

- (b) Prepare a on-district display of Category 1 weed herbarium specimens,
- (c) Initiate a monitoring program for all ranger districts so that Category 1 weeds can be identified while infestations are small,
- (d) Work in cooperation with the University of Idaho and the Idaho Department of Agriculture,
- (e) Take immediate quarantine and eradication measures as soon as new invader is officially identified,
- (f) Identify and treat the causes of the weed infestation to prevent re-entry

Category 2 Number two priority is given to noxious weeds whose distribution in the state is limited to usually 20 - 200 acres in size and are present in one or two locations. Emphasis is placed on stopping and eradicating the noxious weeds in the areas where it is found. Additionally, and most importantly, an extensive survey is conducted in the immediate areas to insure that all infestations are mapped and controlled. An action plan for Category 2 weeds should include, but not be limited to, the same criteria as the action plan for Category 1. Mapping of infestations should be ongoing.<sup>1</sup>

Prevention is a key factor to a successful Category 2 program, as the LoLo National Forest's recent noxious weed situation analysis points out

The easiest and least expensive method of control is prevention. Awareness by land managers and the public is the key factor in a successful prevention program. Prevention of the spread of noxious weeds can be accomplished in several ways. (Charles W. Spoon, et al, "Noxious Weeds on the LoLo National Forest, A Situation Analysis Staff Paper," USDA Forest Service, p 18 Attached as Appendix C)

<sup>1</sup>The five county noxious weed supervisors are currently involved in an extensive mapping and surveying project of Categories 1 and 2 weeds. Board chairman is Dennis J Gray, Superintendent, Nez Perce County Noxious Weed Control, 805 26th Street N, Lewiston, ID 83501, (208)799-3066

Some of the prevention methods outlined in the staff paper include minimizing soil disturbance, avoiding off road vehicle use and allowing only weed free hay in the back country (USDA Forest Service, *ibid* )

Category 3 Because distribution in Idaho is limited to generally one or two geographical locations, with occasional to intense spots scattered throughout the state, emphasis in Category 3 is placed on containment and prevention of the spread of these weeds into adjacent and uninfested areas. Additionally, high priority is placed on IPM programs and biological control agents. Your action plan for Category 3 weeds should include an identification and study of biological control methods. The University of Idaho is developing practical methods of control to effectively suppress the skeletonweed population in Idaho, a Category 3 weed ( See "Final Report for Phase I, Integrated Study on Rush Skeletonweed (*chondrilla juncea*), Pacific Northwest Regional Commission, Project 757, October 24, 1977 to October 31, 1978," Appendix D attached )

Category 4 Category 4 weeds are those weeds which infest the entire state. Emphasis is placed on education, maintenance, and control.

The noxious weeds in Categories 3 and 4 are causing the greatest concern in Idaho due to the fact these weeds are causing the greatest economic loss to agriculture. Both Categories 3 and 4 weeds have been recognized as having already spread to an extent that they can not be eradicated, and are given a high priority for identification of bio-control agents and integrated pest management research and development. It is recognized that wherever biological control agents can be identified and established through scientifically-developed, environmentally sound research and implementation strategies, costs will go down, while effectiveness and taxable income will rise dramatically. For instance, the result of a successful skeletonweed

biological control program in Australia "...puts \$18 million back into the pockets of the farmers each year...Not bad for a \$2.5 million outlay..." ("Tri-State Skeletonweed Consortium Newsletter," Volume 1, No. 3, September 1978, page 3, University of Idaho, College of Agriculture, Moscow, ID., Appendix E.)

It is important to point out that:

"[a]n effective control program should not depend on only one method of control, as each method has limitations. Effective control should, instead, incorporate a combination of several control measures. All control efforts should begin with an education program to inform in-service personnel and publics of the magnitude and nature of the problem. Preventive measures should be encouraged." (Spoon, *ibid.*, p. 23)

The affore mentioned LoLo National Forest staff paper suggests:

A two-step prioritization approach could be used. The first step is to control/prevent spread. New and isolated infestations should be highest priority for control...it is imperative that new infestations be killed and not merely stressed or retarded. Followup monitoring should be mandatory. The second thrust should be to contain and control existing noxious weed stands. Determination of control method should consider the practicality/cost effectiveness of the method compared to the likelihood of success. The size of the Spotted Knapweed infestation, for example, precludes the likelihood of cost effective success for chemical control.

Some species on the LoLo National Forest are still at low enough infestation levels that 90% control is feasible with appropriate treatment..." (Spoon, *ibid.*)

64-1A

## Biological Controls

Biological controls utilize natural enemies to control noxious weeds. The purpose of biological control is not eradication of weeds, but rather the reduction and stabilization of noxious weed populations below economic thresholds (See appendix F "Knapweed Update," Plant & Soil Sciences Dept , Montana State University, Bozeman, MT , January, 1984, Vol 2, No 1, p 1 )

Active biological control programs for some Category 3 & 4 weeds have already been initiated by Idaho researchers. The following are some examples

- 1.) Knapweed Two gall-forming flies, U. affinis & U. quadrifasciata, have been released and redistributed. Both attack spotted and diffuse knapweed infesting up to 90% of the plant heads.

Metzneria paucipunctella is a small moth whose larvae attack the flower buds of spotted knapweed. Its establishment and build-up are being closely monitored to determine compatibility with Urophora spp .

- 2 ) Rush skeletonweed Several organisms have been released in Idaho which are natural enemies of rush skeletonweed. Puccinia chondrillina is a rush skeletonweed rust organism which was first released in southwest Idaho in 1977.

The Chondrilla midge has also been released. It is an insect that attacks the plant stems causing stem mortality and lack of flowering.

The Chondrilla mite is also site specific to skeletonweed and shows evidence of developing under Idaho field conditions -- galling plant buds.

For further discussion of rush skeletonweed biological programs see Appendix D " Integrated Study on Rush Skeletonweed (Chondrilla juncea), Final Report for Phase I", Pacific Northwest Regional Commission, Project 757, Oct 24, 1977 - Oct 31, 1978

## Grazing

The work of Gene Payne and others shows that the use of sheep grazing to control woody and herbaceous vegetation is very effective in aiding the establishment of Western White Pine after timber harvest, (Payne, Gene, "The Effect of Sheep Grazing on Coniferous Reproduction and Forage on Cut-over Western White Pine Land in the Clearwater Region of Northern Idaho." Masters Thesis, University of Idaho 1942). Sheep grazing to control shrub cover has been on going for 40 years on Clearwater Timber Protective Assn lands contiguous to the Clearwater National Forest (ibid.)

Additionally, sheep and goats have been used for brush control on the Colville National Forest -- adjacent to the Idaho Panhandle National Forests and containing most of the same habitat types and vegetation -- the Siskiyou National Forest, and the Umpqua National Forest

Grazing is recognized as a viable integrated pest management strategy FSM § 2140 5, para 2, identifies livestock as a component of integrated pest management

Biological control may also include carefully regulated grazing by domestic livestock to control vegetation (FSM 2230)  
Goats may be most effective on brushlands while cattle and sheep may be useful where the primary competition are herbaceous species

Selective livestock grazing is the only alternative method except "no treatment" which utilizes brush and/or herbaceous vegetation as a resource This is an extremely important consideration when analyzing cost/benefit ratios

For further discussion of brush grazing techniques, see Goats for California Brushland, Div of Ag. Sciences, Univ of California leaflet 21044, and Batten, Controlling Scrub Weeds with Goats, Proc. 32nd New Zealand Weed and Pest Control Conference

Grazing has also been shown to be an effective alternative against some noxious weed species. As an example, sheep actually prefer spotted knapweed to other desirable vegetation and will actually selectively graze for knapweed. In some areas of the Bitterroot valley in Montana sheep are being used as a vegetation management tool to control spotted knapweed. (Spoon, *ibid*, p. 5, see Appendix C )

It is important to point out that the Forest and Rangeland Resources Planning Act and the National Forest Management Act states that when dealing with lands returned to the backlog and scheduled for prompt treatment, "(t)he level and types of treatment shall be those which secure the most effective mix of multiple use benefits " [16 USC 1601(d) (1).] Certainly, use of livestock grazing -- one of the multiple uses as defined by the Multiple Use Sustained Yield Act -- gives a more "effective mix of multiple use benefits" than any other method

#### Human Manipulation

Popova (1960) found that deep plowing (18 cm) eliminated diffuse knapweed with subsequent vigorous grass regrowth ( Watson, A K & J. Renney, "The Biology of Canadian Weeds, Canadian Journal of Plant Science, 54 Oct. 1974, p 698 , see Appendix G )

Burning was also found to be an effective control measure of diffuse knapweed with vigorous grass regrowth (*ibid.*)

Results also indicated that forage production can be substantially increased through proper vegetation management, such as reseeding disturbed areas. (*ibid* )

The forest plans must include a comprehensive development of biological and cultural means of vegetation management in conjunction with an integrated pest management system

2

#### Economics

Economics is a key factor in determining the most cost effective treatments. The economics of weed control will vary greatly depending upon the managed ecosystem and type of treatment, it is therefore impossible to quantify costs on a broad scale. Additionally, although

more importance has been placed on the need to address weed control on a long-term land management basis, current weed control decisions are predominately based on short-term economic gain. The present system also fails to consider a number of variables which are important if one is to get an accurate cost/benefit analysis.

Currently weed control economics are divided into two broad categories: 1) no action (cost of no control), 2) action (cost of control). The costs of no action include reduced crop yields, increased size of weed infestations, harm to livestock and wildlife from poisoning and/or reduced forage and human harm such as allergic reactions and bodily injury (e.g. puncture vine). Additionally, the cost of no action may be the development of an undesirable plant community. By the same nature, cost of action includes the risk of disturbing a balanced weed community and creating an unbalanced, aggressive one.

The direct costs of weed control for manual, mechanical and herbicide treatments include administrative, personnel and equipment costs as well as the cost of application and purchase of herbicides.

In agriculture, the economics of weed control are presently determined by a cost/benefit analysis which weighs crop production and marketability with control against crop production and marketability without control. Once the cost/benefit analysis is complete, a threshold level is then developed -- the threshold level is the point at which control is considered cost effective.

According to cost/benefit analysis, the net profit to the grower due to weed treatment (A) is equal to the benefits (B) obtained from the treatment minus the cost (C) of the treatment (net profit is B-C). (Flint, M L & R van den Bosch, "The Cost of Pest Control: Economic, Social & Environmental," in A Source Book on IPM, 1977, p. 132.) If you consider only crop production and marketability this is a fairly efficient method.

However, the present cost/benefit analysis fails to consider several variables which, depending on the specific area, may be important.

Variables include the need to examine the ecosystem in which the weed problem exists and what impact on the balance of that ecosystem a particular control measure will have. Other variables to be considered are effects on desirable plant species, water quality, wildlife, wildlife habitat, urban vs. rural area, terrain and soil types. Although these variables are not being considered at this time, the current cost/benefit analysis has some what of a failsafe because the bulk of weed control work is done on land dedicated to agriculture.

Currently on industrial sites (rights of way) there is no good measure of cost/benefit considerations. Attention in this area of weed control includes traffic safety, fire hazzard suppression, aesthetics and control of the spread of noxious weeds.

New invading species that have been identified in the Idaho state weed plan as potentially noxious have a rather simple threshold measure. If a new invader is discovered, full eradication and/or control measures are taken. As pointed out earlier, research has shown it is more economical to control a small infestation rather than waiting until the new invader spreads to thousands of acres and becomes an economic threat to agriculture.

How should the economics of weed control be measured? By carefully surveying all the variables and their positive and negative effects on the ecosystem -- whether it be a natural or created one. Next, on the basis of benefit and risk analysis, establish an economic threshold (the point where it truly becomes effective to establish control of a weed species). This process is not without its problems. Some considerations are: 1) long term vs. short term control; 2) delay in a control effort that may result from a careful survey and threshold development could allow the problem weed species to further spread, increasing the quantity of the problem.

The above mentioned Idaho state weed plan offers an economical reasoned approach to weed management. It stresses prevention of conditions which cause noxious weed infestations, control of new invaders and utilization of biological controls. Consequently, future treatments

will de-emphasize dependence on herbicides while establishing long term control.

3) This is an operational issue not a Forest Plan issue.

Although a considerable amount of noxious weed problems in Idaho are on federal lands, at the present time very little federal funding is being made available to alleviate the problem (Personal Communication from Eugene Ross to CATH, January 28, 1980, Appendix A to these comments ) Consequently, it is only fair that a large part of the cost involved in weed control should rest on the federal government Therefore, the Forest Service should give high priority to helping fund the University of Idaho's weed education and research as well as the state's implementation of integrated pest management on target weed species

3

For the above stated reasons, the forest plans should adopt, incorporate and set forth steps to help fund the Idaho state weed plan

Conclusion

The Nez Perce County Weed Supervisor and Citizens for Environmental Quality file these comments in good faith It is not the intention of Nez Perce County or CEQ to cause unnecessary delays in the Forest Service vegetation management objective Our purpose in submitting these comments is to persuade the Forest Service in Region I to follow the state's as well as their own policies, regulations and laws that deal with the management of our national forests

We believe that once the Forest Service begins to act in the spirit and intent of the policies, regulations and laws which govern it, the national forests will be better managed and the forest ecosystem and communities as a whole will be enhanced

We reserve the right to bring up or submit other information appropriate to the forest plans

Respectfully submitted this 18<sup>th</sup> day of August, 1985

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Dennis J. Gray  
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VI-55

IPM.

Major Questions That Need To Be Answered  
In The Final Forest Plans

1. What systems will be utilized to develop the information necessary for implementation of an integrated weed management program ?
2. What methods will be used to develop an integrated weed management strategy ?
3. What financial and personnel commitments will be made to such an effort ?
4. What are the likely avenues of control methods that will be pursued ?
5. What is the time frame to be followed in development of an integrated weed management alternative ?
6. What evaluative criteria will be set forth for an interdisciplinary team to explore and respond to in designing an integrated weed management program ?

4

4) These are answered in the situation report except for funding which is an annual program effort. Generally, these questions are too specific for the Forest Plan.

VI-11

LIST OF APPENDICES

<u>Appendix</u>	<u>Title</u>	<u>No of Pages</u>
A	Personal Communication from Gene Ross to CATH, January 28, 1980	2
B	Looking Into the Future Idaho Weed Control Association Conference	4
C	Noxious Weeds on the LoLo National Forest A Situation Analysis Staff Paper	33
D	Final Report For Phase I Integrated Study On Rush Skeletonweed	6
E	Tri-State Skeletonweed Consortium Newsletters	8
F	Knapweed Update	6
G	The Biology of Canadian Weeds	1
H	Idaho Governor's Advisory Committee on Noxious Weed Control	7

VI-57



I remain convinced that the primary importance of community stability and economic growth should be reflected in your management plan. As you are well aware, the employment levels in the forest products industry are basic to the local economies. The national forest must fulfill it's commitment to local communities to supply a consistent quantity of raw materials to support a growing economic base. Your preferred alternative does not meet that commitment. I would be interested to learn if you have calculated the effects your reduced timber sales would have on the county, school and road budget. How much would taxes be raised in order to replace the lost timber revenue?

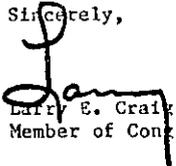
1

I would also like to object to your plan regarding the proposed water quality standards because they substantially exceed those of the Environmental Protection Agency. The EPA is notorious for making its criteria tougher than their study results indicate are necessary in order to "error on the side of safety". I see no reason why the Forest Service should multiply this error by implementing even more stringent water quality standards. While I appreciate your concern in protecting the forest's water resources and your desire to obtain exceptionally high water quality, this must be done with balance and not at the expense of the other forest resources.

2

I appreciate the opportunity to comment on your proposal. While I recognize the impossibility of pleasing all groups on all matters, it is imperative that you reconsider the impact your timber reduction provisions would have on the local timber-based communities and revise your final management plan accordingly.

Sincerely,

  
Larry E. Craig  
Member of Congress

LEC/jp

RESPONSE TO CONGRESS OF THE UNITED STATES (CRAIG) (Continued)

2) State and Federal law define water quality standards. The water quality criteria proposed in the Plan are interpretations of those laws and meet the multiple use objectives required for national forest lands. EPA has indicated in their comments to the Plan that, if anything, our proposed criteria are too low. State and Federal agencies, as well as private individuals and organizations, have been extensively consulted in the development in the Forest's criteria.

The water resources analysis tools used in the Plan are well documented and are supported by sound calibration and validation studies. The tools provide an assessment of risk, they are not precise predictive models. We use them to help decide on appropriate harvest and road construction levels to meet Forest Plan objectives.

Your letter implies there may be a drop in harvest levels and therefore a drop in local tax base and federal payments to local schools and roads. In the last 10-15 years timber harvested on the Clearwater has averaged 143-144 MMBF. The Forest Plan ACS allows us to offer for sale and harvest 173 MMBF of timber and other products per year. Payments to local counties are based on volume harvested and prices paid for that harvest. Therefore payments are tied to economic conditions as well as Forest Plan requirements.

VI-59

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RECEIVED

SEP 3 10 57 AM '85



CLEARWATER NATIONAL FOREST  
12730 HIGHWAY 12  
OROFINO, IDAHO

IDAHO DEPARTMENT OF FISH AND GAME  
600 South Walnut • Box 25  
Boise • Idaho • 83707

August 30, 1985

Mr. James C. Bates, Supervisor  
Clearwater National Forest  
12730 Highway 12  
Orofino, ID 83544

Re: Draft Forest Plan and DEIS

Dear Jim:

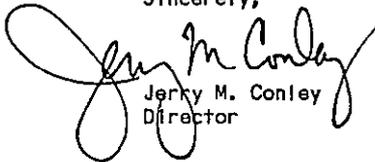
We appreciate the opportunity to review these important documents and provide our input on behalf of the fish and wildlife resources.

CNF is to be commended for producing a generally readable, understandable document. You did an excellent job of identifying issues. Your emphasis on the important fish and wildlife resources on CNF is commendable.

We do have some concerns regarding data used, interpretations and implementation. IDFG's specific comments are enclosed. Please seriously consider the alternative we suggest in our conclusions. I believe this alternative provides significant benefits to fish and wildlife without any adverse effects on the timber industry or other forest users.

Thank you for this opportunity for input into the management decisions on CNF.

Sincerely,

  
Jerry M. Conley  
Director

JMC:CHN:tiv

Enclosure

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RESPONSE

Response starts below

COMMENTS OF IDAHO DEPARTMENT OF FISH AND GAME (IDFG)  
ON  
CLEARWATER NATIONAL FOREST (CNF)  
DRAFT EIS AND PFP

<u>Table of Contents</u>	<u>Page</u>
Introduction . . . . .	1
General Comments and Major Concerns . . . . .	2
Budgets vs. Goals . . . . .	2
Roads and Road Management . . . . .	2
Emphasis on PNW . . . . .	3
Economic Values . . . . .	4
Forplan . . . . .	5
Elk Guidelines . . . . .	5
Wilderness Recommendations . . . . .	5
Riparian Management . . . . .	6
Stream Recovery . . . . .	6
Water Quality/Fishery Objectives . . . . .	6
Prescriptions vs. Fishery Standards . . . . .	6
Monitoring . . . . .	7
Elk Winter Range Carrying Capacity . . . . .	8
Best Management Practices (BMP) . . . . .	8
Assigned Stream Standards . . . . .	9
Sales Below Cost. . . . .	10
Specific Comments . . . . .	10
Overview . . . . .	10
Draft Environmental Impact Statement (DEIS) . . . . .	10
Appendices to DEIS . . . . .	13
Proposed Forest Plan (PFP) . . . . .	14
Errors . . . . .	20
Conclusions . . . . .	21

VI-1A

## INTRODUCTION

Our comments on the Proposed Forest Plan (PFP) and the Draft Environmental Impact Statement (DEIS) are divided into four sections. Under General Comments and Major Concerns, Idaho Department of Fish and Game (IDFG or we) elaborates on those areas which we believe must be more adequately addressed by the Clearwater National Forest (CNF or you) in the final documents. In the next section we provide specific comments, by page number, for the Overview, DEIS, Appendices, and PFP, respectively. Third, we list some errors we found. Finally, we conclude with a recommended alternative that we believe can be implemented with substantial benefits to wildlife and the associated recreation and some benefits to fish without any detrimental impact on the timber industry.

In general, we think CNF did a good job of identifying the major issues and putting together a PFP and DEIS that addressed those issues. Please take our comments as being constructive in nature and be assured that we appreciate this opportunity, and previous ones as well, to provide input into your planning process.

Your presentation is generally clear and understandable. Inclusion of graphs, summary tables, an index and cross-referencing was a significant aid to our reviewers. The "overview" was very useful to ancillary reviewers and for quick reference to salient points.

IDFG reviewed the Overview, DEIS, Appendices and PFP in that order. Our "Specific Comments" are presented in this same order below.

IDFG recognizes the complexity of the task involved in developing these documents and understands that few specifics can be provided. Because wildlife reacts to what happens on small areas, as well as in large watersheds, we cannot adequately evaluate impacts on fish and wildlife without such specifics. We hope CNF recognizes that IDFG is, therefore, unable to respond in detail regarding habitat conditions and proposed treatments or uses which influence these habitats. Thus, IDFG must reserve most of our comments on specific impacts on fish and wildlife until specific proposals, in the form of project EAs, are developed by CNF.

We also request a meeting with CNF staff prior to your developing the final EIS and Plan. Such a meeting would allow our two agencies to explore and answer, in detail, the concerns we have expressed below. We may have misunderstood some things you propose. Or, we may have missed catching some important point. The size and complexity of the DEIS and PFP make it impossible for our reviewers to have "captured" everything. For example, the index indicates that wildlife is mentioned on 56 pages in the DEIS, elk on 65 pages, anadromous fish on 47 pages, and roads on 72 pages.

GENERAL COMMENTS AND MAJOR CONCERNS

RESPONSE TO IDAHO DEPARTMENT OF FISH AND GAME (Continued)

The goals and direction outlined in the PFP, as they apply to wildlife and fisheries, are good. Your recognition of the impacts that roading, sediment and riparian management can have on wildlife and fisheries is encouraging and we commend CNF for incorporating those concerns in a meaningful manner. In particular, the goals of meeting state water quality standards, and increasing habitat capacity (habitat improvement) are excellent.

If CNF can indeed meet the goals and objectives outlined for these resources, a significant benefit to fisheries and wildlife will occur. We are concerned, however, that the goals may not be realistic because of budget prospects, specific land allocations, disagreements between the PFP and the 10-year sale summary, and the planned timber harvest and roading programs.

Budgets vs. Goals

Some of the anticipated benefits to fisheries and wildlife are attributed to habitat improvement projects, which CNF has traditionally had trouble funding (page IV-16, DEIS). A substantial increase in projects from the current level is planned. If this occurs, it will require a significant increase in funding. In addition, maintaining fish and wildlife habitats is partially dependent on mitigative measures and road closures which cost money. What priority do habitat targets have in relation to timber targets? What guarantee exists that habitat enhancement may not be severely curtailed in lean budget years? We note that Funding Item 10 is 3 percent of the total budget (page C-1, PFP)--essentially status quo.

Because you receive line-item budgets, you could have funds to implement the timber program but not the fish and wildlife programs. CNF clearly recognizes this possibility when you state that ". . .the projected outputs, services, and rates of implementation are dependent on the annual budgeting process." (page I-1, PFP).

IDFG believes CNF will have substantial difficulty obtaining the budget necessary to carry out the proposed fish and wildlife programs. CNF does not appear optimistic either because you state that "No great change in future budget levels could be predicted. . ." (page B-16, DEIS).

You clearly recognize that budgets could significantly alter your implementation schedule. The budgeting process could essentially kill your most well-intentioned efforts to coordinate resource management and to reduce the impacts of your proposed timber program on fish and wildlife.

Roads and Road Management

Roads and the management of them are a major factor on CNF. Roads are the second most important concern IDFG has regarding implementation of

1) We plan on requesting budgets to achieve our planned programs even if they are different than our current budgets. One of the key aspects of the National Forest Management Act and the Resources Planning Act is to be able to tie Forest level programs to budgets.

We recognize, however, the possibility of budget limitations in not only fish and wildlife programs but other programs as well. As is noted in the implementation section in Chapter IV, all we can do is review our programs periodically and make revisions or amendments to the Forest Plan if dollar and manpower costs change significantly.

1

VI-63

the PFP because of the major increase in miles projected, because of entries into areas that are currently roadless, and because of the accelerated construction in the first and second decades.

Our four main concerns regarding roads, and road management on CNF are (1) sediment production as it relates to fish habitat, (2) loss of security for T and E species, (3) decreased elk habitat effectiveness, and (4) loss of security areas (i.e., increased vulnerability) for big game which could cause population declines and will reduce RVDs that can be provided. IDFG is concerned about the probability of your programs solving adverse effects.

2

IDFG is deeply concerned about the impacts of doubling the miles of roads on future elk hunting opportunity in CNF. Less secure habitats provide less hunting opportunity per elk. Roads are a major factor of habitat security. IDFG has repeatedly found it necessary to restrict hunting opportunity as vulnerability of elk is increased by added road access and cover removal. We do not believe RVDs can increase in light of the substantial increase in proposed road mileage and roading of 60 percent of the current roadless areas. In fact, IDFG believes we will be fortunate if present RVDs can be maintained. IDFG would be glad to help CNF estimate what level of recreation the elk herd can provide under the management you propose. To reiterate, it is not appropriate to base projections of RVDs provided upon habitat potential alone.

