Priest Lake Project

Priest Lake
Management Plan

Idaho Department of Health and Welfare
Division of Environmental Quality

November 1995
Priest Lake Project

Priest Lake Management Plan

Prepared by

Priest Lake Planning Team

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</thead>
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November 1995
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TABLE OF CONTENTS</td>
<td>i</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>iii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>iii</td>
</tr>
<tr>
<td><strong>CHAPTER</strong></td>
<td></td>
</tr>
<tr>
<td>EXECUTIVE SUMMARY</td>
<td>1</td>
</tr>
<tr>
<td>1 INTRODUCTION AND BACKGROUND</td>
<td>3</td>
</tr>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Background of the Priest Lake Project</td>
<td>3</td>
</tr>
<tr>
<td>Components of the Priest Lake Project</td>
<td>4</td>
</tr>
<tr>
<td>Formulation of the Lake Plan - Chronology and Time Line</td>
<td>7</td>
</tr>
<tr>
<td>Relationship to Current Idaho Code</td>
<td>9</td>
</tr>
<tr>
<td>2 SUMMARY OF BASELINE LAKE STUDIES</td>
<td>11</td>
</tr>
<tr>
<td>Open Water Limnology</td>
<td>11</td>
</tr>
<tr>
<td>Nearshore Zone</td>
<td>14</td>
</tr>
<tr>
<td>3 GOAL, ISSUES AND CONCERNS</td>
<td>16</td>
</tr>
<tr>
<td>Goals</td>
<td>16</td>
</tr>
<tr>
<td>Issues and Concerns Incorporated into the Lake Plan</td>
<td>16</td>
</tr>
<tr>
<td>Timberland and Associated Roads</td>
<td>16</td>
</tr>
<tr>
<td>Public and Private Residential Roads</td>
<td>19</td>
</tr>
<tr>
<td>Stormwater and Construction/Development</td>
<td>21</td>
</tr>
<tr>
<td>Wastewater Treatment</td>
<td>23</td>
</tr>
<tr>
<td>Motorized Watercraft</td>
<td>25</td>
</tr>
<tr>
<td>Recreation</td>
<td>26</td>
</tr>
<tr>
<td>Agriculture and Livestock</td>
<td>30</td>
</tr>
<tr>
<td>Hazardous Materials, Underground Storage Tanks</td>
<td>31</td>
</tr>
<tr>
<td>and Above Ground Storage Tanks</td>
<td>32</td>
</tr>
<tr>
<td>4 PRIEST LAKE MANAGEMENT PLAN</td>
<td>34</td>
</tr>
<tr>
<td>Definition of Acronyms</td>
<td>35</td>
</tr>
<tr>
<td>Timberland and Associated Roads</td>
<td>36</td>
</tr>
<tr>
<td>Public and Private Residential Roads</td>
<td>39</td>
</tr>
<tr>
<td>Stormwater and Construction/Development</td>
<td>40</td>
</tr>
<tr>
<td>Wastewater Treatment</td>
<td>45</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS (continued)

## CHAPTER 4 (cont.)

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorized Watercraft</td>
<td>47</td>
</tr>
<tr>
<td>Recreation</td>
<td>50</td>
</tr>
<tr>
<td>Agriculture and Livestock</td>
<td>51</td>
</tr>
<tr>
<td>Hazardous Materials, Underground Storage Tanks and Above Ground Storage Tanks</td>
<td>52</td>
</tr>
<tr>
<td>Priest Lake Management Plan Implementation</td>
<td>55</td>
</tr>
</tbody>
</table>

## 5 PUBLIC REVIEW AND COMMENT OF DRAFT LAKE PLAN

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Comments</td>
<td>59</td>
</tr>
<tr>
<td>Comments Relating to the Lake Plan Action Items</td>
<td>67</td>
</tr>
<tr>
<td>Timberland and Associated Roads</td>
<td>67</td>
</tr>
<tr>
<td>Public and Private Residential Roads</td>
<td>68</td>
</tr>
<tr>
<td>Stormwater and Construction/Development</td>
<td>69</td>
</tr>
<tr>
<td>Wastewater Treatment</td>
<td>72</td>
</tr>
<tr>
<td>Motorized Watercraft</td>
<td>76</td>
</tr>
<tr>
<td>Recreation</td>
<td>78</td>
</tr>
<tr>
<td>Agriculture and Livestock</td>
<td>79</td>
</tr>
<tr>
<td>Hazardous Materials, Underground Storage Tanks and Above Ground Storage Tanks</td>
<td>79</td>
</tr>
<tr>
<td>Priest Lake Management Plan Implementation</td>
<td>80</td>
</tr>
</tbody>
</table>

## 6 REFERENCES

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>REFERENCES</td>
<td>82</td>
</tr>
</tbody>
</table>

## APPENDICES

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - Selected Sections of Idaho House of Representatives</td>
<td>83</td>
</tr>
<tr>
<td>House Bill No. 319 (1991)</td>
<td></td>
</tr>
<tr>
<td>B - Priest Lake Planning Team Membership</td>
<td>85</td>
</tr>
<tr>
<td>C - Subcommittee Membership on the Eight Lake Issue Topics</td>
<td>86</td>
</tr>
<tr>
<td>D - Selected Letter from Lake Plan Review</td>
<td>87</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
</tr>
</tbody>
</table>

## Summary of water quality sampling in Priest Lake, 1994

# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>13</td>
</tr>
</tbody>
</table>

## Basin boundaries and major tributaries of Upper Priest Lake, Priest Lake, and Lower Priest River.

## Locations of Priest Lake sampling efforts in 1994

## Temperature and dissolved oxygen profile at the deepest lake station, east of Bartoo Island
EXECUTIVE SUMMARY

The 550 mi² Priest Lake basin is located primarily within the Idaho Panhandle in Bonner and Boundary Counties. The watershed contains Upper and Lower Priest Lakes and numerous tributaries. Lower Priest Lake is the third largest lake in northern Idaho with 23,680 surface acres.

The Upper and Lower lakes and tributaries are of very high water quality with a watershed dominated by federal, state, and private forestland offering exceptional natural aesthetics. In recent years there has been a concern about maintaining the high water quality of Priest Lake. There is expanding shoreline development of homes and businesses, there are some concerns of existing sewer treatment facilities, and there is increasing recreational use of the lake. There is also major timber harvesting activity in the watershed on state and federal lands.

The concern of increasing impingement of human activity on the watershed, and a desire for water quality protection, led to a series of events that cumulated in legislation that created the Priest Lake Project. The legislation was House Bill No. 319 (1991) enacted as Idaho Code 39-105(3)(p). The legislation mandated; 1) that the Idaho Division of Environmental Quality (DEQ) conduct a comprehensive baseline monitoring program of existing water quality conditions, 2) the formation of a planning team representing diverse public and private interests in the watershed, and 3) the formulation of a lake water quality management plan.

This document presents the final version of the Priest Lake Management Plan. It was developed by the twelve member Priest Lake Planning Team which was initially formed in 1991, and whose members were appointed by the Idaho Board of Health and Welfare. According to the Idaho Code: "...the stated goal of the Priest Lake plan shall be to maintain the existing water quality of Priest Lake while continuing existing nonpoint source activities in the watershed."

The process of developing a plan began in February 1994. Subcommittees from within the team were assigned to eight general lake issue topics. Their task was to develop management action items that would offer protection of the existing high water quality of Priest Lake. Numerous planning team meetings were held to discuss, modify, and either accept or reject specific management action items. These meetings were open to the public, and citizen input was welcomed and considered. An initial draft plan, presented as tables of action items (Chapter 4) was completed by the team in June 1995.

The draft plan was offered for public review and comment. Two public meetings/hearings were conducted in mid-August to receive public input on the plan (Chapter 5). A planning team meeting held in late August reviewed the scope of public comments, and based on these comments some revisions in the draft plan were made. The revised draft plan was presented to the Idaho Board of Health and Welfare in September for their review and comment. Following review by the Board, and some further considerations by the planning team, the plan has been put into this final form. As directed by the Idaho Code, the final lake plan will be presented to the Board for its approval. This will occur in November. If the Board accepts the plan it will be submitted to the 1996 session of the legislature for amendment, adoption or rejection. If adopted by the legislature, the plan shall be enacted by passage of a statute.
Implementation of the lake plan would be made possible by continued funding of the Priest Lake DEQ project manager and operating budget. Specific action items for implementation would be identified and prioritized through Annual Workplans. The workplans would: 1) identify a set of action items to begin implementation in a given year, 2) estimate the yearly cost of action item implementation, and 3) establish ways and means to secure funding for the implementation.

A Priest Lake Management Plan steering committee would be formed to assist in the development of annual workplans and implementation of action items. The steering committee would have a similar public agency and private interest group representation as the current planning team.

The Priest Lake Management Plan fulfills the mandate of Idaho Code § 39-105(3)(p), and is also consistent with the intent of Senate Bill No. 1284 (1995), Idaho Code §§ 39-3601 et seq. The lake plan offers a program to protect the high quality lakes and streams in the watershed. If necessary, members of the lake plan steering committee could also be nominated to serve on a Watershed Advisory Group, consistent with Senate Bill No. 1284, to recommend actions needed to control point and nonpoint sources of pollution to those water bodies where designated beneficial uses are not fully supported ("water quality limited segments"). Currently there are six streams in the Priest Lake basin that have been identified as potential water quality limited segments.
CHAPTER 1
INTRODUCTION AND BACKGROUND

Introduction

The Priest Lake basin is 550 mi² in size, and located primarily within the Idaho Panhandle in Bonner and Boundary Counties (Figure 1). The headwaters of Upper Priest River are in Canada, and headwaters of some west side tributaries are in eastern Washington. The lake and tributary complex is comprised of: Upper Priest Lake with 1,350 surface acres and three major tributaries including Upper Priest River; a 2.7 mile outflow channel called The Thorofare which flows into Lower Priest Lake; and the lower lake which covers 23,680 acres and has numerous tributaries. The outlet of Lower Priest Lake creates the headwaters of Lower Priest River, which flows into the Pend Oreille River. The Lower Priest River basin is 360 mi² in size.

Priest Lake has very high water quality with a watershed dominated by federal, state, and private forestland offering exceptional natural aesthetics. This beautiful setting attracts hundreds of thousands of recreationists annually to shoreline residential homes, resorts, state and federal campgrounds, and day use facilities. Shoreline residential development is considerable with over 1,000 mostly seasonal single family homes/cabins. While there are several sewer districts collecting and treating septic tank effluent, there are many individual septic drainfields. Public use and residential development is increasing as north Idaho is currently experiencing unprecedented growth and popularity. There is also major timber harvesting activity in the watershed on state and federal lands.

Background of the Priest Lake Project

The increasing impingement of human activity on the watershed has led to concern about maintaining the high water quality of Priest Lake. Priest Lake was nominated to the Idaho Board of Health and Welfare in August 1990 for an Outstanding Resource Water designation (ORW). A series of public hearings held around the state demonstrated strong public support for maintaining the current high water quality of Priest Lake. However, opinion was split on an ORW designation as the proper mechanism to achieve that goal, and concerns were expressed over how the designation might affect nonpoint source dependent industries.

Because the ORW nominator and other strong proponents of lake water quality preservation cited a lake management plan as their primary goal, the Board decided against an ORW designation in favor of legislation requiring the development of a Priest Lake Management Plan. The Board requested that legislation be drafted by the Idaho Department of Health and Welfare (IDHW), Division of Environmental Quality (DEQ). The legislation, House Bill No. 319 (Appendix A) was enacted in March 1991 and became adopted as Idaho Code § 39-105(3)(p). Key provisions of the legislation are:

• The formulation of a water quality management plan in conjunction with a planning team from the Priest Lake area.
• The plan shall include: 1) a comprehensive lake water quality characterization through a baseline monitoring program conducted by DEQ, and 2) consideration of existing economics and nonpoint source activity-dependent industries of the Priest Lake area.

• Technical assistance to the planning team with stated nonpoint source management programs in forest practices, road construction and maintenance, agriculture, and mining shall be provided by DEQ.

• Technical assistance to the planning team on area planning, zoning, sanitary regulations shall be provided by the Clean Lakes Coordinating Council.

• The planning team shall conduct public hearings and encourage public participation in plan development, including the opportunity for public review and input.

• The plan shall be submitted to the Board at the end of a 3 year plan development period. Upon review and board acceptance, the plan shall be submitted to the legislature for amendment, adoption, or rejection. If adopted, it shall be enacted by passage of a statute and shall have the force and effect of law.

In July 1991 the Board appointed a Priest Lake Planning Team (PLPT) composed of members representing local watershed land managers, user groups and interest groups. Current membership of the PLPT (twelve members and alternates) is listed in Appendix B. The first PLPT meeting was held September 1991, and initial priority was to prepare a first year budget of a three-year management plan development phase. The legislature provided for an initial one-year funding authorization which began July 1992.

In November 1992 a DEQ program manager was selected to develop and implement a Priest Lake Project (PLP). A draft workplan for baseline water quality studies was developed and accepted by the PLPT in February 1993. Initial reconnaissance field work began the following month.

The 1993 session of the Idaho Legislature provided base funding for completion of the PLP. In addition, the PLP received an EPA Clean Lakes Program Phase 1 grant. Baseline studies will continue through September 1995. Formulation of a lake plan was conducted by the planning team which began the process in February 1994.

Components of the Priest Lake Project

The PLP can be summarized in five separate components:

1) Development of a Priest Lake Management Plan. This was the work of the planning team and is the focus of this document.

2) Baseline water quality studies. This is a program conducted by DEQ and project consultants, from March 1993 through September 1995. The program includes:
Figure 1. Basin boundaries and major tributaries of Upper Priest Lake, Lower Priest Lake, and Lower Priest River (figure taken from IDWR, 1995)
Monitoring of open water characteristics of Upper and Lower Priest Lakes. Parameters measured were: phosphorus, nitrogen, phytoplankton biomass as chlorophyll $a$, phytoplankton community structure, water clarity, temperature-dissolved oxygen profiles, and algal growth potential in response to artificial phosphorus and nitrogen stimulation.

Nearshore characteristics of Lower Priest Lake. Parameters measured were: biomass of periphyton attached to rocks, macrophyte (rooted aquatic plants) communities, growth dynamics of nearshore bacteria, and water chemistry.

Development of a water budget. A comprehensive flow measurement program was undertaken to account for water volume from major tributaries. To calculate hydraulic residence time, a bathymetric survey was conducted to construct contour maps of both Upper and Lower lakes, and assign lake water volumes.

Development of nutrient/sediment loads. Measurements of phosphorus, nitrogen and suspended sediment were obtained on most tributaries. In addition the nutrient contribution from precipitation and dryfall were assessed.

Groundwater studies. In two subsample areas, the Granite/Reeder and Kalispell Bay Sewer Districts, groundwater hydrogeology, water chemistry, and microbial communities were assessed in relation to the presence of sewage treatment systems.

3) Watershed Assessments. Characteristics of the Priest Lake watersheds and tributaries which drain them are being documented by five programs conducted by various agencies. A summary of results from these programs will be included in the final reporting of the PLP. The programs are:

Development of a Geographical Information System (GIS) for the Priest Lake basin. As part of the PLP, this effort is being conducted by the Panhandle Health District - District 1 Headquarters in Coeur d’Alene. GIS overlays include: surface hydrology, geology, soils, land cover, roads, groundwater, sewage treatment systems, and urban development.

DEQ surveys under the Beneficial Use Reconnaissance Project (BURP). Several Priest Lake tributaries were surveyed in 1994 and 1995 by BURP teams. The surveys measure water quality, habitat, and biological conditions (insects and fish) to determine whether or not water uses are attainable and at what level those uses are supported.

DEQ Antidegradation monitoring. Segments of Trapper Creek and Two Mouth Creek are designated as Stream Segments of Concern. The streams have been assessed for fish habitat condition, and effectiveness of Best Management Practices (BMP).
**U.S. Forest Service (USFS) Forest Plans.** West side watersheds and streams are assessed by the USFS as prescribed by annual Watershed and Fisheries Monitoring Plans. The program includes: site inspections and review of BMP compliance and effectiveness, evaluation of macroinvertebrate communities, sediment and bedload evaluations, and fish surveys by snorkeling.

**Cumulative Watershed Effects (CWE) analysis process.** The Idaho Department of Lands (IDL), and a task force from other agencies and the private timber industry, have been developing a field evaluation and screening procedure to assess cumulative watershed effects on streams from multiple forest practices. The CWE process could become part of the Idaho Forest Practice Act. A pilot CWE analysis was conducted in the Two Mouth Creek watershed in 1994.

4) **Recreational Use and Tourism Survey.** Under contract with the PLP, the University of Idaho in conjunction with the USFS is performing a recreational use survey during the summer of 1995. The kinds of information the survey will provide include: the number and length-of-stay of recreationists using the Priest Lake basin in summer months; number and size of boats brought into the area; location of recreation activity; and methods of human waste disposal when using dispersed, undeveloped campsites. This data will assist recreation managers in making decisions that will best serve the visitor and the lake’s resources.

5) **Public Information and Education.** There has been a concerted effort to inform and educate the lake community on the PLP. Two public workshops were held to present initial findings of the baseline studies. Three newsletters have been prepared and mailed to all property owners and public land lessees. All planning team meetings have been open to the public and meeting dates have been advertised in local newspapers. Many meetings were well attended by the public, and the planning team has encouraged public comment. The lake management plan has been made available to the public (through a newsletter and advertisement of this document), and two public meetings/hearings on the plan were held in August 1995.

**Formulation of the Lake Plan - Chronology and Time Line**

— Development of the Priest Lake Management Plan began in February 1994. At that time the planning team was given a presentation by Shireene Hale from the Panhandle Health District - District 1 Headquarters in Coeur d’Alene. Shireene has been extensively involved with lake communities and local governments in north Idaho working on water quality issues. She has developed lake plans for several lakes, and has developed a *Lake Watershed Management Handbook* (Hale, 1993). Her presentation included: lake water quality topics and issues that are common among north Idaho lake communities; approaches taken to solve watershed problems and to prevent water quality degradation; and stepwise procedures to develop a lake plan. Materials were handed out to the planning team, including lake plans for Pend Oreille, Hayden and Coeur d’Alene Lakes.
In March 1994 the planning team selected eight general lake issue topics that would comprise the lake plan. These were:

- Timberland and Associated Roads
- Public and Private Residential Roads
- Stormwater and Construction/Development
- Wastewater Treatment
- Motorized Watercraft
- Recreation
- Agriculture and Livestock
- Hazardous Materials, Underground Storage Tanks, and Above Ground Storage Tanks

For each of these lake issue topics, subcommittees from the planning team were formed (Appendix C). Each subcommittee was directed to research its topic by studying the materials handed out by Shireene Hale, and by consulting experts in the topic area. On many subcommittees there were planning team members with expertise in the topic area. The subcommittees were to prepare "first round" presentations on what they perceived as water quality issues relating to their topic, and optionally, initial management recommendations to protect the existing water quality of Priest Lake.

From May 1994 through December 1994, there were nine planning team meetings to hear first round presentations. The subcommittees received comment and suggestions from the other team members. They also received views expressed by attending public. During this time presentations were given on initial results of the baseline studies that related to the lake issue topics.

A schedule was developed for "second round" subcommittee presentations, beginning in February 1995. The subcommittees were directed to compile a list of water quality management recommendations, called Action Items. These action items were to be based on comments and suggestions received during the first round of presentations, and on further research into the topic area.

From February 1995 to June 1995, six planning team meetings were held to hear second round presentations. Subcommittees handed out lists of action items. Each action item was given an explanation and rationale by the subcommittees. Each action item was then discussed by the team, and again input from attending public was received. In many cases the action items were reworded by the team to clarify or change the meaning. Finally, each action item received a vote from the planning team on whether to include or reject that item from the lake plan. The draft lake plan presented here is the list of action items that were approved by majority vote of the team.

On the last meeting a mechanism to implement the lake plan was adopted, becoming a ninth lake issue topic.
— From mid-June to August 3, 1995, an initial draft lake plan was prepared in document form and made available to the public. A summary of the plan was given in the third issue of the PLP Newsletter. The newsletter went out to all property owners and public land lessees in the basin (2,034 addresses). Paid advertisements and news releases in local newspapers informed the public that a draft lake plan could be obtained, and announced the public meetings/hearings.

— On August 12th and 19th, 1995 public meetings/hearings were held on the draft plan in the Priest Lake area. The first hour of the meetings were informational, offering a background to the development of the lake plan and a summary of the plan. The second hour began with a question and answer session, allowing the public to inquire about and to clarify features of the plan. Time was set aside for public testimony when, for a specified time period, people could make any comment they wished, uninterrupted, about the plan in general or specific action items. Their comments were tape recorded and later transcribed. If attendees did not wish to make verbal comments, they could submit forms with written comments. For public not attending the meetings, written comments could be sent to DEQ. The deadline for written comments to be received at DEQ was set at August 23.

— On August 27, 1995 the planning team convened and considered all public comment received. Each lake issue topic was reviewed, and some action items were modified or new ones added based on the strength of public views. A revised draft lake plan was then written.

— In September 1995, the revised draft lake plan was presented to the Board of Health and Welfare for their review and comments. A planning team meeting was held in October to again consider all comments and suggestions received, and make final revisions to the lake plan.

— In November 1995, the final lake plan will be presented to the Board for approval. If approved it will be forwarded to the 1996 session of the Idaho Legislature.

— January to March 1996. The Idaho Legislature will review the lake plan and amend, adopt, or reject the plan. If adopted by the legislature, the plan will become part of the Idaho Code.

**Relationship to Current Idaho Code**

The Priest Lake Management Plan fulfills the mandate of House Bill No. 319 (1991) and Idaho Code § 39-105(3)(p) with the formulation of a water quality management plan in conjunction with a planning team. The plan offers management actions to protect the existing water quality of Priest Lake and takes the continuation of nonpoint source activities into consideration. The planning team has encouraged public participation in plan development with opportunity for public review and comment. A comprehensive characterization of lake water quality has been completed and a final report will be published in spring of 1996. A final lake plan has been prepared for presentation to the Idaho Board of Health and Welfare.

This lake plan also fulfills the intent of Senate Bill No. 1284 (1995) and Idaho Code Title 39, Chapter 36, which specifies in part:
For streams or other water bodies where the director has determined that designated beneficial uses are being fully supported, the director shall assure, in a manner consistent with other existing applicable statutes, and rules, that all programs deemed necessary to maintain full support of designated beneficial uses are employed.


Upper and Lower Priest Lakes and the majority of tributaries are considered as fully supporting their designated beneficial uses. This plan offers a program to protect this full support, and for long term monitoring to assess any changes in beneficial use support.

Likewise, Senate Bill No. 1284 (1995) requires that for waterbodies not fully supporting beneficial uses, DEQ in consultation with citizen advisory groups must implement pollution controls necessary to ensure no further degradation and ultimately achieve full support status. See Idaho Code §§ 39-3610 and 3611. The following six Priest Lake basin tributaries are currently on the Idaho, 1994 EPA list of water quality limited segments:

- Kalispell Creek
- Lamb Creek
- Reeder Creek
- Tango Creek
- Trapper Creek
- Two Mouth Creek

These streams have recently been surveyed under the DEQ Beneficial Use Reconnaissance Project (BURP) to properly identify designated uses and determine whether they are or are not in compliance with state water quality standards. If these segments are identified by DEQ as not fully supporting beneficial uses, it is expected that the management actions recommended in this plan will ensure no further degradation and ultimately achieve full support status for each waterbody.

