through the protection of the watershed even though they may be unable to enter.

The losers of the decision are the timber industries who must look farther afield for quantities of marketable timber and the local taxpayer who must make up for revenues lost by not harvesting the timber. Recreational opportunity is lost; however, with the exception of the facilities for the handicapped, the loss is slight. There are many other recreational areas within 100 miles of Portland.

FUTURE OPTIONS

Cooperation has been limited between the Forest Service and Portland Water Bureau to manage Bull Run Reserve. The future direction of management, however, is not clear. Both agencies as well as the Bull Run Interest Group has proposed new management directions for the Reserve. Who shall decide and what will be the outcome is unclear.

The Draft Environmental Statement

The Forest Service issued their Draft Environmental Statement (DES)

of the Bull Run Planning Unit Land Use Plan on August 20, 1976. Prepared in cooperation with the City of Portland Water Board, it proposed to establish a new boundary and new management direction for the Bull Run Reserve. The DES stated, "the Reserve would be managed to protect water quality as a domestic watershed for the City of Portland, Oregon, while permitting other compatible activities."³⁷ The compatible activities would include continued timber harvest, habitat for fish and wildlife, and recreation. It would permit additional impoundments of water and the installation of hydroelectric generators. The boundary would be similar to the administrative boundary of 1959 with a few exceptions allowing public access to more non-watershed land. Adverse impacts would continue on the remaining 95,262 acres. Portland had adopted this boundary in their proposal (Figure 2). Alternative 1 of the DES would establish the boundary as that of the 1892 decree minus the 1911 deletion. The Reserve would remain closed to public entry and only those activities which protect the forest or the water quality would be permitted. Alternative 2 would establish the boundary as that of the 1959 status. Management for the Reserve would be directed to include water and timber production. Alternative 3 would modify the boundary to coincide with the watershed boundary on the physical drainage as they have defined it. Timber harvest impact would be minimized through extending rotation age and limiting entry. Alternative 4 merely suggested the allocation of two areas as wilderness study areas and could have been considered as part of any of the above alternatives.

In all of the alternatives, old sections of the Reserve deleted by a new boundary change would be managed according to the planning units of which they become a part. Recreation was not considered a viable alternative

owing to the large input of public comments rejecting that concept for the Bull Run watershed.

It is noteworthy that an alternative omitted in the DES was to eliminate all activity within the 1959 boundary and to reopen the non-watershed portion of the Reserve for recreation that the public has grown used to using. It is probable that this alternative was not included by the Forest Service because it would preclude timber harvest in the areas of highest productivity within the Reserve which are the lower elevations of the watershed.³⁸ The Forest Service seems inclined to economic utilization of the forest resources. Each of their alternatives would allow access to the watershed for protection of the forest. Until now, protection has been widely construed. It's meaning varying from restricted entry to the Reserve to protective logging lowering the fuel available for a forest conflagration. Additionally, the Forest Service devoted a large section of the DES to economics of timber harvest. The DES stated that precluding logging from the Reserve would result in the loss of 245 jobs and the loss of millions of dollars of revenue to the local economies. The public was invited to comment on the DES. Two avenues were open for responses. One was through the public hearing held on September 30, and October 7 of 1976 and through direct letters. The Forest Service tabulated responses, reporting 387 responses representing 1,505 persons. Seventy-five percent of the responses were from individuals and households; however, three petitions accounted for 75% of the total people represented. They received responses from agencies, businesses, and organizations. No weighting was assigned for each of the respondents. Agencies, organizations, and individuals were considered equal so that 387 was commonly used as the

total.

Most of the respondents were from Multnomah County and Clackamas County (52%), 18 percent were from other areas in Oregon and Washington, while 29% were undetermined. No clear support was shown for any of the plans, and although the BRIG-OEC proposal was listed in the report, it did not appear in the DES.

The largest number of responses (48%) were aimed at general management guidelines and indicated no special preference for any proposal. Of the 65 agencies, businesses, and organizations, 30 were economically oriented as lumber companies and associations, timber workers' unions, or chambers of commerce; 14 were advocates of preservation or recreation and the remaining were assorted federal, state, or civic groups.