We recommend that CNF and IDFG enter into a cooperative access management program on CNF. Such a cooperative program should be based upon:

1. Designing roads for single-purpose use unless a need for other uses is clearly shown. Such roads would never be open for general use. This prescription would be especially applicable to areas being entered for the first time.
2. Area closures if #1 is not possible. Such closures should be year-round and "permanent".
3. Seasonal closures if #2 is not possible. Such closures should be designed to reduce sediment and provide security during critical times (calving, hunting season, etc.).
4. A strong education program to explain that closures make it possible to achieve multiple outputs.
5. A clear willingness to enforce violations of closures.

Emphasis on PNV

CNF's emphasis on PNV favors commodity outputs, primarily timber, because every FORPLAN run maximized PNV, within the constraints applied to that run, and timber was the major contributor to PNV. In addition, tradeoffs are usually viewed from the standpoint of timber benefits foregone as a result of managing for other resources. IDFG believes you should view all resources equally and that maximum NPB could be quite different from PNV.

3

2) The potential adverse affects of road construction and management for sediment production as it relates to fish habitat are addressed in the Plan using three approaches. First, the Plan specified effective and appropriate Best Management Practices for all activities that have a potential to produce sediment or any water quality degradation. Second, the Plan sets objectives through its standards for water that can be monitored, measured, and analyzed. Third, the Plan specifies monitoring systems that can provide the check on the effectiveness of the first two approaches while providing an "early warning system" that enables an appropriate and timely response to identified problems.

The first approach reduces the risk of a single practice or activity causing major water resource damage. The second approach further reduces the risks, particularly cumulative risks created through scheduling and timing of multiple activities. The third approach provides the mechanism to identify a potential risk before the failure occurs.

The Forest Plan supports the Idaho Fish and Game Department's plan to increase the elk population in the Clearwater National Forest. To maintain high quality elk summer habitat and hunting opportunities we have developed a special management area, (CSS), that will address the issue of a positive, strictly enforced road closure program while still harvesting over-mature timber. The road closures will also mitigate the potential impacts to other wildlife species especially the gray wolf and grizzly bear.

3) Present net value is only one of the decision criteria used in choosing a preferred alternative. The selection of the preferred alternative is based on the highest net public benefit of which assigned values are only a part.

The economic values associated with recreation, wildlife, and timber are equitable in the production process. All resources were valued before they left the Forest. For example, nonmarket outputs, such as recreation and wildlife were valued at the point of use in the Forest. License fees and equipment costs were not included. The values assigned to timber reflect the value of standing timber on stumpage price. The value added for harvesting, hauling, and manufacturing is subtracted out as logging costs in the modeling process.

Based on public comment of the DEIS, the timber prices used in the FORPLAN model have been evaluated and subsequently reduced in this document.

1. You are correct big game use is the only wildlife resource that contributes to PNV within FORPLAN. Other hunting values are factored into the value per RVD and added outside the model and do contribute to total PNV of each alternative. See Appendix B Section IV B 4 c Recreation Wildlife benefits.

We do not fully understand the ramifications of handling some economic values within FORPLAN and others outside it (Chapter B, DEIS). However, we suspect, because the model was driven to achieve maximum PNV, that this procedure could bias outputs in favor of those handled in the model. We would welcome a chance to pursue this issue with CNF.

Economic Values

It is essential that all economic values used by CNF be equitable because of the emphasis on PNV. If equitability is not achieved, decisions on resource tradeoffs will be biased. IDFG believes that the values you have applied to fish and wildlife resources are low, while those applied to timber are high, for several reasons.

First, big game hunting appears to be the only wildlife resource that contributes to PNV within FORPLAN. Although big game contribute more RVDs than other wildlife species, they are by no means the only wildlife that provides RVDs and should, therefore, contribute to PNV.

Second, you should use a value for a RVD of hunting or viewing not a value for an animal (B-37). IDFG suggest that, if you must value the animal, the most appropriate figure to use would be the Civil Penalty established by Idaho law, e.g., \$500/elk.

Third, the base value of \$3.00/RVD you use (B-37) is less than half of the \$8/RVD cited by Loomis and Sorg.

Fourth, IDFG urges that CNF use the economic values established by the recently completed Idaho study. These values are \$50/RVD for deer hunting, \$60/RVD for elk hunting, and \$64/RVD for fishing. Details are available from Lou Nelson in our Boise office at 334-2920.

Fifth, you assumed that "...all timber outputs...are expected to be consumed..." (page B-35). This assures a market for all timber you want to sell. Recent trends would make one very skeptical that this will be, or is, the case. If it cannot be sold, it is not appropriate to add that value to PNV.

Sixth, you appear to have built in more of an increase over time in value for timber (page B-35) than for other resources (13-50 percent, page B-57). Also you have assumed that timber values will increase relative to inflation when the recent trend has been exactly the opposite.

Seventh, you used 1975-80 to establish stumpage values (page B-35) and this may be inappropriate in light of the substantial decrease in prices recently. This decrease is probably due in part to the changes made in the mortgage loan industry in 1981--changes that are "permanent".

IDFG believes that FORPLAN outputs would show lower timber cuts, fewer acres in the timber base, and more emphasis on recreation, fish and wildlife if these problems with the economic analysis you used were corrected.

3) Continued

2. We are using a value per RVD of hunting. The value is \$25.49 per RVD.

3. and 4. The values associated with recreation, wildlife, and timber are valued at a comparable point in the production process. Resources were valued before they left the forest. For example, timber was valued as standing timber. The value added by the harvesting, hauling, and manufacturing was excluded. In a similar fashion, nonmarket outputs, such as recreation and wildlife visitor days were valued at a point of use on the forest (i.e. willingness to pay). Licence fees and equipment costs were not included.

The values used in the plan are in 1978 dollars and must be updated for inflation to compare with the values of Loomis and Sorg.

As indicated above the values used in the EIS represent willingness to pay value. When values from other studies are proposed, they also should represent willingness to pay and not expenditure data.

5. The assumption that all timber outputs produced on the Clearwater will be consumed is based on the underlying assumption that the portion of timber produced on the Forest is relatively small when compared to total supply. Inherent in this assumption is that the production of timber from the Clearwater, at any level within the range discussed in the EIS, can not change the demand/supply relationship of timber.

6. We agree with your comment. Stumpage values in FORPLAN were originally based on bid prices during the years 1975 to 1980. Bid prices during this period were relatively higher than they are today. Because of the law which allows purchasers to "buy back" many of these sales, the bid prices for this period also overstate actual prices that were received for stumpage. During the last 4 year period, 1981 to 1984, bid prices have been relatively low. To adjust the prices in FORPLAN to a wider base period, that includes both high and low points, ten year average prices (1975-1984) were calculated. The average prices are based on actual receipts rather than reported high bids.

7. Projections of real increases in stumpage prices to the year 2030 have been made in the 1985 RPA program. The trends show a real increase in stumpage price will occur but at a slower rate than originally used in the DEIS. In an effort to incorporate this latest information into the planning process the rate of real stumpage price increase has also been changed in the FEIS to reflect the latest (1985 RPA) information.

3

VI-65

FORPLAN

We have already expressed some concern about emphasis on PNW and the economic values used in FORPLAN. IDFG has other concerns about the appropriateness of the model.

You placed a large number of constraints on FORPLAN, but not all resources were allowed to constrain the model. Even your benchmarks were constrained. This could have made it impossible to arrive at an optimum solution or realistic benchmark. Thus, it is possible that the final solutions would not vary much among alternatives. If so, the constraints applied rather than the objectives stated for that alternative could be what determined the final "solution".

Some analysis was done within FORPLAN but some was done externally. You even adjusted some of the output data. This further "muddles the waters".

On balance, IDFG would not be surprised to find that the FORPLAN outputs bear little resemblance to reality. This concern is the primary reason we did not dwell on projected outputs as much as on standards, prescriptions, goals, etc. of the PFP and DEIS.

Elk Guidelines

We are very pleased that CNF is using the elk guidelines. However, reference should be made to these guidelines in Appendix L, PFP.

IDFG also asks that you reference Lyon et al. (1985. Coordinating elk and timber management). We hope you will follow all recommendations they make and include a statement to that effect in the final EIS and PFP.

Wilderness Recommendations

On May 18, 1984, the Idaho Fish and Game Commission passed a motion detailing their support for wilderness areas in Idaho. A letter from the IDFG Director to the CNF Supervisor, dated November 21, 1984, reaffirms this position concerning these critical fish and/or wildlife habitats.

The criterion used by the Commission in choosing areas to recommend for wilderness classification was conservative. They recommended only those areas where wilderness classification was deemed the only way to meet IDFG management objectives for the animals occupying these critical areas.

The Commission's recommendation included roadless areas 01300 (Mallard-Larkins), 01301 (Hoodoo), 01302 (Meadow Creek-Upper North Fork), 01305 (Moose Mountain), 01306 (Bighorn-Weitao), 01308 (Weir-Post Office), 01309 (North Fork Spruce-White Sand), and 01314 (Sneakfoot Meadows). It is not essential that these areas receive official wilderness classification, only that they remain in a roadless

4

4) Constraints were placed on the FORPLAN model for two reasons: 1) to meet legal requirements and 2) to meet goals and objectives for each benchmark and alternative. The best solution is the one that maximizes PNW subject to any constraints. Based on this definition all benchmarks and alternatives represent the optimum solution.

It is true the constraints applied determine the final results. However, these constraints were developed based on legal requirements and stated objectives.

The outputs from FORPLAN are a result of the prescription selected. These prescriptions are applied to analysis areas. The activities and outputs were developed by an ID team and represent reality when certain management practices are applied to the land areas having certain characteristics.

5) We have added the Elk Guidelines to Appendix L. It was inadvertently left out in the Proposed Plan. While our wildlife specialists undoubtedly used Lyons publications during their analysis, it is not a document that we are using for specific guidance on the Forest. We have referenced the Lyons publication in the text of the EIS where we discuss environmental effects.

Many of the areas the Commission recommended for wilderness or roadless to meet wildlife objectives are designated as such. These include Mallard-Larkins; Moose Mountain; Toboggan and Monroe Creek drainages; 4th of July (part of the Bighorn-Weitao); Hoodoo except Moose and Pollock Creek drainages; North Fork Spruce-White Sands; Sneakfoot Meadows except Crab Creek, and Hungery and Lower Fish Creek drainages.

In addition, Meadow Creek-Upper North Fork, upper Fish Creek, Coolwater-Cliff-Cooperation, Bighorn-Weitao and the east end of the Lochsa were designated CBS. We feel that this prescription will adequately protect the big game habitat especially with all roads being closed after timber harvest. (See Management Area CBS in the Forest Plan.)

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99-1A  
VI-66

condition. Therefore, we have evaluated the alternatives on the basis of whether you propose development in these areas. On this basis, Alternatives I, H, G, and F, in that order, do the best job of protecting these specific areas. Alternatives G, H, and I recommend wilderness classification for some areas which IDFG believes should be roadless in order to allow habitat improvement projects. Therefore, IDFG recommends that CNF select an alternative similar to F but with 01308 as roadless and a larger portion of 01300 included for wilderness/roadless (see Conclusions for details).

5

Riparian Management

IDFG does not think CNF has proposed to manage riparian areas (M2) adequately to protect the important fish and wildlife resources associated with these systems. Specifically, we object to the heavy emphasis on clearcuts (80 percent of volume removed) (page 111-69, PFP). We are also concerned that a 17 MMBF cut/year may be too high.

6

Stream Recovery

The ability to manage all streams at stated standards is predicated on recovery of streams significantly impacted in a 10 or 20 years out of each 30 years. No data supporting such recovery is displayed. If recovery does not occur, will timber targets be reduced?

A major point made repeatedly in the PFP is that timber harvest and road building must be accelerated in some areas to allow recovery in drainages degraded to an unacceptable level. We are concerned with this "front 40-back 40" logic because much of the land excluded from intensive management in the past was not entered because of low site quality or difficult and expensive access. Timber harvest and road construction in these areas may have a more significant impact on fisheries than in the previously harvested land.

7

Water Quality/Fishery Objectives

The water quality/fishery objectives (page 11-16, DEIS) and standards (pages J-3 thru 5, PFP) you have set will violate "serious injury" criteria. These criteria do not allow degradation below 70 percent of potential. Therefore, both your "Low Fishable" and "Minimum Viable" standards are unacceptable. These sections, plus Appendix J(3) must be revised to meet these "serious injury" criteria.

8

Prescriptions vs. Fishery Standards

IDFG has difficulty believing the water quality objectives relative to the prescriptions and 10-year sale schedule. Five examples that demonstrate the problems we see follow.

9

First, many of the E1 areas on the east side of the CNF are to be maintained at either no effect (100 percent of potential) or high fishable (80 percent). The upper North Fork in the Kelly District has a high fish objective in an E1 area. The 10-year sale summary calls for 35 miles of road to be built in FY 1991 and 92 to harvest 34 MMBF.

6) The projected cut of 17 MMBF, or year from riparian areas (as well as the projected road development in riparian areas) displayed in the Proposed Plan 1, is not consistent and incompatible with the stated riparian area goals and standards. The problem is corrected in the Final Plan

It should be pointed out that the projected outputs included in each management area write-up are estimates. These projected outputs are not intended to provide limits, but they will be monitored to test accuracy and revised, if necessary.

7) The recovery scenarios associated with our water and fish standards are modelled estimates. It is our observation, however, that drainages subjected to slight or moderate sediment impacts will recover within a short time frame (less than three years). Crooked Fork Creek in the upper Lochsa River area is a good example. We also have evidence that habitat restoration can speed the recovery of impacted drainages. If recovery does not occur, timber and road construction targets will have to be adjusted appropriately.

To provide an opportunity for timber management, the Forest will need to develop and manage some currently roadless areas. The Forest has considered that some of these areas will be more difficult and hazardous to manage when we made decisions about allocations, prescriptions, and practices. The Forest does plan to road landforms that have a high probability for mass failure. However, this development will be conducted under riparian standards.

8) The State of Idaho has not established any criteria for defining the "serious injury" standard. We have established "low fishable" and "minimum viable" standard (below 70% of biological potential) to deal with severely degraded watersheds that have a low probability of recovering within a few decades. These standards have been applied to watersheds of mixed ownership (e.g., Palouse District) where there is little chance that forest Service activities will accelerate the recovery process.

9) We have eliminated our 10-year sale schedule displayed in the Proposed Plan and replaced it with a 3-year timber sale schedule. These timber sales have been approved through the NFPA process whereas most of the sales in the 10-year schedule have not.

VI-67

Even if you spread the roading over more than 2 years, we doubt that the high fish objective could be met in Meadow Creek and a no effect objective could be maintained in the upper North Fork as stated in Appendix J(3). The upper North Fork is very steep with highly erosive soils.

Second, Toboggan Creek is also in the Kelly District. It has a C6S prescription. The 10-year sale program calls for 16 miles of new road and 15 miles of reconstruction in FY 1994 to harvest 12 MMBF. Both upper North Fork and Toboggan Creek sale plans call for about 70 acres/mile. We realize there are other variables (road location, soil type, timing, etc.) that can influence sediment yields but these two examples suggest there is little difference in road miles/area within the two prescriptions that have very different goals.

Third, in the Fish Creek drainage under a C6S prescription, you call for harvesting 9 MMBF in the Frenchman sale and 6 MMBF in the Mex Mountain sale with no road construction. Also, in the Gass Creek sale (tributary to Hungery Creek) you plan a 5 MMBF sale with no roads. That totals 20 MMBF in the upper Fish Creek drainage with no roads. Some volume may be skylined logged to the ridge, but we doubt that 20 MMBF can be removed with no new roads. There is no mention of a helicopter sale.

Fourth, Fish Creek is a very important producer of steelhead as you indicate. In both our resident and anadromous fish plans we call for a 100 percent fish objective for the entire drainage. Only the lower portion of the drainage is included in the C6 (no effect) prescription. Appendix J(3) does not designate the lower drainage as no effect because activity in the upper drainage may reduce the lower drainage to high fish (80 percent). If that is the case, then the lower drainage should be removed from the C6 prescription.

Fifth, in the Eldorado Creek drainage (tributary to Lolo Creek), there are 11 miles of road planned in FY 1988 to harvest 14.5 MMBF. In FY 1991, another 6.5 miles of road is planned for the Relaskop drainage (tributary to Eldorado Creek) to harvest 6 MMBF. This totals 17.5 miles of road to harvest 20.5 MMBF in 3 years that is supposed to meet a high fish objective in an E1 prescription. We think it is not achievable.

#### Monitoring

The monitoring plan is inadequate from a fisheries/ water quality point of view. The goals and objectives of the PFP require that activities meet or exceed state water quality standards. The modeling and evaluation process suggest that this can be accomplished, but the assumptions in those analyses could lead to serious error in the evaluation of habitat conditions. Without a comprehensive monitoring program, the goals of protecting and enhancing water quality and fisheries are meaningless. Since the key parameter determining water quality and habitat impacts was sediment levels, a sediment monitoring program should be established in all major drainage basins. Individual streams should be selected to demonstrate condition of watersheds at

10) A comprehensive monitoring plan for water quality and fisheries is in the Final Plan. We agree that the original plan was inadequate.

all levels of management, but should be prioritized by importance as fisheries habitat. Sampling should occur on at least a 2-year basis and should be intensive enough to provide statistical reliability. Sediment coring or measures of embeddedness should be used.

Quality Elk Hunting Areas

IDFG is concerned about maintaining roadless recreation opportunities on CNF. We recognize the importance of the timber industry in providing jobs for local economies, and therefore understand the desire to enter new areas for timber harvest. However, the rapid loss of roadless areas concerns us greatly.

About 20 percent of the existing roadless area is scheduled for development in Decade 1 (page 11-7, DEIS). Ultimately, 60 percent would be developed. Many of these areas are assigned to Management Area E1 where elk goals are 25 percent of potential and open road densities are 4-5 miles/square mile. Such rapid conversion from security areas to heavily impacted areas gives long-lived species like elk very little time to adjust to change.

IDFG strongly urges CNF to slow the rate of development of critical unroaded habitats. We believe your road closure and management policies on newly entered roadless areas must be very restrictive. Refer again to our recommended system under Roads and Road Management.

Elk Winter Range Carrying Capacity

The PFP estimates that you will be providing the carrying capacity for elk on the winter range that is needed in future years. However, you are relying primarily on timber harvest within the winter range to provide the browse production needed. We believe your plan would be more realistic in providing the needed elk carrying capacity if you would increase the browse burning program by including MA C4. To facilitate the burning program, it may also be important to remove acreages of winter range from the timber base so that the presence of conifer seedlings in brushfields does not curtail burning. Also, by removing areas from the timber base, the high costs of conifer regeneration would not have to be included in the sale, and perhaps more sales would be cost efficient.

We are also concerned about the construction and reconstruction of 135 miles of road in MA C4 in the first 20 years. Management of these roads will be very critical or their detrimental impacts could counteract the benefits expected from increased browse production.

Best Management Practices (BMP)

You state that BMPs ". . . will be used . . . to meet and/or exceed State water quality standards" (page 11-60, DEIS). You mention BMPs in other places in the PFP (11-4, 9, 10, 27; 1V-15; VI-3, J-2; L-1) and DEIS (11-60; 1V-52, 73).

11) We agree that road closures need to be more restrictive which is why we developed a new management area, C8S. This management area, which applies to over 207,500 acres, will provide for timber management with roads. The roads are then closed to all motorized vehicles after the harvesting is complete.

We do plan to increase browse production by burning winter range. We have reduced burning acres in the final plan to reflect more realistic accomplishments. We are also considering more summer and fall burning and less spring burning in the final.

11

VI-69

IDFG cautions that use of BMPs in no way guarantees that PFP goals or state water quality standards will be met. We are willing to work with CNF to develop a stream classification system which will interface with the proposed Serious Injury Guidelines of Idaho Department of Health and Welfare.

12

The Ninth Circuit Court of Appeals, in Northwest Indian Cemetery Protective Association vs. Peterson (CA No. 83-2225), found that "Adherence to the BMPs does not automatically assure compliance (with water quality standards)." We believe that CNF should examine this decision in detail to ensure that their Intended use of, reliance on, and reference to BMPs is in keeping with this decision.

We also urge you to make sure your PFP and DEIS address mitigative measures adequately to comply with said decision. They ruled that the EIS "...must analyze the mitigative measures in detail. ." and must explain "...how effective the measures would be."

Likewise, have you adequately addressed cumulative impacts? They ruled that the Blue Creek EIS didn't adequately address cumulative effects because "...the effects were judged as "average" increases in sediment over a period of years." If we interpret your PFP correctly, CNF also places considerable emphasis on averaging.

Finally, does your sediment model, or other impact estimates, consider the impacts of catastrophic failures or events? You mention the possibility that the risk of such events will increase as you move into steeper areas (page IV-2, PFP). The court found that "...risks must be revealed if they appear substantial. . . (and) failure to disclose such risks in the EISs renders them inadequate."

Assigned Stream Standards

The water quality objectives you have assigned to streams in Appendix J(3) in some cases conflict with the objectives we have set in our 5-year fish management plans. We recommend our and your biologists meet to resolve these differences. (Also, see our comments above on Water Quality/Fishery Objectives.)

13

Specifically, IDFG urges CNF to adopt a "no effect" objective for the following streams:

Page in Appendix J(3)	Watershed
Page 5	Fish Creek and subdrainages listed
Page 6	Crab Creek
Page 6	Swamp Creek
Page 6	Hooqoo Creek
Page 6	Colt Creek and subdrainages listed
Page 10	Graves Creek

VI-70

Page 10 Meadow Creek and subdrainages listed  
 Page 10 Vanderbilt Creek and subdrainages listed  
 Page 11 Cayuse Creek and subdrainages listed  
 Page 12 All listings from Monroe thru Post creeks

14) In June of 1985, the Clearwater Forest was examined by the Washington Office Below-Cost Study, one of four National Forests in the nation. Recommendations were made and we are now taking steps to implement those recommendations.

The benefits of timber sales go beyond the costs of preparation in regards to other resources.

Specific Comments

We did not change the Overview, because we don't anticipate reprinting it.

We have changed the text per your suggestion on pages S-7, S-9, II-7, III-6, III-17, IV-65, IV-75, IV-77, V-7, VI-19, B-50, C-10, A-3, B-2, A-4, D-5, F-1, F-2, F-3, and L-1.

On page S-6 the reason we displayed anadromous fisheries in the fifth decade is because it will take time for our management activities to affect fish populations, and we wanted to display a range between alternatives.

14

Sales Below Cost

IDFG is indirectly concerned about this general subject because such sales are often on poorer timber sites (slower recovery, less benefit to wildlife from overstory removal, etc.), in steeper areas (more chance for erosion and mass failure), in current roadless areas (improved access, loss of security areas), etc.

However, IDFG believes that CNF should carefully examine this issue in light of the recent decision by Deputy Assistant Secretary MacCleery which orders a rewrite of management plans for the San Juan, Grand Mesa-Uncompahgre and Gunnison National Forests because "...the plans provide inadequate economic justification for selling timber at deficit prices." Does the CNF DEIS and PFP comply with this decision?

SPECIFIC COMMENTS

Overview

Page 4, Roads, sentence 2: "Roads are necessary for timber production. . ." should read ". . .timber management. . ." or ". . .timber harvest. . ." because timber can be produced without roads.

Page 4, Highway 12, paragraph 2: ". . .kills of elk and deer which winter in the river canyon" should be changed to ". . .kills of elk, deer and other wildlife which occupy the river canyon" to reflect the fact that this concern involves more than two species and more than just the winter period.

Page 5, Alt. B, last sentence: ". . .would be maintained at 53 percent. . ." should be changed to ". . .would not be allowed to decline to less than 53 percent. . .". The reader will most likely assume that "maintained" refers to a comparison with the existing situation. Therefore, production will decline rather than being maintained.

Page 7: Alt. F is better for wildlife than is Alt. E and F & E have the same timber cut and employment levels.

Draft Environmental Impact Statement (DEIS)

S-5: You should add mountain lion to the list in the last sentence.

S-6: The use of Existing, Total, Decade 1, and Decade 5 outputs in the same table makes evaluating tradeoffs among resources very difficult, at best.

VI-71

S-9: Under IV. A., add "some" before ". . .wildlife habitat. . .". Some wildlife habitat management can occur but it would be unscheduled and an incidental by-product of the fire management policy.

S-11: We suggest you change the first sentence under M to read "Livestock grazing affects other resources, especially those in riparian areas."

II-7: It would be more correct to refer to "elk capacity" or "elk potential" rather than "elk numbers", except for 1980.

II-15: Why were Decade 3 elk habitat potentials displayed here when Decade 1 values were used on page S-6.

II-17: It would be more appropriate to compare projected elk carrying capacity with 1980 carrying capacity rather than with 1980 estimated population.

II-19: Why does 2.i. only address wilderness when 1.a. gives acres of both wilderness and roadless? Such inconsistencies make comparing alternatives difficult.

II-20: You state under 2.d. that fish steadily decline and the figures presented for anadromous fish reflect this decline. However, the figures given for fresh water fish show a slight increase. This error should be corrected.

II-28: How can anadromous potential decline so much (13 percent) while cold-water fishery potential declines only slightly (0.1 percent)?

II-55: Why don't you list fish indicator species like you did for wildlife on page 51?

II-57: Do your estimates of elk habitat potential build in any adjustments for the number of AUMs of livestock use? If not, they should. Recent studies show that "[t]he presence and distribution of domestic cattle substantially influenced the distribution of elk. . ." and that elk avoid cattle (Lyon et al. 1985. Coordinating elk and timber management.).

II-93: Comparisons are made for values from Decade 1 and/or 5 for all outputs except elk. Why was Decade 3, rather than Decade 5, used for elk? We see logical reasons for using Decade 1 because the PFP will be revised at that time. Likewise, Decade 5 is a logical time because the planning horizon is 50 years. The only reason we can see to use Decade 3 for elk is because that is when elk potential reaches maximum levels.