The lake plan calls for the formation of a Priest Lake Management Plan (PLMP) steering committee to assist DEQ in the long term implementation of management action items. This steering committee is basically a recreation of the Priest Lake Planning Team, with similar representation, but with different members and responsibilities. If necessary, members of the steering committee could also serve as members of a Watershed Advisory Group (WAG) as established by Idaho Code §§ 39-3615 and 39-3616. Responsibilities as a WAG would be to assure that the lake plan actions are sufficient to protect against further impairment to water quality limited segments, or develop and recommend other actions needed to effectively control sources of pollution.
CHAPTER 2

SUMMARY OF BASELINE LAKE STUDIES

This chapter summarizes the existing water quality of Lower Priest Lake. It is based primarily on 1994 data collected by DEQ baseline studies as part of the Priest Lake Project (PLP). The existing conditions in both Upper and Lower Priest Lakes will be comprehensively defined following data entry, computer analysis and graphical summation of the entire baseline information collected from March 1993 - September 1995. A final scientific report will be available by April 1996.

Open Water Limnology

The existing conditions described for Lower Priest Lake open water are based on six lake sampling stations ranging from bays at 10 m depth to mid-lake open waters at 90 m depth (Figure 2). Parameters measured were those typical of assigning a lake trophic status: phosphorus, nitrogen, secchi depth, phytoplankton biomass as measured by chlorophyll \( a \), phytoplankton community structure, and temperature-dissolved oxygen profiles.

Table 1. Summary of water quality sampling in Priest Lake, 1994.

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<thead>
<tr>
<th>Stations</th>
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<th>Total Nitrogen (ug/L)</th>
<th>Chlorophyll ( a ) (ug/L)</th>
<th>Secchi disk transparency (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep Stations (2)</td>
<td></td>
<td></td>
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<tr>
<td>photic zone</td>
<td></td>
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<td></td>
</tr>
<tr>
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<td>5</td>
<td>25</td>
<td>77</td>
<td>1.5</td>
<td>10.2</td>
</tr>
<tr>
<td>range</td>
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<td>10-75</td>
<td>&lt;50-245</td>
<td>0.9-2.4</td>
<td>6.0-13.0</td>
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<tr>
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<td>4</td>
<td>48</td>
<td>88</td>
<td>--</td>
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<tr>
<td>Bay Stations (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
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<td>22</td>
<td>76</td>
<td>1.3</td>
<td>9.4</td>
</tr>
<tr>
<td>range</td>
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<td>&lt;5-94</td>
<td>&lt;50-242</td>
<td>0.2-3.2</td>
<td>4.4-12.8</td>
</tr>
</tbody>
</table>

- Total phosphorus concentrations are low, with station means ranging from 4-5 ug/L. Phosphorus levels were found to be uniform among stations, throughout the seasons, and from top to bottom. Recently received results from 1995 sampling has shown a late July phenomenon of fairly high phosphorus in hypolimnetic samples (31 - 47 ug/L TP). The origin of this phosphorus has not yet been determined.

- Total inorganic nitrogen (TIN) concentrations (ammonia plus nitrite+nitrate) are also low. Nitrogen in the photic zone is best assessed during the peak concentration period associated with spring runoff, April - May. The lake wide average was around 35 ug/L.
Figure 2. Locations of Priest Lake sampling efforts in 1994.
TIN. By late summer the phytoplankton community depletes photic zone TIN to below 10 ug/L. During spring, total nitrogen ranged from 60-155 ug/L.

- Chlorophyll $a$ (chl $a$) concentrations in the photic zone are indicative of low algal productivity in Priest Lake. Chl $a$ is at its highest levels in April and May, ranging from 2.0-3.2 ug/L among stations. From mid-summer on phytoplankton populations diminish with chl $a$ ranging from 0.2-1.5 ug/L.

- The phytoplankton community is dominated by diatoms, with the most common form being very small centric diatoms. In late summer there are low counts of the blue-green algae *Anabaena spiroides*.

- Water clarity, as measured by secchi depth transparency, is at its lowest in April - June. Averages among stations ranged from 7-9 m. Spring secchi depth in 1993 and 1995 were lower ranging from 5-7 m. Water clarity in spring is associated with a diatom bloom, suspended material brought in by the tributaries, and atmospheric fallout of pine pollen. From mid-summer on, water clarity in Priest Lake is good, ranging from 10 - 14 m secchi depth.

- Dissolved oxygen levels in bottom waters remain high in late summer. At 90 m, DO concentration is around 10 mg/L (Figure 3).

![Figure 3](image.png)

*Figure 3.* Temperature and dissolved oxygen profile at the deepest lake station, east of Bartoo Island.
Algal Growth Potential studies were conducted by project consultant, KCM, Inc. Lake water was incubated *in situ* to measure the response of the phytoplankton community stimulated by artificial additions of phosphorus and nitrogen. The results strongly indicated that algal productivity in the open waters of Priest Lake is being co-limited by both nutrients.

Clearly, the trophic status of Priest Lake open waters is oligotrophic. Associated parameters that establish this trophic status include nutrient loading from various water inflow sources, lake surface area and volume, and hydraulic residence time. These factors will be defined in detail upon completion of the PLP baseline report.

**Nearshore Zone**

Human land use practices can generate a nutrient enrichment effect on aquatic plant productivity (algae and rooted plants) over and above that which occurs naturally. In large lakes, increased productivity will generally first be exhibited in the nearshore zone. This zone for the perimeter of Priest Lake is approximately defined as shoreline to 10 m depth. It is this zone that initially receives man-induced nutrients in the way of residential stormwater runoff, wastewater effluent, and increases in tributary sediment/nutrient loads.

Three biological communities were examined in the nearshore areas: periphyton attached to rocks (attached algae, bacteria, fungus and yeast); rooted aquatic plants (macrophytes); and growth dynamics of bacteria found in nearshore waters. Chemical parameters (primarily phosphorus and nitrogen) were measured in areas within and associated with the nearshore zone. This sampling included: lake water immediately above the rocks and within the macrophyte zone; groundwater; interstitial lake sediment water; tributaries; precipitation; atmospheric dryfall; and resuspension of nearshore sediments by wind and boat generated waves.

The interrelationship of the nearshore biological communities with both chemical and physical factors (water clarity, shoreline slope, substrate type, aspect to the sun, etc.), are complex and it is very difficult to assign cause and effect. Because of this difficulty, lake trophic status relies mainly on more easily defined and measured open water parameters, even though nearshore productivity can be a more sensitive measure for man-induced nutrient enrichment. Except for nearshore lake water quality, the parameters measured were extremely variable. The task of the PLP is to gain insight to this variability, and select the most appropriate indicator(s) of nearshore water quality, along with the methodology of sampling, so that an existing condition can be defined and used for future comparisons to detect human-induced impacts.

The following is a summary to date of the results defining the existing nearshore condition:

- At twelve sites in July and August, at a depth of 1.5 m, material on top of rocks was sampled (3 rocks per site). Results were highly variable, and there were no differences associated as to whether a site was adjacent to developed or undeveloped areas.

  Of the total dry weight, about 70% was inorganic (soil minerals) and the remaining was organic (ash-free dry weight). Chlorophyll *a* of the ash-free portion (attached algae)
averaged about 40 mg/m². This appears relatively high compared to studies of other large oligotrophic lakes (Pend Oreille, Chelan, Tahoe, and Kootenay). The total ash-free dry weight was also high compared to the above lakes. The ratio of ash-free dry weight/chl a was very high indicating that the ash-free material is dominated not by attached algae, but by nonphotosynthetic organisms (fungus, bacteria, yeast) and non-living organic matter (pollen for example).

In summary, if you dive for a rock at 1.5 m depth along the East Side Road, one of the denser sites, you will find a thick (about 1 inch) slimy mat of brown and dark green material.

- Twelve transects were surveyed by Scuba® for macrophyte growth. The transects ran from 1 m to 6 m in depth. Species composition and density were measured. At each site an underwater video was taken of the entire transect, allowing accurate future comparisons. In general, the submersed macrophyte community is indicative of an oligotrophic lake with good community diversity and clean water species. There were some areas with high density, but not sufficient to pose a recreational nuisance. There are some areas of surprisingly low plant diversity offshore from urban development.

- As an offshoot of groundwater microbiology studies conducted by the University of Idaho in the Granite/Reeder and Kalispell Bay Sewer Districts, microbial communities were analyzed from both nearshore and offshore samples, as well as in the periphyton. Measurements included cell concentrations, utilization patterns of carbon sources in Biolog microassay plates, and growth rates over time within the Biolog 96-well plates. The concept is that differences in carbon utilization and growth dynamics of microbial communities among sampling areas may be a sensitive indicator of differences in water chemistry. The goal of this effort is to detect perturbations caused by human-induced nutrient enrichment or contamination (petroleum for example) by examining microbial metabolic dynamics. These studies are at a research stage, but hold potential as an indicator of nearshore nutrient enrichment.

- Phosphorus and nitrogen concentrations in nearshore waters are no different than that measured in the photic zone offshore.

- Total inorganic nitrogen and dissolved ortho-phosphate concentrations in groundwater next to the lake, and in sediment interstitial waters, are commonly between 2-10 times greater than measured in tributaries. Groundwater seepage over rocks in the nearshore area may thus provide a nutrient source to attached algae. Some groundwater wells were determined to have nitrate levels well beyond what could be attributed to background, and there is suspicion that these waters are influenced by septic effluent.
CHAPTER 3
GOALS, ISSUES AND CONCERNS

Goals
The goals of a Priest Lake Management Plan (PLMP) are clearly stated in Idaho Code § 39-105(3)(p): "...the stated goal of the plan shall be to maintain the existing water quality of Priest Lake while continuing existing nonpoint source activities in the watershed and providing for project best management practices when necessary." Existing water quality conditions were addressed in Chapter 2. The means to achieve this goal are discussed here.

Issues and Concerns Incorporated into the Lake Plan
This section provides background, explanation, and rationale for the lake plan Action Items (AIs) listed in Chapter 4. The issues and concerns addressed are not only those of the planning team, but also of members of the lake community who attended planning team meetings.

Timberland and Associated Roads

Purpose and Need: The water quality of Priest Lake could be threatened if timber and road BMPs are not strictly adhered to and enforced. The intent of this portion of the document is to: 1) increase the awareness of potential shortcomings of the existing BMPs and to recommend improvements where appropriate; 2) have a scientific basis for land management decisions; 3) demonstrate the need for a lake plan project manager to ensure that action items of the plan are effectively implemented; and 4) improve interagency coordination.

Timber harvesting has long been one of the most important industries within the Priest Lake basin. Over eighty percent of the basin is public land, and where compatible with other uses, the land is managed to produce timber. The west side of the basin is predominately Panhandle National Forest land managed by the U.S. Forest Service (USFS). The east side of the basin is mostly state lands managed by the Idaho Department of Lands (IDL). State lands are managed under the Idaho Constitution as endowment land where revenues generated from timber sales are placed in trust for state public education. Timber harvesting also occurs on private lands.

For all forest practices (i.e. tree harvesting, road construction and maintenance, reforestation, chemical application, slash management, and conversion of harvested forest land), the Idaho Forest Practices Act (FPA) is the primary regulatory tool to protect resources. The Rules and Regulations Pertaining to the Idaho FPA (Idaho code Title 38, Chapter 13) are identified as mandatory Best Management Practices (BMPs) for forest practices. A BMP is defined as a practice or combination of practices that are determined to be the most effective and practicable means to prevent or minimize effects on water quality. Forest practice BMPs are minimum standards designed to protect beneficial uses of watershed streams (Hoelscher et al., 1993).
Forest practices on state and private land are regulated by the IDL. Federal land practices must meet or exceed the requirements of the FPA. The IDL, USFS and private industry can and will continue to not only meet the Rules and Regulations of the FPA, but often times exceed them.

The water quality in the Priest Lake watershed is a result of a complex web of inter-relationships between the terrestrial and aquatic ecosystems. The terrestrial ecosystem is quite varied because of the unique geologies underlying the basin, the historical range of glaciation, and the natural range of precipitation. The vegetation of the basin developed because of the fire and moisture regimes. The timber types are a mosaic of fire dominated Ponderosa pine stands, mixed conifers, and old growth cedar stands. Over the past 100 years, a considerable number of these timber stands have been accessed with logging roads and subsequently timber has been harvested.

Generally speaking, the actual removal of timber alone does not degrade water quality. However, actions frequently associated with timber extraction may degrade water quality. For example, research has demonstrated that road construction associated with logging may produce 80% of the sediment artificially introduced into streams (pers. comm., Jill Cobb, USFS). Therefore, only 20% of sediment artificially introduced into streams is generated by actual timber harvesting.

Road maintenance funds provided to either the USFS or IDL are not guaranteed for the long term. On federal lands, road maintenance dollars have dropped considerably over the last 5 to 10 years. Road maintenance dollars for roads on state lands are directly linked to timber harvesting. Currently the IDL endowment land timber harvesting program is supporting the road maintenance needs. The IDL has expressed a concern that a considerable amount of the ongoing road damage is not associated with timber harvesting, but rather with recreationists using the roads on state lands. No money exists to remedy these recreationally induced "problems." Furthermore, no mechanism exists to require private landowners to maintain their roads.

The Timberland and Associated Roads subcommittee is concerned that many miles of roads will be inadequately maintained as a result of dwindling federal budgets, and the state funding mechanism for maintenance of roads with heavy recreational use. Many miles of roads do not presently meet FPA standards. In light of this, it appears that the focus to protect water quality should be on road maintenance, road placement, road construction, and closure of "excess" roads (refer to Timber and Roads AIs 5 and 10, Chapter 4).

Erosion of soil into a waterbody can increase lake nutrient loading. For example, background sediment export in the forested Spirit Lake watershed (north Idaho) was about 0.03 tons/ac/yr, and in the first year following a timber harvest increased to approximately 1.4 tons/ac/yr (Bellaty, 1987). Sediment particles carry adsorbed phosphorus. Background total phosphorus (TP) loading in forested north Idaho watersheds has been measured at 0.01 - 0.09 lb/ac/yr TP, and the first year after harvesting ranged from 0.30-2.37 lb/ac/yr TP (Bellaty, 1987 and Falter and Good, 1987). Both sediment and TP loads can return to background levels in approximately 2-6 years.
The baseline studies of the Priest Lake Project will produce nutrient and sediment load values from the major watersheds. These measurements however were taken at the mouth of tributaries to document total subwatershed loads to Priest Lake. The studies were not designed to attempt a partition of load between natural background and that which may be attributed to landuse activities. It is apparent that west side streams (for example Granite and Kalispell Creeks), carry a relatively high sediment and associated phosphorus load during spring runoff. Soils in these watersheds appear to be naturally highly erodible, but there is also a maze of timber roads, many of them next to streams, and a history of harvesting.

Both the IDL and USFS are self regulating agencies. Private timber sales are reviewed by IDL on a priority basis as funding is not always available. Potentially damaging activities (e.g. road construction on steep slopes or a poorly designed stream crossing) could be prevented with early on-site inspections (AIs 1 and 3) and a strong public information and education program (AI 4). These action items are primarily aimed at Non-industrial Private Forest (NIPF) landowners. Results of FPA audits indicate that NIPF landowners generally have more departures from BMPs than found on other ownerships (U of I, 1993). Trained landuse professionals working with IDL, and skilled at identifying potentially unstable slopes and/or drainage problems, could save private citizens considerable dollars with simple solutions (i.e. moving road locations to avoid costly road maintenance problems). This relatively simple solution is very cost effective, since more often than not, it is less expensive to avoid the problem rather than to repair it later. If the problem impacts state lands or public resources (i.e. roads, fish, ditches, culverts, wildlife, domestic water supplies), there is also a monetary savings to the government by applying "an ounce of prevention to avoid a pound of cure."

Both state and federal agencies need to commit funding and trained personnel to complete the Idaho State mandated "feedback loop" (AI 6) recognized in the Forest Practices Water Quality Management Plan (Bauer et al. 1988). The purpose of the "feedback loop" is to correct BMPs that are implemented, but which do not work. Used properly this loop can save both resources and limited dollars. In the event that a specific BMP is not adequately protecting water resources, the responsible agency is required to immediately correct the situation with a more appropriate BMP. Additionally, data recorded by trained personnel monitoring the landuse activities may document where and how specific BMPs may be used successfully. A project manager assigned to implement the PLMP (AI 11) would be one way to make the "feedback loop" more responsive and generally reduce costs by avoiding those BMPs that are not effective in terms of resource protection or costs.

For both the Forest Practice Notification process, and the permitting process for stream alterations (Idaho Stream Channel Protection Act), there is a need to: assist the general public and concerned agencies about whom to call for guidance; clearly demonstrate which agency is responsible for specific resource concerns; and streamline the permitting processes or make them more "user friendly" (AIs 2 and 8). A lake plan project manager could help coordinate the responsible agencies to address these needs.

The Planning Team has felt strongly about continued monitoring in the Priest Lake basin to ensure existing water quality is being maintained, and to identify and rectify problems. As one mechanism to proactively protect aquatic resources, a Cumulative Watershed Effects (CWE) analysis process, or an equivalent process, would be conducted on all Priest Lake watersheds
Cumulative effects means the impact on water quality and/or beneficial uses which can result from the incremental impact of multiple forest practices. Cumulative effects can result from individual minor actions adding up to a collective and significant adverse impact on a watershed over time. The CWE analysis process is an on-the-ground screening evaluation of various land and stream parameters (sediment, stream temperature, destabilized stream channels, etc). In watersheds exhibiting signs of cumulative effects, additional BMPs may be required, or logging temporarily postponed.

The methodology of the CWE analysis for state and private lands is currently being developed by IDL and an interdisciplinary task force from other agencies and the private timber industry. Locally, the process has been field tested in the Two Mouth Creek watershed (IDL, 1994). The USFS currently utilizes a similar evaluation process on federal managed lands. The FPA does not currently contain Cumulative Effects regulations. Adoption of the CWE analysis process into the FPA has been strongly recommended in recent management plans for Hayden Lake and Coeur d’Alene Lake. Enactment of AI 9 in the PLMP does not depend on adoption of the CWE analysis into the FPA. This watershed evaluation would be conducted regardless of the adoption outcome.

Action Item 9 also calls for the watershed evaluations to include the survey process of the Beneficial Use Reconnaissance Project (BURP), currently being developed and conducted by DEQ. The BURP survey measures water quality, habitat, and biological conditions to determine whether or not water uses are attainable and at what level those uses are supported (fully supported, partially supported, or non-support). This survey is a way of characterizing stream health, and the quality of the water and the watershed it drains. Parameters measured include: stream shade (canopy); percent surface fines; pool:riffle ratio; pool complexity; bank stability; macroinvertebrates (insects); and fish populations. In 1994 and 1995 there have been several streams in the Priest Lake basin surveyed under the BURP.

The field reviews of the CWE analysis and BURP surveys would allow the responsible agencies to collect baseline data and manage the ground in such a way to protect these resources. The field reviews would identify land management and rehabilitation opportunities. Using this data, the land managers would plan and implement timber harvests and rehabilitation where needed. The project manager would work in conjunction with the state and federal agencies as well as private citizens to coordinate information and analyze for cumulative effects. Larger timber companies/cooperatives can provide technical assistance to small landowners to maximize their land values and protect water resources.

Public and Private Residential Roads

These are roads that are not associated with timber harvesting. They are constructed and maintained by the USFS, state, Bonner County, and private companies or individuals. Priest Lake roads provide access for the utilization of residential and recreational resources of the area. Some major roads are paved or graveled, but most are compacted native soils. Many roads and spurs are around the immediate perimeter of Priest Lake, and closely adjacent to basin streams.
These roads can create problems for water quality due to erosion during construction, during maintenance procedures, and because of longterm erosion rates. Many of these roads were initially constructed for logging access. Later, heavier use from recreational and residential access resulted. Initially, logging roads were built for short term minimum use and were not designed for longterm heavy use.

During the course of the Priest Lake Project, many roads were observed during rain events and spring snowmelt. Significant erosion was documented through photographs and water quality sampling in ditches, gullies, culverts, and sheet runoff. Road runoff containing high concentrations of suspended sediment and phosphorus does find its way directly into Priest Lake and the tributaries. Some examples include: the East Side Road which has recently been paved; steep roads leading into cabins on the east side with significant gullies; a steep road and unstable bank cuts that leads to a new subdivision which contributed high sediment runoff to Reeder Creek; and the West Side Road south of Hills Resort, which has overflowing water eroding the road because of shallow ditches and damaged culverts.

Observations around the watershed showed that some roads can be considered poorly constructed and inadequately maintained. Some roads were constructed on steep slopes with little or no provision for drainage or water runoff management. In some cases road ditching is not present, or if present the ditches and culvert entrances have filled with sediment. Road drainage outlets often do not have sufficient filtering distance prior to reaching a waterbody. Road cuts and fills can exceed recommended slopes, and the soils in cuts and fills are often not stabilized leading to longterm erosion. Many private roads and driveways have significant gullies which form each winter and spring. These gullies can serve as conduits to transport high sediment waters directly into streams or the lake.

The Action Items submitted by the Public and Private Residential Road subcommittee focus on remediation and longterm improvements in management of stormwater runoff on existing roads. A complete inventory of roads must first be done to identify and prioritize site specific problem areas (AI 1). Agencies or individuals who have jurisdiction at these sites would be informed of the documented problem and requested to correct the problem (AI 2). The lake plan calls for assistance in remediation, installation of BMPs, and maintenance of BMPs to control road stormwater runoff (AIs 3, 4 and 5). This assistance would be in the way of counsel, public information and education (I&E) programs, and a demonstration project to show by example how BMPs should be implemented.

Newly constructed roads tend to be built with a better understanding of the present utilization requirements, and with a better understanding of potential water quality impacts during and after construction. State, federal and county agencies have established road standards and guidelines. The Bonner County Stormwater Ordinance applies to all public road construction. There still, however, is a recognized need to offer additional and continued training on road construction and maintenance BMPs to protect water resources (AI 4). Furthermore, the Stormwater and Construction subcommittee has adopted an Action Item to seek amendment of the county stormwater ordinance to specifically apply to construction of private roads and driveways.
Stormwater and Construction/Development

There have been volumes written on the subject of stormwater runoff with substantial research providing scientific data. Stormwater is defined as any runoff that is associated with storm events. In concept it would also include warm weather snowmelt in late winter and spring when the snowpack is thin enough to begin scouring and dislodging soil particles.

Under natural forested conditions, much of the rainfall infiltrates into the soil and reaches streams through groundwater. The velocity of water flowing over the surface is kept in check by vegetation and the organic duff of the forest floor. As an area becomes developed with roads, driveways, homes and lawns, the soil becomes compacted. Native trees, shrubs and groundcover are removed. With rainfall, much less of the water infiltrates into the ground because of compaction or impervious cover. With compaction and removal of vegetation, stormwater sheet flow develops a velocity that is more rapid than what would occur under natural forested conditions. This increased velocity has an eroding effect and can create gullies and rivulets, channeling flow directly into lakes and streams.