Approximately half of the letters were extremely critical of the DES, calling it vague and misleading. Main criticisms concerned the incompatibility of the DES goals and those of the Water Bureau and the use of data that was inappropriate. The Forest Service baseline data for water quality was taken from 1968-1973 after a period of intensive logging in the watershed.³⁹ Use of this baseline would allow an artificially high rate of logging to occur without appearing to harm the water quality.

There was significant input at the hearings from county and city groups decrying the loss of jobs or revenues if logging was eliminated from the watershed. However, their logic is open to challenge because they assumed that job opportunities would not be found elsewhere or that all revenues earmarked for schools and roads would cease. According to the Timber Management Plan for Mt. Hood National Forest, the annual timber cut is actually increasing for the entire forest with no cutting in the Bull Run

watershed. Moreover, the counties all get part of the revenues commensurate to the amount of land in the national forest, not the amount of timber cut on their land.

BRIG-OEC Proposal

The Bull Run Interest Group (BRIG) was formed with the help of Dr. Joseph L. Miller, Jr., one of the plaintiffs of the class action suit to close Bull Run to logging. It was not formed as an "action group" which Dr. Miller felt would be too one-sided. Allegedly, "BRIG was organized for the purpose of collecting and disseminating all information about the Bull Run Reserve so the public can give informed input on management regarding the future of Portland's water supply." The group was instrumental in forming an open file at the Multnomah County Library for public use to which anyone could add pertinent information. In addition, approximately every two weeks BRIG sent a newsletter concerning recent developments with Bull Run to about 350 interested people.

BRIG reviewed the Forest Service DES when released in August 1976. It felt that neither the proposed plan nor any of the four alternatives were acceptable solutions for Bull Run. In conjunction with the Oregon Environmental Council (OEC) it drafted a plan for the Bull Run Reserve. It was a simple plan designed to be quickly implemented while more detailed analysis could determine further changes. It suggested a return to the 1959 boundaries with a halt or reduction of logging in the watershed area (Figure 2). This would protect the watershed in a sufficient buffer zone and allow appropriate recreation in the non-watershed portion. Moreover, old growth wildlife habitat would be protected for research and educational

interests. The BRIG/OEC plan also raised the question of future management of the Lower Sandy River as a future source of Portland's water. The beneficiaries are obvious. The water quality is protected without filtration and recreation can be resumed in non-watershed land. The only change would be that logging would be decreased in the watershed.

It would seem that a conflict of interest might be present because Dr. Miller and his wife own a house on property sharing a border with the Reserve. However, as he put it, "we treasure the natural forest even though we can't go in."⁴⁰

BRIG was not opposed to some logging expressly permitted to protect the forest from insects, disease, or other hazards, but were opposed to commercial cutting. This plan found wide spread support in groups like the Portland Audubon Society, Mt. Hood Forest Study Group, and the Portland League of Women Voters.

City Resolution

To say that the mayor and city commissioners are concerned about the Bull Run problem would be an understatement. They are aware of the vast public interest in this problem. Many people have attended informational meetings and the city staff and decision makers have received more mail about this issue than any other since the Vietnam crises.⁴¹ Many of their council meetings have dealt with this matter and they adopted a resolution for Bull Run. It recognized the history of action in the Reserve and stated that "provision of pure and clean water to the residents of the City of Portland and other users of Bull Run water at the lowest cost obtainable has priority over all other uses."⁴² With this in mind, they resolved that: 1) the

boundary and buffer should be redrawn to surround the watershed with a one-mile buffer (Figure 2); 2) public access to the areas opened in 1959 should be re-opened by a Presidential Order or Congressional action; 3) sustained yield logging was not appropriate for the watershed; however, "logging may occur within the watershed where deemed proper to preserve or protect water quality or where found not to affect it," and 4) if logging were the cause for additional expenditures to protect the water quality or supply, timber harvest revenues should be used to pay them and not by the users of the water.