II-115+: Table II-16 was very useful for making comparisons among alternatives.

III-6: In paragraph 1 of B.1., you should include black bear as an important big game animal on CNF.

On page S-11 we didn't change the sentence per your suggestion because livestock grazing has a minor impact on the Clearwater National Forest.

On page II-15 and S-6: Thank you for pointing out the inconsistencies between the two tables.

On page II-17: Carrying capacity and estimated population are the same numbers.

Per your comment of page II-19: We have made the corrections in the final Forest Plan.

Per your comment of pages II-20 and II-28: The projected declines in the anadromous and cold-water fisheries are based on the estimated sediment yields for the indicator watersheds. Anadromous fish potential declines to a greater extent than cold-water potential because more development (sediment yield) will occur in anadromous fish watersheds.

Per your comment of pages II-55 and III-20: We have listed indicator species for fish in the Plan.

Per your comment of page II-57: Cattle grazing is not a significant impact on the Clearwater.

Per your comment of page II-93: You are correct. Decade 3 is used to show the widest range between alternatives.

III-17: We suggest you change sentence 2 of 5.2. from "They are the priority. . ." to "They are a priority. . .". IDFG does not have a single priority species, thus this suggested change more accurately reflects the way we view elk.

III-20: Nowhere in this section do you indicate that any species of fish is an indicator species. If they are, you should so state. If not, IDFG believes that the 3 species you mention should all be indicator species. Also see comment II-55 above.

III-21 thru 23: The numbers you are using for smolt production do not agree with IDFG estimates. The two estimates are close for number of adult chinook returning to CNF but are substantially different for steelhead smolt, adult steelhead, and chinook smolt numbers. IDFG and CNF should meet to try to agree upon the numbers used.

	Estimated Adult Escapement	Smolt Production Potential
Steelhead, CNF	7,529	288,370
Steelhead, IDFG	14,500	725,000
Chinook, CNF	13,368	429,200
Chinook, IDFG	11,500	719,000

III-30: Why is the figure of 3,860 miles of roads given here when 4,234 miles is given on page II-62 and 3,700 miles on page S-9.

IV-9: Income to the State from big game hunting involves much more than license fees. In fact, license fees are a small fraction of the total expenditures by hunters. We suggest you expand paragraph 4 to more clearly indicate this.

IV-16 thru 20: CNF is to be commended for their efforts to restore degraded habitats. But, you do not explain how you will accomplish this through sediment reduction. It is stated that fish production potential will increase over present levels because of habitat improvement projects. Table II-16 (page II-121) describes an increase in smolt production potential between Alt. E and F from 685,800 to 714,500 smolts/year in the 1st decade. But, in Table IV-8, the acres of habitat improvement are more in Alt. E (219 acres) than Alt. F (110 acres) suggesting less acres of habitat improvement support more smolts. These data are difficult to track as to how habitat improvement relates to smolt outputs. Also, the increased smolt production based on Alt. E over 1980 levels is approximately 500 smolts/acre/year. This is probably the maximum production potential of smolts that could be expected in these habitats. To achieve this increase, you would have to start from no production.

Per your comments of pages III-21 through 23: We believe that your numbers (estimates) are far too high and incorrect. We have met with you in our attempt to reach an agreement on the numbers.

Per your comments of pages III-30, II-62, and S-9. The total road miles is now 4272.9.

Per your comments of page IV-9 We agree that license fees are a small fraction of the total expenditures by hunters.

Per your comments of pages IV-16 through 20: The Clearwater will restore degraded habitats via habitat and watershed improvement projects. Levels of sediment reduction will be accomplished via surfacing of roads, seeding (vegetating), road cuts and fills, putting roads to bed, and other standard erosion control practices.

The difference between Alternatives E and F in terms of fish production and habitat improvement is that there is far less development planned for key roadless, fisheries watersheds. Therefore, less habitat improvement is required to recover degraded habitats. There is no direct linkage between fish outputs and habitat improvements that can be used in the modelling process. The assumption is made that recovery will be accomplished via improvements.

VI-73

IV-21: Why have you not included the impacts mentioned in paragraph 3 in the sediment model? Excluding this source of sediment could seriously bias your sediment yield estimates and therefore your projected fishery potential.

IV-22: "Irreversible" paragraph should mention the loss of animals if CNF considers the loss of vegetation significant enough to mention.

IV-65: The species acronyms should be defined here or in the "Glossary".

IV-67: The total road miles for Alts. E and E1 are not the same as those given on pages 11-62, 11-92 and 11-126. Why?

IV-74: CNF did an excellent job of displaying the impacts of road construction on fish and wildlife resources. We would suggest a couple of additions to your coverage. First, you should include T & E species in your coverage here even though you have mentioned the effects of roads on them elsewhere. Second, you should mention that roads have both short-term and irretrievable impacts upon habitat use by large animals, especially elk.

IV-75: IDFG urges CNF to add a reason to the list here. Suggested wording is "Provide non-motorized hunting and fishing opportunity--as roading on CNF increases, opportunity for non-motorized hunting and fishing experiences will decline and road closure can help meet the demand for such experiences."

IV-77: Change paragraph 3 from "Opportunities for recreation. . ." to "Opportunities for developed and motorized recreation. . .".

Appendices to DEIS

B-11: IDFG believes that 25 percent elk potential is too low for these prescriptions.

B-11: A maximum road density of 16.7 miles/square mile is exorbitant, especially for areas going from roadless to E1.

B-13: IDFG believes that 50 percent elk potential is too low for a prescription that addresses the big game issue.

B-28 thru 34: IDFG was not able to determine when, or whether, you have included costs of road closures, the primary technique which allows you to project meeting elk goals with the road construction proposed. If such costs are not included, they definitely should be. If they are not included, the relative cost of alternatives will be biased in favor of timber management.

B-35: As mentioned under General Comments, IDFG believes using 1975-80 (or 1972-79) data to estimate stumpage values is inappropriate because of major (permanent) changes in the mortgage loan industry in 1981. Also, as mentioned earlier, we believe that assuming all timber outputs

Per your comments of page IV-21: Sediment impacts from past and present mining activities are miniscule. We believe that the impacts are insignificant and modeling them would add little precision to the sediment model.

Per your comment of page IV-22: We disagree; the loss of vegetation does not directly equal the loss of animals.

Per your comment of page IV-67: The difference between the figures is how they were calculated. We have tried to make our tables clearer in this document.

Per your comment of page IV-74: We think we have covered it adequately elsewhere.

Per your comment of page B-11: The 25 percent standard was derived by a cooperative effort between our biologists and Region 2 Fish and Game personnel.

Second comment of page B-11: These roads will be closed to meet the elk objectives.

Per your comment of page B-13: The 50 percent standard has been eliminated since no lands are designated as C2.

Per your comment of pages B-28 through 34: Road closures were figured in the cost of roads.

Per your comment of page B-35: We agree with your comment. Stumpage values in FORPLAN were originally based on bid prices during the years 1975 to 1980. Bid prices during this period were relatively higher than they are today. Because of the law which allows purchasers to "buy back" many of these sales, the bid prices for this period also overstate actual prices that were received for stumpage. During the last 4 year period, 1981 to 1984, bid prices have been relatively low. To adjust the prices in FORPLAN to a wider base period, that includes both high and low points, ten year average prices (1975-1984) were calculated.

The average prices are based on actual receipts rather than reported high bids.

VI-74

will be consumed and that lumber prices will increase relative to inflation further inflates CNF's estimates of the economic value of the timber resource.

B-37: The economic values you have assigned to hunting and fishing are much lower than they should be, as explained earlier.

B-37: When RVD demand exceeds capacity, did CNF build in an inflator for increased value/RVD? If not, we believe you should because unit values characteristically increase when there is a supply shortage.

B-37: Assuming that the ratio of 4.5 RVD's/animal remains constant across alternatives and over time may be unrealistic. IDFG does not believe that mitigative measures will be 100 percent effective for elk; i.e., we would expect vulnerability of elk to increase some as miles of road and MMBF of timber removed increase. In other words, we expect the number of RVD's/elk killed to decline under heavy roading and logging even with the road closures you propose. Therefore, the value you assign per elk should be lower in alternatives with higher miles of roads.

B-49: How can the increased mitigation and projects for fish and wildlife habitat mentioned elsewhere be implemented if CNF maintains ". . . a stable base work force for all programs except timber and roads."?

B-50: Under C, you recognize that ". . . changes in policy affecting amenity values . . . will continue to draw attention . . . at the state and national levels." In addition, IDFG urges CNF to note here that the anadromous fishery and elk resources have national significance. For example, Idaho is one of only six states which offer general elk hunting and CNF is in the heart of Idaho's best elk producing area. (Incidentally, inclusion of fisheries and wildlife management under amenity values here contradicts the definition of amenity (sic) values given on pages VIII-1, DEIS).

B-63: Because you applied floors and ceilings for timber outputs and used other constraints, it would be much more appropriate to label them constrained benchmarks. Also, it is not true that these ". . . benchmarks . . . define upper and lower limits of supply potential for major resources." (page B-59). The benchmarks CNF developed cover only part of the range in outputs and do not set upper and lower limits.

B-95: Using MMBF/decade as a constraint but expressing this as MMBF/year is confusing.

C-10: You should mention wilderness hunting as well as "lake and stream fishing" under available opportunities.

#### Proposed Forest Plan (PFP)

II-1: Although a technicality, you cannot "Meet over 100 percent of the anticipated demand. . .". You can meet the demand or provide output in excess of demand. Do you value supply in excess of demand? You should not.

First comment of page B-37. The values associated with recreation, wildlife, range, and timber are valued at the same point in the production process. Resources were valued before they left the forest. For example, timber was valued as standing timber. The value added by the harvesting, hauling, and manufacturing was excluded. Similarly, nonmarket outputs, such as recreation and wildlife were valued at a point of use in the Forest. License fees and equipment costs were not included.

Second comment of page B-37. An assumption made for all resources produced on the Clearwater National Forest is that the price quantity relationship is relatively elastic. This means the portion of any resource produced on the Clearwater National Forest is relatively small when compared to total supply. Therefore, the overall supply-demand relationship, which established the price of a resource, is not effected by the production of that resource. Inherent in this assumption is that as capacity is reached on the Clearwater National Forest there is adequate supply elsewhere in the market place to meet demand without a change in price.

Third comment of page B-37. We did not assume that mitigative measures would be 100 percent. The 4.5 RVD's/animal is an average figure. Once an unroaded area is accessed, the elk habitat potential goes from 100 percent to 75 percent. Since RVD's are tied to elk habitat potential, RVD's would also decline.

Per your comment of page B-49. These projects can be handled through contracts with individuals not employed by the Forest.

Per your comment of page B-63: Application of floors and ceilings for timber outputs in the benchmark runs were not binding. Therefore, applying these constraints did not effect the solution of the FORPLAN model or estimates of supply potential for major resources.

Per your comment of page B-95. The solution is in cubic feet, but we display board feet because that is the most familiar to most of our readers.

Comments of pages in the Proposed Forest Plan Chapters 1 through 4 of the Forest Plan have been rewritten.

11-2: Where did the 385,000 acre figure come from? Pages S-6, 11-46, etc. of DEIS give 188,400 acres for "unroaded" management.

11-2: If ". . .roads may be permitted to cross some of these areas. . .", how can they be said to be managed as "unroaded"?

11-2: Item 3.a. should be changed from "Contribute to the maintenance of viable. . ." to "Maintain viable populations of fish and wildlife Indicator species by providing the necessary quality, quantity and variety of habitats, specifically:".

11-3: IDFG urges CNF to add ". . .and fish and wildlife objectives" to the end of the sentence in Item 4.b.

11-3: Because of Item 5.b., IDFG recommends that important elk winter ranges be removed from the land classified as "suitable for timber production". If said classification is not changed, winter range burning and/or shrub fields may be severely limited in order to meet this reforestation goal.

11-3: There appears to be little, or no, coordination between range and wildlife goals, objectives (page 11-9) and standards (page 11-25). We believe such coordination is necessary because of your proposal to increase livestock AUMs by 25 percent.

11-5: IDFG believes "manage" should be added to the list of "Plan, construct, and maintain. . ." in Item 9.a. Management of the transportation system is every bit as important as are development and maintenance.

11-12: The total miles of road cons./recons. given here is 9,050. Subtracting 4,880 miles of new roads (page 11-10), means that 4,170 miles will be reconstructed. This likely translates to improved access and increased sediment production and is therefore an added concern to IDFG.

11-16: Because you place special emphasis on riparian areas, it seems inappropriate to schedule accomplishment of mapping them in 1995--the end of the first planning cycle. This means that habitat damage could occur during the 1st decade because the areas were unidentified.

11-17: IDFG believes research is needed to evaluate the efficacy of road closures for maintaining elk habitat effectiveness in newly-entered areas.

11-20: One of the constraints applied to timber management is a nondeclining yield. But you are projecting and endorsing a declining yield for elk. (If our calculations are correct, the ending population is  $13,500 \times 1.42 = 19,170$ . This is a 29 percent decrease from Decade 3 to Decade 5.) IDFG suggests that a nondeclining yield of elk, and other fish and wildlife, is as important as it is for timber.

RESPONSE

Response continues below

VI-76

11-20: We suggest that you acknowledge that elk hunting opportunity will likely have to be curtailed to compensate for increased vulnerability due to increased road access and removal of security cover.

11-22: What constitutes "very different" in paragraph 1? In other words, how much change in outputs and effects is needed to trigger an EIS rather than an amendment? The plan could be largely negated if the level of change is set too high.

11-22: We believe the provisions for altering standards are too lenient.

11-26: IDFG believes that the suitability of all lands, not just those classified as "unsuitable" now, should be reevaluated prior to revising the plan.

11-26: IDFG strongly supports item 9.

11-32: IDFG strongly supports items 4 and 6. We suggest you expand #6 to include year round (permanent) closures for wildlife. As it now reads, it includes only seasonal closures. Permanent and area closures are part of the road management tools you should use on CNF.

11-27: Why isn't item 3.b. from page 111-31 appropriate under 3 here? Likewise, why isn't 3.a. here appropriate on page 111-31?

111-57: Open road densities of 4-5 miles/square mile allow no room to exceed the 25 percent minimum goal on page 111-55 nor any safety cushion.

111-66: Some standards for riparian and/or nongame wildlife should be included.

1V-4: IDFG hopes that CNF will apply the FONSI sparingly and continue to develop EAs for major actions because, as you note, the EA process provides data essential for monitoring.

1V-7: In the lowest, left-most starred rectangle, IDFG believes it is more appropriate to reevaluate the practice than to "reevaluate validity of variability limits." If a problem exists, you should cure it, not change your definition of what constitutes a problem.

1V-9: Because of annual variability in censuses, IDFG urges CNF to change ". . . decline occurs for 3 consecutive years. . ." to ". . . decline occurs in 2 out of 3 consecutive years. . .".

1V-11: Under C3, C4, C6, C7 and C10, we request you change the definition of long-term trend from 5+ to 3+ years.

1V-11: Under C5, why does deviation have to occur on 2+ adjacent projects? We suggest that any deviation of more than 10 percent should trigger further evaluation and corrective action.

RESPONSE

Response continues below

VI-77

IV-11: Under C9, is the 20 percent cumulative decline from maximum potential or from existing potential? It should be from maximum. The 6-year period is longer than IDFG would like to see because it allows sustained degradation before any action is considered.

IV-11 thru 19 A monitoring budget of about 0.2 percent of the total budget is woefully inadequate. Monitoring is the cornerstone of integrated resource management.

IV-15. Under F1, again we believe 3+ rather than 5+ years should be used.

IV-15: Under F3, we recommend changing 10 years to 5 years

IV-17- Under L1, 20 percent is far too much of a change. For example, changing from 4 to 5 miles of open road per section produces a decline in elk potential from 25 to 19 percent. This monitoring standard would therefore allow a significant drop in elk from a level which IDFG believes is already too low. In addition, miles of open roads is so easy to monitor that such a wide interval seems inappropriate.

IV-17: Under L3, IDFG believes that allowing road densities to exceed plan projections by 10 percent before triggering reevaluation will allow unacceptable impacts on other resources and make it very difficult to achieve fish and wildlife outputs. Because road densities are so easily monitored and have such significant impacts upon other resources, IDFG suggests that a deviation of +2 percent, or +5 percent at the maximum, should trigger reevaluation.

V-3: Some benchmark which addresses fish habitat and/or water quality should be included.

V-5. The shortfall in semi-primitive recreation capacity vs. demand after 2010 should be considered as a cost of roading.

V-6. Likewise, the shortfall in Fig. V-4 should be considered a cost of development of roadless areas.

V-6. Please note that the use of transitory range by livestock could detrimentally impact elk (see Lyon et al. 1985).

V-7. Under 6.a., paragraph 2, change ". . .summer range may . . ." to ". . .summer range will . . .". This change in wording is in line with that on page 11-7 and reflects what will most likely happen.

V-12. "[D]istributing potential adverse effects . . . over a greater area" may be more damaging to some resources than concentrating impacts on "sacrifice" areas and leaving other areas at 100 percent of capacity. In particular, this may be true of wide-ranging species like the wolf, wolverine and grizzly bear.

VI-19: Old Growth Timber refers the reader to Overmature Timber, but there is no such listing.

Per your comment of page V-3. Several of the benchmark runs do address fish habitat and water quality. Summation of Table B-14 in Appendix B shows three benchmark runs (PC4, PM4, and PN3) all examine, in some way, the effects of riparian, fish, and water quality objectives.

Per your comment of pages V-5 & V-6: The costs are considered since values assigned to RVD's vary by recreational setting or recreation opportunity spectrum (ROS class). Four ROS classes are valued; these are 1) developed, 2) roaded natural, 3) semi-primitive, and 4) wilderness. The value per RVD increases from developed to wilderness ROS class. The difference in value between each ROS class is the additional cost or benefit per RVD of assigning an area to a specific ROS class (i.e. roaded versus roadless, semi-primitive versus wilderness).

Second comment of page V-6 Transitory range use is very light and usually does not occur in key habitat areas.

Per your comment of page V-12 Timber harvest and road construction are not planned that would affect or jeopardize the wolf, wolverine, and grizzly bear.

A-3: Under Item 8, C4 should be included because the total here does not equal that given in Chapter III.

A-4: The Glossary does not define DF, GF, C, H, or AF.

A-6: IDFG strongly urges CNF to make it a stated policy in the PFP, and elsewhere, that any herbicide use must be preceded by at least an EAR and preferably an EIS.

B-2: There appear to be significant disagreements between management area-specific timber harvest and road construction figures given in this table (and in Chapter III) and the totals obtained by adding up individual sales for Decade 1 (pages B-6 thru 66). A few examples follow (figures are average annual units):

Parameter	Chapter III and page B-2	Pages B-6 thru 66 <sup>1/</sup>
C2S cut	2.4 MMBF	5.5+ MMBF
C6S cut	0.6 MMBF	3.2+ MMBF
C2S new roads	0.9 miles	3.5+ miles
C6S new roads	0.3 miles	1.6+ miles

<sup>1/</sup> These figures are minimal because they include only those sales listed that are in a single management area. Sales which included 2 or more MAs made up 37 percent of the total cut and 32 percent of the roads.

D-5: IDFG supports allowing fires to burn in classified and proposed wilderness areas because fire has always been an integral part of these ecosystems.

F-1: Travel planning can significantly influence the kinds and nature of recreational experiences on CNF. Therefore, we recommend you indicate this in the first paragraph. Specifically, the proposed road building will reduce the opportunity for primitive and semi-primitive hunting and fishing experiences. CNF can at least partially compensate for this reduction with an aggressive road closure program.

F-1: Under II.B., resource needs, as well as public sentiment, should be reassessed prior to revising the Travel Plan.

F-1: Under III.A., change ". . .soil and vegetation. . ." to ". . .soil, vegetation, wildlife and other resources. . .". IDFG also points out that the presence of snow does not necessarily reduce the risk of damage. Compaction of snow has been shown to damage vegetation and can "channelize" runoff.

Per your comment of page A-6. We are required to follow NEPA.

Per your first comment of page F-1. We have addressed this concern through our goals and objectives.

VI-79

F-2: Under IV.A., change ". . .only to the extent. . ." to ". . .when. . .". This change would allow access management where damage was suspected or when it was the best way of protecting other resources.

F-2: Under IV.B., IDFG recommends changing this to state that motor vehicle use will be allowed as long as it does not damage other resources. Chapter V clearly shows that motorized opportunity exceeds demand whereas nonmotorized demand will exceed supply by Decade 5.

F-2: Appendix M is referenced under IV.C., but there is no Appendix M in this document.

F-3: Under 3, change ". . .use should be constrained for only that season." to ". . .use will be allowed outside that season if such use does not reduce use of that habitat by wildlife."

F-3. CNF should add #5 under E. to allow constraints specifically to provide security areas during hunting seasons. Also, #6 should be added to allow restrictions to provide primitive and semi-primitive recreational opportunities.

H-2. Accepting a 25-acre minimum size rather than the 80-acre size recommended by Thomas could significantly influence the efficacy of the old-growth standards on CNF. IDFG recommends you reevaluate this decision. If more than 20 percent of the retained stands are less than 80 acres, we believe you should select a tougher standard.

J-4. Exceeding threshold levels in one-third of the years is unacceptable to IDFG. Significant damage to the fisheries resources could occur under this standard.

J-5. As with J-4, 20 of 30 years is an excessive frequency for exceeding thresholds.

J-5 How can cutthroat potential be not ". . .more than 48 percent reduction. . ." with the high sediment yields under Minimum Viable when potential is not ". . .more than a 66 percent reduction. . ." with the lower sediment yields under Low Fishable? Is this a transposition; should the figure be 84 rather than 48?

L-1: Although several references were made to the North Idaho Elk Guidelines in the DEIS and PFP, they are not referenced here. The reference on page VII-3, DEIS, is correct. IDFG also urges CNF to endorse and follow the recommendations of Lyon, et al. (1985) (also referenced on VII-3, DEIS).

Per your comment of page H-2. One 300 acre patch is also required.

Per your comment of pages J-4 and J-5: The ideal situation would be no impacts, unfortunately, with road construction and timber harvesting, this is not possible.

VT-80

ERRORS

<u>Page</u>	<u>Location</u>	<u>Error</u>
S-1	B. line 2	Idaho Fish and Game Department should be Idaho Department of Fish and Game
III-10	Meadow Cr. line	Total missing
III-10	TOTAL line	1,247,108 not correct total
IV-70	4 lines up	321 to 32 in Column D
IV-76	3 lines up	0.5_ mile to 0.5 mile
IV-76	3 lines up	square to square
VIII-1	4 lines up	AMENITY to AMENITY

APPENDICES

B-41	h. paragraph 1	last sentence incomplete
B-61	#13	omit one to in to to
B-78	line 14	nondelining to nonde <u>cl</u> ining
B-79	2 lines up	<u>3</u> NV to <u>P</u> NV
C-2	Spokane line	950.__(number missing)

PPP

II-12	2026-2035 column	Should the 3rd figure be <u>3</u> 41.1?
II-19	line 3 of para- graph 3	wouldprovide to would <u>_</u> provide
III-55	line 5 of B	<u>first</u> to <u>fish</u>
III-68	line 3 of 8.e.	stab <u>l</u> ility to stability
IV-5	paragraph 3	relationships. . .is (fense problem)
V-5	Figure V-2	YEARS should be under the figure
V-7	Figure V-5	YEARS should be under the figure
VI-1	9th entry	AMENITY to AMENITY
H-2	IV.2.	net to <u>nest</u>

It is evident from the concerns we have expressed that a large share of the potential problems we perceive for fish and wildlife associated with the PFP are directly related to road construction and reconstruction, especially in areas that are currently roadless. Since your proposal calls for entering over 570,000 acres of roadless habitat, and building 4,880 miles of new road, we are not able to support it. We are especially adamant about this position because we do not believe there are any serious tradeoffs in providing a substantial increase in roadless management over what your proposal offers. The large backlog of sold but uncut timber (at least a 3-year supply), indicates that you can decrease your annual timber sale program by over 20 percent without affecting local economies for at least the next 10 years. By that time, your projections indicate that higher volumes will be available per acre because of intensive management and normal growth. For example, even in the maximum wilderness alternative, the LSY volume of timber is 255 MMBF, 50 percent above the present harvest (page 11-11), and Decade 2 harvest exceeds current harvest by 5 percent (page 11-123, DEIS). However, all of the alternatives that provide for maintenance of large amounts of roadless areas also show a reduced sale volume for the first decade. We believe it is fortunate that the shortage of timber is in the first decade when it will not disrupt the economy. This provides you the opportunity to harvest timber needed for local mills and yet maintain the majority of the roadless area and the resources and noncommodity outputs they offer.

If CNF believes the timber volume offered should not be below that in Alt. E, IDFG urges you to adopt a slightly modified version of Alt. F. Alt. F provides the same timber volume as Alt. E in Decade 1. It also provides for a harvest that could reach 400 MMBF--about 2 1/2 times the initial offerings. Alt. F is better than Alt. E for fisheries resources because Fish, White Sands and Kelly Creeks are either C6 or B2 and Meadow Creek is C6S. Also, Alt. F is superior for wildlife--12 percent more elk, 56 percent more area managed as roadless or wilderness, higher hunting RVDs, 57 percent more elk winter range improvement, 5 percent more old growth, 10 percent fewer total miles of road and 20 percent fewer new roads, etc.