Development also brings human byproducts such as oils, antifreeze, pesticides, herbicides, fertilizers and metals which can become incorporated into the stormwater runoff. New construction creates tons of loose soil particles which, if kept unchecked, erodes and becomes part of the runoff. The loss of vegetation, or the filling in of a wetland, removes a filtering capability where the vegetation once slowed runoff velocity and allowed sediment and contaminants to settle over distance and time. Thus, development results in more sources of nonpoint (diffuse) pollution, more surface runoff to carry those pollutants to waterbodies, and less removal of those pollutants through filtration and infiltration.

Studies have shown that in general, per acre phosphorus loads from residential and commercial areas are second only to that from feed lots (Hale, 1993). Residential and commercial development permanently increases phosphorus export by 10 - 100 times. Construction sites lacking effective erosion and sedimentation control measures can have runoff sediment loads 5-500 times greater than that from undeveloped land.

As a local example, the Priest Lake Project included some measurements of gully and sheet flow stormwater runoff at the point of discharge into the lake. These samples were taken from resort areas with a network of dirt roads, driveways, and high density cabins. The measured stormwater runoff was funneled onto roads leading to boat ramps. Concentration of total phosphorus averaged 860 ug/L and total suspended sediment 500 mg/L. This compares to the highest tributary value collected over two years of monitoring, 95 ug/L TP and 64 mg/L TSS.

Observations and photo documentation around Priest Lake also discovered several new construction sites, some on very steep slopes, where there had been considerable excavation but either inadequate or no erosion control BMPs. Qualitative observations showed significant runoff of soil particles directly into the lake creating a visible sediment plume. Within some residential areas around Priest Lake, homes and cabins are set back from the shore 100 feet or more and the native shoreline vegetation has been kept intact. In other areas however, homes...
are as close as 25 feet from the shoreline, most if not all of the vegetation has been removed, and lawns have been placed all the way to the lakeshore. This allows very little opportunity for infiltration of stormwater runoff.

Awareness of the degree of nutrient, sediment, and other pollutant loading from stormwater runoff has become evident in lake management plans across the nation and in northern Idaho. Studies have shown that stormwater control measures can benefit water quality. Recent plans for Lake Pend Oreille, Hayden Lake, and Coeur d'Alene Lake include comprehensive management recommendations for reducing stormwater runoff loads. Education and regulation are key components in these plans. County governments have also recognized the need for management of stormwater runoff. Kootenai and Bonner Counties have adopted stormwater and erosion control ordinances.

The subcommittee on Stormwater and Construction/Development for Priest Lake has established a set of Action Items with a goal of minimizing stormwater pollution from existing and predicted sources. Action Items involve regulation, monitoring, enforcement and education. Potential, and in some cases existing, water quality problems can arise from the nonpoint cumulative effects of many individual actions in the Priest Lake basin. Most of these actions, such as fertilizing lawns, building homes and constructing access roads are of little consequence independently but could have a considerable impact when multiplied hundreds or thousands of times in the entire basin.

For existing homes, resorts, and businesses, the effectiveness of stormwater control measures will rely foremost on a strong public I&E program (AI 7). Many people are not aware of the concepts of stormwater runoff and that it can contribute to water quality degradation. Homeowners need information on how to identify problem areas on their land, on options available for correcting the problems they find, and how to properly install and maintain BMPs.

Because of the strong feelings people have in preserving the high quality of Priest Lake, it would be anticipated that public awareness would lead to participation in the plan by the community. Citizens would be encouraged to maintain, restore or enhance vegetative filter strips at the shoreline (AI 2). Where possible, homeowners could construct dissipating devices to spread channeled stormwater over noncompacted forest land for infiltration (AI 7). Homeowners would also be encouraged to significantly reduce their applications of fertilizers, pesticides, and herbicides (AI 4). Demonstration projects would be established so the community can view firsthand the implementation of BMPs (AI 12).

For stormwater runoff from future development, the subcommittee recommended several revisions to Bonner County Stormwater Ordinance #227 (AI 5) to strengthen observed weaknesses in the regulations. These include: bond requirements; improved accountability; improved enforcement of violations; eliminating the exemptions for private road and driveway construction, and excavation for garages and home additions; and ensuring erosion control measures are in place prior to site excavation. When considering new development, wetlands would be retained because they are excellent for filtration and storage of stormwater (AI 3). Contractor licensing and BMP training would be promoted (AI 8). Areas of high erosion risk would be identified to buyers/builders (AI 11).
Wastewater Treatment

There are over 1,700 equivalent units (EU’s) around the perimeter of Priest Lake which generate wastewater. These are single family residences (most used only seasonally), multiple unit resorts, businesses such as stores and marinas, and campgrounds.

There are several methods used to treat wastewater. Over 50% of the EU’s are serviced by six sewage lagoon - land application systems operated by separate sewer districts. All systems are designed for effluent only, with each house or resort providing a septic tank(s) to remove solids. The three largest systems are operated by Coolin, Outlet Bay, and Kalispell Bay Sewer Districts, and were constructed in the early 1970’s. The sides and bottom of the lagoons were treated with bentonite. Every five years the sewer districts land application permits must be renewed by DEQ. In the 1994 renewal cycle, DEQ presented a view that these three lagoon systems were leaking substantially, posing a threat of contamination to underlying groundwater. This view was primarily based on inflow - outflow data supplied yearly by the sewer districts. However, the flow data was recognized to be inadequate and often inaccurate. The three sewer districts are currently making major improvements in flow instrumentation, land application piping and acreage applied, and are installing monitoring wells. If improved flow instrumentation and monitoring show a threat of groundwater contamination by lagoon seepage, synthetic liners will be required.

There are over 500 homes with individual septic systems. About 290 of these fall within the Granite/Reeder Sewer District on the west side, and the others are mostly Idaho State leased lots on the east side. Many of the individual septic systems were in place prior to 1971 and are considered substandard by current Panhandle Health District (PHD) regulations. Systems installed prior to 1971 could be as close as 50 feet to streams and lakes. Regulations adopted in 1971 required separation distances of 200-300 feet, depending on soil texture. There are also specified separation distances between the septic system and groundwater. The use of drywells was prohibited.

In a few cases, blocks of homes have developed a community drainfield system, for example the Pinto Point Sewer District. Some resorts in the Granite/Reeder area pump or transport their sewage to drainfields away from the lake. Campgrounds not connected to lagoon systems use outhouses, septic tanks, vaulted toilets, and/or drainfields.

There are several features of the Priest Lake area that make proper management of wastewater essential, and justify the upgrading of substandard septic systems. First is the very nature of phosphorus and nitrogen in septic effluent. Phosphorus is very concentrated and in the ground most phosphorus is converted or found as dissolved ortho-phosphate. If this phosphorus seeps into the lake it is immediately available for use by algae (nutrient enrichment). Soils treat septic effluent phosphorus by a strong chemical adsorption. But effective phosphorus treatment requires several feet of soil between the drainfield and groundwater table, and 200-300 feet or more between the drainfield and surface water. Sandy and gravelly soils are not as efficient at phosphorus removal as soils with some loam and clay. As described below, there are several areas in Priest Lake which do meet the conditions for effective phosphorus treatment.
Nitrogen from septic effluent is also very concentrated. Nitrogen in a septic tank begins as ammonia. As ammonia reaches the drainfield, in the presence of oxygen, it becomes converted to nitrate. Soils do not treat nitrate. This ion is extremely mobile and easily moves through soil into groundwater. Nitrate is assimilated by algae when it reaches lake waters.

Algal Growth Potential studies in 1994 by project consultant KCM, Inc. indicated that phytoplankton productivity in the open waters of Priest Lake is co-limited by both phosphorus and nitrogen. The dilution factor of the open waters would likely prevent nutrient enhanced groundwater (from wastewater) to increase this productivity. Studies also measured the amount of biological growth on rocks in nearshore zones of Priest Lake (about 5 meters depth and shallower). Attached algal growth has been found to be fairly luxuriant considering the oligotrophic nature of Priest Lake open waters. Nutrient limitation was not assessed for attached algae. If groundwater seeps into the lake, nearshore, and has an added element of septic effluent, this could provide a nutrient enrichment to attached algae before becoming diluted. The growth of rooted aquatic plants (macrophytes) could also benefit from enriched groundwater in the lake sediments.

A visual effect of nutrient enriched groundwater from septic effluent can be observed when a septic drainfield fails and effluent begins surfacing on the ground. Several of these areas along the shoreline were found during the course of the Priest Lake Project. The stream of water trickling over rocks to the lake has a bright green, long filamentous growth of attached algae.

Around the perimeter of Priest Lake there are aquifers with high water tables. For example, the Priest Lake Project included a groundwater study in the Granite/Reeder Sewer District. Underneath is an aquifer flowing toward the lake, and not confined by clay layers. South of Granite Creek along the lakeshore the water table is high, from 3 to 7 feet below the surface. The soils are highly permeable sands and gravels. There is high density housing with many individual septic tanks and drainfields within 50-200 feet of the lake.

With a high water table and sandy soil, treatment of septic effluent phosphorus would be minimal in this area of Granite/Reeder. Nitrogen from effluent would quickly become incorporated into the groundwater. Monitoring wells in the area showed some wells with nitrate and chloride levels far beyond what could be attributed as background. The suspicion is that nitrate has been elevated by septic plumes. In addition, there is a potential health concern. Wells for drinking water in the area draw water from 35 to 80 feet below the ground with no clay layer separation from the septic systems above.

Studies were also conducted in the Kalispell Bay Sewer District. There is a large aquifer flowing toward the lake and there are two older sewage lagoons in the area. There are some pockets of consolidated clay layers forming a cap over portions of the aquifer. Monitoring wells near the shore did not show nitrate above background levels. One sampling run on monitoring wells installed by the sewer district, just down gradient from the lagoons, did show nitrates and chlorides well above background levels. These wells will be monitored regularly to assess if lagoon seepage water is elevating groundwater nutrient concentrations.
Through a contract with the University of Idaho, a groundwater atlas is being constructed for the perimeter of Priest Lake. In part, this is an effort to identify other aquifer systems that have characteristics similar to the Granite/Reeder area, and would be susceptible to plumes from individual septic systems or leaky sewage lagoons.

The subcommittee on Wastewater Treatment designed Action Items to improve existing treatment systems (AIs 1, 2 and 3) and assure adequate management to minimize the introduction of wastewater nutrients into groundwater, streams, and the lake (AIs 4 and 5). All treatment systems will need careful scrutiny to assure they are being operated properly, and their management personnel given appropriate guidance by DEQ and PHD. These two agencies are to ensure that State of Idaho laws and regulations regarding wastewater treatment are strictly enforced and that their programs are carefully coordinated. All users of Priest Lake and its basin will be asked to operate within the parameters of this lake management plan and will be required to meet fully the restrictions of the State of Idaho.

Motorized Watercraft

As discussed in the lake topic Recreation, there is an increasing number of recreationists utilizing the Priest Lake basin. Associated with that trend are increasing numbers of motorized watercraft on the lake.

There are several potential areas of water quality impact related to motorized watercraft. One is the effect of shoreline erosion by boat generated waves. Baseline studies of the Priest Lake Project did not access shoreline erosion. In Priest Lake there are frequent strong winds, and differentiation of bank erosion between natural forces and boat wakes would be difficult. Enforcement and public education of the 10 mph speed limit within 100 feet of shore (pers. comm., Bonner County Deputy Charles Anderson) could help alleviate erosion directly related to boat wakes.

Motorized boats can also resuspend fine sediments in shallow areas through water column disturbances. This can increase turbidity and redistribute total phosphorus attached to sediments. There are two main shallow areas in Priest Lake: one is the southern bay around Coolin, and the other is The Thorofare. An electronic eye set up by the USFS estimated around 10,000 boat trips up The Thorofare to Upper Priest Lake in the summer of 1994. The Thorofare is a no-wake-zone, but violations are occasionally observed. In mid to late summer there is very low flow and the river becomes a long shallow lake. Studies in 1995 will attempt to assess any impact to water quality within The Thorofare caused by motorized watercraft.

A second potential water quality impact is the discharge of wastewater from boats into the lake. This is the focus of the motorized watercraft Action Items. This is also a common concern expressed by the public at planning team meetings.

The Federal Clean Water Act prohibits discharge of untreated sewage or inadequately treated sewage into a lake such as Priest. Any boat with an installed marine sanitation device (toilets and blackwater holding tanks, generally boats 20 ft and longer), and certified by the U.S. Coast Guard, shall be designed and operated to prevent the overboard discharge of sewage into lakes.
The federal law allows for states to enforce state laws if they are more stringent. This is the case in Idaho where local peace officers can enforce Idaho's Marine Sewage Disposal Act. Idaho Code 67-7505(1) states: "except as provided by federal law, no person shall discharge or otherwise dispose of any sewage or other waste from any vessel into or upon the waters of the state." Both federal and state laws have been interpreted to include greywater from sinks and showers. The Idaho Environmental Health Code for District 1 (Panhandle) also addresses marine discharge. IDAPA 41.1.200.01.(a) disallows any boat to be on the water unless wastewater facilities are sealed to prevent discharge.

Boats with installed marine toilets have holding tanks with the capability of being pumped out, or have blackwater discharged directly into the water which is allowed in the open ocean. By law, in Idaho waters, the direct discharge valve is to be sealed. Boat manufacturers that install fresh water holding tanks typically do not have holding tanks for the greywater which is generated, waste from sinks and showers is discharged overboard.

The Motorized Watercraft subcommittee has developed Action Items to deal with preventing waste discharge into Priest Lake. Boats on Priest Lake with installed marine toilets, sinks and showers shall have holding tanks that can hold all wastewater generated, black and grey, and are sealed against discharge into the lake (AIs 2, 3 and 7). There are pumpout facilities around the lake where these tanks can be emptied, and the management plan recommends that marinas comply with current Health Code regulations regarding pumpout facilities (AI 3). Marine deputies would inspect for sealed wastewater discharges during their routine safety inspections (AI 1). Violations would be enforced. Smaller motorized boats, without installed wastewater facilities, when used for transport of campers to dispersed, undeveloped campsites, will have to carry at least a porta-potty (AI 4).

Other potential water quality impacts from motorized craft include: discharge into the lake of anti-freeze from winterized inboard-outboard motors; spillage of fuel and oil and discharge of oily bilge water; and materials entering the water from boat cleansing. A public I&E program aimed at boat owners, marina and resort owners would address these issues (AI 6).

Recreation

Priest Lake is a well known recreation site for people in northern Idaho and eastern Washington. One of the more popular activities is camping on the many sandy beaches of Kalispell and Bartoo Islands, on the shores along the northern portion of Lower Priest Lake, and on the shores of Upper Priest Lake. However, most of this camping is at undeveloped sites with few sanitary facilities.

Recreation managers have expressed concern over a recent dramatic increase in recreation activity at Priest Lake, and the potential impact on the environment. For example, the USFS estimated that approximately 10,000 people used Kalispell and Bartoo islands during the summer of 1994. The concern of increased use led to a contract with the University of Idaho to conduct a Recreational Use and Tourism Survey during the summer of 1995. This survey will supply data on numbers of users, number of boats, locations of sites for recreation, and will also survey the attitudes of the recreationists. Also, recreation managers from the IDPR, IDL and USFS
have been meeting for about one year in order to jointly develop a comprehensive recreation plan for the area. The USFS has already instituted several changes for the summer of 1995 in its management of camping at Kalispell and Bartoo Islands. For example, boats will be required to have portable toilets when camping at sites without vault toilets.

At planning team meetings, one of the more common complaints and concerns of the attending public was the unsanitary and unsightly conditions that were developing on the islands and other sandy shore sites. This further stressed the importance of recreation as a component of the lake management plan. The following synopsis of recreation at Priest Lake and potential impacts to water quality was developed by the Recreation Subcommittee whose members are actively involved in recreation management.

Priest Lake and its surrounding watersheds are popular year-round destination areas for outdoor recreation activities. Most of the elements of a desirable recreation experience exist in the Priest Lake watershed: large, relatively uncrowded lakes with high water quality; scenic mountains; forested environment; minimal development; streams; sandy beaches; mild climate; a well-known and relatively productive lake trout fishery; quantities of edible berries and mushrooms; a healthy population of game animals; readily available back country access; snowfall abundant enough for winter recreation activities; large tracts of publicly owned land; easy highway access to the area; a good array of support services; and proximity to major population centers.

Recreationists fall into two categories: Residents and Transients. Residents are those who maintain a home (full-time or seasonal) in the Priest Lake area. Transients are those who travel to the Priest Lake area, stay at the lake for a short period of time, and then leave the area. Transients fall into two categories: Overnighters - those who make multiple-day visits to the area and use lodging or camping facilities in the area to stay overnight, and Day Users - those who travel to Priest Lake to enjoy various activities, and leave the area the same day.

Transient Overnighters and Residents are presumed to be the predominant recreation populations (based on available use statistics). At certain times of the year (i.e. winter) however, Day Users may come close to equaling or exceeding Overnighters/Residents, probably due to a decrease in lodging/camping availability, and the day-use nature of their recreation activities.

Studies have shown that for the most traditional recreation activities, Overnighters usually have the most impact on the resources. This is due to the length of time they stay at an area, the amount of services they require, the by-products (i.e. human wastes, garbage, etc.) of their recreation uses that remain in the area, the greater number of activities they participate in during their visit, their greater numbers, and the cumulative effects of concentrated numbers in small areas (they tend to be "tethered to their bedrooms").

The most significant limiting factors for numbers of Overnighters in a given area are the amount of "bedrooms" (i.e. campsites, lodging units), and the level of services available in proximity to the recreation attraction.
Displacement occurs (i.e. recreationists move from their desired recreation place, or time, to an alternate one) when:

- Demand outstrips supply, as is the case currently at Priest Lake during the summer months,
- Recreation providers change policies, for example the current USFS change in camping management at Kalispell and Bartoo Islands,
- The chosen site of recreationists undergoes significant changes, such as increased litter,
- Recreation styles and desires change due to some factor such as additions or deletions to their family unit or changes in recreation interests,
- And/or recreationists no longer have a quality experience during the time of the season they normally visit the lake because of crowds and inability to use facilities and services.

Much, if not most, of this displacement moves the recreationist to dispersed (i.e. undeveloped) sites throughout the Priest Lake area. Dispersed sites typically become destination sites over time. Significant resource impacts occur due to improper use of or lack of sanitation services, and lack of regulation or control at these sites.

In the Priest Lake area, there are currently the following transient overnight facilities:

- Developed Campsites: Public = 297
  Private = 103
- Undeveloped (dispersed) campsites: 400 approximately, but this depends on how tightly campers establish sites next to each other.
- Lodging (number of rooms): 135

Expected Future Trends:

- Demand will continue to grow as the population increases in northern Idaho and eastern Washington. Tourism promotions will also be a significant factor in bringing more recreationists from outside the NI/EW area.
- Day use will grow as population centers expand and rural areas become more populated. Larger populations will be closer to Priest Lake.
- Recreation seasons will be extended as recreationists are displaced to shoulder seasons (spring and early summer, early fall) when demand is not high.
Types of recreation uses of the Priest Lake watershed will not substantially change.

Developed camping site supply will be finite.

Dispersed campsite use will increase.

Recreationists would like to keep the quality of the physical environment in the Priest Lake watershed as it currently is.

**Water Quality Related Problems and Issues** (most of the following relate to activities near water bodies):

*The potential for impacts* to water quality tends to be greater from stationary (i.e. camping) recreational use, than from mobile non-motorized (i.e. hiking, etc.) uses.

*Improper disposal (or total lack of disposal) of human wastes.* This is primarily a problem in undeveloped, dispersed recreation sites used heavily for camping and picnicking. Wastes can enter water bodies directly, or through leaching via ground water.

*Denuding recreation sites of vegetation.* This occurs primarily from: overuse; poor or no site development; and deliberate removal to create/expand a campsite in dispersed sites, and removal for campfires. Loss of riparian vegetation leads to increased stormwater runoff into water bodies and in increased erosion.

*Soil compaction and erosion.* This occurs from: overuse; inadequate site protection; ORMV (Off Road Motor Vehicle) use in fragile and steep areas; improper watercraft use near fragile shoreline areas; and vehicular traffic on dirt roads during spring thaw or early winter. Soil compaction can result in increased stormwater runoff and lead to erosion.

*Unrestricted campfires.* Ash residue can leach phosphates.

*Direct contamination of streams and the lake* through recreation-related activities such as: bathing; washing animals, vehicles, or equipment in or near the water; washing dishes; disposing of grey/black water; fuel spills; etc.

*Displacement.* The lack of developed facilities crowds people out into dispersed sites where water quality impacts can be significant.

*Garbage and litter improperly disposed of.* This can introduce unwanted and possible toxic substances into water bodies.

The Recreation subcommittee has designed Action Items to address the above potential and existing impacts to water quality. The project manager would conduct specific monitoring to detect impacts of recreation, and work with land managers to provide protection of water quality (AI 1). Use of dispersed sites would continue to be assessed, along with impacts, and
preventive/mitigative actions would be taken as necessary (AI 4). An aggressive public I&E program would be conducted promoting proper recreation "etiquette" (AI 3). The PLMP would lend support to the development of a joint Priest Lake watershed recreation management plan (AI 2).

Agriculture and Livestock

Agriculture and livestock have been a part of Priest Lake’s history since the early nineteen hundreds. However, the extent of this industry is probably less wide spread now than anytime in the past. Some of the reasons include: the development of subdivisions; reforested burns; and the Endangered Species Act which has resulted in no cattle grazing within Hughes Meadows because it is considered grizzly bear habitat.

Presently there are three commercial livestock and hay cropping operations within the Priest Lake basin. All three operations occur within the lower west side of the basin, west of Highway 57. The Hawley Ranch and the Barnes Ranch with a total of about 100 head of cattle and about 30 head of sheep operate in the Reeder Creek and Kalispell Creek watersheds. The Raines Ranch with about 100 head of cattle operates in the Reynolds Creek and Lamb Creek watersheds. Besides grazing and winter feeding, there is also raising of wild and domestic hay for winter feed.

Going from north to south, Reeder Creek, Kalispell Creek and Reynolds Creek enter Priest Lake, while Lamb Creek enters Lower Priest River just above the Outlet Dam. Compared to other streams in the basin, these are medium to low water volume streams.

Agriculture and livestock activity occurs in the lower to mid elevation portions of the four watersheds. The terrain is flat to gently slopping, and is primarily a complex of meadows, marsh-wetlands, and hayland used for grazing and cropping. Soils are derived from peat, volcanic ash, granitics, and sand. A mixture can occur due to glaciation. In many areas of grazing and hay cropping, there are numerous drainage ditches leading to the streams which expedite drying out the land during spring snowmelt. The principle forage plants are reed canary, red top, bluegrass, meadow foxtail, and other miscellaneous wild grasses. Noxious weeds include: Canadian thistle, hawkweed, dalmation toadflax, and knapweed. A variety of song birds, hawks, owls, plovers, snipes, ducks, and geese inhabit the area. There is an abundance of beaver, plus muskrat, mink, raccoon, weasel, deer, moose, elk and bear. Two Threatened and Endangered Species (grizzly bear and grey wolf) occasionally use the area.