Commissioner Connie McCready thought that this did not carry their intentions far enough. She felt that wording of the resolution allowed loopholes that would leave the logging situation as it has been. Her resolution would have put the burden of proof on the Forest Service to insure that water quality was not harmed before any logging took place. Her resolution was tabled because it stated the Council would take the position of Burns' decision if Congress drafted unfavorable legislation. The other Council persons did not want to "wave a red flag and threaten Congress."⁴³

TELEPHONE SURVEY

A telephone survey was conducted of Portland water users on April 6, 7, and 8 of 1977 (see Appendix II). A random representative cross-section of Portland water users was obtained and their responses on the issues concerning Bull Run Reserve were elicited. Only 18% of those responding suggested that logging be allowed in the watershed while 44% wanted no activities in the watershed. Eleven and 29% stated that hydropower

or limited recreation, respectively, would be acceptable. This attitude differed with use of the non-watershed land within the Reserve as 71% favored a wide range of uses with only 7% favoring the traditional closed Reserve. Concerning future expenditures, 48% felt that they should not have to pay additional costs if changes in the water quality were caused by activities in the watershed. On the issue of who should control the decisions concerning Bull Run Reserve, the respondents were evenly divided with 29% favoring Forest Service control, 26% favoring Water Bureau control, and 27% favoring a shared decision process between both.

In light of the public attitude, the city council position adequately reflects the views of their constituents.

CONCLUSION

Bull Run Reserve is unique in its history and development. Managed for over 50 years as a closed watershed while protected by law, the Bull Run Reserve provided Portland's water supply. The existing conflict is one of providing multiple uses without conflict. Forest Service decisions to open the Reserve were in concurrence with its policy of multiple use. From 1959 to 1976, the Bull Run Reserve provided timber, water, and recreational opportunities. The lawsuit brought the issue into the public eye.

A major problem is the approach to management of the watershed and non-watershed lands. The non-watershed lands could be used much like other National Forest lands. One expedient measure would be to reopen the non-watershed areas the public has used for recreation. The watershed, however, would have to be managed more closely to preclude water quality deterioration. How the conflict will be ameliorated is unclear. Possibly,

there will be further court action to appeal Judge Burn's ruling.

Installation of a filtration plant for protection from turbidity problems would allow sustained yield logging to resume in the watershed. Currently, national legislation introduced by the Oregon delegation is a step toward solving the problem. However, coordination of goals between Portland and the Forest Service is needed.

FOOTNOTES

1. Duane D. Baumann, Recreational Use of Domestic Water Supply Reservoirs: Perception and Choice, Research Paper No. 121, (Chicago: University of Chicago Press, 1969) p. 17.
2. City Ordinance 103012 of November 9, 1955.
3. Interview with William M. Elliott, Bureau of Water Works, Portland, Oregon, 12 April 1977.
4. Interview with F. Dale Robertson, Forest Supervisor, Mt. Hood National Forest, Oregon, 21 April 1977.
5. Progressive Development of the Bull Run (Portland: Mt. Hood National Forest and Portland Bureau of Water Works, 1962), p. 9.
6. John D. Beaulieu, Geologic Hazards of the Bull Run Watershed, Multnomah and Clackamas Counties, Oregon (State of Oregon: Department of Geology and Mineral Industries, 1974), pp. 30-35.
7. Report on Management of Forest Resources in the Bull Run Division, by John L. Frewing, Chairman (Portland: Portland City Club, 1973), p. 50.
8. Ibid., pp. 58-63.
9. Ibid., p. 56.
10. Baumann, Recreational Use of Domestic Water Supply Reservoirs: Perception and Choice, pp. 17-18.
11. Ibid., pp. 19-20.
12. U.S., Department of Health, Education and Welfare, Summary Report of the Northwest Watershed Project (Washington, D.C.: Government Printing Office, 1969), pp. 22.

13. Progressive Development of the Bull Run, p. 8
14. Presidential Proclamation of June 17, 1892, 27 Stat. 1027.
15. National Forests Act, U.S. Code, vol. 16, sec. 475, 1897.
16. Public Lands Act, U.S. Code, vol. 18, sec. 1862, 1904.
17. James M. Burns, Miller, et al., v. Mallory, et al., Civil no. 73-609, Opinion, 5 March 1976.
18. Laurence P. Wilson, "Man's Activities in Watershed Areas - A Need for Planning," Environmental Law, (Winter, 1974): 234.
19. Oregonian, 28 April 1957, p. 1.
20. Forest Management Act, U.S. Code, vol. 16, sec. 552, 1940.
21. Forest Resources in Bull Run, p. 52.
22. Ibid., p. 53.
23. In 1888 Portland first bought approximately 4 sq. miles of private land in the watershed. Portland's holdings now total 5142 acres. Forest Resources in Bull Run, p. 50.
24. Multiple Use - Sustained Yield Act, U.S. Code, vol. 16, sec. 528-531, 1960.
25. Oregonian, 22,30 August 1958.
26. Portland Journal, 5 May 1971.
27. Interview with William M. Elliott, 12 April 1977.
28. Charles Merten, Miller, et al., v. Mallory, et al., Civil No. 73-609, Plaintiffs Brief.
29. Interview with F. Dale Robertson, Forest Supervisor, Mt. Hood National Forest, 21 April 1977.
30. U.S. Department of Agriculture, Forest Service, Mt. Hood National Forest, "Forest Fire maps for Mt. Hood National Forest."