The modifications to Alt. F that IDFG supports are: (1) manage Roadless Area 01308 as roadless, (2) include a larger portion of Roadless Area 01300 in the roadless and/or wilderness prescriptions, (3) close back to fewer than 4-5 miles of road/square mile in areas which are going from roadless to Management Area E1 (we suggest no more than 2 miles/square mile), (4) propose some winter range burning in Management Area C4, (5) designate all of the upper North Fork to C6, (6) change from C2S to C1 in the area immediately downstream from Tom Beal Road (located primarily in T36N, R13E and R14E), (7) change from E1 to C1 in the Coolwater Ridge area (primarily in T33N, R8E) to match allocation of the adjacent area by the draft Nezperce Forest Plan, (8) change from E1 to C1 in the Weir and Post Office drainages, and (9)

VI-82

change from E1 to C1 and C2S In the area between Cave, Larson and Buckingham points and Chateau Rock (much of this area is prime mountain goat habitat).

We hope that we have the opportunity to work closely with your personnel when they are preparing the final EIS and Forest Plan so that we can discuss the merits of our proposals, find ways to resolve our differences and help CNF justify the budgets necessary to implement a good multiple use plan.



researched historic or prehistoric context. These documents should demonstrate the understanding that an archaeological survey provides answers to questions about the identity and integrity of a discovered site. It does not, by itself, provide answers to questions about its significance and appropriate mitigation.

The Plan and DEIS should briefly discuss the specific steps that have been and are being taken to implement forest cultural resource responsibilities, such as through the preparation of overviews and management plans, and through the archaeological survey of logical geographic units targeted, all or in part, for land-disturbing activities. The Plan should identify current Forest research goals and strategies that can be tied to the Idaho State Historic Plan and that reflect consultation with the State Historic Preservation Officer.

The DEIS refers to only one overview for the Forest, prepared in 1976. Is it adequate? Are more needed and being prepared or planned? Are any management plans being prepared for the 518 historic and 132 prehistoric sites found thus far? What are the major priorities for the inventory of forest cultural resources? Almost 72,000 acres have been surveyed. What percentage is nonproject-related inventory?

The Plan and DEIS should reflect not only individual, but also holistic management of the Forest's cultural resources. Their proper conservation will depend on the extent to which a framework is being established, concurrent with project-related surveys, for evaluating the significance of historic and prehistoric properties, and deciding upon appropriate mitigation.

Recreation Resources

No mention of special management consideration was given for the two rivers in the Clearwater National Forest, which have been identified in the Nationwide Rivers Inventory. Kelly Creek and North Fork Clearwater River were identified as potential wild and scenic rivers by the National Park Service in 1980. Avoidance and/or mitigation of adverse effects on the designated sections of these rivers should be mentioned in the Forest Plan and/or in the Environmental Impact Statement.

Mineral Resources

In the description of alternatives, the minerals sections do not address the acres of high or medium mineral potential affected, nor do they address the percent of forest available for locatable or leasable minerals under each alternative. The Bureau of Mines suggests each alternative should include a sentence giving percentage of high and medium potential lands readily available under category D.

The table on page 11-125 is difficult to understand. The acres under low, moderate, high, and very high classifications do not add to the total printed at the bottom of each column for many of the categories. Errors are:

- 1. Page 11-125
  - Category B erroneous totals - alternatives A, D, E1, F, G, H
  - Category C erroneous totals - M. PNV, alternatives A, B, C, D, E, E1, F, H

2) Our cultural resource survey strategies are available in these documents.

Our steps to comply with Federal Legislation, and USFS Manual Direction ensure coordination with the State Historic Preservation Office, evaluation of cultural resources, evaluation of the significance of cultural properties, and the undertaking of mitigation measures.

Forest CRM Research goals are dynamic. Since we are continually coordinating with SHPO and the academic profession within our area, our research approaches and goals can best be seen through a review of our Cultural Resource Documents and our site data base which is currently being computerized by the North Idaho Regional Archaeological Center at the University of Idaho. Our research goals are changing as the new site data is obtained. If we printed a list of Research Goals in the Forest Plan, it would need updating monthly, a task which is not practicable for the Forest Plan.

3) We have evaluated the potential of both Kelly Creek and the North Fork of the Clearwater River for possible inclusion in the wild and scenic river system and have included standards to protect existing values until formal studies can be completed.

4) The acres of mineral potential for each alternative has been corrected in this EIS.

VI-8-55

Category D erroneous totals - M. PNV, alternatives A, B, C, D, E, E1, F, H, I, J

2. Page II-126

Category C erroneous totals - alternative J

Category D erroneous totals - M. PNV, alternatives A, B, C, E, E1, I

5) A special meeting was held with the U.S. Fish and Wildlife Service to specifically address their concerns with the Proposed Forest Plan. Documentation of this meeting and the agreements made are discussed in appendix A of this EIS.

6) We have thoroughly considered these values in developing the Plan. As a result of public comment and concerns with the "amenity type" resources we have designated an additional 43,000 acres of land for the management of fish, wildlife and roadless types of recreation.

7) According to our analysis which is of course based on forestwide averages, all projected goals and objectives are in line with projected impacts. What this means is that the analysis takes into account the potential impacts of all activities.

On the ground project planning may result in different management schemes to meet certain objectives.

Changes to projected goals and objectives will be documented in environmental assessments, and if significant enough to offset forestwide goals, a new or revised Forest Plan Environmental Impact Statement may be required. See Chapter IV of the Plan for a more thorough discussion of implementation and monitoring.

8) The Forest Plan provides forestwide management area management direction and standards for road closures. The result of this direction is reflected in the Forest Travel Plan which is updated and republished every two years for public use. The details of each road closure will be addressed on a project by project basis and monitored. The monitoring table in Chapter IV of the Forest Plan provides adequate direction for monitoring of the road closure program through the Forest travel plan.

Costs of road closures were analyzed but not used in the planning process because it was determined that the savings on road maintenance offset their costs. Again actual project costs will vary and depend upon the particular situation. We acknowledge that road closures are in some cases a sensitive issue with many individuals.

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In general, some sections on mineral lack data and/or are so vague that it is difficult to determine exactly what should have been included. For this reason we are enclosing portions of the Beaverhead and Helena National Forest Plans, Montana, (Enclosures 1 and 2), which may be useful in suggesting alterations for your report.

Fish and Wildlife Resources

The U.S. Fish and Wildlife Service (FWS) concerns about threatened and endangered species, in connection with the proposed Plan and DEIS, are not discussed in this review. The Clearwater National Forest (CNF) has initiated Section 7 consultation with the Boise Field Office of the FWS. Comments on threatened and endangered species will be handled through the consultation process. This formal consultation will be in accordance with the Section 7 Interagency Cooperation Regulations (50 CFR 402, 43 FR 870) and the Endangered Species Act of 1973, as amended.

The Clearwater Forest currently contains large expanses of roadless and near roadless areas, supporting healthy populations of wildlife and fish. As more private land around the Clearwater Forest is settled, and as more areas in the Pacific Northwest are developed, the FWS believes that public values of forest-based resources will increase significantly. They recommend that fish (water quality), wildlife, and recreation (nonmotorized) should be primary considerations in future management direction of the Clearwater Forest. They also feel that timber harvest goals are unfeasible, based on current economic trends.

The FWS believes that water quality and fish and wildlife goals of the Clearwater Forest, as outlined under Preferred Alternative E, will be unobtainable, based on projected increases in timber harvest and road construction, and subsequent increases in other types of activity across the forest (i.e., mineral exploration, grazing). They base this opinion on historic trends in fish and wildlife habitat degradation due to road construction in the northern Rocky Mountains.

The Clearwater Forest proposes to harvest 150 million board feet (MMBG) annually during the first decade of plan implementation. This is projected to increase to 308 MMBF by decade five, with a long-term sustained yield goal of 443 MMBF. To meet the timber harvest schedule, 4880 miles of new roads will be constructed. The Clearwater Forest proposes to mitigate the harmful effects of road construction and resource management on wildlife and fish habitat through road design, closure, and location, and by limiting amounts of sediment that enter the streams.

Because effective road closures are assumed in the proposed plan, it (the Plan) should go into more detail on closure monitoring and enforcement methods and estimated costs. The Plan should also discuss the Forest's past efforts and success in enforcing road closures.

98-1A

Throughout the proposed Plan, it is stated that Best Management Practices (BMPs) will be used to avoid or minimize damage to watersheds and subsequently fish habitat. In some past management situations in Idaho, applications of BMPs have not always proven adequate, as fish habitat has still been lost.

The FWS has particular concerns with the adequate protection of important anadromous fish streams which occur in EI management areas, and at the same time, in mixed ownership areas. The goal of EI management areas is for the greatest long-term production of wood products. A standard for this management area is that open road densities will normally range from four to five miles per square mile of habitat. With open road densities of this magnitude, it would seem that it would be difficult to maintain streams such as Brushy Fork, Crooked Fork, etc., in a "No Effect" or "High Fishable" condition.

Careful administration of future activity and a reliable monitoring and evaluation system for water quality is imperative during implementation of the proposed Plan. The FWS is concerned that there is not a separate allocation specified for monitoring activities in the projected budget for the Clearwater Forest (Plan C-1). Allocations for monitoring should be linked to allocations for land use activities on the Forest, such as road building and timber harvest so that land use activities could not proceed unless monitoring funds were available.

In drainages of mixed ownership, the Clearwater Forest plans to cooperate with other owners in mitigation of adverse effects, to the extent that Forest management activities have caused these adverse effects. During implementation of the proposed plan, the Clearwater Forest should evaluate all impacts originating from private lands and make adjustments in forest activities as necessary. This scenario would especially apply to areas of mixed ownership containing "no effect" or "high fishable" streams. A specified standard of the Plan, to consider acquisition of new lands when such actions can improve or better protect riparian and watershed values, should help protect important streams when implemented.

Riparian plan communities comprise less than one percent of the land surface in the State of Idaho and, acre for acre, constitute the most valuable terrestrial habitat for fish and wildlife. Encouraging wise management and protection of riparian areas in Idaho is high priority for the FWS. In accordance with their Mitigation Policy (FR 46(15), January 23, 1981) riparian plant communities are classified as Resource Category I or II. This classification recognized that the habitat provided is of high value and is unique and irreplaceable on a natural or ecoregion basis. The goal for Resource Category I habitat is no loss of the existing habitat value. The goal for Resource Category II habitat is no loss of in-kind habitat value. For this category the FWS recommends avoidance or minimization of losses. However, if losses become unavoidable, the FWS recommends in-kind compensation by replacement. It is recommended that the Clearwater Forest develop a similar mitigation policy with regard to riparian lands. The goals related to fish and wildlife management and soil and water protection would be more easily achieved.

The designation of 127,455 acres for riparian and riparian-dependent resource management (management area M2) is an important step towards recognizing the values of riparian areas. However, goals and standards listed for the riparian management area are broad and may not always provide adequate protection.

A goal of this management area is to evaluate on-site and cumulative effects of proposed actions and resolve significant conflicts in favor of riparian-dependent resources. If

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9) We have established "no effect" and "high fishable" standards for all of our key anadromous fish streams. These standards will govern the rate and magnitude of road construction - even in EI areas. Compliance with standards will determine the magnitude of open road density per square mile of watershed. Mixed ownership of watersheds will make compliance with standards very difficult. It will take a comprehensive effort on the part of all owners to adequately protect the fishery resources.

10) Monitoring is a key activity necessary to validate our assumptions and techniques, to enable management to respond in a timely manner to high-risk situations, and to provide more effective planning information in the future. Adequate direction and budgeting mechanisms for monitoring are in the Plan.

Typical analysis of a mixed-ownership watershed for a proposed National Forest project includes an evaluation of the water resource conditions, regardless of the source of impacts. The Forest encourages cooperative management and mitigation in mixed-ownership watershed, but feels that the State has an important role in that effort. The Forest Service has no authority over private management or activities. Adverse effects of private land management on other resources may limit opportunities to manage National Forest resources.

The intent of the riparian prescription in the plan is to recognize the riparian areas as a system, and not to treat them on a piecemeal basis.

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VI-87

timber harvest, road building, and grazing activities are implemented during the next two decades as projected, adverse impacts to riparian areas can be expected. The criteria used to determine significant conflict needs to be further defined in the proposed Plan. With that particular philosophy, the FWS is concerned that riparian habitat can be altered and destroyed over time in a piecemeal manner. Once again, they stress the importance of adhering to a reliable monitoring system.

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Because of the value of riparian areas to fish and wildlife, recreation, water quality and soil retention, the FWS recommends that the Forest Plan prioritize the resource elements and standards to reflect that wise management and protection of these areas is high priority for the Clearwater Forest. Specifically, the FWS recommends that the resource elements related to protection of the above-mentioned resources be listed as first priority management goals or standards for riparian areas. Second priority management goals or standards should consist of resource elements dealing with grazing, timber harvest, and road construction. These secondary goals should only be implemented if they can be achieved and be consistent with the first priority goals.

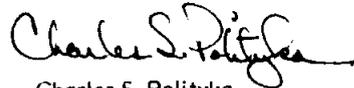
Water Resources

The statement expresses concern over the importance of techniques used to obtain potable water supplies and the maintenance of good quality for potable water. Thus, the Statement and Plan should address monitoring of potable water for Forest supplies, indicating measurement frequency and precision or reliability for monitoring drinking water made available to the public and the staff.

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We appreciate the opportunity to review and comment on this draft environmental impact statement and proposed forest plan.

Sincerely,



Charles S. Polityka  
Regional Environmental Officer

Enclosures

88-1A



addition, much could be done by the forest in terms of facility development, I & E, and interpretation to enhance their tourism potential in the coming decades. Please note we realize tourism, particularly small-scale rural tourism, is an emerging issue and was very likely not identified in your initial issue identification sessions. But it certainly will become increasingly important over the next 50 years and as a result should be addressed in this plan.

Issue 2 Forest goals Goals 11b and c focus on anticipated recreation demand, but this demand is highly dependent on a variety of factors, including the quality and quantity of opportunities supplied, extent of I & E, etc., and could change, also, why is recreation to be managed in terms of meeting demands when other resources aren't? We might argue that Idaho's forests and rivers, which receive relatively low levels of use, offer uniquely uncongested recreation opportunities found in few other places (including many wilderness areas') and that if you're managing other resources irrespective of demand, so too should you manage recreation that way. This would represent a focus on the kind and quality of recreation opportunities you're providing, and not just on quantities.

If you are managing for demand, are the goals 11e and 11h based on data showing that more ORV opportunities are needed?

How are you going to achieve Goal 11i ("Maintain a natural-appearing forest landscape") in management area A7, given your visual management objectives of "Modification" for that area's background (p III-22)? The quality of the scenery along Highway 12 is truly outstanding and an important asset that should be given the highest level of protection. The present intensive management (harvesting) of the private blocks of land probably approach the threshold of public tolerance. Therefore, it becomes even more important for the Forest Service to protect the visual quality of the corridor or a unique opportunity will be lost.

Under "Facilities," why are the only recreation facilities proposed for ORV use? On what basis was this decided? Also, trails provide a different kind of recreation experience than roads, should they be lumped with roads under "transportation system"? This wording glosses over the loss of trails to roading and the implicit prioritizing of timber over dispersed recreation uses.

As stated in our Issue 1, the increasing importance of tourism in Idaho in future decades will require that higher priorities be placed on recreation uses of the Forest and thus on achievement of its recreation goals. Provision for and management of recreation opportunities outside of wilderness need to be addressed more fully in this plan. What about the development of recreation management plans for lands under each opportunity class? What about inventorying the condition of all existing recreation facilities and making improvements and developing new facilities, where necessary?

## RESPONSE TO UNIVERSITY OF IDAHO (MCLAUGHLIN) (Continued)

4) We agree that the Forest goals and objectives for recreation in the Proposed Plan were misleading regarding meeting demand. We have changed the goals and objectives to address recreational settings, experiences, and kinds of activities to be provided and emphasized.

5) We have revised the Plan text in goals and objectives and mileage data under the schedule of management practices to clarify trail management direction and to correspond to the final Plan allocations. In the Forest Plan we have assumed that approximately 75 percent of the trail system within management areas that will be roaded will eventually be abandoned. Since the Forest Plan does not indicate specifically where roads will be located during the first decade we were unable to identify specific trails that would be deleted from the system. Our present trail inventory designates 566 miles of trail as "interim"--meaning they will eventually be deleted from the trail system as roads are constructed, trails are relocated, or final determination of need for specific trails is made. We estimate that about 200 miles of the 1,732 miles of trails should be deleted from the inventory at this time. These are trails that no longer attract use because of poor location and/or lack of attraction. The latter reason may have resulted from original location or from development of roads since original construction of the trails.

We estimate that another 200 miles will be abandoned during the first decade from within management areas where road construction will occur.

The eventual trail system will be approximately 1,200 miles located primarily in wilderness and management areas managed without roads. About 425 miles of this will be managed as mainline, all purpose trails. The remainder will be managed as secondary or primitive trails to meet user need and land management objectives.

During the interim period of development, we plan to maintain all miles of trail which remain on the system until development of roads eliminates need. At that time, maintenance would be suspended and the trail dropped from the inventory. As planning of the road system progresses we will be better able to predict where these anticipated changes will occur. You can safely assume that most of the trail system within those management areas scheduled for development will be dropped from the trail system as roads are constructed and the attraction for recreation is lost.

What about education to reduce inappropriate visitor behavior? All of these are covered under wilderness. They also need to be addressed under recreation. It is as if this plan addresses timber harvesting, wildlife management, and wilderness in some detail but overlooks the increasing importance that the diverse recreation opportunities outside of wilderness will assume. Hunting and fishing recreation experiences are a key feature of the Clearwater, yet these are never mentioned in the recreation section. The Forest Service does not manage the wildlife per se, but yet management decisions on roads, development and facilities directly affect recreational hunting and fishing experiences. Primitive types of experiences are at a premium in the U.S. and the Clearwater has a great opportunity in this area, yet the projections you provide suggest that projected demand for semiprimitive as well as developed recreation opportunities will all surpass supply in the future.

Issue 3 Objectives Under "Recreation," your objectives reflect neither the uniqueness of the recreation opportunities now available nor a consideration of future demand for various classes of opportunities. Will a need exist for increased ORV opportunities and the projected 69% increase in roaded natural opportunities, does this projection take into account controls of public use of roads?

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What about the opportunity costs (primitive, semiprimitive recreation values lost -- these are irreversible in the near future) of taking natural areas and roading them? At present, no recreation database (that we know of) suggests there is an increased demand for roaded recreation areas in Idaho.

Under "Facilities," the road system is scheduled to double in size in the next six decades, but the present trail system will decrease -- to what amount? On what basis is the trade-off of this class of recreation opportunity for timber made? Given that Idahoans place an aggregate value on elk higher than the present value of marketable timber, and the possibility that increased roading may reduce the elk population, it cannot be defended on the basis of public values or economics.

Issue 4 Additional data requirements and accomplishment schedule The forest's database contains very little if any forest-specific data on recreation and wilderness use and economic value of this use. Yet in the "Additional Data Requirements and Accomplishment Schedule," only some of the needed recreation or wilderness information is scheduled to be collected.

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We propose that baseline user/economic information on recreation and wilderness be collected. Such data will allow planners to assess the economic value and recreation management needs in the next round of planning. Trade-offs and opportunity costs to recreation in the present plan cannot be adequately addressed due to the lack of this information. The necessity for such information becomes apparent when reviewing your descriptions of "Desired Future Condition of the

5) Continued

You are right, additional demand for recreation in a roaded environment doesn't exist. If we were managing this Forest strictly for recreation we would not be developing currently undeveloped areas. However, we are providing what we think is a balanced program of resource management. Unroaded settings for recreation will decrease, but our analysis also shows we will have excess unroaded settings in the next 2-3 decades.

The major conflict between elk and roads is between elk and open roads. The Plan contemplates significant amounts of road closure and we have developed a new prescription (C8S) to protect valuable elk habitat.

6) During the monitoring and evaluation phases of the planning process much of the information you mention will be collected. The prescriptions and effects of these prescriptions will be monitored. The quantitative estimates of outputs and services will be evaluated. The impact of wilderness will be monitored and evaluated. Collection of this data will guide the implementation of the Forest Plan and provide better data for the next round of planning.

16-1A

Forest" (P 11-18 to 11-20) Descriptions relating to recreation and wilderness do not seem to recognize the future recreation pressures that will be placed on Idaho's northern and central forests due to growing population centers (For example, Ft Collins, CO, was the size of Moscow, ID, only 20 years ago, it has now tripled in size, and national forests along the Front Range are now "recreational forests ") Also once again neither your 1995 or 2035 scenario addresses tourism

Issue 5 Research needs You list no wilderness research needs Research needs other than those you suggest might include

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Recreation/Wilderness

- 1.) Determine economic benefits of recreation (by ROS opportunity class) to local and regional economics
- 2.) Determine user values for recreation uses (by opportunity class) and analyze trade-offs with other forest uses (timber, range, etc ) in terms of current values
- 3 ) In addition to user origin/destination data identify specifically the diversity of recreation experiences (including wilderness recreation uses) being provided, their quality and quantity (especially hunting and fishing)
- 4 ) Determine the extent to which the quality of the recreation experience is dependent on levels of development and maintenance? How cost-effective are recreation management actions?
- 5.) Determine the impacts (positive and negative) of roading and other resource uses on recreation experiences and values derived from them
- 6.) Ascertain whether recreation fees are a viable and publicly-acceptable approach to recovering management costs and providing more and higher quality recreation opportunities
- 7 ) Determine the economic value of wilderness in terms of water and air quality, genetic diversity, wildlife, etc
- 8 ) Identify baseline resource conditions, including the natural fire regime, for all wilderness areas
- 9 ) In addition to establishing limits of acceptable change, determine by ecosystem the relationships among recreation uses and environmental/experience impacts
- 10.) Identify the historical, scenic, geologic, botanical, and archaeological values of the forest and ways to protect them

RESPONSE TO UNIVERSITY OF IDAHO (MCLAUGHLIN) (Continued)

7) Following is our response to the ten research items you requested in your letter.

1, 2 and 7. The calculations of recreational benefits and values remain an issue. It's recognized as a need nationally and is currently being worked on by universities and State and Federal agencies. It is not needed to implement the Plan. It probably will be needed in the decision-making process for future plans.

3, 4 and 10. Determining the diversity and quantity of recreation experience has been included as a monitoring practice. Determining the quality of experience is recognized as a research need. Cost effectiveness is a management practice in all areas.

5. The impact of roading and other resource uses on recreation and values is the subject of research on a national level. Certain assumptions were made within the recreational planning process (ROS) used in the Forest Plan that address such impacts. Capacity for use was varied by ROS setting and within a given setting depending on physical and planned activities. Values of recreation were varied by setting and certain activities - reflecting the effect of roading and other uses on recreation and values. We assume that research will continue in these areas on the national level.

6. The acceptability of fees as a means of offsetting costs is being dealt with at the national level.

7. The decision on a preferred alternative is based on choosing the alternative that maximizes net public benefits. No single index can be used to make this decision. Both quantitative and qualitative information is used. Where economic data is available it was used, where data is not available or not specific to the Clearwater a qualitative decision had to be made. Some of the values you suggest were made qualitatively.

8. We agree baseline data is needed for wilderness. Our intent is to collect such data as a part of the Limits of Acceptable Change (LAC) process.

9. We view the assessment of ecological relationships and impacts of recreation as a day-to-day part of management.

10. This is a rather broad statement related more specifically to user perception and what they perceive as recreation. We view this area more as a management function than research until a specific problem in maintaining a given value is identified.

Issue 6 Standards The standard sections for recreation, wilderness, visual quality, and cultural resources are confusing, in that they are written as goals as opposed to measurable standards. Defining what a standard is and how it will be used would make this section more understandable. As it is now, it is unclear what purpose these "standards" serve in relation to the goals and objectives already stated in earlier sections, what is the relation between these supposed to be?

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Many of the standards provided here are broad and nebulous and would allow nearly anything to take place, how then do they represent standards? How were the "Recreation" standards selected? Some are fairly specific, others are broad, and a wide variety of other recreation management issues are not even mentioned. (For example, interpretation is mentioned under "Cultural Resource" standards but not "Recreation" -- how come?) What does the "Visual" standard #5 mean? "no less than maximum modification in areas not seen from visual travel corridors, recreation sites, areas, and administrative sites." Does this include dispersed recreation sites --if so, what's left?

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Issue 7 Implementation Our major concern is whether the recreation elements of the "Monitoring and Evaluation" section are adequate for achieving the goals stated on p IV-5 of that section. The measures listed only loosely relate to the recreation goals and so are insufficient to monitor whether those goals are being met. In addition, monitoring health, safety, and resource problems isn't addressed here. Data sources are generally inadequate for proper monitoring. Much the same comments apply to other elements, including wilderness and cultural resources.

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Items that could be included in a monitoring plan include resource conditions, types and quality of recreation experiences provided, effectiveness of information and education programs, and the effectiveness and efficiency of the levels and types of management actions taken.

Issue 8 Summary of analysis of management situation You describe issues and benchmarks in this section but never explain how these were used in the planning process or what effects they had on your decisionmaking.

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In fact, a general comment about the plan might be that nowhere in it is there any explanation of the decision process used. No indication is provided of what is driving or constraining the proposed plan, how you prioritized different goals or resources, what trade-offs are being or will have to be made, and how any of this relates to your actual budget. The document reads more like a wish list than a plan, except for your on-the-ground allocation of lands to various types of management areas -- and even there, you'll need a much larger recreation budget than you've had in the past to begin to fulfill the standards you've set.

8) We agree some of the standards in the Proposed Plan were not written clearly. We have attempted to improve this in the final document. Standards for recreation were selected by an interdisciplinary team. Goals, objectives and standards have been substantially restructured in the Forest Plan to make them more understandable.