The four streams in the agriculture and livestock area are set apart from other basin tributaries in that they have the highest concentrations of dissolved phosphorus, inorganic and organic nitrogen, and iron. This is primarily from the abundance of marsh and converted marsh land. Decaying vegetation and soil characteristics produce a tea colored to reddish brown surface water and shallow groundwater drainage, high in organics and iron. Livestock waste leachate and fertilizer likely add to the phosphorus and nitrogen load, but it is difficult to partition out this contribution, and it is probably minor.
During spring runoff these streams also exhibit the highest concentrations of total suspended sediment and total phosphorus associated with the sediment. Some, if not most of the sediment load comes naturally from forested areas which appear to be highly erodible, and also organic runoff from the marsh lands. There has been considerable timber harvesting with associated road development in watersheds of Kalispell and Lamb Creeks, which likely contributes to the sediment load. Some of the sediment load comes from the lowest portion of the watersheds, and is associated with loose soils from excavation for residential and business development. Some of the sediment load may be associated with agriculture, including bank erosion of man-made drainage ditches, and from stream bank erosion related to cattle grazing in riparian zones.

The subcommittee for Agriculture and Livestock described several BMPs in existence, practiced voluntarily by the three operators. Planning team members who are not part of the agricultural community complimented the operators for their overall management practices. The subcommittee did submit a list of BMPs as Action Items (Als 1-5 and 7) since improvements in management practices were identified (through meetings with the Natural Resource Conservation Service).

The planning team expressed a concern about an increase in hobby farms. Currently there are only a few, small acreage hobby farms in the basin. However, other lake basins such as Hayden Lake have identified hobby farms, in particular those with horses, as an increasing source of water quality degradation (Hale, 1994). Hobby farm landowners are sometimes inexperienced in management practices, and often have too many animals per acre, and the animals are kept in an area too long (compacting the soil and removing vegetation). If streams run through the property and the animals are allowed free access, stream bank damage can occur. The lake plan calls for assistance to hobby farms in the way of information on BMPs (AI 8).

Hazardous Materials (HM), and Underground Storage Tanks (USTs) and Above Ground Storage Tanks (ASTs).

As with any community, the Priest Lake basin includes underground and above ground storage tanks to hold petroleum products (and other products such as solvents) for residential, business, and recreational uses. The Priest Lake area also has an abundance of high quality water in the way of streams, aquifers, and the lake itself. If there is leakage or rupture of storage tanks, petroleum products or other stored hazardous materials may reach and become incorporated into a waterbody. Water quality protection from these products is important not only from an environmental standpoint, but also from a human health standpoint. Many drinking water wells are shallow, some being well points no deeper than 10 feet. Some homes obtain drinking water from streams. Horton Creek is an example. And, many more homeowners pump water directly from Priest Lake as a source of household water.

The lake plan includes a requirement of secondary containment for all new USTs and ASTs (AI 3). Examples of secondary containment are double-walled fiberglass tanks, and concrete basins surrounding the bottom and sides of single walled tanks. Leak detection systems for USTs will also be required. This will likely be a future federal regulation. Motor vehicle pump stations and other fueling areas would also require secondary containment to catch spillage (AI 5). This
is a requirement in Kootenai County over the Rathdrum Prairie Aquifer. A public I&E program for commercial projects would be conducted to assist with compliance of HM, UST and AST regulations (AI 7).

An inventory would be completed of all regulated tanks (those over 1,100 gallons), and also smaller exempt tanks which, for example, residents use to contain fuel for boats (AI 6). It is possible that there are many of these small tanks around the lake’s perimeter, and condition of these tanks may not be known or monitored by the owners. This inventory would aid in source detection if water quality sampling ever detected contamination. It would also allow storage tank owners to get assistance with compliance of tank regulations, or with prevention from contamination.

Other products used in the Priest Lake basin which would be considered hazardous or deleterious in a waterbody include solvents, paints and stains, anti-freeze, herbicides and pesticides. A public I&E program would be conducted to build awareness of handling, correct disposal, and overall water quality protection from these materials (AI 8).

Many non-surfed (native soil) roads around the perimeter of Priest Lake are oiled in the summer for dust abatement. There have been several observations during the course of the Priest Lake Project of road oil being washed into the lake during storm events. When dust control oil reaches water, or is applied in a way that has high potential of reaching water, it is considered a hazardous and deleterious material under section 1-2800 of the Idaho Water Quality Standards. Road oil washed into the lake occurs when oil is applied in excess on compacted roads, and then a rain event occurs shortly after oiling. Action Item 10 requires that road dust abatement materials shall be applied only according to current DEQ guidelines. These guidelines include not oiling before anticipated rain events and not using excess oil especially near lakes, streams, or wetlands. When economically feasible, oiling works best when applied to a newly graded road, which is then compacted after oiling. Other products are available which are more environmentally compatible, such as calcium lignosulfonate, but which are more expensive to apply.

Priest Lake Management Plan Implementation

Idaho Code § 39-105(3)(p) requires that the Priest Lake Management Plan "...if adopted by the legislature, shall be enacted by passage of a statute at the regular legislature session when it receives the plan and shall have the force and effect of law."

Continuing the existing role of the DEQ project manager is critical toward ensuring full implementation of the lake water quality management plan as required the Idaho Code (AI 1). Specifically, DEQ shall oversee and assist where necessary with the following:

1. The current operating budget, which shall be continued for DEQ to begin implementation of the plan (AI 2).
2. The development of Annual Workplans (AI 3) which would detail the following:
   a) Action items to be accomplished in a given year using the priority rankings in the lake plan as a guideline.
   b) Coordination with the lead public agencies and private interests on means and ways of implementation.
   c) The associated costs to implement the action items.
   d) Mechanisms and strategies to secure funding from public agencies and private interests for implementation. Budgetary request cycles for public agencies are developed and submitted to management one year in advance of the fiscal year that will utilize the established budget. Thus, annual workplans will also have to be developed and finalized at least one year in advance of any given fiscal year.
   e) Specifics on continued water quality monitoring, both routine surveys and site specific studies in problem areas.

3. Coordination with lead agencies for those action items that call for some level of enforcement. Several of the action items would be classified as calling for legal restrictions or prohibitions, for example the discharge of anti-freeze into Priest Lake from winterized boats. In this case the lead agency for compliance is DEQ. The project manager would work other DEQ staff to establish guidelines for enforcement. In most cases, the initial effort would be toward information and education.

4. The formation of a Priest Lake Management Plan steering committee. In cooperation with the DEQ project manager, the steering committee will function to assist in the implementation of the lake plan (AI 4).

5. Coordination with the steering committee to fulfill the role of a Watershed Advisory Group (WAG), under Idaho Code § 39-3615 & § 39-3616 (AI 5).

6. Along with interested citizens, seek to form a Priest Lake Association with dues paying membership (AI 6).
CHAPTER 4

PRIEST LAKE MANAGEMENT PLAN

This chapter presents the Priest Lake Management Plan as formulated by the twelve member Priest Lake Planning Team (PLPT). The plan was mandated by Idaho Code § 39-105(3)(p) which states "...the formulation of a water quality management plan for Priest Lake in conjunction with a planning team from the Priest Lake area whose membership shall consist of a fair representation of the various land managers, and user and interest groups of the lake and its Idaho watershed."

According to Idaho Code § 39-105(3)(p): "...the stated goal of the Priest Lake plan shall be to maintain the existing water quality of Priest Lake while continuing existing nonpoint source activities in the watershed." The PLPT used this language as a guideline in formulating the plan. The lake plan will be used to implement management strategies in the watershed to minimize human impact on water quality.

The plan is comprised of eight general lake topics, each with specific management Action Items. These action items were based on factors such as: observations by team members and the public of landuse and water quality problems in the watershed; data trends documented by the scientific baseline studies conducted through the Priest Lake Project; and water quality protection actions adopted by lake communities not only in north Idaho but across the nation. The plan also includes a mechanism for implementation. Funding would continue for a DEQ project manager and an operating budget. A lake plan steering committee would provide assistance with implementation of the plan.

The lake plan relies heavily on public information and education to inform citizens of ways they can protect water quality. Some action items will require substantial commitments by public agencies: for example, to improve the unpaved road system. Other actions deal with new regulations or revising existing ordinances and laws: for example, revising weak points in the existing Bonner County Stormwater Ordinance. Any local regulatory changes proposed as a result of this plan must go through established public notification, hearing and adoption processes.

The path for approval of the lake plan began with public meetings/hearings conducted in mid-August, 1995. Public input was received at these meetings, in addition to other written comments on the draft plan received from people not attending the meetings but who had obtained and reviewed the plan. This public comment was considered by the PLPT in late-August and resulted in some revisions of the initial draft plan. This revised draft plan was presented to the Idaho Board of Health and Welfare in September. Incorporating final comments and review, this final plan will be forwarded to the Board in November. If approved, the plan will then be considered by the 1996 session of the Idaho legislature for adoption and, if adopted, will become part of the Idaho Code.
**Definition of Acronyms**

Numerous acronyms are used in the following tables to identify lead agencies and funding sources. They are defined as follows:

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACOE</td>
<td>U.S. Army Corp of Engineers</td>
</tr>
<tr>
<td>CES</td>
<td>Cooperative Extension Service, University of Idaho</td>
</tr>
<tr>
<td>County</td>
<td>Bonner County</td>
</tr>
<tr>
<td>DEQ</td>
<td>Idaho Division of Environmental Quality</td>
</tr>
<tr>
<td>DEQ-M&amp;TS</td>
<td>DEQ - Monitoring and Technical Support Bureau</td>
</tr>
<tr>
<td>DEQ-P&amp;C</td>
<td>DEQ - Prevention and Certification Bureau</td>
</tr>
<tr>
<td>DEQ-REM</td>
<td>DEQ - Remediation Bureau</td>
</tr>
<tr>
<td>EPA</td>
<td>U.S. Environmental Protection Agency</td>
</tr>
<tr>
<td>Federal</td>
<td>Potential funding through various federal grant programs</td>
</tr>
<tr>
<td>FPA</td>
<td>Idaho Forest Practice Act</td>
</tr>
<tr>
<td>GRSD</td>
<td>Granite/Reeder Sewer District</td>
</tr>
<tr>
<td>IDL</td>
<td>Idaho Department of Lands</td>
</tr>
<tr>
<td>IDWR</td>
<td>Idaho Department of Water Resources</td>
</tr>
<tr>
<td>IPR</td>
<td>Idaho Department of Parks and Recreation</td>
</tr>
<tr>
<td>ITD</td>
<td>Idaho Transportation Department</td>
</tr>
<tr>
<td>NRCS</td>
<td>Natural Resource Conservation Service</td>
</tr>
<tr>
<td>PHD</td>
<td>Panhandle Health District</td>
</tr>
<tr>
<td>PLMP-DEQ</td>
<td>Priest Lake Management Plan - DEQ operational budget</td>
</tr>
<tr>
<td>PLPM-DEQ</td>
<td>Priest Lake Project Manager (for PLMP) - DEQ</td>
</tr>
<tr>
<td>PLSDs</td>
<td>Priest Lake Sewer Districts</td>
</tr>
<tr>
<td>SCD</td>
<td>Bonner County Soil Conservation District</td>
</tr>
<tr>
<td>USFS</td>
<td>U.S. Forest Service</td>
</tr>
<tr>
<td>WWC</td>
<td>Waterways Commission</td>
</tr>
</tbody>
</table>
Priest Lake Management Plan Action Items

The lake plan is comprised of eight general lake issue topics, along with an implementation topic, each with specific management action items. As a guideline for implementation, a priority ranking has been assigned to the action items as follows:

1 = Immediate implementation  2 = Action needed following implementation of priority 1 items
3 = Action needed - not as imperative as priorities 1 and 2.

Each action item has been assigned a Lead; public agencies and/or private interests that would oversee and accomplish the implementation of an action item. For those action items that may require enforcement considerations, the lead agency for enforcement is identified as Enf = Lead. The last column identifies agencies and/or private interests from which funding for implementation will be sought.

<table>
<thead>
<tr>
<th>Timberland and Associated Roads</th>
<th>Priority</th>
<th>Lead</th>
<th>Funding Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Implement pre-operational inspections for all proposed timber harvests and related road construction in the Priest Lake watershed which have the potential for sediment delivery to watershed streams.</td>
<td>1</td>
<td>IDL</td>
<td>IDL</td>
</tr>
<tr>
<td>2. The Idaho Department of Water Resources (IDWR) should foster better compliance with the Idaho Stream Channel Protection Act (SCPA). Accomplish this by streamlining the stream alteration permit process, making the application procedure less time consuming and easier to complete.</td>
<td>2</td>
<td>IDWR, ACOE</td>
<td>IDWR, ACOE</td>
</tr>
<tr>
<td>3. Encourage the IDWR to administer and enforce the SCPA for stream crossings and other applicable stream alteration proposals more aggressively. This should be accomplished in cooperation with the U.S. Forest Service, IDL, Idaho Fish and Game, and other relevant agencies. Develop well-engineered stream crossing and stream alteration Best Management Practices (BMPs) that provide a high level of water quality protection from road sediments.</td>
<td>1</td>
<td>IDWR, ACOE, IDL Enf = IDWR</td>
<td>IDWR, ACOE, IDL</td>
</tr>
<tr>
<td>4. Promote public Information and Education (I&amp;E) programs aimed at forest land management including landowners, loggers, purchasers, etc.</td>
<td>1</td>
<td>PLPM-DEQ, IDL, USFS</td>
<td>PLMP-DEQ, IDL, USFS</td>
</tr>
<tr>
<td>5. To assure compliance with the Idaho Forest Practice Act (FPA), and to reduce nutrient and sediment delivery to Priest Lake and its tributaries, agencies with road management responsibilities need to focus budget efforts on securing the necessary funding to meet present and future needs on all basin forest roads. As water quality needs and existing budgets allow, &quot;excess&quot; roads will be appropriately closed by the responsible land agencies.</td>
<td>1</td>
<td>IDL, USFS</td>
<td>IDL, USFS</td>
</tr>
<tr>
<td>Timberland and Associated Roads continued</td>
<td>Priority</td>
<td>Lead</td>
<td>Funding Sources</td>
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<tr>
<td>6. DEQ should facilitate complete compliance with FPA requirements through the existing &quot;feedback loop&quot; <em>(Forest Practices Water Quality Management Plan, Bauer et al. 1988)</em></td>
<td>1</td>
<td>DEQ, IDL</td>
<td>DEQ, IDL</td>
</tr>
<tr>
<td>7. Monitor staffing needs of agencies and identify needs to legislative representatives.</td>
<td>2</td>
<td>IDL, USFS</td>
<td>IDL, USFS</td>
</tr>
<tr>
<td>8. To limit expenses and make the Forest Practice Notification process more &quot;user friendly,&quot; IDL will work with DEQ to find redundancies and omissions in permit administration and enforcement.</td>
<td>2</td>
<td>IDL, DEQ</td>
<td>IDL, DEQ</td>
</tr>
<tr>
<td>9. Survey all watersheds within the Priest Lake basin, using the current Cumulative Watershed Effects (CWE) analysis process, or an equivalent process, in conjunction with the Beneficial Use Reconnaissance Project (BURP) survey. A specified percentage of the Priest Lake watersheds will be reviewed annually.</td>
<td>3</td>
<td>IDL, USFS, DEQ</td>
<td>IDL, USFS, DEQ</td>
</tr>
<tr>
<td>10. Limit new road construction where the CWE analysis process shows it would impact water quality adversely.</td>
<td>2</td>
<td>IDL, USFS</td>
<td>IDL, USFS</td>
</tr>
<tr>
<td>11. Include a project manager to assist with implementing the action items of the Priest Lake Management Plan (PLMP).</td>
<td>2</td>
<td>DEQ</td>
<td>DEQ</td>
</tr>
</tbody>
</table>

**Notes and Explanations:**

**Item 1.** Primarily applies to timber harvesting on Non-industrial Private Forest (NIPF) lands, or forest land other than public or industry owned. Results of FPA audits indicate that NIPF landowners generally have more departures from BMPs than found on public and industry ownership (University of Idaho, 1993). The subcommittee felt that the percentage of pre-operational inspections needs to be increased in the Priest Lake watershed to offer professional expertise during project planning.

**Items 2 & 3.** Again, primarily aimed at NIPF lands. These action items were adopted after the Coeur d’Alene Lake management plan. There appears to be a consensus among north Idaho forest managers that the current permit procedures, administration, and enforcement regarding stream crossings needs improvement.

**Item 6.** Idaho’s *Forest Practices Water Quality Management Plan* (Bauer et al. 1988) describes the “feedback loop” process as the basis for changing BMPs in the FPA. The process refers to the use of monitoring and surveillance to determine if forest practice BMPs are effective in protecting beneficial uses. Changes are made to BMPs when they are not effective. A Forest Practice Water Quality Audit, conducted every four years by an interdisciplinary team, is one method of evaluating BMP implementation and effectiveness, and offering recommendations for change. The subcommittee felt that additional features of the “feedback loop” need to be implemented to fully comply with FPA requirements to protect water resources.
Item 9. The Cumulative Watershed Effects (CWE) analysis process and regulations is currently being considered for inclusion in the FPA. The CWE analysis is an on-the-ground watershed assessment of various land and stream parameters. The analysis is to determine if there is, or potentially could be, a cumulative (or incremental) impact on water quality resulting from multiple forest practices in a watershed. The Beneficial Use Reconnaissance Project (BURP) survey is a field protocol currently being conducted by DEQ in many Idaho streams, including some in the Priest Lake basin. The BURP survey includes measurement of fish populations, insects, quality of pools, stream shade, and sedimentation.

This action item is not contingent on whether the CWE analysis process becomes officially adopted into the FPA. This instead is a commitment by the lead agencies, USFS, IDL and DEQ of longterm monitoring within the Priest Lake watersheds to detect and correct water quality problems associated with timber harvesting and associated roads.
<table>
<thead>
<tr>
<th>Priority</th>
<th>Lead</th>
<th>Funding Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The project manager shall identify problems on all existing roads and driveways (USFS, State, County, private). Inventory site specific problems potentially affecting water quality of Priest Lake.</td>
<td>2</td>
<td>PLPM-DEQ, County, USFS, IDL</td>
</tr>
<tr>
<td>2. The project manager shall request landowners and managers to correct existing problems which contribute to water quality degradation of Priest Lake.</td>
<td>2</td>
<td>PLPM-DEQ, County, USFS, IDL</td>
</tr>
<tr>
<td>3. The project manager shall encourage compliance with BMPs and provide counsel for control and management of stormwater runoff on existing public and private roads and driveways.</td>
<td>2</td>
<td>PLPM-DEQ, County, USFS, IDL</td>
</tr>
<tr>
<td>4. The project manager shall provide public I&amp;E programs on road construction and maintenance BMPs.</td>
<td>1</td>
<td>PLPM-DEQ, County, USFS, IDL</td>
</tr>
<tr>
<td>5. Establish a road stormwater and erosion control demonstration project provided funding and a suitable site can be secured.</td>
<td>3</td>
<td>PLPM-DEQ, County, USFS, IDL</td>
</tr>
<tr>
<td>Stormwater and Construction-Development</td>
<td>Priority</td>
<td>Lead</td>
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<tr>
<td>1. Action items of two lake issue topics, stormwater and construction-development, are merged because of the overlap of topics.</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>2. For existing residential and business development, encourage the maintenance, restoration, or enhancement of native vegetative buffers along the lake front and streams. A desired vegetative buffer strip would be a minimum of 40 feet wide. For future residential and business development, the project manager shall assist the county in ensuring that the setback and vegetative buffer strip requirements of Title 12, Bonner County Code (subdivision code) are adhered to.</td>
<td>1</td>
<td>PLPM-DEQ, County, USFS, IDL, Private</td>
</tr>
<tr>
<td>3. Retain wetlands, as defined by U.S. Army Corps of Engineers. Because wetlands are excellent sources for filtration and storage of stormwater, their use would significantly reduce the cost of developing and maintaining artificial stormwater retention facilities.</td>
<td>1</td>
<td>ACOE</td>
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<tr>
<td>4. Prohibit use of all fertilizers, pesticides and herbicides outside of the home, within a minimum of 10 feet of the lake, streams and ditches within a one mile radius of the lakeshore. To build awareness of water quality protection, the project manager shall conduct public I&amp;E programs on fertilizers, pesticides and herbicides, and alternate methods which could avoid their use.</td>
<td>1</td>
<td>PLPM-DEQ, USFS, IDL</td>
</tr>
<tr>
<td>5. Develop and seek incorporation into Bonner County Ordinances (by project manager, lake plan steering committee, and/or lake association) for the Priest Lake watershed, the following:</td>
<td>1</td>
<td>County, PLPM-DEQ</td>
</tr>
<tr>
<td>a) Create a bond requirement for the stormwater plan &quot;Design Professional.&quot; This would make the individual designing the stormwater management plan accountable for the implementation and completion of the project and financially responsible for damages. This accountability and financial responsibility is only applied when a plan is poorly developed, rather than if it is not carried out as planned. If a plan is not carried out properly, then the owner/contractor shall be responsible for damages (see 5c).</td>
<td></td>
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<td>b) Provide an easily understood (and consistent) checklist that guides contractors and owners through the building and BMP process.</td>
<td></td>
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<td>c) Require that a designated individual, who is responsible for the construction and/or development (i.e. owner, contractor), be accountable for implementation of the BMPs. Agency inspections and actions required for chronic violators in excess of those listed in the standard procedure (see example) shall be billed to the responsible individual according to actual cost. For repeat violations (three strikes), require a $10,000 bond for each project.</td>
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<tr>
<td>Stormwater, and Construction-Development, No. 5 continued</td>
<td>Priority</td>
<td>Lead</td>
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<td>d) Empowerment of the Bonner County building inspector to field-investigate reports of BMP violations within 48 hours of notification. After a field review, the inspector may issue cease and desist orders at his or her discretion. The order shall not be lifted until remediation is completed to expedite repair.</td>
<td>Priority</td>
<td>Lead</td>
</tr>
<tr>
<td>e) Provide a BMP handbook to all contractors, permittees and developers. Recommend that these handbooks be funded through the permitting process. Publicly educate permittees about companies that conduct stormwater audits.</td>
<td>Priority</td>
<td>Lead</td>
</tr>
<tr>
<td>f) Require, as part of the permit approval process, that permittees complete a relatively simple questionnaire of random topics to ensure that the BMP handbook has been reviewed.</td>
<td>Priority</td>
<td>Lead</td>
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<tr>
<td>g) Strengthen the definition of stormwater. The current definition does not specifically include lakes and reads as follows: &quot;That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow into channels or pipes into a defined watercourse, stream or constructed conveyance, detention or retention facility.&quot; A more direct definition such as &quot;Stormwater is any water runoff that is associated with storm events&quot; is preferred.</td>
<td>Priority</td>
<td>Lead</td>
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<tr>
<td>h) The county will encourage longterm planning of stormwater and sewage facilities.</td>
<td>Priority</td>
<td>Lead</td>
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<td>i) Eliminate the permit exemption for Class M structures that require excavation, within 100 feet of surface water. This would minimize adverse impacts of small structures that could potentially cause water resource problems.</td>
<td>Priority</td>
<td>Lead</td>
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<tr>
<td>j) Amend the stormwater ordinance to specifically apply to construction of private roads and driveways.</td>
<td>Priority</td>
<td>Lead</td>
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<tr>
<td>k) Erosion control measures (natural or artificial shall be in place PRIOR to site excavation or construction.</td>
<td>Priority</td>
<td>Lead</td>
</tr>
<tr>
<td>l) Eliminate the loophole in the current stormwater ordinance that allows self-inspection of stormwater management plans. It is recommended that the inspection of the effectiveness of the stormwater management plan can ONLY be conducted by an employee of the Bonner County Building Department.</td>
<td>Priority</td>
<td>Lead</td>
</tr>
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</table>

41
m) Eliminate the loophole in the stormwater ordinance that exempts utility installation from complying with the ordinance.