31. Burns, Opinion, p. 17.
32. Ibid., p. 21.
33. Merten, Plantiffs Brief.
34. Burns, Opinion, p. 25.
35. Ibid., p. 25.
36. Ibid., p. 26.
37. U.S. Forest Service, Bull Run Planning Unit, Draft Environmental Statement (Washington, D.C.: Government Printing Office, 1976), p. i.
38. Ibid., plate 12.
39. BRIG Newsletter, 6 January 1977.
40. BRIG Newsletter, 5 May 1977, p. 6.
41. BRIG Newsletter, 8 April 1977, p. 1.
42. Portland City Council, Minutes, 16 February 1977.
43. BRIG Newsletter, 8 April 1977, p. 1.

APPENDIX I

(SOURCE: Forest Resources in Bull Run, p. 50)

Surface Water Data

Flow of Bull Run River

Average Daily Flow	516 mgd (564 cfs)
Maximum Recorded Flow	16,200 mgd (25,000 cfs)
Minimum Recorded Flow	40 mgd (63 cfs)

Water Use

Average Daily Use	103 mgd
Maximum Daily Use	250 mgd

Storage (in billion gallons)

Bull Run Lake	5
Reservoir No. 1 (Lake Ben Morrow)	10
Reservoir No. 2	7
North Fork Reservoir	0.325
Distribution System	<u>0.235</u>
	22.56
Blazed Alder Creek (planned)	5
Cedar Creek (planned)	6

Transmission Capacity

Conduit No. 1	discontinued
Conduit No. 2	50 mgd
Conduit No. 3	75 mgd
Conduit No. 4	<u>100 mgd</u>
	225 mgd

APPENDIX II

(SOURCE: Author's Fieldwork)

The telephone survey was conducted on April 6, 7, and 8 of 1977. The telephone book was used to select the subjects. Taking into account that the telephone book eliminated those who could not afford a phone and those who had unlisted numbers (generally the more affluent), this source offered a relative cross-section of the Portland public.

A random numbers table from the Rand Corporation was used to locate the page and telephone number to be used. If there was no answer at one number, the next number below was used until an answer was received. In this manner, on 6 April 1977 from 9:00 a.m. to 1:00 p.m., and 1:30 p.m. to 4:30 p.m. and 8 p.m. to 9 p.m., 7 April 1977 from 11:00 a.m. to 4:00 p.m. and 7:30 p.m. to 8:30 p.m. and 8 April 1977 from 9:00 a.m. to 1:00 p.m., 377 telephone numbers were called. 193 calls were unanswered. Of those who answered 42 refused to answer, 70 were unaware of a problem in the Bull Run Reserve and the remaining 72 addressed themselves to the questions.

Question 1. What activities do you think should be allowed in the watershed? Logging, Recreation, Hydropower, or nothing, or what?

	M	F
44% wanted nothing in the watershed	28%	53%
29% recreation okay	40%	23%
18% logging okay	20%	17%
11% hydropower okay	16%	8%
9 don't know	8%	10%

Question 2. Should the Portland Water Bureau or the U.S. Forest Service
make decisions about uses in Bull Run?

	M	F
29% favored Forest Service	24%	31%
27% favored both	32%	25%
26% favored Water Bureau	28%	25%
16% don't know	16%	17%

Question 3. Who should pay the costs of additional water treatment if
activities allowed in the watershed make additional treat-
ment necessary?

33% water users pay for increase	36%	31%
26% land users fees	28%	25%
22% external sources of revenue	8%	30%
3% combination of land and water users	4%	2%
15% don't know	24%	10%

Question 4. Should activities be allowed in the non-watershed area?

71% favored some kind of use	72%	70%
7% favored non-use of non-watershed lands	12%	4%
22% don't know	17%	25%

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