9) It is our opinion that the planned monitoring and evaluation specified for recreation will be adequate to achieve the goals. If we find that additional monitoring or evaluation is necessary we can initiate it at that time. One area in which this need may surface is in the implementation of the Limits of Acceptable Change process, but until we initiate the process we won't know if it's necessary.

10) The decision process is based on physical or biological, technological, economic, and social/political factors. There was and still is no one way to arrive at a decision and therefore a "process" could not be documented beforehand. The rationale for the proposed plan is discussed at length in the Record of Decision.

The constraints in the proposed plan are well documented in general terms in the National Forest Management Act (NFMA). Minimum management requirements and all other specific constraints stemming from NFMA and Forest Service direction is also well documented in Appendix B of the Final Environmental Impact Statement (FEIS). Tradeoffs and impacts to the different resources are displayed at length in Chapter IV of the FEIS.

The budget needed to implement the Forest Plan is displayed in Appendix C of the Plan. If substantial changes are made in the actual budgets during implementation then appropriate changes would have to be made in the Plan, many of which could require a revised plan.

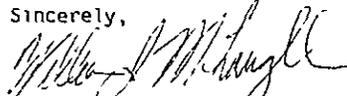
VI-93

Issue 9 The Lewis and Clark Trail, especially that remaining in a relatively undisturbed condition, has not been adequately addressed in the plan Compatibility with timber harvesting and other management proposals needs to be addressed On p 43, b1, you state. "the trail routes and the original trail would be protected from physical disturbance to the extent possible without prohibiting other forest management " Our objection is against the unstated premise that forest management comes first This kind of tone toward recreation resources throughout the plan is unacceptable Historic resources often need to be given preference over other uses ( i e , Lewis & Clark campsites)

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The plan clearly represents a lot of time and effort However, some areas were obviously given much more detailed attention (e g , wildlife) than recreation In light of changing conditions and directions in Idaho's economy, we feel that the recreation and tourism portions need substantially better documentation, scientific data and need to be more thoroughly integrated into the planning process and the selected alternative We will be looking forward to closely following your future efforts to respond to our comments and to meet the plan's goals through future management activities

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Sincerely,  
  
William J. McLaughlin  
Department Head

WJM:ps

RESPONSE TO UNIVERSITY OF IDAHO (MCLAUGHLIN) (Continued)

11) Section 7(a) of the National Trails System Act of 1968 as amended states that: "Development and management of each site or segment of the National Trails System is to be designed to harmonize with and complement any established multiple use plans for that specific area to insure continued minimum benefits from the land." Section 3(3) of that legislation states, "---the purpose of National Historic Trail designation is to identify and protect the historic route of the historic trail and its remnants and artifacts for public use and enjoyment."

The A6 Management Area of the Forest Plan and its supporting document, the Lolo Trail System Implementation Guidelines, were designed to answer the needs of resource protection and management while allowing for appropriate multiple use management of the lands surrounding the resource.

To date, mostly favorable comments have been received from the public concerning these written works and the Midwest Regional Office of the National Park Service, the lead managing agency for the Lewis and Clark Trail, has been very supportive of the Forest's efforts regarding proper management of the historic trail system. We believe management area A6 does consider protection of historical values first.

12) The Forest Planning process is issue driven. The major issue related to recreation was how much should be developed. Quality (and value) of the recreational experience is a subissue of this major issue. Therefore, less effort was spent on evaluation values and quality than suitability. The planning process did however evaluate the values of nondeveloped recreational outputs versus values of other resource outputs. We have improved our analysis in the final.

VI-94



General Comments

The Clearwater National Forest has dealt effectively with an extremely complex task. We feel the preferred alternative "E" represents a positive course of action and the DEIS is a fair analysis of the alternatives and management options. We do, however, wish to suggest some points of clarification and present thoughts that should be addressed in future planning efforts.

NMFS believes the planning effort is a continuing process which is upgraded and modified as new technology or administrative/legal changes occur. It is probable that current non-timber harvest land use demands will increase and that their impact will become increasingly significant. Future planning efforts should address such issues as the impact of mining (recreational or commercial) on fish, a firm economic value for anadromous fish, and special management practices (sediment traps, etc.) designed to reduce impact of both timber harvest and mining activities on anadromous fish. Factors such as small hydro development, mining, and other forest land uses need to receive more discussion and be broader elements in future planning processes.

We offer the following specific comments on the DEIS.

Specific Comments

Summary, page 4. Alternative E lists a "high level" of fisheries to be maintained with the exception of "low level" in the roaded portion of the Pierce District. The Pierce District contains upper Lolo Creek and tributaries. The Idaho Department of Fish and Game inventory of streams shows this area as having some steelhead spawning and greater potential if barriers are removed. In light of these facts "low level", or 53 percent of biological potential for this stream reach, would not be appropriate.

Summary, page 6 Table C. Comparison of Alternatives lists "Total Anadromous Fish (smolts) in Decade 5", for the current management program, at 624,800. The preferred alternative E is projected for 684,800 or an increase of 9 to 10 percent. We are unable to determine how the number of smolts were derived initially and what proportions of the totals listed are chinook or steelhead (See comments for page III-22). A source reference for the numbers of smolt or a statement as to how the numbers were calculated should be included in the DEIS. The number of smolts is one of the plan's common measures of the alternatives impact or enhancement on anadromous fish. Without a clear understanding of the how these numbers were developed a meaningful evaluation of alternatives is not possible.

Page II-9 and II-10. Section (7) Fisheries lists the total biological potential for anadromous smolts at 717,500. Our comments and concern regarding smolt members and species are the same as outlined in Summary page 6 above.

RESPONSE TO U.S. DEPARTMENT OF COMMERCE (Continued)

Replies to General Comments

1) We agree, and these impacts will be considered in the next round of Forest Planning. The degree of consideration will depend on the importance of those issues at that time. In the meantime these impacts, issues and opportunities will be considered during site specific analysis as the Forest Plan is implemented.

Replies to Specific Comments

2) Per your comment of page S-4: The Forest has changed the fish habitat standard for the Lolo Creek watershed and tributaries from "low" to "high" (80 percent of biological potential) fisheries potential.

3) Per your comment of page S-6: The source of reference for calculation and derivation of smolt numbers for salmon and steelhead is documented in Espinosa (1983) - "Background Paper, Fisheries Resources Analysis of the Management Situation, Clearwater National Forest." We shall send you a copy. The breakdown of anadromous smolts at total biological potential is: chinook salmon = 429,200 (59.8%) and steelhead trout = 288,300 (40.2%). The effects upon anadromous smolts were analyzed by species; however, they were displayed in the DEIS as a combined number for the purpose of brevity.

4) Per your comment of pages II-9 and II-10. We have changed the statement in the FEIS according to your suggestion.

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The statement is made that "An opportunity exists to increase anadromous fish populations when downstream mortalities are corrected." A portion of the downstream mortalities have been corrected and continue to be reduced Page II-78 of the DEIS states that "at present the Forest is maintaining 87 and 75 percent of the potential biological habitat for steelhead and chinook respectively." In light of these facts we would suggest the statement on page II-10 simply read. An opportunity exists to increase anadromous fish populations.

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Page II-16. Number (9) under "C. Constraints Used to Develop Alternatives " The statement implies only a minimal effort to maintain fishery values when in fact the DEIS appears to have a strong commitment, in most areas, to improving and protecting fishery values. Changing the statement to read maintain current or enhance fish populations would more clearly reflect the intent of the DEIS.

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Page II-26. Section "d. Water Quality/Fishery. Our interpretation of the maps place Lolo Creek and its tributaries in the Pierce District. The statement made in the DEIS says "high fishable" for Lolo Creek but goes on to state, "This objective declines to low fishable on the roaded portion of the Pierce District. In light of the extreme importance of anadromous fish nationally and internationally the DEIS should state that "high fishable "will be maintained on all anadromous fish streams. Although past surveys indicate partial blocks on upper Lolo Creek and Mussel Shell Creek, these would be considered anadromous fish streams.

Section "d" also states that the objectives will result in a maximum population of between 684,800 and 685,800 anadromous fish (smolts). Given the existing population levels as stated on page III-2 this would be nearly 2 1/2 times existing levels (adequate seeding assumed). If the statement on page III-21 under Steelhead trout: stating that in 1982 "wild escapement returned at a rate which fully seeded all the available habitat in the Clearwater Basin" the major improvement projected by the DEIS would be chinook smolts. Our primary concern continues to center on the separation of the "smolt" numbers into steelhead and chinook to facilitate a clearer understanding of potential impacts and enhancement programs. The two forms of anadromous fish have significantly different habitat limitations and sensitivity to environmental change.

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Page II-27. Item 6. Alternative E should be the preferred course of action. Alternative E1, would not provide a clear set of predictable guidelines and would not be as desirable as the "Preferred Alternative E."

Page II-55. Section 7. Fish begins with the statement "Anadromous fish, steelhead trout and chinook salmon, require the same habitat. Changes in potential habitat affect both species in a similar manner " While as a broad generality this may be true, in a management sense the statement is misleading. Adult steelhead can use habitat not useable by adult chinook. Juvenile chinook are, in general, not as tolerant of major or severe shifts in environmental conditions as are juvenile steelhead.

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5) Per your comment of page II-16. We have changed the statement in the FEIS according to your suggestion.

6) Per your comment of page II-26: We shall separate the combined smolt numbers into their component parts - steelhead and chinook salmon smolts in the FEIS.

7) Per your comment of page II-55. The statement was written within a generic context. We do recognize the specific differences. We shall change the statement to reflect that more accurately.

VI-97

Page II-60. The Clearwater National Forest should be highly complemented not for their strong commitment to adhere to water quality standards and their commitment to monitor effects of sediment production during project development. The U.S. Forest Service has been instrumental in developing sediment production models and monitoring procedures. Although, as with any new processes, improvement needs to be made in current techniques, the Forest Service should receive a greater recognition for their pioneering efforts in this area and their willingness to modify their management practices and adhere to the resulting sediment budgets.

Page II-65. Item 6a. "Management of fish habitat." refers to "Low fish D1 roaded and minimum viable D2." We are assuming D1 refers to the Pierce District and D2 refers to the Palouse District. We understand the prior statement in this section and page II-26 to mean that Lolo Creek and anadromous tributaries to be excluded from the "low fish" management guidelines and consequently in the "high fish" category. If this understanding is in error we would recommend that no anadromous fish streams be classified as less than high fishable.

Page II-78. The last sentence of the first paragraph under the "Attaining Anadromous Fisheries Goal" section reads "All alternatives increase potential habitat above minimum viable levels." The previous statement list current practices as maintaining 87% (chinook) and 75% (steelhead) of the potential biological habitat. Based upon the DEIS's statement of current maintenance of anadromous fish habitat and the remainder of the DEIS text we are convinced Clearwater Forest agree's with our position the "high fishable" is the lowest acceptable level of management guidelines on anadromous fish streams not "minimum viable."

Page II-90. The last sentence of section a. "National, Regional and Local Demand Outlook" states that 30 percent of the Forest related employment, in the 6-county area, was associated with Forest related wildlife and recreational use. If the statement on page IV-18 that -- "Roughly 10% of all summer steelhead and spring chinook which enter the Columbia System are produced in the Forest" -- is accurate, the Forest wildlife/fisheries contribution to the overall employment picture is highly significant and deserves broader discussion.

Page II-107. Alternative E (Proposed Action) states, "The opportunity cost of this alternative represents a 15 percent reduction from the Maximum PNV Benchmark. The foregone value is a result of increasing fisheries habitat requirements to high fishable for all roadless areas and minimum viable for roaded areas (except low fisheries in Pierce District; no constraints in Palouse District; high fishable in roaded portions of Canyon, Kelly Creek, and Powell; and moderate fishable in the roaded portion of Lochsa District)." This statement does not reflect prior descriptions of minimum management standards for anadromous fish, specifically the above statement that "minimum viable for roaded areas (except low fisheries in Pierce District;...)" The previous DEIS references to the Palouse District as minimum viable was omitted in this statement and may have been omitted in error thus implying that that "minimum viable" relates to the entire forest.

8) Per your comment of page II-65 and II-78: See our response to comment #1. All of our "key" anadromous fish streams have been classified as "high fishable."

9) Per your comment of page II-90: Considering our potential, we feel the statement on page IV-18 is accurate. We also feel that the Forest wildlife/fisheries contribution to the overall employment picture did receive adequate attention and discussion.

10) Per your comment of page II-107: The statement, as written in the DEIS, is in error and will be changed in the FEIS. The minimum viable standard has only been applied to some roaded sections of the Palouse District.

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Page II-109 Item (6) Fisheries (anadromous and cold-water) states "The steelhead and chinook smolt production for the first 5 decades is expected to be 34,250,000." If the smolt values for biological habitat potential listed on page III-22 are defensible then beginning next year and for the following 49 years the Clearwater Forest would have to produce over 95% of its total "Biological Habitat Potential." A 50-year production, meeting the Forest Baseline Habitat Potential and beginning next year, would yield only 28,578,750 smolts The 34 million figure may be overly optimistic

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Item (6) further defines a management objective of "maintaining habitat to support a harvestable population of anadromous fish forestwide " We are assuming the term "harvestable population" refers to downstream harvesters not "on Forest" fisherman A term more aligned with the previously stated objectives of "high fishable", etc. would be more consistent with previous statements

Page II-121. Table II-16 lists "alternative E" as producing approximately 684,800 smolts. We would continue to suggest that steelhead be separated from chinook smolts to facilitate evaluation of alternatives.

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Page III-20 The statements, under "6 Fish", imply that the major barriers to anadromous fish production in Idaho are downstream dams. This has generally been true in past years, however, with the removal of the dam above Lewiston (in the mid 50's) and improved passage in the Columbia, the picture has changed dramatically. The change is evidenced by the increased upriver escapement.

The reference to steelhead on Page III-21 states that "In 1982, wild escapement" returned at a rate that fully seeded all the available habitat in the Clearwater Basin 7,529 fish. Assuming the trend of improved passage at downstream dams continues, the major opportunities for future anadromous fish in Idaho may rest with the U S. Forest Services habitat management/enhancement actions

Page III-21 The text below Table III-5 lists redband trout and steelhead trout as the same species. The literature generally places steelhead as Salmo gairdneri. Oncorhynchus in the same sentence is misspelled.

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The statement in this section refers to the species listed in the table (steelhead, redband trout, and spring chinook salmon) as having "narrow habitat requirement and preferences." We would agree with that statement. It does, however, conflict with the statement on Page II-55, which states that "Anadromous fish, steelhead trout and chinook salmon, require the same habitat."

The discussion of steelhead trout states that for the period 1974 to 1980 wild steelhead escapement averaged 53 percent of capacity and for the period 1971 to 1980 escapement averaged 85 percent of full carrying capacity. This statement may be in error. It is difficult to believe that the 3-year period 1971 to 1973 would increase the previous 7 1/2 year average escapement by 32 percent.

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11) Per your comment of page II-109 We feel that attainment of the 34 million figure by the 5th decade is possible assuming adequate resolution of downstream problems.

12) Per your comment of page II-121 We have in the FEIS.

13) First comment of page III-21: We recognize that the common taxonomic classification lists steelhead trout as salmo gairdneri. We have chosen to go with Behnke's (1979) proposed classification of interior stocks of steelhead trout in Idaho.

14) Second comment of page III-21. We believe our original statements are correct, escapement of Idaho steelhead during the period from 1971 to 1973 was 14,600 in 1971, 15,300 in 1972, and 5,115 in 1973. Idaho escapement levels are characterized by extreme variation; in 1975, the estimated escapement was 900.

VI-99

Page III-22: Two tables, III-6 and III-7, list populations estimates and habitat potentials for steelhead trout and chinook salmon respectively. The tables may be transposed or need further explanation. Referring to Idaho Department of Fish and Games' "Inventory of Idaho Stream Containing Anadromous Fish"... there appears to be far more steelhead spawning area and rearing habitat than chinook habitat. Full carrying capacity, listed for spring chinook from page III-22 is 13,368. Full capacity listed for steelhead trout (page III-21) is 7,529. The table, which list values in smolts not fry, implies that the productive potential is far greater for chinook than for steelhead. A mathematical anomaly could also exist caused by working the Forest Service model from adults to smolts. This would occur if the smolt to returning adult survival rates were significantly different between steelhead and chinook. It would appear that on ground the actual production potential, in terms of smolts, is greater for steelhead than for chinook. A reasonable estimate of potential smolt production by the Forest, given habitat survey data, is probably defensible. It is highly questionable whether a calculated value for returning adults, outside a general range, can be justified given the variability of ocean survival, total catch, fish passage conditions, river flows etc. We would suggest using smolt estimates and providing a range of estimated adult returns projected from this value.

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15) Per your comment of page III-22: The Forest does contain more spawning area for steelhead than salmon; however, spawning area is not limiting for either species. Salmon rear in the larger streams of the Forest. On the basis of rearing habitat and the salmon's smaller size at the smolt stage, the Forest does have the capacity to produce more salmon than steelhead smolts.

We recognize significant variation in survival from smolt-to-adult from year to year. For the most part we have gone with smolt estimates; however, it is necessary to use figures of returning adults to estimate the escapement necessary to fully seed the Forest's habitat. We recognize the inherent risk in this process and agree that a range of figures would be more appropriate.

16) Per your comment of page IV-18: We have changed the statement to read - "the Forest produces approximately ten percent of all summer steelhead and spring chinook which migrate above Bonneville Dam".

Page IV-18: In section H. Fish Habitat Improvement the statement is made that the Forest produces "Roughly ten percent of all summer steelhead and spring chinook which enter the Columbia system...". The best reference for total numbers of fish, by run, entering the Columbia River is Oregon Department of Fish and Wildlife's Columbia River Fish Runs and Fisheries. The 1960 to 1984 edition will be available in September 1985. The 10 percent value may be high in light of recent run sizes entering the Columbia River. Using the upriver escapement numbers above Bonneville Dam rather than "enter the Columbia system" may bring the value closer to the 10 percent.

16

Page IV-71 Table IV-28 list potential habitat by smolts by alternative. The table illustrates our concern with lumping steelhead and chinook smolts into a common value. Steelhead and chinook are not equally impacted by environmental change. Meaningfully evaluations of proposed management strategies would require the combined number be split into steelhead and chinook.

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COMMITTEES  
HEALTH EDUCATION  
AND WELFARE  
TRANSPORTATION

**Idaho State Senate**  
CAPITOL BUILDING  
BOISE

September 12, 1985

Clearwater National Forest  
ATTN Mr. James Bates, Supervisor  
12730 Highway 12  
Orofino, ID 83544

Re: Forest Plan

Dear Mr. Bates:

In reference to the 1985 proposed Forest Plan, I would like to make the following comments. The resolving of this issue is very important to all of Idaho, especially to the economic future of the Clearwater Drainage. Any plan adopted needs to be legally defensible in the courts.

In respect to your recommended Alternative E Plan, I emphasize that 150 MMBF allowable cut should be the minimum allowable cut in the forest. I urge full congressional funding for the proposed amount for new sales allowing unsold carryover and the rollback sales to be used in the future for over and above that limit if the market allows. It is imperative that the forests receive adequate congressional funding for the whole management plan for the enhancement of all resource benefits for the Clearwater Forest.

We must manage our forest to provide adequate jobs in a broadbased industry and yet protect the water quality and the quality of life we have enjoyed in Idaho. Good management practices will attain that goal and the Alternative E Plan outlines that very well.

I still consider Plan J to be an excellent plan and a plan to consider if different alternatives are indicated. Please work toward resolving this very emotional issue so that planning can begin for the future economic recovery of the area.

Sincerely,

*Marguerite*  
Marguerite P. McLaughlin  
State Senator, District 7

RESPONSE

1) The Forest's allowable sale quantity is 173 MMBF and is based on meeting all resource management objectives as outlined in the Forest Plan. We will do everything in our power to achieve realistic budget requests and full funding.

2) The new proposed plan (Alternative K) represents an improvement over Alternative E in responding to numerous public concerns over development of some roadless areas and the protection of water quality and fish and wildlife habitat. As a result we have added over 43,000 acres to a roadless type of management including an additional 10,000 acres to proposed wilderness. The restructuring of some of the watershed and wildlife constraints have allowed us at the same time to maintain an allowable sale quantity in the first decade of 173 MMBF per year. So in comparison the new Forest Plan more closely resembles Alternative J and yet retains the good features of Alternative E.

VI-101

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**COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION**

2705 East Burnside Street, Room 114, Portland, Oregon 97214 Telephone (503) 238-0667

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SEP 13 1985  
September 13, 1985  
URGENT

Mr. Tom Coston  
Regional Forester  
Northern Region  
USDA Forest Service  
PO Box 7669  
Missoula, MT 59807

Dear Mr. Coston:

The Columbia River Inter-Tribal Fish Commission appreciates this opportunity to comment on the Draft Environmental Impact Statement (DEIS) and the proposed Clearwater National Forest Plan. The Commission is composed of the Fish and Wildlife Committees of the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes and Bands of the Yakima Indian Nation, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Nez Perce Tribe. These four tribes have rights reserved by treaty to take fish that pass their usual and accustomed fishing places. Among these fish are the anadromous species that originate in the Clearwater National Forest.

The Nature of the Treaty Right

The tribes right to take fish that pass their usual and accustomed places is a right confirmed by numerous court decisions, See e.g. Sohappy v. Smith, 302 F.Supp. 899 (D. Or. 1969), aff'd, 529 F.2d. 570 (9th Cir. 1976); Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n, 443 U.S. 658 (1979) (Passenger Fishing Vessel), and is binding on state governments. See Passenger Fishing Vessel 443 U.S. at 682 and n.25. The treaties are also binding on private citizens, See e.g. United States v. Winans, 198 U.S. 371 (1905), and of course on the federal government. Passenger Fishing Vessel, 443 U.S. at 682; See also Confederated Tribes of the Umatilla Reservation v. Alexander, 440 F. Supp. 553 (D. Or. 1977) ("The right to destroy Indian rights will not be inferred from a general project authorization such as that for this [Catherine Creek] dam. Id. at 555. Absent specific authorization by Congress, Indian treaty rights cannot be abrogated. Id., citing Menominee Tribe v. United States, 391 U.S. 404, 413 (1968).).

In Passenger Fishing Vessel, the Court painstakingly examined the circumstances surrounding the negotiation of the

RESPONSE

1) The Forest recognizes the Tribes' right to take fish at their usual and accustomed places. We also recognize that our responsibility to protect and enhance anadromous fish habitat does not end once a fish run becomes viable. It is our management responsibility (legally mandated) to manage the habitat for anadromous fish stocks under any conditions.

VI-102

treaties in an attempt to divine the parties' long-term intentions. The Supreme Court emphasized that Governor Stevens invited the Tribes to rely on the United States' good faith efforts to protect their right to a fisheries livelihood. Stevens specifically told the tribes: "This paper [the treaty] secures your fish." Id. at 667 n.11. During the treaty negotiations, "the Governor's promises that the treaties would protect that source of food and commerce were crucial in obtaining the Indians' assent." Id. at 676 (emphasis added). As the Supreme Court stressed:

It is absolutely clear, as Governor Stevens himself said, that neither he nor the Indians intended that the latter "should be excluded from their ancient fisheries," . . . and it is accordingly inconceivable that either party deliberately agreed to authorize future settlers to crowd the Indians out of any meaningful use of their accustomed places to fish.

Id. (emphasis added). The Supreme Court also mentioned that the treaty guaranty of "the right of taking fish" was meaningful only if fish were available for the taking. Id. at 678 (emphasis added).

The 130 years since the treaties were signed have witnessed a truly startling number of methods by which the amount of fish available for the taking could be reduced -- if not decimated. The courts have responded to these threats to the treaty right by declaring a policy that the treaty right cannot be defeated by technology or other methods not anticipated by the treaty signatories. For example, in United States v. Winans, 198 U.S. 371 (1905), the defendant constructed a fish wheel (a device capable of destroying an entire run of fish) and excluded the Indians from one of their usual and accustomed fishing places. Commenting on the effects of improved fishing devices, the Court noted that:

wheel fishing is one of the civilized man's methods, as legitimate as the substitution of the modern harvester for the ancient sickle and flail . . . It needs no argument to show that the superiority of a combined harvester over the ancient sickle neither increased nor decreased rights to the use of land held in common. In the actual taking of fish white men may not be confined to a spear or crude net, but it does not follow that they may construct and use a device which gives them exclusive possession of the fishing places, as it is admitted a fish wheel does.

Id. at 382. Thus, although improved technology may be brought to bear on the fishery, that technology cannot be allowed to imperil the rights secured to the parties to the treaty.

This result was reaffirmed by the Supreme Court in Passenger Fishing Vessel. There the Court declared that "[n]on-treaty

fishermen may not rely on property law concepts, devices such as the fish wheel, license fees, or general regulations to deprive the Indians of a fair share of the relevant runs of anadromous fish in the case area." Passenger Fishing Vessel, 443 U.S. at 684. The Court's intent is clear: absent specific treaty abrogation legislation from Congress, (Menominee Tribe v. United States, 391 U.S. 404, 413 (1968)), no one may use any method to deprive treaty fishermen of their fair share of the anadromous fish.

In addition to their obligation to not destroy Indian treaty rights without specific Congressional action, federal agencies must use their authority to safeguard that which is the subject matter of federal treaties. In Kittitas Reclamation District v. Sunnyside Valley Irrigation District, Nos. 80-3505, 81-3002, 81-3068, 81-3069 (9th Cir. June 14, 1985), the Ninth Circuit affirmed a district court order to operate a Yakima water project in a manner that would preserve spring chinook salmon redds. Federal project operators had originally sought to reduce water releases in order to store water for the next irrigation season. The proposed flow reductions would have left the redds high and dry. Testimony at the district court hearing indicated that the proposed water storage would be possible if twelve redds were transplanted or if berms were constructed. Id. Slip op. at 7. However, the district court judge was "unsure of the effect of these measures, so he continued the watermaster's authority to release water as necessary." Id. Expressly declining to decide the scope of the Yakima Indian Nation's treaty fishing rights, Id. at n.5, the Ninth Circuit found that the district court judge had fashioned a reasonable remedy. Id.