**Standard Example for Stormwater Ordinance**

1. Permittee goes to Bonner County Building Department (BCBD) for a permit application, handbook of BMPs (and BMP questionnaire), and process checklist.

2. Permittee returns to BCBD with completed application, BMP questionnaire, and Stormwater Management Plan.

3. A Bonner County inspector visits the site to check for potential problems.
   a) If problems are discovered, the plans must be adjusted.
   b) If no problems are discovered, move to step 4.

4. Permittee may begin construction.

5. A Bonner County inspector will review BMPs with each site review, or as called upon by reports of BMP violations. County costs of these site reviews are funded through the permitting fee.

6. The project manager shall work closely with the Bonner County Building Department to ensure the implementation of the Priest Lake Management Plan.

7. Provide a public I&E program which: a) includes a "Master's Gardeners" type program including appropriate native vegetation; b) includes a homeowners' kit with information about landscaping and its importance in maintaining water quality; and c) encourages public agencies and private individuals to incorporate stormwater controls in their projects (i.e., vegetative swales, dissipating water for natural infiltration).

8. Promote contractor licensing and BMP training in Bonner County. Ensure a certain level of expertise in developing a stormwater management plan and certify/license the installers (2 day class).

9. Encourage adoption of a Health District regulation requiring erosion control during installation of subsurface sewage disposal systems.
**Stormwater and Construction-Development continued**

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<th>Lead</th>
<th>Funding Sources</th>
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<tr>
<td>10. Through the project manager, encourage the Idaho Transportation Department to subscribe to the BMPs defined in this plan.</td>
<td>2</td>
<td>PLPM-DEQ, ITD</td>
</tr>
<tr>
<td>11. Identify areas with a high erosion risk on plat maps of new subdivisions to inform buyers/builders of true potential costs of site development. The Priest Lake Project, or county, Geographical Information System (GIS) would serve as the basis for these maps.</td>
<td>3</td>
<td>County, PLPM-DEQ</td>
</tr>
<tr>
<td>12. Establish a stormwater/erosion control demonstration project provided funding and a suitable site can be secured.</td>
<td>2</td>
<td>PLPM-DEQ, County, Private</td>
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</table>

**Notes and Explanations:**

**Item 2.** Vegetative buffer strips function to help remove sediment and pollutants by slowing the flow of runoff, allowing it to infiltrate, and allowing particles to settle out and be trapped. Trees and other vegetation in the strip utilize phosphorus and other nutrients in the stormwater. Buffer strips are most effective when comprised of undisturbed woodland and undergrowth. Buffer strips may also consist of grass or other close growing vegetation designed to receive overland flow.

Title 12 of Bonner County Code (subdivision code), requires that new residential development next to streams and lakes must have a minimum 40 foot setback of the structure from the waterbody, and maintain a minimum 25 foot native riparian vegetation buffer strip. Provisions are made for foot paths for lakeshore access. With development on steeper slopes these minimum setbacks and buffer zones may be increased by the county.

**Item 4.** Homeowners commonly over apply fertilizer, applying much more nitrogen and phosphorus to a lawn than it will use. Many front yards along Priest Lake have lawns that go right up to the lakeshore with no buffer strips. Excess nutrients or pesticides/herbicides are either washed, or carried by shallow groundwater, into the lake by rains or heavy watering.

In the original draft plan, this action item prohibited the use of all fertilizers, pesticides and herbicides, outside of the home, within a minimum 100 feet of the lake, streams and ditches within a one mile radius of the lakeshore. Licensed applicators would be exempt. This action item received numerous comments in the public meetings/hearings. The comments were about evenly split between those who opposed this regulation and felt it was too harsh and unreasonable, and those who completely supported the ban. There were several individuals who supported the lake plan in general, but who opposed this action item. Several views were expressed that using licensed applicators was too costly. There was also a concern on how this regulation would be enforced.

The planning team, and many community members, still maintain that excessive use of fertilizers, pesticides and herbicides near the lakeshore is a threat to degradation of water quality. The planning team decided that at this time the main thrust of minimizing this potential impact would be through a strong public I&E program. The ban of use was changed to the first 10 feet of lakeshore property. This would ensure that overspray or spread of granules would not fall directly into the lake or streams, as has been observed by some planning team members.
Stormwater and Construction-Development Notes, continued

Item 5. Refers to Bonner County Stormwater Ordinance #227, enacted May 28, 1993. While development and passage of the ordinance was a good first step to stormwater and erosion control, the subcommittee identified several shortcomings of the ordinance and recommended amendments (a - m) which would provide better water quality protection for Priest Lake.

   d & i. The Hayden Lake Management Plan recommended that Kootenai County stormwater/erosion control staff have their time dedicated to the program and not have other duties (e.g. building inspections). It was felt that the timing of building and erosion control inspections are not compatible. To offer effective administration of stormwater plans, conduct inspections, offer guidance and training programs, and respond in a timely manner to BMP violations, it would seem that Bonner County will have to assign personnel with time dedicated solely to the stormwater/erosion control program.

   i. A Class M structure would be a building under 1,000 square feet such as a garage, home addition, or boat house. The PLP staff and the planning team have observed considerable excavation for Class M structures close to the lake, at times on steep slopes, with no erosion control measures and obvious sediment runoff with rain events.

   j. It was of high priority by the subcommittee to seek specific inclusion of private road and driveway construction into the stormwater ordinance. New private roads and driveways can produce significant runoff sediment during excavation, and placement of water management BMPs are often inadequate.

Item 7. The effectiveness of stormwater control measures in maintaining or reducing sediment, nutrient, and contaminant loads into Priest Lake will rely foremost on a strong public education and information program. Many people are not aware of the concepts of stormwater runoff and that it can contribute to water quality degradation. Homeowners need to know how to identify problem areas on their land, and they need information on options available for correcting the problems they find.

Item 11. As part of the PLP, a comprehensive Geographical Information System (GIS) is being developed for the basin and will be completed by spring of 1996. The GIS will include 3-dimensional slope, geology and soil types which will be used to calculate erosion risks. The GIS would be available to Bonner County for its use.
## Wastewater Treatment

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<tr>
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<th>Wastewater Treatment</th>
<th>Priority</th>
<th>Lead</th>
<th>Funding Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The project manager shall assist the Granite/Reeder Sewer District with the planning and development of a community wastewater treatment plan.</td>
<td>1</td>
<td>GRSD, PLPM-DEQ</td>
<td>GRSD</td>
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<tr>
<td>2</td>
<td>Prior to issuance of a permit, a sewer district which intends to construct a sewage lagoon system must provide DEQ with evidence that the system has been designed according to the best available technology. Before a permit can be renewed, it must be established that existing lagoons do not leak beyond the limits specified by their original designs.</td>
<td>1</td>
<td>DEQ-P&amp;C, PLSDs</td>
<td>PLSDs</td>
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<td>Enf = DEQ-P&amp;C</td>
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<td>3</td>
<td>All users of unapproved disposal systems shall have five years after enactment of this Management Plan, in which to meet acceptable standards.</td>
<td>1</td>
<td>PHD, DEQ-P&amp;C, IDL, PLSDs</td>
<td>Private, PLSDs, PHD</td>
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<td>Enf = PHD</td>
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<td>4</td>
<td>Authority and funding shall be extended to the IDL to permit it to manage recreation on the lands under its jurisdiction and to enable it to better enforce existing laws dealing with wastewater management.</td>
<td>1</td>
<td>IDL</td>
<td>IDL</td>
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<td>Enf = IDL</td>
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<tr>
<td>5</td>
<td>New rules shall be established to better evaluate whether a septic system (either private or public) has failed, and whether the location of a system relative to the lake or its tributaries is adequate to protect these waters; given soil conditions, slope, distance from the shore, presence of and distance from solid rock, existence of an aquifer or other high water table conditions, etc.</td>
<td>1</td>
<td>PHD, DEQ-P&amp;C, PLSDs</td>
<td>PHD, DEQ, PLSDs</td>
</tr>
<tr>
<td>6</td>
<td>A monitoring program shall be established to assure that future wastewater treatment will be sufficient to attain the goals of Idaho Code 39-105(3)(p). Specifically, &quot;...the stated goal of the plan shall be to maintain the existing water quality of Priest Lake.&quot;</td>
<td>1</td>
<td>PLPM-DEQ</td>
<td>PLMP-DEQ</td>
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### Notes and Explanations:

**Item 1.** The Granite/Reeder Sewer District contains about 290 homes, and a few resorts, which are serviced by individual septic systems. Most systems are septic tanks, but it is known that there are a few drywells and cesspools. Many systems were constructed prior to 1971 PHD regulations and considered substandard. Systems installed prior to 1971 could be as close as 50 feet from the shoreline. In addition, the high density housing area south of Granite Creek overlies a high water table with permeable sands and gravels, and drinking water wells as shallow as 30 feet. Groundwater studies as part of the Priest Lake Project indicate that in some areas background nitrate and chloride levels have been increased by septic effluent, but these results are not conclusive.
Wastewater Treatment Notes, Item 1 continued

The Granite/Reeder area is the only major area on the lake that lacks effective group treatment facilities. There have been efforts in the past to gain approval from residents for the development of a community treatment system, but these efforts have failed. Members of the planning team wastewater subcommittee, and citizens attending team meetings, express a strong opinion that the sewer district develop an effective community wastewater treatment system.

The initial draft lake plan called for a state mandated community-wide wastewater treatment system. Verbal testimony and written comments were given by sewer district members at the August 12, 1995 public meeting/hearing, arguing against this state mandate in the plan. Sewer district members expressed that the district was on course to develop a waste handling system, including the hiring of an engineering consultant firm. They stated that waste handling solutions had to consider geographical, population, and priority differences within the sewer district boundaries. They proposed that the most cost-effective method could be multiple systems of differing designs within the district. Cases were given of homes in the sewer district that are within the 1971 guidelines for septic tanks and drainfields and may not need to be part of a community sewer system. District members also stated that attempts to secure funding assistance has met with no success.

On the August 27th meeting of the planning team, comments by the sewer district were considered. The team concurred that at this time the sewer district should be given the opportunity to develop and finance the complex issue of sewage treatment without a state mandate. Action Item #1 was modified, directing the project manager to assist the sewer district in its efforts with the planning and development of a community wastewater treatment plan.

Item 2. Sewage lagoon - land application systems is the most common wastewater treatment method in the watershed, and likely there will be additional systems constructed in the future. The subcommittee felt that for protection of groundwater quality, and to assure that groundwater seeping into the lake will not be nutrient enriched, that all new systems be constructed according to the best available technology. There are three existing sewage lagoon - land application systems, those of the Coolin, Outlet Bay, and Kalispell Sewer Districts, that were constructed in the early 1970's. There is suspicion that they are leaking beyond their original designs. Efforts are currently underway to improve these systems, and through better inflow-outflow measurements and test wells, determine the amount of leakage. These efforts would become provisions for permit renewal.

Item 3. There are known septic systems which do not have a Panhandle Health District permit (unapproved).

Item 4. IDL does not now have the authority or financial support to employ staff to oversee recreation and wastewater management on its lands in the Priest Lake basin. IDL staff acknowledge an ever increasing recreational use on its lands, and the accompanying problems.

Item 5. The subcommittee felt that it was inadequate to evaluate a septic system failure by the appearance of effluent on the ground surface. Failures at this point often lead to wastewater discharge to the lake. New methods and techniques will be sought to detect failures at an earlier stage. Two programs stemming from the PLP will aid in assessing adequate placement of wastewater treatment systems. A Geographical Information System (GIS) is being developed for the Priest Lake basin, and it details slope, geology, soils and location of wastewater treatment systems. Incorporated into the GIS will be a groundwater atlas being developed by the University of Idaho.
Motorized Watercraft | Priority | Lead | Funding Sources
---|---|---|---
1. Pursuant to Idaho Code 67-7505(1) and IDAPA 41.1.200,01, safety inspections conducted by the Bonner County marine deputies in the Priest Lake drainage basin shall include an examination of wastewater facilities on the craft to ensure their compliance with the referenced codes. Any violations shall be enforced according to said codes. | 1 | County, PHD | County, PHD

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<th>Priority</th>
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2. It is recommended that IDAPA 41.1.200,01.(d) be amended as follows:

If any watercraft located upon the waters of this District is found to have a marine toilet wastewater facilities which are not in compliance with the requirements of this section, the Health Officer or enforcement person shall have the following alternative or cumulative powers to:

i. cause the marine toilet wastewater facilities to be locked and sealed to prevent usage.

ii. require such watercraft to be removed from the waters of this District until the marine toilets wastewater facilities are made to conform with the requirements of this regulation.

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<th>Priority</th>
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<th>Funding Sources</th>
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|1| Legislature, PHD, County| Legislature, PHD, County

3. Recommend that public and private marinas comply with IDAPA 41.1.200,02 regarding pumpout and shore-based facilities.

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<th>Priority</th>
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|1| PHD| PHD, Private
|Enf = PHD| | |

4. All motorized and non-motorized watercraft used by campers to transport themselves to dispersed, undeveloped campsites on Priest Lake or its tributaries, shall carry at least a porta-potty or privy shovel, and must comply with the restrictions of Idaho Codes 67-7505(1) and IDAPA 41.1.200,01.

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<th>Funding Sources</th>
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</table>
|1| County, USFS, PHD| County, USFS, PHD
|Enf = County, USFS, PHD| | |

5. In accordance to IDAPA 16.01.02800 no boats shall be winterized in such manner that anti-freeze, either ethylene or propylene glycol, will be discharged into Priest Lake or its tributaries, or onto the ground.

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<th>Motorized Watercraft continued</th>
<th>Priority</th>
<th>Lead</th>
<th>Funding Sources</th>
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<tr>
<td>6. A public I&amp;E program shall be developed and directed by the project manager on: effective methods of winterization of boats; fuel and oil transfers and spillage cleanup; proper boat cleansing procedures; safe boat operation; and ways to assure that these and other lake-oriented activities are conducted in an environmentally sound fashion. The program shall target boat owners, marina and resort owners, and the general public.</td>
<td>1</td>
<td>PLPM-DEQ, Private</td>
<td>PLMP-DEQ</td>
</tr>
<tr>
<td>7. Boat manufacturers and dealers shall be notified that all boats using the waters of the State of Idaho, especially of the Panhandle Health District, must be equipped so that no discharges of wastewater into the State's waters will occur. Therefore, all such vessels used in Idaho shall contain a holding tank(s) that will retain both grey and black water.</td>
<td>1</td>
<td>PHD, County Enf = PHD, County</td>
<td>PHD, County, Private</td>
</tr>
<tr>
<td>8. All boats shall have on-board a container to receive all solid waste generated there.</td>
<td>1</td>
<td>County Enf = County</td>
<td>County</td>
</tr>
<tr>
<td>9. On the water boat fueling shall be done in a manner which prevents gas venting or spilling into the water.</td>
<td>1</td>
<td>Private, DEQ-REM Enf = DEQ-REM</td>
<td>Private, DEQ</td>
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<td>10. Holding tank pumpout facilities shall have instructions on their use, and these instructions shall be maintained.</td>
<td>1</td>
<td>WWC</td>
<td>WWC</td>
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</table>

Notes and Explanations:

**Item 1.** Idaho Code 67-7505(1) disallows the discharge or disposal of sewage from any vessel into waters of the state. Environmental Health Code, Health District No. 1 (Panhandle) IDAPA 41.1.200,01 requires any boat with wastewater facilities to have those facilities sealed to prevent discharge into a waterbody.

**Item 2.** The rationale behind changing the wording of marine toilets to wastewater facilities in the Health Code is that Action Item 7 requires that boats which generate blackwater from toilets, and greywater from sinks and showers must have a holding facility so that no discharges can be made. Collectively these holding facilities are defined as wastewater facilities not just marine toilets.

**Item 3.** Health Code IDAPA 41.1.200,02 requires that marinas providing moorage for vessels with on-board wastewater facilities provide pump stations to adequately clean waste retention tanks on the largest boat that could reasonably use the moorage. All marinas must provide shore-based toilet facilities for their users.
Motorized Watercraft Notes, continued

**Item 5.** A common winterization procedure for inboard-outboard engines is to store the engine block with two gallons of anti-freeze. In spring when such boats are first launched and started, the anti-freeze is ejected into the lake and replaced by fresh water. This could translate to over one thousand gallons of anti-freeze ejected into Priest Lake each year. In some boat launch areas, water is taken from the lake for household potable uses. The regional DEQ office in Coeur d’Alene is of the opinion that such disposal of anti-freeze violates Idaho Water Quality Standards, IDAPA 16.01.02800.

**Item 7.** Boats with installed marine toilets have holding tanks whose discharge valve can be sealed to prevent direct discharge into lakes. Boats that have on-board fresh water holding tanks (generally 20 ft or more) very often do not have holding tanks for the greywater which is generated from sinks and showers; the greywater is discharged directly overboard. Some boat manufactures do not offer the option of a greywater holding tank. This Action Item requires that there be no discharges of wastewater into Idaho Lakes, and this includes greywater.

**Item 9.** This action item was added by the planning team on the August 27th meeting. It was in response to numerous public meeting comments on preventing gasoline entry into the lake as boats are being fueled. One problem for example is that gasoline is often sprayed out into the water from the tank vent as the tank becomes full. There are ways to prevent this from occurring.

**Item 10.** This action item was also added by the planning team on the August 27th meeting. It was in response to observations of sewage spillage during the transfer of boat holding tank contents, including “porta-potties”, into the pumpout facility. This can happen because there are no instructions on how to use the pumpout facility.
Recreation

<table>
<thead>
<tr>
<th>Priority</th>
<th>Lead</th>
<th>Funding Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PLPM-DEQ</td>
<td>PLMP-DEQ</td>
</tr>
<tr>
<td>2</td>
<td>USFS, IPR, IDL</td>
<td>USFS, IPR, IDL</td>
</tr>
<tr>
<td>3</td>
<td>PLPM-DEQ, USFS, IPR, IDL</td>
<td>PLMP-DEQ, USFS, IPR, IDL</td>
</tr>
<tr>
<td>4</td>
<td>USFS, IPR, IDL</td>
<td>USFS, IPR, IDL</td>
</tr>
<tr>
<td>5</td>
<td>USFS, IDL, IPR, Private</td>
<td>N/A</td>
</tr>
<tr>
<td>6</td>
<td>County, State, Federal</td>
<td>County, State, Federal</td>
</tr>
<tr>
<td>7</td>
<td>PLPM-DEQ, USFS, IPR, Private</td>
<td>USFS, IPR, Private</td>
</tr>
</tbody>
</table>

Notes and Explanations:

**Item 2.** Representatives from the USFS, IPR and IDL have already initiated meetings to explore the development of a joint Priest Lake watershed recreation management plan. The stated goal of such a plan is to jointly develop and implement recreation management policies and procedures that would address current and future problems and issues, and to achieve some form of uniformity in administering those policies and procedures among the three agencies. From these meetings came a proposal to seek a contract with the University of Idaho, Department of Recreational Use and Tourism, for a recreation use survey. This survey is being conducted during the summer of 1995 (also see AI #7), and the results will provide good data on numbers of users, location of use, and types of recreation. This data will support the development and approval of a joint recreation management plan.
<table>
<thead>
<tr>
<th>Agriculture and Livestock</th>
<th>Priority</th>
<th>Lead</th>
<th>Funding Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Continue proper fertilizer application through soil analysis and use of buffer strips along creeks and water ditches.</td>
<td>1</td>
<td>Private, SCD, NRCS, CES</td>
<td>Private</td>
</tr>
<tr>
<td>2. Control weeds and insects by non-polluting methods recommended for particular infestations.</td>
<td>1</td>
<td>Private, SCD, NRCS, CES</td>
<td>Private</td>
</tr>
<tr>
<td>3. Armor watering areas and creek crossings with rock or coarse gravel where appropriate. Use culverts where appropriate.</td>
<td>2</td>
<td>Private, IDWR, ACOE</td>
<td>Private</td>
</tr>
<tr>
<td>4. Work with the Natural Resource Conservation Service (NRCS, formerly Soil Conservation Service), to determine creek fencing needs.</td>
<td>3</td>
<td>Private, SCD, NRCS, CES</td>
<td>Private</td>
</tr>
<tr>
<td>5. In winter, feed livestock away from creeks or waterways, leaving a vegetative buffer sufficient to filter runoff.</td>
<td>1</td>
<td>Private, SCD, NRCS, CES</td>
<td>Private</td>
</tr>
<tr>
<td>6. The project manager shall encourage voluntary compliance with established BMPs through ongoing public I&amp;E programs.</td>
<td>1</td>
<td>PLPM-DEQ, SCD, NRCS, CES, Private</td>
<td>PLMP-DEQ, NRCS, CES</td>
</tr>
<tr>
<td>7. Use rotation and controlled grazing, especially on creek banks.</td>
<td>1</td>
<td>Private, SCD, NRCS, CES</td>
<td>Private</td>
</tr>
<tr>
<td>8. Furnish assistance to hobby farms, providing information, education, and established BMPs.</td>
<td>1</td>
<td>PLPM-DEQ, SCD, NRCS, CES, Private</td>
<td>PLMP-DEQ, NRCS, CES</td>
</tr>
<tr>
<td>9. Establish an Agriculture and Livestock Demonstration project, provided funding and a suitable site can be secured.</td>
<td>3</td>
<td>PLPM-DEQ, SCD, NRCS, CES, Private</td>
<td>Private, State, Federal</td>
</tr>
<tr>
<td><strong>Hazardous Materials (HM) and Underground Storage Tanks (USTs) and Above Ground Storage Tanks (ASTs)</strong></td>
<td><strong>Priority</strong></td>
<td><strong>Lead</strong></td>
<td><strong>Funding Sources</strong></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1. The project manager shall provide for monitoring and implementation of the HM, USTs and ASTs Action Items and BMPs, in this management plan.</td>
<td>2</td>
<td>PLPM-DEQ, DEQ-REM</td>
<td>PLMP-DEQ, DEQ-REM</td>
</tr>
<tr>
<td>2. The project manager shall assist Bonner County by identifying Aquifer Sensitive Areas and Lake Sensitive Areas, and in the development of comprehensive plan goals, objectives and ordinances relating to planning and development.</td>
<td>1</td>
<td>County, PLPM-DEQ</td>
<td>County, PLMP-DEQ</td>
</tr>
<tr>
<td>3a. Require secondary containment of all new USTs, ASTS, and piping within 1000 feet of the lake in the Priest Lake watershed. Leak detection systems for USTs will be required.</td>
<td>1</td>
<td>DEQ-REM, County, Enf = DEQ-REM</td>
<td>County, PLMP-DEQ, Private, County, DEQ-REM</td>
</tr>
<tr>
<td>4. No UST or AST larger than 20,000 gallons will be permitted in the Priest Lake watershed.</td>
<td>2</td>
<td>DEQ-REM, Enf = DEQ-REM</td>
<td>DEQ-REM</td>
</tr>
<tr>
<td>5a. Secondary Containment, or treatment of stormwater or other runoff/spills from retail of commercial motor vehicle pump stations, and fueling areas shall be required within a 2 mile perimeter of Priest Lake, over Aquifer Sensitive Areas, or within 100 feet of any surface water of, or flowing into, Priest Lake or its tributaries. Any existing retail motor vehicle pump islands or fueling areas shall have 3 years from the date of enactment of this management plan to comply with this action. All new construction shall comply at the time of construction.</td>
<td>2</td>
<td>DEQ-REM, County, Enf = DEQ-REM</td>
<td>Private, County, DEQ-REM</td>
</tr>
<tr>
<td>6. The project manager shall coordinate an inventory of existing UST and AST tanks in the Priest Lake watershed and assist owners with compliance and planning.</td>
<td>3</td>
<td>PLPM-DEQ, DEQ-REM</td>
<td>PLMP-DEQ, DEQ-REM</td>
</tr>
<tr>
<td>7. Conduct a public I&amp;E program (focusing on assisting commercial projects with compliance) regarding HM, USTs, and ASTs.</td>
<td>2</td>
<td>PLPM-DEQ, DEQ-REM, County, EPA</td>
<td>PLMP-DEQ, County, EPA</td>
</tr>
<tr>
<td>8. To build awareness of water quality protection, the project manager shall conduct public I&amp;E programs on: hazardous materials, solvents, paints and stains; and on herbicides, pesticides and fertilizers, and alternate methods which could avoid their use.</td>
<td>3</td>
<td>PLPM-DEQ, DEQ-REM, DEQ-M&amp;TS</td>
<td>PLMP-DEQ, Federal</td>
</tr>
<tr>
<td>9. There shall be no point source discharge of pollutants into Priest Lake or its tributaries.</td>
<td>2</td>
<td>DEQ-P&amp;C, EPA, Enf = DEQ-P&amp;C</td>
<td>DEQ-P&amp;C</td>
</tr>
</tbody>
</table>
HM, USTs and ASTs continued