The message in Kittitas is clear. Federal agencies are obligated to exercise their authorities in a manner that will protect -- not degrade -- the habitat needed to support anadromous fish. In addition, when addressing anadromous fish habitat needs, various measures may be utilized, but the final choice turns not on traditional notions of agency expertise, but on the biological needs of the fish.

As an arm of the federal government that manages lands containing anadromous fish habitat, the United States Forest Service owes a duty to protect -- not degrade -- the habitat needed to support the fish.<sup>1/</sup> Moreover, this duty cannot be fulfilled by engaging in an "accommodation" or "balancing" process between Indian treaty rights and a competing economic interest

<sup>1/</sup> The trust or fiduciary responsibilities of the Forest Service are separate and distinct in character from the express obligations that arise from the tribes' treaties with the United States. These treaty duties are in the nature of constitutionally based contract obligations. See Passenger Fishing Vessel, 443 U.S. at 675 ("A treaty, including the one between the United States and an Indian tribe, is essentially a

[footnote con't. next page]

Magnitude of Fisheries Reserved by Treaty

The Forest Service's duty to protect and enhance anadromous fish habitat does not cease once a fish run becomes viable. The tribes did not reserve a right to take a few fish from a meager run struggling for survival. Obviously, that is impossible given the contemporary depleted fisheries. The Supreme Court has held that both Indian and non-Indian fishermen possess a right, "secured by treaty, to take a fair share of the available fish." Passenger Fishing Vessel, 443 U.S. at 684-85. The Court determined that Indian harvest allocation should not exceed 50% of the harvestable fish. Id. at 685-86. The Court then declared:

It bears repeating, however, that the 50% figure imposes a maximum but not a minimum allocation . . . [T]he central principle here must be that Indian treaty rights to a natural resource that once was thoroughly exclusively exploited by the Indians secures so much as, but no more than, is necessary to provide the Indians with a livelihood -- that is to say, a moderate living. Accordingly, while the maximum possible allocation to the Indians is fixed at 50%, the minimum is not; the latter will, upon proper submissions to the district court, be modified in response to changing circumstances. Id. at 686-87.

Perhaps the reason why this "moderate living standard" unearthed by the Supreme Court has not proven to be a truly thorny problem in Pacific Northwest fisheries management is

[footnote con't. from previous page]

contract between two sovereign nations."). The fiduciary responsibilities are in the nature of judicially recognized ethical obligations, deriving from the peculiar relationship between the United States and the Indians. See United States v. Kagama, 118 U.S. 375, 383-384 (1866) ("From their very weakness and helplessness . . . there arises the duty of protection, and with it the power."); cf. No Oil Port! v. Carter, 520 F. Supp. 334, 373 (W.D. Wash. 1981). In the context of the Stevens' treaties, trust duties have been held to arise from the United States solemn vow to protect the Indians right to take fish, but these trust responsibilities should not be confused with the express treaty reserved and secured right to take fish. Id. such as timber harvest. See Pyramid Lake Band of Paiute v. Morton, 354 F. Supp. 352, 356 (D.D.C. 1972). Any such "accommodation" reached by the Forest Service would amount to a de facto abrogation of Indian treaty rights.

because no one can reasonably contend that the Indians' harvest presently yields a moderate living. This fact was implicitly acknowledged by the Supreme Court in Passenger Fishing Vessel when it stated that the 50% ceiling on the Indians' harvest allocation was necessary "to prevent their needs from exhausting the entire resource and thereby frustrating the treaty right of 'all [other] citizens of the territory.'" Id. at 686.

Regardless of what the term "moderate living standard" means, it will eventually be defined by the judiciary -- not a federal agency. See Id. at 687. As discussed earlier, the Ninth Circuit has already determined that federal agencies must refrain from taking actions that will reduce the number of fish in a depleted run. See Kittitas, slip op. at 7. Nor does this duty cease when an anadromous fish run manages to increase its numbers beyond the dangerous level of minimum viability. In United States v. Adair, 723 F.2d 1394 (9th Cir. 1984), the Ninth Circuit stated that:

Implicit in this "moderate living" standard is the conclusion that Indian tribes are not generally entitled to the same level of exclusive use and exploitation of a natural resource that they enjoyed at the time that they entered into the treaty reserving their interest in the resource, unless, of course, no lesser level will supply them with a moderate living. Id. at 1415 (emphasis added).

Here the Ninth Circuit has indicated that the Klamaths must be allowed to achieve their "moderate living." No one knows what that is. The court explicitly stated the possibility that the "moderate living standard" may only be achieved by allowing the tribe to enjoy the "same level of exclusive use and exploitation" it had at the time the treaty was concluded. Id. The purport of this holding is clear. Federal agencies owe a duty to refrain from activities that will interfere with the fulfillment of treaty rights. The non-interference duty does not only apply when fish runs are at or near minimum viable status. In the context of the Clearwater National Forest, unless the Forest Service can demonstrate that the tribes' treaty rights are presently being fulfilled, the Forest Service cannot justify approving activities in the forest that will cause further degradation of anadromous fish habitat.

The preceding discussion of the nature and extent of the Columbia River Tribes' treaty fishing rights demonstrates that preservation and enhancement of anadromous fish habitat is one of the United States Forest Service's primary legally-imposed goals. Unfortunately, neither the DEIS nor the proposed plan reflect this fact.

Equitable Treatment of the Fish Resource

VI-106

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The DEIS indicates that the Forest Service is engaging in a "balancing" or "accommodation" process between the needs of timber and anadromous fish, and anadromous fish emerge as the losers. This "accommodation" might be appropriate for other resources, but it is entirely inappropriate for the anadromous fish that are the subject matter of federal treaties. Nevertheless, the Forest Service's proposed alternative for the Clearwater National Forest envisions a 20% decline in the amount of anadromous fish habitat over 66% of the forest's available habitat. DEIS at II-124. At the same time, timber harvest will be doubled from 149.5 MMBF in the first decade to 307.5 MMBF in the fifth decade. See DEIS at II-122. Arguably, it would be more appropriate to compare the number of anadromous smolts produced with the amount of timber produced. Alternative E states that the forest will produce 685,000 smolts in the first decade, but will then decline to a "rock-steady" 684,800 for the next 14 decades. Id. at II-121. Thus the proposed alternative will ostensibly double timber production (over 50 years) while sanctioning a 1000 smolt decline in anadromous fish. My does "multiple use" require a doubling of timber harvest and a reduction in fish production?

The Forest Service's belief that it is proper to greatly increase timber harvest while reducing the forest's capability to produce fish is indicative of the failure of both "multiple use" and the National Environmental Policy Act (NEPA) process. Aside from the purely "barometric" minimum management alternative, all alternatives contemplate reductions in both fish habitat and smolt production. No alternative contemplates enhancement of both fish habitat and smolt production.

Although the Forest Service might claim that all alternatives have a higher smolt production goal than the stated 1980 goal of 571,500, all parties would concede that that level is woefully inadequate. For example, the Forest Service states that the chinook salmon population is in an "extremely vulnerable situation." See DEIS at III-22. The Clearwater National Forest's Analysis of the Management Situation for the fishery resource is more direct. It states that "[r]un size is so low and recovery so precarious that the future existence of salmon is predicated on immediacy, not delays or partial compensation. The stocks cannot withstand any further significant perturbations." See Espinosa, Background Paper Fisheries Resources Analysis of the Management Situation Clearwater National Forest (undated) at 56-57 (hereinafter Fishery Resource AMS). Forest Service figures show that total chinook smolt production in the forest is only 66,820 or 16% of biological potential. See DEIS at III-22, Table III-7. Thus, not only is it biologically imperative that chinook smolt production be maximized, the forest currently has plenty of available habitat for that effort.

Fortunately, the plight of steelhead trout is not as dire. As of 1980, the forest produced 131,390 steelhead smolts or 46% of biological potential. In fact, the DEIS states that in 1982, all available steelhead habitat was seeded. This is good news, but hardly a justification for further habitat degradation.

2) The essence of multiple use management is the "balancing or accommodation" of resources that frequently conflict in their management. It is impossible to maximize the management of resources - such as timber and fish habitat - when they are of a conflicting nature. There must be some trade-off or compromise. With respect to the Forest's fish habitat resources, we have attempted to minimize the trade-off while maintaining the viability of the timber program. We are legally mandated by the Multiple Use Act to engage in this "balancing" process.

2

Forest Service staff makes this point extremely well:

An argument often expressed against the management need for maintaining habitat quality for anadromous fish is that "we have excess habitat and can afford to degrade quality and quantity to levels commensurate with existing populations." This argument is specious and ignores the ecology of anadromous fish. First of all, wild steelhead trout are returning at near-optimum (full seeding) escapement levels. "Excess" habitat for steelhead does not exist on a basin-wide perspective.

This argument fails to recognize that anadromous fish have a strong homing instinct and nearly always return to their natal stream. If their natal stream is severely degraded, then the stock will not adjust their return to stream "X" where conditions might be more suitable.

See Fishery Resource AMS at 55-56. Moreover, anadromous fish have already paid the price of timber management. Logging and roading activities have already reduced the forest's capability to support steelhead by 13% and chinook salmon by 25%. DEIS at III-21-22.

The Forest Service is only one of the entities involved in the complex interactions that have caused the diminution of anadromous fish runs to their present state. Columbia River hydroelectric development and other "downstream problems" have done grievous harm to the basin's fish runs. Id. at II-10, III-20. That the Forest Service can rightfully blame "downstream problems" for much of the harm inflicted on anadromous fish underscores the reality that all parties with management authority that affects these fish must work together.

In dealing with anadromous fish, the Forest Service must look beyond the boundaries of a given national forest. Anadromous fish migrate as far inland as the Bitterroot National Forest and as far north as Alaska. As the Pacific Northwest has come to realize, the anadromous fish runs can only be restored if state, federal, and tribal land, water, and wildlife managers adopt a coordinated "gravel-to-gravel" management approach to this valuable and mobile renewable resource. This approach is reflected by the Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program. The Fish and Wildlife Program, mandated by the Pacific Northwest Electric Power Planning and Conservation Act, encompasses the Columbia River and its tributaries and will be financed by Pacific Northwest ratepayers. This comprehensive protection, mitigation, and enhancement effort was not even mentioned in the DEIS or proposed plan. Nor were the increased fish returns made possible by the recently concluded United States/Canada Salmon Interception Treaty mentioned in either document. These efforts, along with the Salmon and Steelhead Enhancement Act, have changed the complexion of fisheries management in the Columbia Basin. The

3) Obviously the value and impact of anadromous fish spawned and reared in National Forest watersheds extend beyond the Forest's boundaries. We have valued the economic contribution that our smolts contribute to downriver fisheries.

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success of both the Salmon Interception Treaty and the Fish and Wildlife Program turn upon maximizing utilization of the anadromous fish habitat in Columbia River tributaries. A large percentage of these tributaries run through national forests. In fact, the Clearwater National Forest alone contains 10% of all spring chinook and summer steelhead habitat in the Columbia River basin. See DEIS at IV-18. The Forest Service must acknowledge its responsibilities in these areas. The Forest Service cannot make a reasoned decision with respect to anadromous fish habitat if it does not factor these activities into its decision-making process. The Pacific Northwest cannot afford to spend money enhancing fisheries that are simultaneously being degraded by timber harvest and road-building.

Forest Service coordination with Pacific Northwest fisheries enhancement activities is not only sound policy; it is also required by law. Forest Service regulations declare that a review of state, federal, and tribal planning and land use activities shall be included in the forest plan EIS. See 36 C.F.R.  $\leq$  219.7 (a)-(c) (1984). In addition, the regulations provide that this review shall consider the objectives of federal, state, local, and tribal governments, inter-related impacts of these plans, and a decision by the Forest Service on how each forest plan shall address these inter-related impacts. Id. at (c)(1)-(4). Among the objectives of state and tribal governments are the fish production plans currently being formulated under the auspices of United States v. Oregon. The Clearwater National Forest DEIS and proposed plan do not reflect consideration of these processes.

That the Forest Service did not take these highly publicized activities into account illustrates the "second class" status enjoyed by the fishery resource. Further evidence is that anadromous fish, (unlike timber, firewood, minerals, grazing, or wilderness use), are not considered a resource produced by the Clearwater National Forest. See DEIS Appendix at B-43, Table B-6. This approach to the fish resource ensures that it is not receiving the consideration mandated by "multiple use," the National Forest Management Act (NFMA), the law of Indian treaty rights, and NEPA.

#### Anadromous Fish Population Figures

The fish population figures used by the Forest Service are somewhat confusing. For example, current (1980?) smolt production on the forest is listed as being 571,500. See DEIS at II-121, IV-71. Yet at DEIS page III-21, the existing population level of steelhead smolts is stated to be 131,390 and chinook smolts are estimated at 66,820. The total of these two figures is 198,210 -- a far cry from 571,500. Which figure is correct?

It is expected that the forest's smolt production will increase from the base of 571,500 to 685,800 in the first decade.

4) The confusion associated with the fish population figures in the DEIS can be readily eliminated. The current (1980) smolt production on the Forest of 571,500 assumes full seeding of the habitat under its 1980 conditions; this is a projection of the habitat's production potential. The other figures identified as existing levels of steelhead smolts (131,390) and chinook salmon smolts - are based on existing seeding levels observed during recent history (1970's to 1980).

Because of significant downstream mortality factors, the Forest's habitat is substantially under-seeded. To properly value the anadromous fish resource, the Forest dealt with the habitat's potential. The key factor limiting smolt production on the Forest is low escapement - not habitat or its associated quality.

It is not the Forest's intention to cause "irreversible harm" to any resource.

The Forest Service has reviewed cumulative projections for anadromous fish in draft Forest Plans in the Columbia River Basin and has forwarded that information to you.

The DEIS does not explain how this rather dramatic jump in production will occur. If this population increase is based upon habitat improvements, these improvements should be described so that decision-makers and the public can evaluate the basis of these production predictions.

Another problem with the fish population figures is that there is no breakdown of fish production by stream. Without this information, a decision-maker cannot identify the effects of timber harvest, grazing, or mining on fish at specific locales. If this information is not available, then the Forest Service should disclose the basis of its predictions on the effect of management activities on the fish resource.

The Commission is also concerned that the anadromous fish resource will be short-changed by the Forest Service's economic analysis. Apparently, the present net value (PNV) of anadromous fish includes both ocean and inriver sport and commercial catch of salmon and steelhead. See DEIS at Appendix B-38. These values should be disclosed. Do these values include the "value" of the treaty Indian fishery? What is this "value?" As stated earlier, the treaty tribes' right to take fish is a hard constraint on state and federal activities. It cannot be "valued" and then "balanced" against competing interests.

Appendix B states that the value of anadromous fisheries habitat as it relates to recreational and commercial opportunities is included in PNV. DEIS at Appendix B-41. How was this value derived? Why was the "maintenance of habitat to provide a harvestable surplus of fish" not included? Id. Evaluation of alternatives on the basis of the degree to which they yield potential habitat to produce harvestable surpluses of anadromous "smolts" (sic)(we will assume "adults" was intended) in the Lochsa and Clearwater drainages grossly underestimates the actual value of the resource. Id.

#### Timber Harvest

As discussed earlier, the Commission believes that the DEIS and proposed plan place too much emphasis on maximizing timber production. Permeating the DEIS is the idea that PNV should be maximized, that timber harvest does that, and that PNV is decreased by management that enhances fish habitat. See e.g. DEIS at Appendix B-79 (Riparian and fisheries minimum management requirements cause a 16% reduction in PNV and an opportunity cost of \$246 million.). However, timber's status as the prime commodity output does not bear close examination.

The Wilderness Society has prepared some comprehensive and formidable comments on the Clearwater DEIS and proposed plan. The Commission would like to see the Forest Service's responses to the Wilderness Society's criticisms of the data and assumptions underlying the timber harvest economic analysis in the DEIS. See Wilderness Society, Critique of the Clearwater National Forest Plan (August 1985) at 65-77 (hereinafter, Critique). For example, for four of the last six years (1979-

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5) The methodology for valuing anadromous fisheries in the Forest Plan can be found in the planning records. The recreational value is \$58.50/RVD and the commercial value is \$1.61/lb.

In regards to present net value (PNV) as used in the planning process, NFMA requires us to analyze in sufficient detail, direct and indirect benefits and costs so that the economic effects of the alternatives including impacts on PNV may be determined. Although we ran all alternatives through FORPLAN to maximize PNV the actual purpose of this was that, "Each alternative shall represent to the extent practicable the most cost efficient combination of management prescriptions examined that can meet the objectives established in the alternatives." 36CFR 219.12 (f)(8).

Each alternative represents a different set of goals and objectives. The harvest level in the Proposed Plan meets the objectives for recreation, wildlife, and timber for that alternative. Present net value (PNV) is only one of the decision criteria used in maximizing net public benefits and selecting a preferred alternative. PNV is simply a way to insure that prescriptions are selected that optimize benefits subject to specified constraints. Benefits from enhancements made to fish habitat are included in the PNV by valuing the visitors days generated through fishing.

In response to the Wilderness Society's criticism of the timber harvest economic analysis, our long range objective is to produce positive returns at a 4 percent discount rate. Individual sales vary and may or may not meet this objective. Timber management is a long-term process and in some cases may require offering a deficit sale. The same sale area, however, may produce high value timber during subsequent entries and result in a positive return over the long term. Deficit sales may also be used to achieve the recreation, wildlife, and other multiple use objectives specified in the Plan.

1984), timber harvest costs in the Clearwater National Forest have exceeded receipts. Taxpayers are thus subsidizing the very activities that degrade fish habitat. Yet timber harvest is advocated on the basis of its economic soundness. The Forest Service should present its reasoning to the public so that all may understand why "multiple use" necessitates subsidizing timber harvest that externalizes its costs on the forest's other resources.

Forest Service regulations appear to prohibit externalizing the cost of timber harvest onto other forest resources. In planning, the Forest Service must compare the direct costs of timber harvest with the direct benefits. See 36 C.F.R.  $\times$  219.14(b) (1984). Direct costs "include the anticipated investments, maintenance, operating, management, and planning costs attributable to timber production activities, including mitigation measures necessitated by the impacts of timber production." Id. at (b)(2) (emphasis added). It does not appear that the Forest Service has included all mitigation costs necessitated by the impacts of timber production in its analysis of the efficacy of timber harvest on forest lands.

Forest Service water quality standards are defined in terms of percentage capability of supporting fish. For example, "high fishable" means that there will be no more than a 20% reduction of the habitat's capability to support fish indicator species. See Proposed Plan at J-4. If this reduction in habitat potential is caused by timber harvest activities, is the cost of this reduction included as part of the cost of timber production? How is this cost calculated? If it is not included as a timber cost, why not?

The proposed alternative mandates ever-increasing timber harvest. This appears to stem from the Forest Service's solicitude for those sectors of the local community that depend upon timber harvest for their livelihood. Are these harvest increases justified in the face of the Clearwater National Forest's rather large backlog of sold, but uncut timber? Is the Forest Service's assumption that there will be demand for all timber outputs justified? See DEIS Appendix at B-35. Information in the DEIS would make this assumption unjustified and may well affect the cost effectiveness of some timber harvest.

In the future, the amount of timber offered for sale will correspond to changes within the forest products industry and local communities. The degree and rate of change will depend on the demand for timber and the private timber supply situation. Under favorable market conditions, increased road construction, logging, and sawmill production with an increase in long term capital investments for materials and equipment could be expected.

See Proposed Plan at III-26. The Forest Service concedes that

the problem is not so much one of supply as it is of demand. It should not forget that national housing trends, interest rates, and the amount of Canadian timber imports may also affect the demand for Clearwater timber.

The Forest Service is also aware of the environmental problems that this demand dilemma can create for the other resources of the forest.

Timber that has been sold but remains unharvested may also have significant impacts on future options. Many assumptions about the relationships among timber harvest, fishery/water quality, and wildlife are based on steady temporal and spatial patterns of harvesting. If external economic conditions disrupt a steady timber harvest, adjustments may be necessary to meet the objectives of the Plan.

See Proposed Plan at IV-2. Given that the Forest Service's sediment model is based upon steady harvesting levels, what are the potential impacts of a sudden improvement in the lumber market? How will the Forest Service meet the threat of sudden massive cutting of a large backlog of sold, but uncut timber? The forest planning process is the appropriate forum in which to answer these questions.

The location of timber harvest may possibly be more important than the amount of the cut.

Historically, the majority of timber management activities have occurred on gentle landforms. This Plan has scheduled a substantial amount of future timber harvest on steeper slopes. This shift in the location of timber management activities will increase costs and could also increase the risk of environmental damage from mass wasting and surface erosion.

Id. The DEIS should disclose the amount of this increased risk of environmental damage. How does the risk increase in relation to the cutting method, slope, and soil type of the area to be harvested? At some point there is a line where the possibility of environmental damage is unacceptable. This "line" should not be computed on the basis of the aspirations of timber harvesters or the perceived need to provide jobs in forest products industries. Instead, the line should be determined on the basis of the threat to watersheds and thus fish and wildlife. The NFMA and implementing regulations reflect this approach. Section 6(g)(3)(E)(i) of the NFMA states that Forest Service management plans must "insure that timber will be harvested from National Forest System lands only where...soil, slope, or other watershed conditions will not be irreversibly damaged." The NFMA implementing regulations declare that land not suited for timber production includes, among other things, land where "[t]echnology is not available to ensure timber production from the land without irreversible resource damage to soils productivity, or

watershed conditions." See 36 C.F.R. < 219.14(a)(2) (1984). The DEIS and proposed plan fail to identify these lands. The Commission would like to see the Forest Service's response to the Wilderness Society's contentions on these matters. See Critique at 22-30.

In identifying lands not suitable for timber production, the Forest Service should also consider the proximity of anadromous fish stocks. The presence of these fish will greatly increase the likelihood that timber harvest or roading will result in irreversible harm to watershed conditions.

One of the more disturbing aspects of the DEIS is that, at the close of the discussion of the environmental consequences of timber harvest, it blithely states that the impacts of timber harvest will be mitigated by Forest Standards and best management practices. DEIS at IV-51. What are these standards and practices? What is their record of effectiveness? When and how will they be implemented? Who will monitor their effectiveness? Are they direct costs of timber harvest and thus allocated to timber harvest funding sources? Without knowledge of these factors, it is impossible to identify the environmental effects of timber harvest, whether or not soils or watershed conditions will be irreversibly harmed, or the extent to which the tribes' treaty rights are affected.

Irreversible Harm

Definition of the term "irreversible harm" is crucial to proper implementation of NFMA. Unfortunately, neither the DEIS nor the proposed plan define this term. The Commission suggests that anything that causes further reductions in fish habitat production potential constitutes irreversible harm. Support for this standard is provided in the DEIS:

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Should the sediment producing actions cease, fish habitat could improve, but only to a point reflective of the background sediment level maintained by the existing road network. Recovery would be slow but a higher level of potential habitat would eventually be realized; it would never equal that present originally.

DEIS at IV-72. Past management activities have already subjected steelhead to a 13% decrease and chinook to a 25% decrease in habitat potential. The formidable burden of demonstrating that further reductions would not violate the tribes' treaty rights rests squarely with the Forest Service.

6) "Irreversible harm" can be defined as a condition in which recovery to pre-impact potential is not possible given any unit of time or level of investment in restoration.

The Forest's allocations, prescriptions, standards, and practices plus our monitoring effort will prevent the Forest's management from creating any condition of "irreversible harm" to fish habitat.

VI-113

The DEIS acknowledges the fact that the primary cause of decreased fish habitat production potential is sediment caused by road building. DEIS at IV-19. Road building, like timber harvest, must not cause irreversible harm to soil or watershed conditions. 36 C.F.R.  $\times$  219.14(a)(2) (1984). The DEIS states that road construction standards will be determined by local conditions DEIS at IV-68. This makes perfect sense, but the Forest Service must disclose the standards or criteria that guide its decision-making in choosing construction methods. The amount of sediment generated depends upon the time of year that the road is built, mitigation measures used, soil type, and steepness of slope. Id. at IV-69. Unless the Forest Service discloses in detail its likely response to local conditions, there is no way to identify the environmental impacts of road building except to assume the worst.

The Commission is not convinced that it is necessary to begin accessing timber in roadless areas. Apparently, one of the motivations behind road building in roadless areas is that water quality in the roaded areas of the forest is such that these areas cannot be managed to yield enough timber to satisfy the Forest Service's harvest goals. Id. at IV-47. The Commission believes that instead of further degrading fish habitat, the Forest Service ought to consider modifying its timber harvest goals.

Given the existing demand for forest products, it does not appear that any appreciable road building is currently justified. Further road building should not occur unless there is a demonstrated need for roads and they can be economically justified. The cost of road building should not depend upon the price of timber; the cost should instead depend upon what is necessary to prevent the adverse impacts associated with road building on fish, wildlife, and water quality.

The Forest Service should examine all roadless areas in the forest and evaluate their fish production potential and the amount of harm that would result to the fishery resource if roads were built and timber harvested. Fish population figures for each roadless area should be supplied so that the most vital unroaded areas may be preserved.

Mitigation

The Forest Service relies heavily on mitigation in the hope that mitigation will compensate for the damage to be inflicted on fish habitat if timber harvest goals are realized. However, as Forest Service staff states:

Mitigation of fish habitat losses is often

7) The access of the unroaded lands is necessary to attain the allowable sale quantity for community stability and to meet other resource needs.

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VI-111

presented as a panacea and substitute for maintenance of habitat quality. The concept of "fisheries mitigation" is more myth than substance. It seldom materializes and when it does, it only partially compensates for substantial losses. There is no history of fisheries budgets sufficient to mitigate substantial losses of quality habitat. Recent and projected budget trends indicate a status quo situation.

8) The Plan has predicated mitigation efforts on the basis of elevated budgets - not historical trends. If these budgets do not materialize, the Forest will have to make appropriate adjustments in targets and associated mitigation. The Forest will protect and manage its fishery resources at a high level of quality. Our allocations and prescriptions will not allow the possibility of damaging the resource to a point where it takes decades to recover.

See Fishery Resource AMS at 56 (emphasis in text). The Commission is unfortunately acutely aware of the vagaries and inadequacies of fisheries mitigation. Thus, we are extremely skeptical of vague promises of "best management practices" and road building mitigation techniques. The Commission places much more faith in protecting existing good quality habitat than trying to revive habitat choked with sediment. Moreover, the Forest Service concedes that habitat can only be revived to the extent permitted by background sediment levels.

In a time when fish enhancement projects have been targeted for reduction or outright elimination, it is unwise to rely on past budget levels to predict funding. For this reason, the Forest Service should not allow timber harvest unless and until the funds are available to ensure protection of other resources. Given the varying levels of timber harvest proposed in the various alternatives, why is it that fish habitat restoration and improvement costs are considered fixed costs that are constant for all alternatives? See DEIS Appendix at B-31. Why is it that all habitat improvement projects are scheduled for only the first two decades and only maintenance thereafter? See DEIS at IV-20. To assume fixed costs does not seem like a reasonable, and it looks as if this assumption might have the effect of unduly lowering the future costs of timber harvest. Finally, it is not acceptable that "[r]ehabilitation of watershed problem areas, such as repair of landslides, poor culvert installation, road reconstruction and surfacing of landslides, obliteration of unneeded roads, and stream and channel improvement is taking place as funding becomes available. DEIS at III-27 (emphasis added). This reflects the lower priority accorded non-timber resources.

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The DEIS and proposed plan are devoid of guidelines and descriptions for mitigation measures. Given the importance of the anadromous fish resource, very little reliance should be placed on mitigation measures that do not have a proven record of effectiveness. The Forest Service must be careful to not ask more of a mitigation technique than it can give. New or untested mitigation techniques should be thoroughly evaluated before being widely used and relied on. Monitoring should be vigilant, stringent, and should include all entities that are involved in the management of anadromous fish. Finally, mitigation methods should be chosen on the basis of the protection they will provide the fishery resource, not how much they will affect the cost/benefit analysis of timber harvest.

VI-115

The Trust Responsibility

RESPONSE TO COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION  
(Continued)

The trust responsibility is that special relationship between the United States and Indian tribes that originated in Cherokee Nation v. Georgia, 30 U.S.(5 Pet.) 1 (1831) where the Supreme Court described Indian tribes as "domestic dependent nations" and declared that "their relation to the United States resembles that of a ward to his guardian." Id. at 17. This relationship is part of the very fabric of federal Indian law and it imposes stringent fiduciary standards of conduct on federal agencies in their dealings with Indian tribes. See United States v. Creek Nation, 295 U.S. 103 (1935). See also Northern Cheyenne Tribe v. Hodel, Civ. No. 82-116-BLG (D. Mont. May 28, 1985) at 23.

9) We agree that our Draft documents were deficient in this area and your comments have been addressed in the Final Plan and EIS.

In Northern Cheyenne Tribe, the court declared that "a federal agency's trust obligation to a tribe extends to actions it takes off a reservation that uniquely impact tribal members or property on a reservation." Id. at 27. In an attempt to save its coal leasing EIS from invalidation, the Secretary of the Interior alleged that there was no specific statute or treaty that required the Department to consider the impacts of coal leasing on the tribe as an entity. Id. The Secretary also alleged that his decision to lease the coal was in the "national interest" and "vital to the nation's energy future." Id. at 29. The court declared that:

The Secretary's conflicting responsibilities and federal actions taken in the "national interest," however, do not relieve him of his trust obligations. To the contrary, identifying and fulfilling the trust responsibility is even more important in situations such as the present case where an agency's conflicting goals and responsibilities combined with political pressure asserted by non-Indians can lead federal agencies to compromise or ignore Indian rights.

Id. at 29-30 (citations omitted). Similarly, the Forest Service must not allow its obligations to the Columbia River treaty tribes to become lost in a morass of political pressure and "multiple use." It must accord the treaty right special consideration and scrupulous safeguards.

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The trust responsibility is a difficult and amorphous concept. One way to clarify the trust responsibility in practical terms is to use the example of the Forest Service's treatment of the communities surrounding the Clearwater National Forest. These communities were analyzed for, among other things, economic stability, social stability, community cohesion, and lifestyle. DEIS Appendix at B-51-53. Average salaries were

computed depending on the amount of commodity outputs from the national forest. Numbers of Forest Service jobs were computed by alternative. Returns to local counties from revenue producing forest activities were also listed. See DEIS at IV-23-25. See also DEIS Appendix at B-47-49. The resulting proposed plan attempts to help these communities and the timber industry to maintain a steady rate of growth over the planning period. The examination of effects on Indian tribes is extremely superficial. The Forest Service noted that it had the responsibility to protect tribal treaty rights, DEIS Appendix at B-50, and also remarked that "[a] dramatic change in current wildlife and fisheries levels could impact traditional Tribal lifestyles as they relate to use of the Forest." DEIS Appendix at B-51. That is the extent of the Forest Service's discussion of the effects of reductions of treaty-secured fish on the Nez Perce Tribe. None of the other tribes were even mentioned. Instead of providing for growth in fish production, the plan anticipates a loss of production capability. This does not even come close to equal treatment, much less that treatment required to fulfill the requirements of the trust responsibility.

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Since the anadromous fish originating in the Clearwater National Forest are part of the treaty-secured fish of all four Columbia River treaty tribes, the Forest Service owes a duty to discuss the effects of forest management activities on all four tribes. The trust responsibility also requires that the Forest Service safeguard resources of crucial importance to the tribe. In this case, anadromous fish are of crucial importance to all four tribes. Sanctioning degradation of tribal resources, of which the anadromous fish are one, is not only a violation of the tribes' treaty rights, it is also a violation of the Forest Service's trust responsibility to the tribes.

VI-117

#### Cumulative Impacts

There are 16 national forests in the Columbia basin that produce anadromous fish. These are: the Clearwater, Nezperce, Bitterroot, Boise, Challis, Payette, Salmon, Sawtooth, Umatilla, Wallowa-Whitman, Mount Hood, Malheur, Ochoco, Gifford Pinchot, Okanogan, and Wenatchee. All of them are going through the forest planning process. Approximately 50-70% of all remaining anadromous fish habitat is contained in these forests. Events on these forests will have a profound impact on the anadromous fish resource that is vital to the welfare and existence of the four treaty tribes.

Unfortunately, the Forest Service does not seem to realize that each forest is an important cog in the machine that will either revive the fish runs or slowly log and road them into oblivion. To adequately assess the environmental impacts of its actions as required by NEPA, the Forest Service must study and disclose the cumulative impacts of all 16 forest plans listed above on the Columbia River anadromous fish runs and the four

10

Columbia River treaty tribes. It is simply not adequate for each forest to merely look at the impacts of its activities within the borders of the forest or in the surrounding communities and counties. Fish production precluded by activities within each forest and in conjunction with other forests affects not only surrounding communities, but also downstream Indian tribes and other fishers both inriver and in the ocean

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The concepts of cumulative impacts and cumulative impacts within the forest have already been accepted by the Forest Service. At page IV-19 of the DEIS, the Forest Service noted that habitat improvements would probably need to be evaluated in terms of their cumulative impacts on fish production and water quality. Later, the DEIS stated that cumulative sediment sources within watersheds can modify larger reaches downstream of local streams. Id. at IV-47. Finally, the Forest Service acknowledged that small hydro projects can have cumulative impacts on a river system. The Commission agrees that all these cumulative impacts both within and without the forest need thorough evaluation. The Forest Service must evaluate and prevent these impacts in order to comply with the treaty right.

#### Concerns About Use Of The Sediment Model

A factor that gives us long pause is the Forest's firm reliance upon a largely untried and unvalidated sediment model. The model is being used to predict changes in sediment quantities entering streams and, based upon this entrance factor, together with estimated abilities of streams to assimilate the increased loads, then to predict effects of sediment on fish spawning and rearing. Initially, we applaud the concept and its inherent recognition that soil-disturbing activities can and often do damage water quality where fish are concerned. But we become increasingly nervous as we view plans for escalated timber harvests in steep and erosive landforms, some of which house the last remaining segments of irreplaceable fish resources. The model itself (Cline et al. 1981) together with the Guide for Predicting Salmonid Response to Sediment Yields in Idaho Basin Watersheds, (Stowell et al. 1983) both offer abundant cautions as to dangers inherent in specifically relying upon sediment yield estimates and their predicted effects on fish. And yet the Forest does just that, effectively hanging its hat (and the fish's future) upon an unsupported belief that the world will turn in exactly the manner in which the model predicts. We are not so convinced. We do not accept the assumption, for example, that dislodged sediments, whether from roads or fire scars, enter streams at relatively even increasing or decreasing rates. Often (as seen, for instance, in the Siuslaw and Payette Forests) mass-wasting presents a significant threat of impact that is neither predictable nor mitigable. Cline et al. (1981) recognize the difficulty of factoring sudden mass erosion into the model, yet the Clearwater Plan dismisses the possibility of these unpredictable events and ignores their potentiality so as to provide the appearance that desired timber harvests can

11

proceed with readily foreseen effects. Before extensive harvests are imposed on fish-critical and other fragile drainages, under the assumption that resultant sediment yields are predictable, thorough field testing of the model is needed. Further, it must be done in areas not critical to production or survival of sensitive or already depleted resources.

A more detailed analysis of the sediment model is appended to these comments.

#### Management Prescriptions

The Clearwater Forest's land-type and management prescription designations also give rise to sharp concerns. One in particular is the relatively small distinction between lands designated as E1 (high timber production capability) and those classed as M2 (riparian areas).

We realize that two important aspects of national forest management are timber production and harvest, but we are somewhat taken aback by the attitude displayed by the Clearwater Forest in regard to E1 lands. We are not convinced that the mere ability of an area to produce in excess of 20 cubic feet of wood per year is an adequate criteria upon which to declare it highly productive and, in most cases, therefore suitable for inclusion in the timber base. The NFMA clearly requires a determination of suitability to include assurances that harvesting will not irrevocably impair the production ability of the land and related watercourses. Given their extent and location, we seriously question the ability of existing technology to allow timber harvest without doing serious damage to many of the steep, highly erosive slopes (with subsequent damage to streams draining these areas) found within present E1 boundaries. The Clearwater Plan acknowledges that future timber harvest activities will often occur in precarious locations (Plan IV-2) yet non-suitable lands are defined so narrowly (DEIS Appendix B-4) that many concerns (e.g. soil types, wildlife, fish) meriting consideration in a realistic process of suitability determination are glibly ignored. As a result, a heavy timber bias pervades "management" of a significant portion of Clearwater National Forest. This prevents any real attention from being paid to other resources within the same lands even though equal consideration for them is mandated under the concepts of multiple-use.

A similar timber emphasis is apparent in the Clearwater's planned management of M2 (riparian) lands. This is surprising because, in our opinion, riparian areas should be managed to reflect vastly different concerns than their ability to produce marketable timber.

Riparian areas are among the most ecologically diverse and productive lands in the forest community (Thomas et al. 1979).

11

12) We have recognized the inherent capabilities and limitations of timber management on steep lands. We have identified lands over 55 percent slope in the FORPLAN model and developed different prescriptions for the areas based on higher costs, higher sediment potential, different outputs, etc. We have also identified the F3 Management Area which utilizes different prescriptions which recognize these capabilities and limitations. In addition implementation by area analysis and project plans will reduce risks of any proposed management on these lands.

Our modeling of the riparian area is changed in the final Plan to insure the standards for riparian areas as stated in Chapter III of the Forest Plan are met.

We disagree that all breaklands or riparian areas should not be roaded or managed for timber, however significant acreages of both are allocated to no treatment in the Plan.

Because of a modeling error, there was no apparent difference between the output levels projected for M2 and E1. This error has been corrected for the Final Plan. Modeling of riparian areas (M2) now reflects the riparian management direction and standards shown in the Forest Plan.

The Forest has developed a land classification for all the lands within its boundaries. The primary element of that classification (Land System Inventory) is the "landtype." Those land units very specifically describe the morphologic and soil characteristics that define the potential for eventual sedimentation that management activities on that landtype might cause to associated water resources.

The land system inventory is a principle variable that drives the Forest's water resource response model (water yield and sediment simulations). That model was developed, calibrated, and validated on locally-derived watershed and water quality data. It has served as the conceptual basis for many other national forests that do not have the broad data base that the Clearwater Forest has.

The Forest Planning process, by necessity, had to deal with broader generalizations than the land system inventory and the water resource response models were designed to operate on. These more detailed data were used to develop the Plan's coefficients which were used in FORPLAN.

The models and data bases are used as one of several tools to assess risk and sensitivities of land and water resources to land management decisions. It is important to note that decisions are supported by many analysis tools and professional judgments. Additionally, resource standards and criteria have been specified in the Plan to provide goals from which to monitor the validity of our decisions, judgements, and analyses.

12

They act at once as a transition between aquatic and terrestrial habitats while simultaneously buffering the stream and streamside from effects of upslope disturbance. Riparian areas receive disproportionate use by wildlife; they directly contribute to maintaining stream integrity and aquatic biota. At the same time, these habitats are eagerly sought by recreationalists and, when available, are heavily used by livestock. In short, they represent perhaps the most critical zones in terms of multiple-use planning.

12

Unfortunately, this importance is not reflected in the Clearwater Plan, which blithely describes riparian areas as "...narrow corridors [that] are in (sic) actually an integral part of surrounding or adjacent lands that are being managed for timber management production" (Plan III-65). The management prescription for M2 lands, "Manage under the principles of multiple use in association with management of adjacent management areas..." (Plan III-65) reflects again a timber production and harvest orientation that prevents recognition of the extreme sensitivity of riparian areas and their primacy in terms of maintaining forest diversity and stability.

Although we recognize the relatively low entry rate proposed for riparian areas by the Forest Service, we maintain that the delicate nature of these zones dictates a general policy of inviolateness. This is especially mandated where important and valuable fish and/or wildlife species occupy or use the corridors.

#### Monitoring Needs

Man's continued, increasing use of forest lands obligates a concomitant expanded awareness about effects of his presence there. If we are to discern means by which to better recognize potential problems originating from our resource manipulations, and thus be more adept at finding adequate solutions, then close monitoring through all phases of forest management activities is necessary. Increased, objective scrutiny of the forest and its reaction to our actions there must become integrated into ongoing management programs.

The multiplicity of forest resources, together with the varying degree to which diverse groups are dependent upon them, sets the stage for potential user-oriented conflict. When all concerned do not feel their interests have been adequately represented in forest management decisions, or when one or more groups believe their interests have been unfairly subjugated, all forest users may lose. The problems that inevitably follow often lead to bitterness and distrust and this further reduces our ability to equitably manage the forest to the relative satisfaction of all concerned.

The Forest Service is mandated to provide multiple-use management of the resources under its jurisdiction. This requires an awareness and respect by the Service of the relationships between forest resources and resource-use activities. As evidenced by often intense controversy between competing forest users, this awareness has not always been present when resource-use allocations are made.

Throughout these comments we have attempted to present attitudes and concerns reflective of our desire to see a more balanced approach to forest management. It is our belief that many resource-use conflicts could be avoided through establishment of a more extensive on-site monitoring effort than is now available. Such monitoring would provide needed information in a timely manner and also serve to foresee and even prevent potential conflicts. In our view, such an effort might include personnel from the Forest Service, EPA, Idaho Department of Fish and Game, and the Nez Perce Tribe. We view an adequate monitoring program as being equally important as the activities being monitored, not as a mere adjunct that can be discarded at the first sign of budgetary strife. It is from such intensive monitoring that we can learn what works and what doesn't, and what the real effects of our various actions in the forest are. We view it as being sufficiently important to, in its absence, constrain implementation of the activity to be monitored.

13

#### Use of FORPLAN

As a final comment, we recognize that many constraints upon Clearwater National Forest's ability to manage its resources arise from its use of FORPLAN, Version 1 as its modeling tool. We are aware that FORPLAN 1 is, by and large, a derivation of earlier timber scheduling models (Timber RAM and MUSYC) and is limited in its ability to track multiple outputs while performing its primary function of planning timber sales. This fact gives us concern because we are not convinced that continued use of FORPLAN 1 constitutes application of best management practices in terms of the forest planning process. We would be interested to learn if Clearwater National Forest is anticipating a shift to use of FORPLAN 2, which would give forest planners much greater flexibility in arriving at equitable solutions to the complex resource allocation questions we are all now facing.

14

#### Conclusion

The Commission appreciates this opportunity to participate in the forest planning process. Our concerns are genuine and we anticipate maintaining our active role in promoting increased anadromous fish production in the Columbia Basin. We hope that a meeting between Commission and Forest Service staff can be arranged so that mutual concerns can be discussed in greater

13) The purpose of the implementation and monitoring sections in Chapter IV of the Forest Plan is to insure that Forest Plan direction is being met and to avoid most if not all resource use conflicts. Many site specific conflicts will still need to be resolved through on-the-ground every day planning and management. We are open to cooperating with other agencies and organizations.

14) Version II FORPLAN may be more flexible than version I FORPLAN. However, it is felt that both versions can adequately address Forest planning issues, and the answering of resource questions is not a function of what model is used, but rather how the model is developed. In developing any type of model, it is important to build that model so that it is capable of analyzing the issues. It is felt that the Clearwater's model does this. In fact, during the DEIS and FEIS several changes were made in the model to answer public comments.

detail in a setting that will also promote greater trust and understanding among us.

Sincerely,

A handwritten signature in cursive script that reads "S. Timothy Wapato". The signature is written in dark ink and is positioned above the printed name and title.

S. Timothy Wapato  
Executive Director

Literature Cited

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3058-1-6-8-6

# IDAHO DEPARTMENT of PARKS & RECREATION

John V. Evans, Governor

Robert L. Mennen, Director

September 3, 1966

Mr. Karl Roenke  
Clearwater National Forest  
12730 Highway 12  
Orofino, ID 83544

Dear Karl:

These comments on the "Lolo Trail System Implementation Guidelines" are a compilation of the comments of several members of the Idaho Lewis & Clark Trail Committee. I am the vice-chairman of that committee.

As a general reaction, we feel you are to be complimented for undertaking this project. We feel that these historic trails are important enough to justify your efforts.

Our comments will be divided into two categories: general impressions and specific comments.

General Impressions:

1. Timber harvest and mineral extraction are overemphasized along the trail corridor - most certainly to the detriment of the cultural and recreational resources of the trails. This bias is evident in a number of instances. Witness the following excerpts: "The trail routes and the original trail would be protected from physical disturbances . . . to the extent possible without prohibiting other Forest management." (emphasis mine), or the goal to "manage the trail system and associated site in harmony with established multiple use plans for the area it transverses." Clearly, protection of the trail has been relegated to second place to extractive uses of the land. To do so with a cultural resource as significant as the Lewis & Clark Trail - especially when so little of it remains in a natural condition - it to stick one's organizational head in the sand. We disagree. We feel that a better approach would be to manage the lands immediately surrounding the trail in such a manner as to complement the trails.

We are not proposing a linear wilderness area; we simply feel that the trails are receiving insufficient emphasis compared with other uses.

### RESPONSE

1) We do not believe that timber harvest and mineral extraction are overemphasized along the trail corridor. They are given consideration and management approaches are advocated which address the requirements of federal legislation and USFS Manual direction for compatible multiple use of Forest managed lands.

Any mineral extraction, timber harvest, or other activity within the trail corridor and view area has to comply with the large body of cultural resource legislation discussed in the Lolo Trail System Implementation Guidelines.

What is emphasized is the multiple use of federal lands in accordance with federal legislation and direction. Federal legislation does not allow us simply to exclude some activity because we may not like any impacts to the trail system. It does, however, provide us with the tools to design proper management approaches for the historic resource within a multiple use setting.

VI-124

2. For a cultural resource that is clearly recognized as nationally significant, there is an astounding absence of sociological data. For example, there is considerable timber data, but throughout the recreation sections (e.g. pp. 37-40) there are statements such as "no data collection," "lack of background data," highly speculative," and "largely unquantifiable." We find this objectionable. Sociological research units are available in the USDA Forest and Range Experiment Stations, the National Park Service's Park Studies Units, and at the University of Idaho. A solid plan for a major cultural resource deserves sociological data (including use, preferences, experience/satisfaction needs) just as much as it needs board foot volumes and stand condition data.

2

Specific Comments

(Our intent here is to point out areas which need refinement, we've not included "positive" comments, although there are many instances in which they are deserved.)

P. 23, 4-c&d: These items betray a management philosophy that does not give highest priority to protecting the trail route. On Page 22, the agency recognizes that, of the 3,700 mile Lewis and Clark route, the portion in Clearwater National Forest contains the least disturbed. Yet despite this unique distinction, terms such as "mitigation" and "mitigate" are used instead of stronger language. In c, it would be preferable to subjugate other projects to protect the trail and associated sites, and in d, to prevent surface disturbing activities.

3

P. 24, h: Add Idaho Lewis & Clark Trail Committee.

4

P. 27, Para 3: "Limitations in funding . . ." speaks volumes about a major problem reflected throughout the plan and current management, there is a need to demonstrate commitment to cultural resources by giving higher budget priorities to these resources.

5

P. 27, b: The suggestion to develop camping sites reflects a management direction taken without sociological data. The first questions need to be, what experiences are being sought and what needs are currently satisfied? Perhaps the primitive campsites are the best facilities in this area. An area receiving use or having primitive conditions does not automatically justify developing something more. Throughout our national forest system this kind of action has led to "recreation displacement" of people who value the area because of the primitive conditions. The point is, base actions on data and planning, not managerial instinct.

6

P. 39: More evidence here about the dearth of social research.

2

P. 43, b-1. In the final sentence of the second paragraph is a statement that reveals the major weakness of the Clearwater National Forest Plan: . . . "the trail routes and . . . the original trail would be protected from physical disturbance . . . to the extent possible without prohibiting other Forest management." Our objection is against the unstated premise that forest management comes first, and other management -- including

7

2) We must agree that sociological data concerning use of the trail is lacking and such data is desirable. Under the conditions that exist and considering the pattern of use that has occurred and is predicted to occur, we question the advisability of large expenditures for sociological studies at this time and the validity that such studies would have in predicting future demands relating to the trail.

3) It is not the intent of the guidelines to subjugate management of the cultural resource to extractive uses of the land, and we do not believe they do so. We believe the guidelines reflect the intent of the National Trails System Act (P.L. 90-543). The act states that, "development and management of each segment of the National Trails System shall be designed to harmonize with and complement any established multiple use plans for the specific area in order to insure continued maximum benefits from the land." The intent of the guidelines for the trail corridor is to do just as you say "manage the lands immediately surrounding the trail in such a manner as to complement the trails." A significant concern of management on this Forest is development of access to unroaded areas, many of which surround the trail corridor. It would not be acceptable to the public if management of the trail corridor prevented access to extensive areas of the Forest. Wording of the guidelines was written to respond to this concern - recognizing the overall goal of maintaining the cultural and recreational values of the trail.

Detailed information about vegetation and silvicultural methods of managing timber were included in the guidelines not to indicate that emphasis will be placed on producing crops of trees. A variety of complex habitat types are present along the trail. Our goal is to manage them in a way that will keep them in conditions that are aesthetically pleasing. In many instances this cannot be accomplished if stands are permitted to follow natural processes.

The normal pattern of forest succession can result in conditions quite unattractive to the public in some instances. Preventing these conditions is the goal of applying the guidelines rather than emphasizing production of timber as you apparently interpret them to mean. We feel this is a more immediate concern during the 1986-1996 period than managing anticipated recreation.

4) We will add Idaho Lewis and Clark Trail Committee. Thank you.

5) Budgets are not under our control. The Forest has continually budgeted more recreational dollars for cultural resources than most other Forests in Region One. This has been at the expense of the other Recreation funded area such as Wilderness, Trails, Developed and Dispersed Recreational Sites, etc.

VI-125

historic preservation -- can take place only as long as it does not interfere. In some cases, such as at the Lewis & Clark camp sites and along visible vestiges of the old trail, other incompatible uses should unambiguously be prohibited.

P. 47 (4): Delete "or mitigate" so the sentence reads: "recreational use will be managed as necessary to prevent impacts to cultural resources."

P. 48 (2): Monitoring recreational use by simply counting people and vehicles is inadequate. It does not address recreation experiences or changes affecting this element.

P. 55 (2): We asked a silviculturalist to review this statement about uneven-aged management. He pointed out two gross inaccuracies: (1) through proper selection, there need not be a reduction in diversity and resistance to insects and disease. There is evidence to the contrary. (2) Also, it is not true there "have been no successful applications of uneven-aged management west of the Mississippi".

P. 56: There is a statement here that appears to be a "loophole" that would give license to widespread clearcutting. It states that "where physical conditions, existing stand conditions, or economic conditions make uneven-aged management impractical, harvest systems will be designed to create desired forest conditions during the second rotation." This sounds very much like an intentional basis for justifying even-aged management, and as such it is objectionable. In some places, other values should be allowed to over-ride the "impracticalities" listed above.