<table>
<thead>
<tr>
<th>Priority</th>
<th>Lead</th>
<th>Funding Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Road dust abatement materials shall be applied only according to current DEQ and county guidelines covering approved materials and methods of application.</td>
<td>3</td>
<td>DEQ-REM, County, Private Enf = DEQ-REM</td>
</tr>
<tr>
<td>11. The use of arsenic-treated, creosote-treated, or Penta-treated lumber in or over the surface waters of the Priest Lake watershed shall be prohibited.</td>
<td>1</td>
<td>IDL, DEQ-M&amp;TS, DEQ-P&amp;C Enf = IDL, DEQ-M&amp;TS</td>
</tr>
<tr>
<td>12. The sale or use of detergents and soaps in the Priest Lake watershed that contain phosphates shall be prohibited.</td>
<td>3</td>
<td>DEQ-M&amp;TS, County Enf = DEQ-M&amp;TS</td>
</tr>
</tbody>
</table>

*Amended February 16, 1996.

Notes and Explanations:

**Item 2.** Aquifer sensitive areas are being identified through groundwater studies of the PLP, and a groundwater atlas developed through contract with the UofI. Lake sensitive areas would include bays where lake water is extracted for potable purposes. This is quite common around Priest Lake.

**Item 3.** Secondary containment is a method to assure that leaks or ruptures of storage tanks do not contaminate ground or surface waters. A typical example is a doubled walled fiberglass tank. Secondary containment of new installations is not a federal regulation, but it is a Kootenai County requirement. Leak detection systems will be a federal requirement by 1988.

**Item 5.** Secondary containment of fueling areas requires the construction of a system to collect, hold, and treat fuel spills. Such containment is required by Kootenai County over the Rathdrum Prairie Aquifer.

**Item 6.** DEQ currently has an inventory of regulated storage tanks (over 1,100 gallons) for the Priest Lake area. To assess the potential impact to ground and surface waters in the basin, efforts would be made to expand the inventory to include exempt tanks (less than 1,100 gallons) and non-compliance regulated tanks. It is known that there are many private underground and above ground tanks less than 1,100 gallons used to supply fuel for boats. A rupture of such tanks could threatened drinking water wells supplies, and impact the environment.
Item 10. Road oiling for dust abatement is very common in the Priest Lake watershed. There have been several observations by PLP staff of road oil being washed directly into the lake during storm events. This is caused by applying oil on compacted dirt roads, over-applying the oil so as to cause puddles, and then within a day or so a rain event occurs. If dust control oil reaches water, it is considered a hazardous and deleterious material under Idaho Water Quality Standards IDAPA 16.01.02800. DEQ recommends, but does not require, that the road be graded prior to oil application, and then compacted after application. There are also alternatives to road oil, such as calcium lignosulfate which is non-toxic to plants and animals.

Item 11. Wood for use in and around water often is pressure treated using preservative chemicals which include Creosote, ACZA (Ammoniacal Copper Zinc Arsenate), ACA (Ammoniacal Copper Arsenate), CCA (Chromated Copper Arsenate), and Pentachlorophenol (Penta). Current DEQ guidelines are that any of the above materials may be used in, over or around state waters if the methods of wood treatment with preservative, and the installation of structures using preserved wood, comply with "The BMPs for the use of Treated Wood in Aquatic Environments" issued by the Western Wood Preservers Institute (WWPI, 1994). Many marinas and individual residents around Priest Lake have however adopted a policy of non-treated wood only, either redwood or cedar. The planning team voted to officially adopt this policy as an action item.
## Priest Lake Management Plan Implementation

1. A DEQ Project Manager shall be assigned to implement the Priest Lake Management Plan (PLMP). Current DEQ base funding would continue to support a 1.0 FTE.

2. The current DEQ Priest Lake Project budget shall be continued to implement the PLMP. Expenditure items from the budget would include:
   - a) support for the project manager position.
   - b) continued monitoring for: routine trend monitoring to detect any consistent changes in Priest Lake water quality; site specific monitoring where the baseline study of 1993-95 has detected existing or potential water quality problems; and monitoring stipulated in Action Items of this plan.
   - c) funds to support a comprehensive public information and education program, which is a high priority component in all eight of the lake issue topics comprising this plan.
   - d) funds to implement other selected action items in the plan and assist other entities in implementing their action items.
   - e) contracts to perform selected action items of the lake plan.
   - e) required Idaho State matching funds for federal or other grants obtained to conduct demonstration projects and watershed remediation projects.

3. Implementation of action items would be through Annual Workplans. Upon approval of the lake plan by the Idaho Legislature, the project manager and steering committee (see AI 4) will develop annual workplans. In planning for public agency budgetary requests to implement action items, it is necessary that annual workplans be completed at least one year in advance of the fiscal year for implementation action. Annual workplans would include the following:
   - a) action items to be accomplished in a given fiscal year based on priority rankings.
   - b) the associated costs to implement the action items.
   - c) mechanisms and strategies to implement action items and secure funding from public agencies and private interests for implementation.
   - d) schedules to accomplish action items.
   - e) schedules for continued water quality monitoring.
Management Plan Implementation, continued

4. A PLMP steering committee shall be formed whose membership shall be a fair representation of the various land managers, and user and interest groups of Priest Lake and its Idaho watershed.

The following agencies/citizen groups, which were represented on the Priest Lake Planning Team, would be requested to select a representative to serve on the PLMP steering committee:

- U.S. Forest Service
- Idaho Dept. of Parks and Recreation
- Idaho Department of Lands
- Idaho Intermountain Forest Industry Association
- Bonner County Commissioner - 2nd District
- Priest Lake Chamber of Commerce
- State Lessees Association
- Priest Lake Citizens Volunteer Monitoring Program
- Selkirk Priest Basin Association
- Outstanding Resource Water Nominator

The ten representatives from these groups, as their initial steering committee task, would add three additional members to the committee. They would select, solicit and/or consider requests for membership, representatives from the following pool of user and interest groups: Idaho Dept. of Fish and Game, Idaho Dept. of Water Resources, business, agriculture, conservation, federal lessees, private landowners, and sewer districts.

The thirteen member PLMP steering committee would meet three to four times annually. At the initial full meeting of the steering committee, operating guidelines would be established.

Functions of the PLMP steering committee would include:

a) advise, consult and provide expertise to the project manager in implementing the action items of the lake plan;

b) assist the project manager in defining solutions to problem areas identified by the original Priest Lake Planning Team.

c) assist the project manager to prioritize and schedule the action items of the lake plan.

d) review and comment on progress reports prepared by the project manager and submitted to the steering committee.

e) assist the project manager in the public information and education programs.

f) serve as liaison between the project manager and the Priest Lake community, receiving input from the community on the conduct, effectiveness, and concerns about the lake plan implementation.

g) assist the project manager in securing additional funds and participation for public I&E programs, demonstration projects, remediation projects, and enforcement of laws and regulations listed specifically in the lake plan.
5. Under Senate Bill 1284 (1995), Idaho Code §§ 39-3615, DEQ and the Panhandle Basin Advisory Group may name a Watershed Advisory Group(s) (WAG) to recommend actions needed to control point and nonpoint sources of pollution to those water bodies where designated beneficial uses are not fully supported ("water quality limited segments"). The PLMP steering committee will fulfill this role of the WAG.

6. The project manager, along with other interested citizens, shall seek to form a Priest Lake Association, with dues-paying membership. Such a lake association would be requested to assist with lake plan implementation. Areas of involvement would include:

a) routine trend monitoring through the established Citizens Voluntary Monitoring Program.

b) public information and education programs.

c) offer a voluntary work force for demonstration and remediation projects.
CHAPTER 5
PUBLIC REVIEW AND COMMENT OF DRAFT LAKE PLAN

Public review and comment of the draft lake plan was received in several different ways. Two public meetings/hearings were conducted on August 12th and 19th, 1995. The meetings were well attended with a total of 171 people. Comment sheets were handed out with an opportunity to cast a vote on the plan in general; either in favor, opposed, or neutral. The sheets also provided space for written comments. Some comment sheets were handed back at the end of the meetings. In other cases attendees wanted to further review the draft plan before commenting. Over half of the comment sheets, often accompanied by letters, were received by mail after the meetings. Attendees also had the opportunity to make a verbal testimony about their views on the plan. Verbal statements were tape recorded and transcribed. These statements were in the format of a public hearing, made uninterrupted and without debate from the audience.

Written comments were also received from people not attending the meetings. They had requested copies of the draft plan, as advertised in the newsletter and newspaper adds, and mailed in comment letters.

All comments received have been included in this chapter, and the volume of comments is large. In most cases written responses had several comments relating to different parts of the draft plan. Comments were separated and categorized into either general comments that did not address specifically an action item in the lake plan, and comments that made a statement about a specific action item. A few selected letters in their entirety have been included in this document (Appendix D). These are: a statement from the Clean Lakes Coordinating Council; letters concerning a sewer treatment system in the Granite/Reeder Sewer District (the issue of largest debate); and lake plan review comments by Shireene Hale of the Panhandle Health District.

Because of the volume of public comment received (over 100 responses and several hundred individual comments), the planning team feels that it has obtained a representative subsample of the ideas and thoughts of the Priest Lake community on the lake plan. On the August 27th meeting of the planning team, several action items were modified to reflect the prevalent view of the comments.

A summary of the public review and comment response is as follows:

A total of 111 comment sheets or letters have been received.

At the August 12th meeting at Priest Lake Elementary School,
85 people attended
23 comment sheets were returned
7 people gave verbal testimony
3 letters were submitted
At the August 19th meeting at The Inn at Priest Lake,

86 people attended
26 comment sheets were returned
7 people gave verbal testimony

Fifty-five letters or comment sheets were received after the meetings by people who attended the meeting, or people who did not attend the meeting but received the lake plan by mail and submitted a comment.

The tally of votes on the plan as a whole, either from the check boxes on the comment sheets, or as stated in letters, is as follows:

<table>
<thead>
<tr>
<th>In Favor:</th>
<th>81</th>
<th>80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opposed:</td>
<td>13</td>
<td>13%</td>
</tr>
<tr>
<td>Neutral:</td>
<td>7</td>
<td>7%</td>
</tr>
<tr>
<td>Total:</td>
<td>101</td>
<td></td>
</tr>
</tbody>
</table>

General Comments

The following comments did not specifically apply to action items in the nine lake issue topics of the management plan.

Work of the Priest Lake Planning Team

- Applaud the planning team on their efforts. (22)

General comments on lake plan

- Please put some teeth into the plan, ensure that this treasure of northern Idaho be kept for future generations. My granddaughter needs to share in its beauty and peace that I have had. Nowhere on earth is there such a beauty and peace as sitting on the dock, looking north and admiring what the good Lord has provided. I truly love this lake, let us keep it beautiful and peaceful.

- The plan, in general, does not seem too harsh or radical. Anyone who loves Priest Lake should be willing to make minor changes in their relationship to it. Working to maintain the existing water quality is not beyond our means.

- Strongly support plan; strongly support protection of Upper Priest Lake. Haz Mats, stormwater, wastewater must be planned for to safeguard lake.

- Draft plan does not go far enough in its protection of the lake.
- It is the obligation of DEQ to ignore political pressures to undercut the plan's purposes and those comments of individuals who would breach their social responsibility to pass Priest Lake to other generations in anything less than an oligotrophic condition.

- Support plan; with growing population it is imperative to anticipate impacts on the lake. Pollutants must be controlled. Road building and road density should be kept at minimum.

- Hope experts keep or improve quality of our beautiful Priest Lake.

- It is both easier and cheaper to prevent problems than to correct them. If there is doubt about the need for an action, we should err on the side of prevention.

- Priest Lake is "Idaho's Jewel." Maintenance and improvement are essential to providing heritage for our progeny, recreation opportunities for Idaho's citizens and important resource to tourist industry.

- Urge that the Priest Lake plan be coordinated with USFS, IDL, and Idaho Parks and Rec. in long range management plans; each are important elements in overall basin plan and plan must not be developed and carried out independently.

- The plan appears to face a contradiction in goals - to maintain water quality and to continue those activities that cause a decline in water quality. If nonpoint sources of pollution can't be controlled, water quality can't be maintained.

- Feel that greatest hazards to lake are new construction and motorized boats. The first thing people do when building is clear away native vegetation down to the lakeshore. We need someone local to monitor and to enforce erosion control. We need stricter control of marinas and associated docks so boating does not increase beyond capacity of lake to accommodate it. The team did a great job; just tighten up on restrictions.

- We need a plan like this to make us all feel proud of Priest Lake for generations to come.

- Would like lake to stay pristine as possible and we are willing to do whatever is needed to protect the lake.

- We need to protect the water quality of the lakes and preserve as much of the pristine nature that we possibly can, lest we end up with another lake like Coeur d'Alene.

- My principal misgiving is the public perception that the task will be completed with the submission of the final draft to the Board of Health and Welfare. The recommendation that a viable Lake Association be formed is noted.

The Priest Lake Newsletter was established to meet our need for a forum available and acceptable to all Priest Lake property owners, State lessees, future of Priest Lake. Many property owners, Federal or State Lessees, and their families are deeply concerned with the future of Priest Lake. Many lessees are third and fourth generation Priest Lake visitors; reflected by wide support of the Priest Lake Newsletter (over 930 contributors, 580 have contributed since May, 1994).
- The plan seems to lack clear restrictions on streamside activities, such as road building, logging and livestock grazing. Damage to streams from all those are well documented, and as much as legally possible should be done to limit those activities, as well as construction, adjacent to streams and the lake shore. Is there any way that rehabilitation of damaged stream banks could be included in the plan?

- Opposed to plan: think there are enough agencies to enforce rules. Feel we don’t need another layer of government bureaucracy.

- The taxpayers are overburdened; the DEQ budget comes from taxpayer money.

- Having been a resident and taxpayer on Priest Lake for the past 45 years I feel the residents and guests have done a very fine job of maintaining the purity, quality and beauty of the lake. I do not think we need or deserve the dubious honor of being the only lake in Idaho to be controlled by Idaho code.

- The Priest Lake Chamber of Commerce wants public input on this plan. Their concern is that the plan will go too fast and the result will be overly restrictive legislation. The Chamber can exert great influence on the legislators. Encourage everyone not only to voice their opinion at these meetings, but also to the Priest Lake Chamber.

- We do not need an Idaho Code to maintain the water quality of Priest Lake.

- I was disturbed by the fact that I couldn’t get a draft copy of the plan until the first meeting. I think also that only 11 days of comment time is a bit short. Things seem to be rushed along too much at the public comment stage of this study.

- My criticism of the plan is that it has always been designed as a government program. There was never a belief that the issues could be addressed and solved by concerned and intelligent permanent and part time residents. The greatest deterrent to freedom and innovation is a legislated solution. Once a law is enacted, innovation and experimentation stops and intelligence is stifled. All of the identified problems should be solved locally.

**Management plan costs and funding**

- I feel funding has not been adequately addressed.

- Cost benefit analysis will be critical to begin implementation of plan.

- Cost of the plan and who will pay should be made available to the public before any action is taken.

- Concern is that neither residents or users should be over burdened with costs by this plan.

- All kinds of neat plans, but no funding.

- My biggest concern: legislative approval with little or no funding provided.
- My one significant concern is how are all of these significant expenses to be paid?

*Enforcement issues of plan rules and regulations*

- Encouraging BMPs versus requiring BMPs are two different things. Requiring BMPs will need ongoing money for enforcement to be meaningful. Consideration needs to be given to each required item as to whether the cost of enforcement justifies the gains.

- Implementation and realistic enforcement will be critical to maintain the lake’s quality.

- Enforcement needs to be a major part of the plan.

- Public agencies are not responsive enough in the Priest Lake area to violations of environmental regulations. The Priest Lake Plan will need local enforcement.

- Plan seems to rely on voluntary compliance especially in areas of private roads and recreation. Even stormwater section addresses potentially damaging impacts with words like "encourage" and "promote." Lack of specificity and enforcement within stormwater and private roads is a deficiency.

- Many of the action items are already codes within Bonner County and in State law. Enforcement is the problem. There have been blatant violations of these codes lately around the lake in construction of new homes.

- Hope that Idaho favors education and persuasion over heavy-handed regulation. For example: fertilizing a lawn could cause considerable degradation, but is 5 lbs. a year on a small garden really a problem?

- Your rules have got to have sufficient bite, not a slap on the hand. A developer, large or small, will look at the potential fine in a cost/benefit analysis and if the changes are slight of getting caught (because of budget constraints), or if it’s still cheaper to violate than comply, then they will not be inclined to comply. The fines must be steep. Don’t let the plan get watered down.

- Do not give in to some more vocal people about measures not being necessary or being too restrictive. I have lived here for forty years and many people on the lake agree with your philosophy and would be willing to live within the rules necessary to achieve the goal.

- Water quality can only be protected with strict supervision.

- There is no information offered on costs or fines or penalties for not following the rules or laws.

- I felt some of the public comment was good concerning over-regulation and over-protection.

- Sometimes we overprotect. We don’t want to overprotect the lake so the general public can’t use it. We need to use moderation.
- The plan depends to a great extent on information and education, a fine objective. However, judging from the litter on paths, the non-complying dumping at garbage stations and the violation of road and trail use regulations, I doubt that much will be accomplished without some sanctions to back up the information and education. The project manager with a citizen advisory board is a good idea but they need some enforcement tools.

**Wording of the lake plan**

- For those lake plan action items that are specific in their requirements (such as the 100 ft. buffer zone for application of fertilizers/pesticides/herbicides), the Priest Lake Planning Team needs to make sure all items are defined for clarity of intent.

**The approval process of the lake plan**

- Implement plan as soon as possible.
- Concerned that legislature will "pick the plan apart."
- Hope the plan will be accepted by Idaho Legislature. (2)
- Scientific studies should be in before draft plan is submitted to Idaho Legislature. (3)
- Urge legislature to approve plan in its final form and to provide funds for its implementation.

- The Clean Water Act, I believe, is what started the process that the lake plan is now attempting to finish. The planning team is a group of people representing local interests making a unique plan for Priest Lake. The lake plan is the culmination of a great amount of time and effort spent by volunteers. The plan should not become a political football and should be adopted by the legislature in order for Idaho to be in compliance with the Clean Water Act. The plan should not be amended and changed to suit the needs or desires of a far off legislature. We need a local plan for specific local needs.

- Public support must be actively solicited. Many who consider themselves influential do not subscribe to local newspapers (Priest River Times, Gem State Miner, Idaho Spokesman-Review, Bonner County Daily Bee). The Times and the Miner are published weekly. Idaho Spokesman-Review content and editorial staff are not echoed by the Spokane Spokesman-Review editions. The Handle (Idaho Spokesman-Review) carries many articles not included in Spokane editions (60 percent of the Priest Lake Newsletters are sent to Spokane and eastern Washington addresses).

- Need to watch carefully as plan proceeds through legislative process. Need to see what role county will play. We need to keep the plan from turning into something we can’t live with.
**Representation and participation in lake plan**

- Absence of representation and input by the Priest Lake Permittees Association (headed by Peter Glass).

- No solicitation for input from service clubs and organizations (Priest Lake Lions, Priest Lake EMTs).

- Social and church groups have been ignored (the Priest Lake Grange, the Priest Lake Community Church, the Coolin Community Church, the Lamb of God Lutheran Church, Saint Blanche's Catholic Church, dinner meetings of the Priest Lake Chamber of Commerce).

- There should be no conflict of interest in any of the subcommittees.

**Fisheries**

- Idaho Fish and Game Dept. should be directly involved. (3)

- Lake plan does not address Priest Lake fisheries. (2)

- Fishing is one of the main recreational activities conducted on the lake. However, there are no specific action items directed at maintaining fisheries or improving fish habitat. The plan should at least call for education materials for distribution to lake users.

- Fish and Game representation has been restricted to "technical" advice. Uniformed biologists and Fish and Game representatives should be active participants; continued dog and pony shows can be offered all luncheon and dinner groups. Professional level slide programs (ten to fifteen minutes, followed by Q&A sessions) would be welcomed.

- Fish & Game expertise, commitment, and knowledge are in disrepute. Mysis shrimp introduction, abandonment of kokanee and trout planting, curtailment of hatchery programs, stream closures (and the success or failure, if known) should be discussed.

**Public Information and Education**

- We need another subcommittee entitled, "Education."

- Education is your most potent tool in absence of a large budget. Ideas at meetings seemed too passive; you should print 1 page pamphlets targeted to particular users and distribute them.

- I like the idea of information being available to people involved in any of the activities, and the plan has some useful ideas.
Continuation of water quality monitoring

- Water quality monitoring should be continued, especially the nearshore studies and sediment analysis.

- Water quality monitoring should continue. (2)

- Would like to see sedimentation study done on the lake.

- A monitoring program is essential to the successful implementation of the plan and protection of the lake. Only through monitoring can the beneficial impacts of action items, or their shortcomings, be assessed. However, the monitoring program needs to include the near shore areas and the confined and semi-confined bays as well as the open lake stations monitored during the baseline studies.

Priest Lake Project baseline studies

- I consider the baseline water quality study to be the one valuable thing to come from this.

- The baseline chemical studies of open areas, stream flow, nutrient loading and lake morphology and nearshore enrichment provide excellent background on which to build. Based on my studies of last ten years of this lake, the data from open area suggests too rosy a picture of lake water quality. Results of some of my studies show nutrient concentrations 2-3 times those found in open water from a site near Cavanaugh Bay. Primary productivity and nutrient measurements on occasion reflect meso-oligotrophic conditions.

Upper Priest Lake (also see Motorized Watercraft - General, and Recreation - Action Item #2)

- Airplanes should not be allowed to land or to fly low over Upper Priest Lake.

- Hope planning team considered the concept of Upper Priest as being an area of nonmotorized recreation. If only a recommendation, this idea should merit consideration and support.

- Especially concerned about Upper Priest Lake. Whatever rules are made for the lower lake and islands should also include upper lake. Concern is that rules would move campers to Upper Priest if rules only in place for lower lake.

- Upper Priest Lake is more sensitive to impacts due to its size and remoteness.

Shoreline Erosion

- Shoreline erosion was not addressed in the plan. Feel that shoreline erosion has been appreciable over the years. This is due to lake level control by the Outlet Dam, and resulting loss of shoreline vegetation and more wave action by larger boats. The new proposal by
Idaho Dept. of Water Resources of lake level alterations should be researched before implemented to make sure that the proposed changes do not further accelerate erosion along the lakeshore.

_Potable uses of water_

- Drawing water from the lake for potable use could reduce adverse effects of developing other sources of drinking water, i.e. wells.

- Public Information and Education programs are needed on proper treatment for lake water used as potable source.

_Water quality observations_

- See an increase in sediment and seaweed each year. Boats leave a trail of bubbles on the water now.

- Feel strongly that the lake water quality has degraded over the thirty years of observations.

_Docks_

- The plan briefly discusses the impact of docks on lake water quality. Guidelines should be provided for planning agencies and the public to review the impact of proposed new extensions to docks on water quality. Furthermore, docks create barriers to water movement, especially if piers are installed. Should these piers be discouraged?

_Miscellaneous_

- I want ordinary people to be able to use the lake, not just special interest people.

- A microphone should be provided for speakers at meetings.

- Use of aircraft should be addressed; these could pollute as badly as boats.

- We need a philanthropist to donate land for outdoor camps such as Camp Easton.

- We see greed and profit as the Lake’s worst enemies.

- Everyone will always worry about money to pay for preservation of the lake, but all of this worry is superfluous. If we don’t have a habitable world in the future for our children, money is not important. Money and jobs will always be made, but there is only one Priest Lake and it will never be created again.

- It should be noted that only about 15% of lakeshore is deeded land.
- Main concern is that Idaho Dept. of Lands can do whatever they want, without reports or studies and without concern for water quality and fish. Two examples: first is spraying of 24D along Hunt Creek and Hunt Creek Road. After it rains the residue that is left on the plants and trees runs into the ground and into the creek. Fish will be affected. Second example is the 6-8 foot deep trenches dug into Horton Creek Road. These trenches are absurd. The signs posted say this is to protect water quality, but as soon as fall rains come, a lot of dirt and silt will wash into the creek. Many people take their drinking water out of this creek. IDL is abusing their authority and not considering the best interest of the people and of the land.

- It was pointed out that the Idaho Department of Lands was self-regulating and also regulates other agencies. On the east side of the lake, IDL is the largest polluter. How do you expect them to enforce their own standards until they clean up their own act?

**Comments Relating to the Lake Plan Action Items**

**Timberland and Associated Roads:**

**General**

- There is too much logging at Two Mouth; a danger to watershed.

- The USFS and IDL should have long-range management plans in timber operations that parallel the goals of the lake plan.

- Accountability for timber management as it affects water resources is commendable. Enforcement of Forest Practices Act should be mandatory.

- The Forest Practices Act has enough rules and regs already in place without adding any more.

**RE: Action Item #2 & 3**

- Would like to see enforcement of rules protecting streams from logging and logging road construction.

- Stream crossings and logging roads should be built such as not to allow debris to reach the creeks.

**RE: Action Item #4**

- Include in the information made available to all land owners a summary of forest management BMP’s from the Forest Practices Act. This will make acceptable practices more widely known.
RE: Action Item #5

- With over 2,000 miles of forest roads in the watershed, I believe that associated impacts from both timberland and public/private roads have been underestimated and consequently not adequately addressed in the draft plan. More BMP’s and action items need to be developed to address roads and water quality impacts from them.

- Support the closing of excess roads and limiting new road construction where it threatens the watershed. The land should be repaired and made natural again wherever a road is closed. When a new road is built, care should be taken that no additional harm is done to the countryside.

- Maximum road density for roads should be established for land types and proximity to surface waters for logging roads.

- Items 5 and 10 take steps toward limiting the impact of unnecessary roads in watershed. Stormwater runoff from road construction and poorly maintained roads result in greatest nutrient loading to lake. A factor in determining when roads are "excess" or should not be built is the overall road density. An item should be added to evaluate existing road density and define an appropriate density target.

- I disagree with suggestion to close "excess" roads. We are already heavily impacted by grizzly bear habitat road closures.

RE: Action Item #6

- I agree with the subcommittee that additional features of the "feedback loop" need to be implemented to fully comply with FPA requirements to protect water resources.

RE: Action Item #9

- Cumulative Watershed Effects (CWE) should be included in the FPA and results from surveys using the CWE should be used to force compliance.

Public and Private Residential Roads:

RE: Action Items #1, 2 & 3

- West Shore Road needs paving. If it can’t be paved, consider making it dead-end with access from two sides.

- There is a lot of money being spent oiling and grading; could be better spent paving.

- Roads should be paved near lake (such as Kalispell Bay to Outlet; Beaver Creek from Nordman)

- Unless private roads are seriously affecting the lake, make this a low priority item.
- Maximum road density should be established for public and private roads as to their proximity to surface waters.

- The provisions of this section could be adopted as requirements for actions on state and federal leased lots by administrative action following adoption of the plan as part of Idaho Code and enforced by the project manager.

- In theory these suggestions are good, but it will take a great deal of effort to get Bonner County do anything but grade the roads. Ditches and culverts are way overdone and those of us on Forest Service leases have had to pay private contractors to fix or access our roads because of winter storm run-off damage. Summer home owners will have to bear the brunt of these BMPs on land they don't even own.

- Additional items are needed to control residential roads. With County as lead entity, the erosion and stormwater control of the Bonner County stormwater Ordinance should be made applicable to roads in excess of a certain distance, e.g.100 feet. The plan should also recommend to the County that it amend its subdivision ordinance to encourage common roads and reduction of the number and distance of roads.

- Road construction BMPs should be in place during construction.

- "Project manager shall request" what is the enforcement mechanism if the request is not complied with.

Stormwater Construction-Development:

General

- This part of the plan is "nebulous." This could be applied with various degrees of consistency. The concern is over-zealous enforcement--better officials take an advisory role. There should be a difference in dealing with new construction where this issue could be dealt with economically and old construction where costs could run high.

- State and federal property lease agreements should incorporate required erosion and stormwater control.

- Older existing homes should not be required to comply with new rules. If older homes must comply, state or other agency requiring changes should provide funding.

- Items 2 through 5 are very important to the accomplishment of the goals of the draft plan.

- Nutrient management of lakes is growing concern. Stormwater and Construction action items 2, 3, and 4 are particularly important.
RE: Action Item #2

- The width of the native vegetation buffer strip should be adjusted according to slope of property. On flat land, 10 foot natural vegetation buffer zone is adequate. Restoring a buffer zone should not be required for existing homes; tearing up the earth would have negative impact. Action Item #2 is unenforceable for existing homes.

- To retroactively require homeowners to comply with 40 foot setback would cause some people to remove their residences. These residences were built in compliance at the time of construction. Homeowners of these residences should not be stripped of ownership rights because of new rules. There needs to be grandfather clause to protect these people and their homes within the plan. If improvements can feasibly be made, then they should. However, existing placements should be allowed to remain until some construction change is planned and the new rules could be followed if possible.

- Native vegetation is not always best buffer. In high traffic it does not work. Lawns are a far lesser impact on lake because of reduced erosion. Use of fertilizer and chemicals when used according to label make a much healthier and effective buffer strip.

- While the maintenance of a vegetative buffer can be valuable in filtering stormwater runoff which is not otherwise treated by the structural stormwater management system, the proposed requirement of an uninterrupted 40 foot wide vegetative buffer strip along the full shoreline frontage of private frontage lots is unreasonable. Huckleberry Bay Company, with input from the Idaho Department of Fish and Game, has implemented a 25% clearing limit for this shoreline buffer area. This allows a property owner a reasonable balance between the use of their lakefront property and the benefits of this secondary stormwater management measure. If you insist on the maintenance of an uninterrupted buffer strip, I’m afraid you’ll find legal challenges to an otherwise well done plan.

- The State of Idaho has the necessary authority to have lease holders ensure that they maintain or enhance the vegetative filter strips at the shoreline. These homeowners should be required to bring the shoreline back to the original state.

- "Hot button" subject for many rural home owners.

- Gordon West’s (SPBA representative) offhand rejection of comments and reference to USFS standards and Forest Product Act BMPs enforceable by Idaho Department of Lands emphasize necessity for an educational program directed at private landowners.

- A complex, necessary, and significant subject requiring specialized knowledge and continued emphasis. Private landowners can receive advice, assistance, and guidance from professional foresters. Both the IDL and USFS can, and will, guide private individuals but advice and help must be requested by the property owners.

- Enforcement threats by arbitrary bureaucratic standards develops opposition rather than compliance.
- Seasonal I&E programs, posters, advice, no-host luncheons and dinners, local medical (horror photographs of offending property), handouts, availability of plants and seeds will foster acceptance.

**RE: Action Item #3**

- Feel strongly about preservation and enhancement of wetlands.

**RE: Action Item #4**

- Does not support 100 ft. buffer zone requirement on application of fertilizers/pesticides/herbicides.

- Believe restriction on use of pesticide/herbicide to 100 feet from lake is onerous and unnecessarily harsh. An alternative would be educating the property owner to apply materials in safe and practical manner.

- Regulation to restrict application of herbicide/pesticide to 100 feet from lake too harsh; IDL could assist property owners in application of these chemicals.

- I can find no documentation of any problem with the use of fertilizer, pesticides or herbicides near Priest Lake and feel the 100 foot rule is excessive and not needed. A good healthy lawn is probably the best filter we have to prevent erosion. One only needs to look at "natural buffers" used in the camp and picnic grounds.

- Opposition by individual property owners to "enforcement of this action item" by government or bureaucratic fiat was expressed in the DEQ August 19 meeting.

- Supports public information and education programs on proper use of fertilizers/pesticides/herbicides within 100 ft. of lakeshore.

- Need to enforce the 100 ft. buffer zone on application of fertilizers/pesticides/herbicides.

- Would be very disappointed if local landowners insist on using fertilizers, pesticides, and herbicides near the lake or other waters. Unfortunately, good sense doesn't always prevail.

- Something needs to be done about chemicals on lawns near lake.

- Why exempt licensed applicators from the ban on fertilizers, pesticides and herbicides? Poison is poison regardless or who distributes it.

- Homeowners should not use any fertilizers, pesticides and herbicides anywhere within 100 feet of the shoreline. They should be required to let lawn areas return to the original shoreline habitat. I have watched the area up by 8 mile Island, east shore, become a series of who has the best lawn on the lake! This disturbs me to no end. The beauty of Priest Lake is its natural shoreline. It is very easy to plant trees along the shoreline to help camouflage the lake homes.
- Weekend visitors purchase household and garden supplies from outlets in other areas.

- Commercial nitrate garden fertilizers aren’t explosive hazards -- but IF ignited (heated until molten) the reaction continues until all carbohydrate fuel is exhausted. Add aluminum (from containers, discarded aluminum cans, etc.) and this is the Bessemer Reduction Process used in steel making.

RE: Action Item #5

- The elements of the proposed amendments to the Bonner County stormwater ordinance could be adopted as requirements for actions on state and federal leased lots by administrative action following adoption of the plan as part of Idaho Code.

- Rules relevant to new construction should be mailed to anyone expressing an interest in a building permit. Maybe there could be a place to sign on the permit that the person has read and agrees to comply with the rules.

- The concern here is how much these rules will cost the homeowner. Big increases in building permit fees would be anticipated to pay for inspections and compliance. Main emphasis should be large construction projects on the lake where potential water run-off problems occur. This must be a shared financial expense of all concerned, not just homeowners.

- Stormwater rules are scary. The average home builders have many costly permits to contend with already. I object to the rules that are already in place.

5(i)

- Uncomfortable with Action Item #5 (i.): eliminating the permit exemption for Class M structures should take into account--slope. Erosion control within 100 feet of surface water is too large of a buffer zone on flat ground.

Wastewater Treatment:

General

- Would like to see specific recommendations for development over aquifer-sensitive areas mandating sewer or minimum lot-size for isolated sites.

- Would like to see rules and regulations to protect the lake’s aquifer sensitive areas and some stream areas such as those over the Rathdrum Prairie Aquifer.

- All homes near sewer lines should be allowed to hook up to the sewer.

- Feel everyone on lake should be on community sewer system.

- Support Wastewater Treatment’s Action Items 1, 4, and 5.
- Wastewater treatment is very important.

- All lakeshore residences (state and federal lessees, and private) should be on a community wastewater treatment system. Action items 4 and 5 are needed for this section to be effective.

**RE: Action Item #1**

- Granite/Reeder Sewer District: not enough evidence for hasty judgements.

- Studies in Granite/Reeder Sewer District show that there is little problem with wastewater. Expenditure for treatment system is not warranted when a septic tank is a solution and this is an individual problem.

- Mandating sewer at this time is overkill when cabins only used 25% of year.

- Credit should be given to Granite/Reeder Sewer District for their efforts to deal with wastewater.

- Encourage DEQ to work with Granite/Reeder Sewer District on finding solutions to wastewater management; be open to technologies, while not used in Idaho, are used in other countries.

- A citizen-owned solution in the Granite/Reeder District will find more support and will prove more cost-effective than state-managed process.

- We have differing needs and differing time schedules. We need the flexibility to fit our differing needs and differing levels of immediacy within the district and we should be free to find answers to these problems as long as they fit into a long-range plan for the lake. The Draft Plan does not seem to reflect this need for flexibility. Encourage the PLPT to find funding for Granite/Reeder Sewer District.

- Since timber contributes around an estimated 60% of the chemicals shown on the charts and septic from 3-5%, suggesting a $15-20 million sewer systems for Granite/Reeder may be overkill. The Granite/Reeder sewer system should be decided by the citizens of that area. Perhaps we should do a cost benefit analysis. The EPA manual recommends well maintained septic systems as a best solution for rural areas.

- Granite/Reeder sewer system costs would be difficult for retirees on fixed incomes.

- Granite/Reeder Sewer District is trying to find economical ways to deal with wastewater. With PLP studies which note algae, phosphorus and nitrogen are low and there is no difference between developed or undeveloped areas as to the increase in these nutrients, and the fact that studies are not in, I find it irresponsible to impose a law that may not be in best interests of residents and environment.

- I do not find in the draft any indication of pollution in this area to cause this item to be included in the law; also statement, "community wide" should be further defined.
- If Granite/Reeder Sewer District is forced to have a sewage disposal plant, what about the 200+ state leased lots. They will continue the same according to your plan. There is no proof that the lake water is being polluted by the homes in the Reeder Bay and Granite Creek area. I see none noted in this report. When the time comes that the water quality is being affected by sewage, then all places on the lake will need sewer systems.

- There was a vote several years ago to sewer Granite/Reeder. It was turned down by a vote of residents, not, in my opinion, because they didn’t want sewer, but because of the way it was presented, the design of the system, and the fact that the plan was rushed and people didn’t have full knowledge of what was proposed or involved. It was an expensive system.

Keep in mind that "residents" of this district are mostly summer residents who use their residences on the lake no more than 20% of the time. That wasn’t brought out in your draft. Because of the few permanent residents the rest of the year, this system could probably not have functioned because of lack of flow of sewage during off-season times.

A concern is that Reeder Bay is isolated from Granite Creek and running a sewer line would be costly through the very rocky stretches. I am a member of the committee and possibly we will find that several small sewer systems would be less costly than one large system. Also, permanent residents living back from the lake could continue to use septic, thus saving some large costs. Another concern is that the people drafting this plan weren’t familiar with the particular problems of the Granite/Reeder Sewer District and to simply state: "the Granite/Reeder sewer district should organize and activate a community-wide waste water treatment system" is not an accurate statement. Certainly the problem should be addressed, but it shouldn’t be mandated that it be one system, but possibly several systems and allow for a number of septic tanks to be brought up to code and approved by health authorities.

Even if the word "system" could be changed to "plan" there would be some latitude to design a workable plan for the area. I feel that a site by site assessment could be a in-between solution to determine which sites are "legal," which are not. Once the survey was done, a homeowner would be given a certain amount of time to bring his/her system up to code. Certainly there would be situations where there wouldn’t be a full 300 ft. setback, but a new system with drainfield set back to the end of the lot--maybe 150 ft.--would be far superior to a drain field consisting of a buried 55 gallon drum 40 ft. from the lake! I am not sure the Granite/Reeder area needs sewering, at least not all of the area. All of the information is not in yet and without full knowledge and information, mandating sewering of entire area without regard for need or cost is not prudent.

- Granite/Reeder: A site by site survey should be done and those with problems should be required to bring systems up to code as possible.

- Need to speed up timetable on getting people hooked up to a sewer system and off septic tanks.

- Require Granite/Reeder Sewer District to accept the sewer system.
- Efforts to get a Granite/Reeder Sewer System have been blocked. This should be #1 priority.

- A sewer system for the Granite/Reeder District should be considered in three geographical areas: Elkins area, Grandview to Granite Creek, North of Granite Creek.

- Granite/Reeder Sewer District should organize a community wide wastewater treatment plan. Those sites such as Kanisku, which are responsible for much of the pollution should bear most of the cost.

- In the Granite/Reeder Sewer District, domestic water supplies are in jeopardy due to the lack of community sewer system.

- As a cabin owner in Granite/Reeder District, we favor proceeding with sewer system. Some residents are summer residents using their cabins only a few weeks a year and these people are reluctant to proceed with sewer system because of cost. Hopefully, the 5 year deadline to be in conformance will influence some of these summer residents to favor sewer system. Lengthening of the deadline would only cause more foot dragging on this issue. A better solution would be some extension of deadline if good faith progress is occurring.

- This area is excellent in the plan. My monthly fee is $66 per month for Outlet Bay Sewer. Others on the lake pay nothing for outdated and failing septic systems.

- There seem to be many people with private "axes to grind" who are opposing the sewers and are in favor of construction near the lake. A moratorium on building should be put in place until the sewer is added.

- Expect opposition from individuals, businesses, and groups within the area of the Granite/Reeder Sewer District.

- The anticipation of "ruinous sewer fees" and punitive DEQ fines for delay in design and construct of DEQ approved sewage system(s) and the perception that existing septic systems do not pollute the lake were reflected by several comments at the DEQ August 12 meeting.

RE: Action item #2

- Alternatives to lagoon systems should be encouraged and development should not be allowed unless the sewage treatment, by lagoon and land application or otherwise, can assure that no contribution of nutrients or bacteria will occur. Items 5 and 6 are also essential, and the consequences of not having item 4 will become more apparent and important over time.

- The potential impact of the seepage from the existing sewage lagoons should be estimated. The plan should recommend that only high density polyethylene liners with leak protection systems be provided for any new construction.

- Wastewater collection treatment systems are 100% efficient and even land applications typically range between 50% and 85% for nitrogen removal. A realistic impact from new wastewater collection and treatment systems, including actual efficiency, must be utilized to
determine the impact on the lake for new or expanded wastewater systems using land application.

**RE: Action item #3**

- Unapproved sewer systems should be brought into compliance.

- Concern expressed about use of outhouses along the waterfront and their maintenance.

**RE: Action item #4**

- Ensure that residents follow the existing rules requiring installation and maintenance of wastewater disposal systems.

**Motorized Watercraft:**

**General**

- Keep over-fill of gas tanks of boats from going into lake. (10)

- Maybe boat users should be given a pamphlet on water quality rules when they come to fill up with gas. The pamphlets need to include explanations as to why the rules are necessary (what run-off does to water quality...the increase in number of boats on the lake, etc.) so people don’t get offended by government telling them what to do. The **tone** is very important.

- Discharge of fuel and oil into the lake must be prevented. Retrofitting of boats where appropriate should be encouraged, perhaps with incentives. An "Oregon style" fill up requirement only by marina operators, not boat owners, should be instituted.

- Realize legislature imposed narrow scope of authority on Priest Lake Planning Team, but personal watercraft should have been addressed as to the agitation of bottom sediments of the lake, not to mention effects on wildlife and humans.

- Jet skis put out 5-6 times more contaminants than boats; they should be made to conform to certain standards.

- Plan does not address noise pollution for motorized watercraft.

- Plan does not address high speed of boats close to shore.

- All motorboats should be restricted from the Thorofare. Only row boats and canoes should be allowed into Upper Priest Lake.

- My concern is that some of us who can’t row boats are able to use motorized boats to reach the upper lake.
- Spokane Canoe and Kayak Club recommends hand or electric motor propulsion only in Upper Priest Lake.

- In favor of permits for motorized watercraft on Upper Priest Lake to reduce the number of day use visitors.

- I would like to see boats using Priest Lake restricted to ester-type lubricants instead of petroleum motor oil. Perhaps oil sales at lake marinas could be limited to the ester types such as Mobile One.

RE: Action Item #1, 2 & 7

- This part of the plan is impossible without new enforcement objectives from Bonner County.

- Have Marine Deputy to police boats possibly dumping wastewater into lake.

- Additional marine deputies are not needed on Priest Lake. There are now two deputies on the marine boat at one time which is sufficient number to inspect the motorized watercraft wastewater facilities which is a very important factor on Priest Lake.

- Section on motorized watercraft simply reiterates Idaho Code. One discharge of blackwater from a large boat would create more unwanted nutrients than if all 500 septic tanks along the lake developed leaks. The blackwater discharge issue needs a higher priority than in the Idaho Code or in the lake plan. Suggest any boat capable of carrying waste be inspected prior to entry into the lake. A very stiff fine for violations could be put in place, for instance, around $10,000 for discharge waste into the lake from a boat. Plan could incorporate this into it by stating, "The necessary funds {for enforcement of wastewater from boats} for enforcement of Idaho Code 67-7505(1) will be provided by the Idaho Legislature."

- Biggest concern: big boats. Are their holding tanks locked, or can they dump into lake? Are they on the honor system?

- Support wastewater holding tanks on all motorized boats. Sanitation on the water and off must be legally required.

RE: Action item #4 (see also Recreation AI #2)

- Porta potty approach will be unpopular and unenforceable. Better to develop adequate sanitary facilities at these sites.

- Certainly agree with new rules for porta-potties for all camping for tents, boats, or whatever, or rules to be enforced for this idea.

- Privy shovel for canoeists and kayakers and porta potty for motorboats camping on Upper Priest should be required.
Recreation:

General

- Concern that beach fires have caused a "black tide" for 15 feet out into the lake adding pollution to the lake’s waters. Beach fires should be prohibited. Fires should also certain distance back from the shore. Efforts should be made to remove charcoal already in the water.

RE: Action item #2

- Feel some effort should be made to manage unofficial campsites on upper and lower lake. In favor of permits for dispersed campsites both developed and undeveloped.

- Feel special effort should be extended to maintain the environment of Upper Priest Lake. Some undeveloped campsites should be developed by installing fire rings and contained toilets.

- Support a joint Priest Lake Watershed Recreation Plan by USFS, IDL, and Idaho Parks and Rec.

- If this part of the plan would force IDL into recognizing that state lands are not for timber only, it would be great.

- Concern is that human waste is a problem at undeveloped campsites. We spent some time on Upper Priest and spent two hours cleaning up awful messes. One idea is to post all undeveloped campgrounds with a permanent, not easily defaced sign giving information on disposal of human waste and stating that a possible fine could result if directions are not followed. We are in a three year trial period to see if the present situation (of misuse) of Upper Priest Lake can change; if not, the state will restrict use/access to Upper Priest.

- Very important Upper Priest Lake not suffer any additional impact because of (2) camping pressure increasing on the lower lake. Some type of porta potty and shovel should be required for all campers entering upper lake!

- Education and regulations for sewage generation from camping and boating activity on Upper Priest Lake should be instituted. Local resorts and marinas can support this effort and realize additional income by providing porta potties or other equipment.

RE: Action item #3

- Some people shampoo their hair and bathe in lake. This should be discouraged.
Agriculture and Livestock:

**General**

- Binarch, Lamb, Reeder, and Kalispell Creeks should be free of any cow, sheep dung as it was before the homesteads. Animals should not have preference over humans and clean water. Also, Moore Creek and Lower Priest River have animals grazing in the water and near by.

- Excellent plan for agriculture and livestock.

**RE: Action Item #3**

- Armor watering areas and creek crossings with rock or gravel is wise.

**RE: Action Item #4**

- Fence creeks from livestock on ranches and grazing areas, but no other unnecessary fencing.

Hazardous Materials, USTs, ASTs:

**General**

- Support all action items on hazardous materials, UST and AST. Action Item #9 should be amended to read "pollutants" rather than "toxins."

- All of the items in this category are important. Item 9 should be revised to prevent point source discharge of "pollutants" not just toxins.

**RE: Action Item #8**

- Support public Information and Education programs that deal with organic means of weed and insect control.

- Support control of weeds and insects by non-polluting methods. A future information and education program could deal with organic control, such as integrated pest management.

**RE: Action Item #9**

- The prohibition of hazardous materials is too limited in being limited to "toxins." This should be expanded to pollutants.

**RE: Action Item #10**

- Plan should strongly oppose road oiling.
- As an owner in a subdivision on Priest Lake, I see gross contamination due to over oiling of roads. Current DEQ guidelines are inadequate and are not policed. The lake plan should prohibit all road oiling and utilize alternatives such as lignosulfonates. Also, a permitting policy should be in effect to monitor what goes on the roads.

**RE: Action Item #11**

- More study needed on use of Penta in wood products on lakeside residences.

- Do not weaken the provisions regarding uses of toxic substances such as herbicides, pesticides or treated wood for docks on the lake. If anything, make these as strict as possible. Use of these substances is creating public health problems in other parts of the nation and in drinking water supplies.

- This action item goes beyond the scope of normal DEQ requirements, which is exactly the type of item that is needed to protect the quality of a lake like Priest Lake.

- The Beaver Creek Camp Assn. supported a motion opposing the use of chemically preserved wood in construction that contacts water in the Priest lake environment.

**RE: Action Item #12**

- People should use low phosphate/organic soaps.

**Priest Lake Management Plan Implementation**

**RE Action Item #1:**

- Support the idea of project manager funded by the legislature. (3)

- Support implementation of the plan by public agencies.

- Project manager is essential to the plan. However, if this is not funded, then it will not be possible. With so much land in this basin state and federally owned, then the state and federal government need to make a commitment that they often say they can't afford.

- Priest Lake Plan should be citizen-managed, not state-managed. (2)

- I'm opposed to hiring a project manager. I feel the money could be better spent where there is actual need, such as caring for roads, building more toilets at campgrounds, etc.

- The duties of the project manager would be encroaching upon county, state, and federal agencies that are now in place and in most instances they are not fulfilling their job. There are several important factors that need to be addressed by existing agencies, including additional R.V. and boat dump stations, and effective wastewater treatment systems for all homes around the lake.
RE: Action Item #2:

- The implementation plan relies too heavily on an appropriation from the State of Idaho to fund the program. Additional sources of funding, such as lease fees, inspection fees and fines, should be used to support the Project Manager position. Funds from these sources could also be used to provide staff for enforcement.

RE: Action Item #3

- Support continuation of Priest Lake Planning Team.

- The Steering Committee is also essential. As member of Priest Lake Federal Lessees Assoc., we would like a representative on this committee.

RE: Action Item #4

- Forming of lake association with volunteers to do enforcement and education would be good idea and cost effective.
CHAPTER 6

REFERENCES


APPENDIX A

Selected Sections of Idaho House of Representatives House Bill No. 319 (1991)

1 AN ACT
2 RELATING TO WATER QUALITY MANAGEMENT OF PRIEST LAKE; PROVIDING LEGISLATIVE
3 INTENT; AMENDING SECTION 39-105, IDAHO CODE, TO PROVIDE THAT THE DIRECTOR
4 OF THE DEPARTMENT OF HEALTH AND WELFARE SHALL FORMULATE A WATER QUALITY
5 MANAGEMENT PLAN FOR PRIEST LAKE TO BE SUBMITTED TO THE BOARD OF HEALTH AND
6 WELFARE FOR ITS APPROVAL.
7
8 Be It Enacted by the Legislature of the State of Idaho:
9
10 SECTION 1. (1) The Legislature of the state of Idaho finds:
11 (a) That the waters of Priest Lake are threatened with deterioration that
12 may endanger the natural beauty, wildlife and fisheries value, recrea-
13 tional use and economic potential of Priest Lake.
14 (b) That preservation and protection of Priest Lake and maintenance of
15 the use and enjoyment of the lake is in the best interest of all citizens
16 of the state.
17 (c) Recreational use of Priest Lake is an important element of the north-
18 ern Idaho economy.
19 (d) Increasing demands upon the lake require coordinated state and local
20 action to maintain the existing water quality of the lake.
21
22 (2) Therefore, it is hereby declared that the purposes of this act are:
23 (a) To establish a lake water quality management plan for Priest Lake to
24 maintain existing water quality in lieu of an outstanding resource water
25 designation.
26 (b) To establish that the Department of Health and Welfare is responsible
27 for protecting the current water quality of Priest Lake during the manage-
28 ment plan development period.
29 (c) To provide that the final plan will be approved by the board of
30 Health and Welfare and thereafter submitted to the legislature.
Idaho Code § 39-105(3)(p)

(p) The formulation of a water quality management plan for Priest Lake in conjunction with a planning team from the Priest Lake area whose membership shall be appointed by the board and consist of a fair representation of the various land managers, and user and interest groups of the lake and its Idaho watershed. The stated goal of the plan shall be to maintain the existing water quality of Priest Lake while continuing existing nonpoint source activities in the watershed and providing for project specific best management practices when necessary. The plan shall include comprehensive characterization of lake water quality through completion of a baseline monitoring program to be conducted by the department and shall consider existing economics and nonpoint source activity dependent activities of the Priest Lake area. The planning team shall conduct public hearings and encourage public participation in plan development including opportunity for public review and input. Technical assistance to the planning team with state nonpoint source management programs in forest practices, road construction and maintenance, agriculture and mining shall be provided by the department. Technical assistance to the planning team on area planning, zoning, and sanitary regulations shall be provided by the clean lakes council. The plan shall be submitted to the board for its approval at the end of a three (3) year plan development period. Upon review and acceptance by the board, the plan shall be submitted to the legislature for amendment, adoption or rejection. If adopted by the legislature, the plan shall be enacted by passage of a statute at the regular legislature session when it receives the plan and shall have the force and effect of law. Existing forest practices, agricultural and mining nonpoint source management programs are considered to be adequate to protect water quality during the plan development period.
# APPENDIX B

## Priest Lake Planning Team Membership

### Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization/Affiliation</th>
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<tbody>
<tr>
<td>Jill Cobb</td>
<td>U.S. Forest Service</td>
</tr>
<tr>
<td>Jules Gindraux</td>
<td>Citizen Volunteer Monitoring Program</td>
</tr>
<tr>
<td>Ray Greene</td>
<td>Idaho Department of Lands</td>
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<tr>
<td>David Hunt</td>
<td>ORW Nominator</td>
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<tr>
<td>Shirley McDonald</td>
<td>Local Timber Industry</td>
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<tr>
<td>Wayne Newcomb</td>
<td>Bonner County Commissioners</td>
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<tr>
<td>Frank Nicol</td>
<td>State Lessees Association</td>
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<tr>
<td>Austin Raine</td>
<td>Local Cattle Ranchers</td>
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<tr>
<td>Donald Stratton</td>
<td>Priest Lake Chamber of Commerce</td>
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<tr>
<td>(PLPT Chairman)</td>
<td></td>
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<tr>
<td>Gerald Stern</td>
<td>Timber Industry Consultant</td>
</tr>
<tr>
<td>Larry Townsend</td>
<td>Idaho Department of Parks and Recreation</td>
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<tr>
<td>Gordon West</td>
<td>Selkirk Priest Basin Association</td>
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### Alternates

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Eric Anderson</td>
<td>Local Business</td>
</tr>
<tr>
<td>Harry Batey</td>
<td>Selkirk Priest Basin Association</td>
</tr>
<tr>
<td>Sue Brinkmeyer</td>
<td>Lake Resident</td>
</tr>
<tr>
<td>Kent Dunstan</td>
<td>USFS Priest Lake District Ranger</td>
</tr>
<tr>
<td>Joe Hinson</td>
<td>Private Timber Industry</td>
</tr>
<tr>
<td>Roger Jansson</td>
<td>Idaho Department of Lands</td>
</tr>
<tr>
<td>Rick Samples</td>
<td>Idaho Department of Parks and Recreation</td>
</tr>
<tr>
<td>Stan Roehl</td>
<td>Outlet Bay Sewer District</td>
</tr>
<tr>
<td>William Soper</td>
<td>State Lessees Association</td>
</tr>
<tr>
<td>Ruth Watkins</td>
<td>Clark Fork Coalition</td>
</tr>
<tr>
<td>R.G. Wright</td>
<td>Citizen Volunteer Monitoring Program</td>
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### Technical and Procedural Advisors

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization/Affiliation</th>
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<tbody>
<tr>
<td>Peggy Burge</td>
<td>Idaho Board of Health &amp; Welfare</td>
</tr>
<tr>
<td>Lisa Prochnow</td>
<td>Clean Lakes Council</td>
</tr>
<tr>
<td>Glen Rothrock</td>
<td>Idaho Division of Environmental Quality</td>
</tr>
<tr>
<td>Jack Skille</td>
<td>DEQ</td>
</tr>
<tr>
<td>Ed Tulloch</td>
<td>DEQ</td>
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</table>
APPENDIX C

Subcommittee Members (Planning Team) on the Eight Lake Issue Topics

Timberland and Associated Roads
Ray Greene
Jill Cobb
Gerald Stern
Gordon West

with technical advice from:
Ed Javorka Coeur d'Alene Tribe
Jim Colla IDL
Doug Fitting IDL
Lisa Prochnow CLCC
Jack Skille DEQ

Motorized Watercraft
Donald Stratton
Frank Nicol

Recreation
Larry Townsend
Jill Cobb

Agriculture and Livestock
Austin Raine
Gerald Stern
Jules Gindraux

Public and Private Residential Roads
Shirley McDonald
Wayne Newcomb

with technical advice from:
Steve Cote NRCS

Stormwater and Construction-Development
Jill Cobb
Gordon West
Wayne Newcomb

Hazardous Materials, USTs and ASTS
David Hunt

with technical advice from:
Kreg Beck DEQ
John Sutherland DEQ
June Bergquist DEQ
Norma Blanchette DEQ
Dick Martindale PHD
Jeff Lawlor PHD
Jim Blake Spokane County
Bruce Hunt Spokane County

Wastewater Treatment
Frank Nicol
Kent Dunstan

with technical advice from:
Jim MacInnis DEQ
Dave Mosier DEQ
Bob Camp PHD
APPENDIX D

Selected Letters from Lake Plan Public Review
August 17, 1995

Priest Lake Planning Team  
Mr. Stratton  
PO Box 38  
Hayden, ID  83835

Dear Mr. Stratton:

On behalf of the Clean Lakes Coordinating Council (CLCC), I am writing in support of the Priest lake Management Plan. The council highly commends the Priest lake Planning Team for their diligent efforts in completing a well researched, balanced comprehensive plan.

The Priest Lake Management Plan appears consistent with the other management plans that have been adopted and implemented in north Idaho. The council will be assisting agencies and appropriate groups with implementation and support for the north Idaho lake plans through our report to the Legislature this fall.

The council would also like to extend their appreciation to the planning team for developing a plan which will greatly protect Priest Lake’s water quality, promote extensive educational programs in the watershed and provide a balance for economic issues as well.

Sincerely,

Lisa Prochnow  
Clean Lakes Coordinating Council
August 9, 1995

Idaho Division of Environmental Quality
2110 Ironwood Parkway
Coeur d’Alene, ID 83814

RE: Priest Lake Management Plan

The first draft proposal for the PLMP has a particular issue I wish to address. The recommendation that the Granite Reeder area of Priest Lake be sewered has several flaws that should be considered before any final legislation is implemented.

1) There is a sewer district currently in place for the District. Under the guidance of the present Board and with the assistance of a volunteer citizens’ committee, the District is studying various types of systems that would be most appropriate for the area.

2) A sewer system has to be carefully defined and implemented for the District. Several engineers have stated that the widely fluctuating population of the District could cause substantial operational and maintenance difficulties for a solid waste disposal system.

3) It has to be remembered that a properly installed and maintained septic system with an adequate drainfield is a very effective waste disposal system. A "sewer system" encompasses more than just solid waste methodology to dispose of waste. The district is analyzing other options at this time.

4) Part of the PLMP study involved a water quality study conducted by Mr. Glen Rothrock. I attended a reporting meeting conducted by Mr. Rothrock earlier this year at the Priest Lake Elementary School. Mr. Rothrock’s report at that time clearly stated that there was "no evidence" of any water quality degradation within the Granite Reeder Sewer District.

5) The Granite Reeder Sewer Board is presently about ready to hire a consulting engineer to assess the best methodology for waste removal for the District. A request for proposal is being developed to invite engineering firms to bid on the consulting project.

6) The District has had no success in finding any funding assistance to aid in installing a system. In fact each report of high water quality adversely impacts the District’s ability to find any financial aid because there is not a proven "need." If legislation is implemented mandating a system for the area, will there be corresponding funding? Given current political concerns of the times, it seems that this type of "mandating" financial expenditures upon residents of the District could be subject to challenge, especially without substantive proof of need.

7) This particular recommendation by the Water Quality Study team seems open to question by reason of their lack of in depth study of the District’s environment. It is evident that this recommendation appears to be more driven by "perception" rather than facts. The study team has not participated in any meeting within the District in the last two years. The District has had a proactive volunteer committee working directly with the District’s Board in a broad ranging study of the District’s need. There has been a report submitted to the Board
in July of this year that outlines several practical ideas for consideration by the Board for addressing the District’s waste management issues.

It appears that this particular recommendation by the Study team is not appropriate at this time. The Granite Reeder District is on course to developing a waste handling system. The District has the right to create the most efficient, economically viable system appropriate to the need of the community. This particular recommendation is not consistent with the current process underway with in the District at this time..

Respectfully,

Donald V. Howell
Box 192
Nordman, Idaho 83848

208-443-2274
208-922-2222
August 11, 1995

Subject: Draft Priest Lake Management Plan dated July 1995

First, please hear my thanks for inclusion of the public in the challenging task of balancing multitude of interests and needs in the preservation and protection of the quality of life and activities that surround Priest Lake and its pristine nature.

While you are shaping legislation around the content of the Draft Management Plan, please hear the following in the area of wastewater management.

• While the Draft Priest Lake Management Plan (Draft Plan) needs to be given credit for providing leadership in protecting the lake, the plan has received input from and credit should be given to the existing Granite/Reeder Sewer District. The Granite/Reeder Sewer District has done extensive work to explore a range of engineering options that could provide efficient and effective wastewater treatment methods that respect both the lake and the financial ability of those within the district.

• The current Cost and Engineering Committee of the Granite/Reeder Sewer District has spent considerable time with area engineers who have offered their preliminary assessment of those approaches that should receive more detailed consideration. Most of those have been sensitive to the concentrations of population and have suggested distributed systems that will serve the most immediate needs while having expansion capabilities to accommodate growth in the area. The Granite/Reeder Sewer District is moving toward the hiring of a consulting engineer who will carry the assessment of best applicable methodology for wastewater treatment to a preliminary design state.

• The Draft Plan should accurately reflect the findings of the Water Quality Study by Mr. Glen Rothrock. Basically, Mr. Rothrock's report states that there is no evidence of water quality degradation within the Granite/Reeder Sewer District. This would indicate that, while we all share a concern for the waters of Priest lake, the need for hasty (and usually overly-costly) solutions does not exist.

• I would encourage you to advocate for and with the group of Granite/Reeder area citizens in their search for adequate solutions to wastewater management. Please be open to consider technologies that, while not yet used in Idaho, are used successfully in other states and countries. A citizen-owned process, with state oversight, will find greater acceptance and ultimately should prove more cost effective than a state-managed process.
• Please note that the word "solutions" was chosen to reflect that we have differing needs with differing levels of immediacy within the District. We should be free to find solutions that fit the problems, as long as they have the foresight to fit into a long-range plan and a schedule that recognizes the real needs of the lake. The Draft Plan does not yet reflect this flexibility.

• And finally, we would enlist your help in finding funding assistance for the development of a wastewater treatment plan that is truly responsive to needs of Priest Lake and the Granite/Reeder community. This would be particularly helpful since the lack of a proven need for a hasty solution has made our attempts to find funding more difficult.

Thanks for your consideration.

Robert H. Mansfield,
Member,
Granite/Reeder Sewer District
Cost & Engineering Committee

Priest Lake phone: 208-443-2910
Spokane phone: 509-448-8445
Dear Team Members:

It was my pleasure to be a member of your team while in office as a County Commissioner. I have attended a few meetings since leaving office; however, my health has not permitted me to attend for the last two years.

I have followed your work in newspaper reports and have studied the draft of your plan, which was recently released. I have also read and heard about the response to your plan at the first hearing on August 12. I was unable to attend that hearing and will be unable to attend the hearing on August 19. I hope that this letter will serve in my absence tomorrow.

I am in complete support of your recommendations, based on your findings, which are the result of the first truly scientific study of Priest Lake and its sources.

My family has owned property in the Granite Creek area since 1931, and I'm sure has contributed to the degradation of water quality of Priest Lake. We have supported the design and construction of a sewage collection and treatment system since the 1970's. We have seen plan after plan defeated by those who claim "we can't afford it." This is a very selfish and short-sighted reaction to something that we all know that we need to protect what is left of Priest Lake's water quality. I say that "we cannot afford not to" design and build a proper system.

Critics of the plan also say that we don't need any plan or another layer of bureaucracy. I have witnessed the results of skimpy land-use planning, excessive logging practices, and heavy-handed road construction, and I believe that we sorely need better planning.

You have done a very good job and I will support your recommendations.

Yours truly,

Dean Stevens
August 23, 1995

Priest Lake Planning Team
c/o Glen Rothrock
Idaho Division of Environmental Quality
2210 Ironwood Parkway
Coeur d'Alene, ID 83814

To whom it may concern:

On behalf of Panhandle Health District I would like to offer our support of your draft Priest Lake Management Plan. The plan is well thought out and offers workable solutions to the myriad of activities which affect the water quality of Priest Lake. The plan also appears to be compatible with those developed for other lakes in this area.

We do have a few suggestions and comments which are attached. Again, we support adoption of the draft plan, and if there is anything we can do to assist with implementation please do not hesitate to call.

Sincerely,

Shireene Hale
Senior Environmental Health Specialist

cc: Larry Belmont

Panhandle Health District Comments on Draft Priest Lake Management Plan
August 1995

Timber and Associated Roads

Action Items # 2 and 3

These action items involve encouraging the Dept. of Water Resources to enforce the Idaho Stream Channel Protection Act. Why isn't it being enforced now? Do they need additional personnel, support from Governor? These recommendations might be more effective if they expanded to address the root of the problem.

Wastewater Treatment

Action #1:

Will the community-wide wastewater treatment system recommended for Granite/Reeder serve lots which are currently undevelopable? If so, water quality impacts which will accompany development of these lots needs to be weighed against the benefits of installing sewer.
Action #3:

This recommendation too vague. Does "unapproved disposal systems" refer to illegally installed systems, or to systems installed legally but to less stringent standards? What are "acceptable standards?" Current standards or something less? If replacing unapproved systems is to be a requirement, what happens to those who cannot install a new system meeting acceptable standards? (because there are no suitable sites on their property, neighbors are unwilling or they are financially unable to purchase a drainfield easement, etc.) Who would be responsible for inspecting "unapproved" systems, and for enforcing these requirements?

Action #5:

Consider replacing the word "evaluate" with the word "define" (New rules shall be established to better define whether a septic has failed...).

Action #6:

Future wastewater treatment is too vague. Does this refer only to community sewage disposal systems or does it include individual systems?

Stormwater and Construction - Development

Action #2:

Maintaining vegetative buffers along watercourses is an excellent idea, and an important part of an effective water quality management plan.

Action #3:

Retaining wetlands is a good idea, however natural wetlands should not be used as the only treatment mechanism for stormwater runoff. Treatment of stormwater is needed before runoff reaches the wetlands to remove sediment, heavy metals, petroleum and other contaminants—otherwise these contaminants can destroy the wetlands and harm fish and wildlife.