P. 64 (1)-(b): here is an example of the lack of clarity that crops up through this section: "Harvest is programmed near the limits of the time frame over which the successional stage of stands in question can be expected to remain alive." Item b looks suspiciously like another loophole for clearcutting if selective cutting is judged not to be effective, but I cannot be sure.

P. 74, 2-b, P. 75, 3-a, and P. 75, 3-e: We take strong objection to the proposal not to pursue further mineral withdrawals along the trail corridor. We take even stronger exception to the statement, "mineral withdrawals on Lewis and Clark sites will be rescinded." Regardless of BLM's 1963 "guidance" on the subject, exploration and mining should not even be considered at the important historical sites along the route. We strongly disagree with the suggestion that management of mining methods and requirements for rehabilitation would be sufficient. We urge that, at a minimum, mineral withdrawals be sought for the Lewis and Clark sites listed on Pages 110 and 11 of this plan. Hungery Creek Drainage would be another logical candidate, as would the visible trail segment near Snake Hole. There are undoubtedly other places of historic importance also deserving this protection.

6) The statement of page 27b of the guidelines is simply a statement of what facilities exist now. It does not direct that additional facilities are needed or will be built. The action plan for facilities on page 46c states "no new developed camping or picnicking facilities will be constructed...during 1985-1995." We agree that data and projected demands do not support construction of facilities during the Planning Period.

This statement is in accordance with the body of Federal Cultural Resource Management Legislation and Manual Direction. Protection is but one of the tools available. Forest Management includes Management of the Trail.

7) The phrase "incompatible uses" is a relative one. Our management approaches for the Trail System have been carefully developed to comply with legislated requirements. The USFS is not the National Park Service. Total protection is not what the laws require nor necessarily advocate.

8) Mitigation is one of our management tools under the body of CR legislation and USFS Manual direction. We do not see a reason to omit it. At times mitigation may be preferential to protection. For example, a Lewis and Clark campsite might be systematically excavated, the artifactual information obtained and published, and the site returned to a natural condition. Recreational camping could then be allowed on the campsite which could be extensively interpreted. This would, in most cases, not be possible presently.

9) Although we have not made exact counts of visitors, we believe we have enough observational experience to state with confidence that recreational use of the trail is very low - less than 100 persons/year. We have observed some increase in public interest in this segment of the trail in recent years, but very little change in use.

10) In most cases, even-aged regeneration methods are preferred for meeting the Forest Plan objectives, but this does not preclude the use of uneven-aged systems in certain management areas and under certain conditions.

The choice of regeneration method is not mandated in the Forest Plan. Site specific analysis and silvicultural prescriptions will select the preferred silvicultural system that will use multiple resource management objectives.

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11

Mr. Karl Koenke  
Page 4  
September 3, 1965

P. 66, 4. Minor correction of fact needed here. Change to: "Trail  
Heritage Foundation chapters exist or are being formed for each state . . .

12

We hope that you perceive these comments in the constructive manner in which  
we offer them. Thank you for your consideration.

Sincerely,



Todd Graeff  
Resource Staff Specialist

mvd-6566J

cc: Jim Fazio

RESPONSE TO IDAHO DEPARTMENT OF PARKS AND RECREATION (Continued)

11) We believe our minerals discussion to be adequate to answer  
the needs of valid mineral extraction and protection/mitigation  
of the cultural/historical values of the Trail System. Our past  
history evidences this. We have management tools which will  
allow for proper trail management as well as proper minerals  
management.

Proper archaeological mitigation of a Lewis and Clark campsite  
for mineral removal may actually be better than protection. The  
historical data would be available for display and publication  
while the site could be rehabilitated to appear as it did prior  
to mineral extraction.

12) We agree. We have changed the sentence as you've suggested.



OFFICE OF THE GOVERNOR  
STATE CAPITOL  
BOISE 83720

September 13, 1985

Mr James C Bates, Supervisor  
Clearwater National Forest  
12730 Highway 12  
Orofino, Idaho 83544

Dear Mr Bates

Thank you for the opportunity to be involved in the Clearwater National Forest's planning process I commend you for assembling a readable plan which clearly presents the data and explanations necessary for public understanding of your alternatives

Attached are comments from four state agencies (1) Department of Fish and Game, (2) Department of Health and Welfare, Division of Environment, (3) Department of Parks and Recreation; and (4) Department of Lands I have reviewed the comments from these agencies in preparing my own recommendations, and I urge you to carefully consider them in preparing the final plan

In my comments, I support your proposed alternative with minor modifications to seek the best possible balance among varied forest users Of greatest concern are those communities which are dependent on forest outputs--especially timber, recreation and hunting/fishing opportunities Given the size of roadless acreage to be managed for a variety of multiple uses, it appears that slight modifications from your proposed alternative can be made with little impact on the proposed 150 mmbf annual sale quantity

My comments address the following

- 1) The ability of the Forest to plan for 150 mmbf of first decade annual sales and still retain significant acreages in wilderness and roadless prescriptions
- 2) The need for reliable management programs which will ensure the maintenance of important habitat areas and fisheries within timber/wildlife and timber/riparian prescriptions
- 3) The necessity to plan for realistic budget levels for the Forest in future years
- 4) The responsibility of the Forest Service to protect our cultural and natural heritage and provide for its interpretation.
- 5) The urgency required in resolving conflicts and reaching a decision on the final plan

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OFFICE OF THE GOVERNOR  
STATE CAPITOL  
BOISE, IDAHO

RESPONSE

1) The current level of sale on the roaded country is constrained by the environmental and legal constraints.

The constraints are required by the National Forest Management Act (NFMA) to protect other resources from unacceptable impacts caused by timber harvest and road construction. More specifically we must provide a diversity of animal and plant communities, provide minimum viable habitats for all dependent wildlife species, regenerate stands in areas of 40 acres or smaller, harvest no timber before the stand's total growth begins to decline (Culmination of Mean Annual Increment, CMAI), assure reforestation in five years, and cause no irreversible damage to soil and water and fisheries. For these reasons additional harvests (greater than those planned) cannot occur in the developed areas of the Forest and development of some unroaded areas must begin to maintain adequate sale offerings for community stability. Total sale offerings can increase in future decades and NFMA requirements can still be achieved for these reasons.

1. Younger stands (approximately 50 percent of the Forest) will reach CMAI,
2. Most roads will have been constructed and streams will have recovered from adverse impacts, and
3. More unroaded areas will be developed so adverse impacts of harvest can be spread over time and space.

2) (a. page 3) Although we did not propose the Cayuse Creek area for wilderness we did change it to C6 which is a roadless type designation. This designation should adequately protect the key resources which are fish and wildlife.

(b. page 3) The Monroe Creek drainage has been changed to C1 as proposed.

(c. page 3) Because of the very low potential productivity of the lands in the 4th of July Creek drainage and in the Castle Butte area North of the Lochsa River, and the current lack of merchantable or even near merchantable stands of timber, adding these areas to the timber base would not contribute significantly to the allowable sale quantity (ASQ). We have been able to increase the ASQ to 173 MMBF/year for the first decade primarily by refining our analysis efforts in determining watershed fish and wildlife impacts.

VI-128

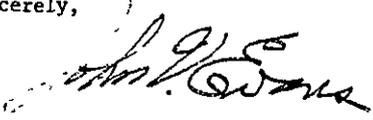
Mr. James C. Bates  
September 13, 1985  
Page Two

It is critical that an adequate quantity of timber be identified which can legally support higher harvest levels once increases in demand and price are realized. To achieve this goal, I urge you to consider innovative approaches and techniques for maximizing yield while minimizing impacts, as required by law.

The National Forest Management Act clearly requires our National Forests to abide by multiple use and sustained yield concepts, and to be cost-efficient in doing so. In the interest of supporting a final plan which can measure up to these requirements, I urge you to carefully evaluate all land prescriptions for their practical implementation given resource and budget limitations. Delay due to plan inadequacies will only cause greater uncertainty, hurting those closest to the Forest whose livelihoods depend on this plan.

My best to you and your staff as you proceed in your vital planning efforts.

Sincerely,

  
JOHN V EVANS  
GOVERNOR  
JVE:JJP

Enclosures

cc Bob Meinen, Director  
Idaho Department of Fish and Game  
Dr. Lee Stokes, Administrator  
Division of Environment, Idaho Department of Health and Welfare  
Jerry Conley, Director  
Idaho Department of Fish and Game  
Stan Hamilton, Director  
Idaho Department of Lands

RESPONSE TO GOVERNOR JOHN V. EVANS (Continued)

2) Continued  
(below item c.) On the basis of public comments, we have made several small additions to the wilderness proposals in the Mallard-Larkins and Hoodoo areas. We have deleted a portion of proposed wilderness in the Tom Beal area (Lochsa Face) because of the difficulty of defining a boundary and the possibility of conflict with proposed road development in the adjacent C8S area. Much of the land removed from wilderness consideration is in fact unsuitable for timber anyway so the status of the land will not noticeably change. The Colt Creek drainage in the Sneakfoot area was changed from C2S to C6 because of concerns with the impact of roading and logging on these sensitive fishery streams.

3) The Clearwater National Forest cannot offer more volume in the first two decades with less roading and comply with requirements of the NFMA and water quality standards. The NFMA requirements severely limit current opportunities for harvest on much of the Forest that is already roaded. These requirements require the Forest to provide varied wildlife habitats well distributed throughout the Forest, to limit the size of clearcuts, to provide a diversity of vegetation, and to cut no timber before its growth has reached culmination of annual growth, along with water quality and fisheries objectives. We have carefully analyzed this resource situation with local economic needs and have developed a balanced plan with balanced budget requests.

4) Riparian management areas that provide for timber management are intended to first recognize the functions and dependent resources of the riparian area, and then to design timber management activities that protect those functions and resources. Roading is discouraged in riparian areas by the riparian standard for facilities, "Avoid new road construction within riparian areas except at specified stream crossings." Several additional standards specify stream crossings and very protective objectives for any construction.

The Forest Plan supports the Idaho Fish and Game Department's plan to increase the elk population in the Clearwater National Forest. To maintain high quality elk summer habitat and hunting opportunity we have developed a special management area (C8S) that will specifically address the issue of a positive, strictly enforced road closure program while still harvesting over-mature timber. The road closures will also mitigate the potential impacts to other wildlife species especially the gray wolf and grizzly bear.

It is difficult to identify specific volumes of timber forgone because of each requirement. The best way to get an indication of this is to study differences displayed by each alternative.

COMMENTS FROM  
GOVERNOR JOHN V. EVANS  
STATE OF IDAHO

1. Land Classification and Long-Term Plans

Because of the length and level of detail of forest plans, it is most difficult for the public to fully understand the nature of opportunities and constraints placed on a National Forest. Some misunderstanding stems from declaring lands "unsuitable for timber harvest" which may otherwise appear suitable. In the final plan, I recommend a more thorough discussion and identification of physically and economically unsuitable lands be brought to the forefront. The Land Classification table in Appendix A is useful, as would be a map to show such areas. Included should be areas of soil instability, difficult or costly access, poor growing potential, etc. Once such areas are mapped, discussions of trade-offs between timber and roadless prescriptions may take on more meaning.

In the plan, 997,500 acres are identified as tentatively suitable for timber harvest yielding 150 mmbf as an annual average during the first decade. I commend you for proposing a sale quantity level which allows for many other multiple uses, and I support this level.

I propose that the plan be modified in the following manner to adjust roadless and wilderness boundaries and still maintain approximately 997,500 acres that will yield 150 mmbf of timber for annual harvest.

- a. The wilderness boundary for the Hoodoo and Bighorn-Weitas (Cayuse Creek) areas should follow that proposed in Alternative J. This is more consistent with my previous proposals in this region.
- b. The Monro Creek drainage west of Cayuse Creek should be changed from C2S to C1, as proposed in Alternative J.
- c. In exchange for removing portions of these areas from the suitable timber base, the large C1 roadless area west of Monro Creek and south of Kelly Creek, and the A3 roadless area north of the Lochsa River (Castle Butte) should be studied for suitable timber. Identified acreage should receive a timber/big game prescription (C2S) in appropriate sections.

With these adjustments, I support the Forest Service wilderness recommendations for Mallard-Larkins, Hoodoo, North Fork Spruce-White Sand, Lochsa Face and Sneak-foot Meadows, plus the Cayuse Creek drainage as described above. I also endorse the roadless prescriptions as proposed by the Forest, but would like the final plan to designate each unit's motorized or non-motorized status.

I am also concerned about the projections which double the annual sale quantity by the fifth decade. If the Forest Service budgets were dependable so all timber and wildlife budget needs were assured, there would be little cause for concern. However, the State of Idaho is depending on the Forest Service to propose and implement a realistic plan. The local communities need to rely on sale volumes as projected for their own planning and investments. I urge you to carefully analyze the outyear projections to propose the most realistic figures possible, given current law and Forest Service guidelines. Benefits of a more realistic sustained yield level are.

RESPONSE TO GOVERNOR JOHN V. EVANS (Continued)

5) An integral part of the Plan assessment was an analysis of cumulative effects on watershed systems of the size range: 4 to 40 square miles. Although the scope of the Plan analysis is too broad to analyze specific activities in specific watersheds, the Plan provides standards and direction to do so as part of all planned activities.

1 The "basic" standard for water is perhaps the most powerful standard designed to protect water quality and water resources. It is a "blanket" standard applied to all waters of the Forest. It can be supplemented with more specific criteria (such as when the beneficial use is identified as a fishery). Regardless of whether a more specific supplemental criteria is identified, the basic standard states that "...the stability, equilibrium, and function (both physical and biological) of a tributary stream relative to its local, downstream, and parent stream beneficial uses..." must be protected. The basic standard assures that all waters of the Forest have a criteria for management, and most importantly, all waters must be managed to support their higher order systems.

2 6) The Forest Plan as written assumes a given budget. It was our attempt to achieve a balance in resource management on the Forest at reasonable budget levels. If Congress chooses not to fund certain items adequately then we may have to revise certain resource programs, or if significant revise the Forest Plan. The decision flow diagram in Figure IV-1 in Chapter IV of the Forest Plan shows this scenario.

In response to your comment on the "consequences of inadequate funding" we have chosen not to do this mainly because of the innumerable levels that would have to be analyzed.

3



VI-130

- Potentially greater volumes of timber available the first two decades
- More dependable sale quantities assured as Forest Service budgets may not support a higher level
- Reduced road mileage and attendant construction and maintenance costs
- Improved wildlife and fisheries protection
- Fewer roadless areas entered for development the first decade
- Incentive for private land owners to also manage for sustained yield

2 Reliable Management Programs for Timber/Wildlife Prescriptions

Management areas C2S, C4, C6S and M2 are those areas which allow timber harvest while requiring certain measures to protect big game habitat and riparian values. It is of critical importance that these measures--mostly road management in nature--be well-planned and implemented. I encourage the Clearwater National Forest to enter into a cooperative access management program as proposed by the Department of Fish and Game (see p 3 of the Dept. of Fish and Game's comments) to ensure the success of these prescriptions. In addition, the final plan should clearly describe, and if possible identify, those volumes of timber foregone due to each of these prescriptions

In addition, the cumulative effects of road development on large watershed systems need to be assessed for presentation in the final plan. The Division of Environment is also concerned with the basic standard proposed for fisheries habitat, especially as applied to smaller headwater drainages. Finally, I encourage you to develop a comprehensive monitoring plan for fisheries and water quality as an integral part of the final plan

3 Budget Levels for the Forest

I recommend that the Regional Supervisor be encouraged to work toward adequate funding for total plan implementation. In addition to timber budgets, adequate funding is needed in wildlife, recreation, and water quality monitoring to ensure that timber harvest can continue to coexist with other multiple uses. Forest Service budgets should be equally distributed among all programs to ensure that implementation of one plan component does not exceed other components. I also encourage the Clearwater National Forest to outline in the final plan the consequences of inadequate funding for plan implementation

I understand the backlog of accessible timber is not being figured as additional available supply for local industries. Please explain this logic, especially in view of the fact that this timber may be more economically efficient to harvest than timber in roadless areas

4. Protection of Our Cultural and Natural Heritage

As clearly pointed out in the comments from the Department of Parks and Recreation, the cultural and historical values are significant on the Clearwater National Forest. The concerns expressed for continued primitive surroundings along

7) We're not sure what is meant by "backlog of accessible timber". However, We will explain the reasons why much timber which could easily and economically be accessed on developed portions of the Forest cannot be harvested in this planning period. NFMA requires the Forest to provide certain types of habitat and to manage in specific ways as explained below:

1. Habitat "Fish and wildlife habitat shall be managed to maintain viable populations" of wildlife species. And that habitat must be "well distributed" throughout the Forest. If the Forest harvested most accessible timber in the next two decades this requirement could not be met because old growth and other types of habitat would not be available and well distributed.

2. Diversity "Forest planning shall provide for diversity of plant and animal communities and tree species consistent with the overall multiple use objectives of the planning area".

Because the area already developed has been heavily harvested for 30 years, if we continued to harvest at present rates, the ability to provide age class diversity would be lost.

3. Size of openings. "...there are established...maximum size limits for areas to be cut in one harvest operation." The Northern Regional Guide sets those limits at 40 acres with some exceptions. Once again because of past harvest, new harvest can't be planned until old ones recover, this sometimes takes 15-20 years in the Clearwater Forest.

4. Soil and water "...insure that timber will be harvested...only where...(i) soil, slope, or other watershed conditions will not be irreversibly damaged" and (iii) "...protection is provided for streams, stream-banks, shorelines, lakes, wetlands, and other bodies of water from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment, where harvests are likely to seriously and adversely affect water conditions or fish habitat."

Because of past harvests, many streams cannot be further impacted until they have a chance to recover from past logging and roading practices or can be rehabilitated.

VI-131

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the Lewis and Clark Trail are shared by many throughout the country. I encourage you to conduct the research and planning necessary to ensure that this cultural resource, the least disturbed along the entire 3,700 mile Lewis and Clark Route, is protected for future generations to enjoy.

In addition, the interest shown by the Clearwater National Forest in interpreting natural and cultural resources is commendable. I strongly support programs and facilities designed to better inform and educate the forest users. Nature trails, brochures and visitor assistance all contribute to serving the recreational needs of a growing tourist sector.

5. The Need for Urgent Resolution

There is little question as to the importance of this plan to timber- and tourist-dependent communities in Northern Idaho. The continued protection of scenic and recreational resources will help shape Idaho's promising tourism economy. Likewise, a reasonable, yet adequate timber supply is essential to support a healthy and sustainable wood products industry. Idaho's wildlife heritage must also be preserved to support Idaho's growing reputation as a leader in providing superior hunting and fishing opportunities.

For all these reasons, the Clearwater National Forest Plan must be finalized on schedule. I urge the planners to work diligently to resolve user conflicts and to present a final plan which all parties can support. I am trusting the Clearwater National Forest to carry out the proposed goals and objectives for multiple use, as prescribed by law, thereby protecting its renewable and nonrenewable resources for years to come.

RESPONSE TO GOVERNOR JOHN V. EVANS (Continued)

8) The Vegetative Management Report and section for The Lolo Trail System Implementation Guidelines and the Visual Quality Objective were designed to minimize impacts to the Trail.

9) Public information and educational programs will continue to be directed primarily at directing visitors to settings which are most appropriate to the desired experience and at changing behaviors considered socially inappropriate or damaging to the resource.

Public information and education will be limited to the demand.

10) Visual quality was recognized as a key recreational value throughout the Forest, but particularly for those areas and travel ways which now and are anticipated to serve visitors. The Visual Management System described in Agricultural Handbook Number 462, will be applied as a standard in managing the visual resource. Other key attractions recognized in the plan included big game, fish, roads and trails, and opportunity for camping.

3095-3-1-1-5

BOARD OF COUNTY COMMISSIONERS

CLEARWATER COUNTY  
P O BOX 586 OROFINO IDAHO 83544 (208) 476 3615

September 9, 1985

RECEIVED  
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CLERK OF COURT  
CLERK OF COURT

James Bates, Supervisor  
Clearwater National Forest  
12730 Highway 12  
Orofino, Idaho 83544

Dear Mr. Bates

We would like to take this opportunity to thank you and Mr Lavenick for coming to our meeting and making the presentation regarding your forest management plan.

We, as the Board of County Commissioners, do appreciate your efforts of trying to comply with the wishes of the majority of the people. We feel your Alternate Plan "E" as presented does exemplify that effort.

We, hereby, do support that plan as presented to us.

Sincerely,  
BOARD OF COUNTY COMMISSIONERS

*Donald Ponzoso*  
Donald Ponzoso, Chairman

*X. E. Durant*  
X. E. Durant, Commissioner

*James Wilson*  
James Wilson, Commissioner

DP ah

RESPONSE

Although Alternative E as presented was in our opinion a reasonable plan, the new plan, Alternative K, represents an even more balanced approach to a number of issues that apparently were not fully resolved by the Proposed Plan and DEIS.

VI-133

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University of Idaho

Alfred W. Bowers  
Laboratory of Anthropology  
Moscow, Idaho 83843  
(208) 885-6123

13 September 1985

Mr. Doug Glevanik  
Clearwater National Forest  
12730 Highway 12  
Orofino, ID 83544

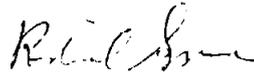
Dear Mr. Glevanik:

The staff of the Alfred W. Bowers Laboratory of Anthropology has carefully read the Proposed Forest Plan of the Clearwater National Forest. The evaluation is generally favorable with the exception of one major concern. We have a strong sense that the effort directed toward cultural resources is only a minimum effort to just meet the requirements of the applicable laws.

In many areas of high interest on the part of the Forest staff there is a real sense of direction for future planning and even research interests. This deep concern and commitment is just not revealed in the cultural resource section. We see no mention of research needs of the future beyond the minimal legal requirements. Many of the areas within the Forest need extensive archaeological and historical research before the resources can be effectively administered. For example, what does the Forest know about the cultural resources of the Pierce Mining District which includes parts of Orofino, French, Orogrande, and Rhodes creeks and their tributaries? These sites are the most significant in the forest yet what is known of their documentary and archaeological data base? Occasional surveys of a bit of an historical district through timber sale surveys is not a substitute for real evaluation of the resource. Timber sale surveys create a patchwork of disconnected and variable quality work that is of questionable value except as a safe guard on the complete destruction of a National Register site.

In summary, we would like to see an effort on important areas such as the Pierce Mining District of a level comparable to the recent excellent work done on the Lolo Trail. The Clearwater Forest is currently far in front of the other forests in Region One in terms of cultural resource management, but this Forest Plan does not provide for maintaining that lead.

Sincerely yours,



Roderick Sprague  
Director

RESPONSE

The Forest's cultural resource effort is by necessity directed toward compliance with Federal legislation and USFS Manual Direction. It is not, however, a minimal effort. Our Lolo Trail System Implementation Guidelines are viewed by some as very good cultural resource management guidelines. In addition, theme studies have been or are being completed on the CCC camps on Forest, USFS Lookouts, and a computerized historic photograph and map data base.

Research needs are principally addressed through continued contacts with the profession and the reading of pertinent information and reports applicable to this area. Potential site information from this research is added to the Idaho State CR site numbering system. In addition, we actively encourage University students to undertake graduate level work on cultural resources on federally managed lands. An excellent Masters thesis was produced in 1981 by a University of Idaho student on the Historic Hoodoo Mining District in North Idaho.

RS:c11

VI-134

Nez Perce



TRIBAL EXECUTIVE COMMITTEE



(208) 843 2253

September 11, 1985

Mr Tom Costen  
Regional Forester  
Federal Building  
P.O. Box 7669  
Missoula, Montana 59801

Dear Mr. Costen.

RESPONSE

The Nez Perce Tribe appreciates the opportunity to comment on the Draft Environmental Impact Statement and the proposed Clearwater Forest Plan. This Plan is particularly important to us. We retain treaty rights within the Forest which will be affected by it. Our staff has given the proposed plan careful consideration. Based upon their recommendations, we submit the following comments.

1

1) We have added more information on Native American tribal rights and uses in this document and in the Forest Plan.

We have also revised and expanded the discussion of impacts in FEIS Appendix B. We realize that a dramatic change in current fish and wildlife levels would affect not only tribal users but all those who enjoy hunting and fishing in the Clearwater. We are not proposing activities which would cause a drastic change.

GENERAL COMMENTS

We note that the Draft Environmental Impact Statement (DEIS) refers to the "unique special interest" of the Nez Perce Tribe and "the responsibility" of the Forest Service "to protect Tribal treaty rights". Unfortunately, the Forest Service does not fulfill this responsibility in drafting its impact statement. There is virtually no discussion of what the treaty obligations and trust responsibility entail.

The treaty and trust requirements are recognized by federal law. Yet, there is no qualitative or quantitative analysis of social, cultural or economic impacts. For example, there is no mention in discussion or valuation of the importance and the requirements of tribal ceremonial and subsistence fishing. Obviously, these are vital considerations to determine environmental impacts under NEPA and to identify the treaty and trust obligations under federal law.

The DEIS states: "A dramatic change in current wildlife and fisheries levels could impact traditional Tribal lifestyles as they relate to use of the Forest" (Appendix B at page 50). This is meaningless. There is no further explanation whatsoever. "Dramatic change", "could impact", "traditional Tribal lifestyles" and "use of the Forest" remain undefined terms. The vagueness here suggests that a "worst case analysis" is required. Instead, we find no analysis at all with respect to the Nez Perce Tribe.

VI-135

At the same time, we find that forest management, by this plan and by Forest Service practice, affirms a protective approach toward other social and economic interests. For example, the Plan assumes a responsibility "to maintain a viable economic base to insure the existence of historical trades and professions within dependent communities." (DEIS at II-76) It undertakes analysis to compare alternatives based upon their impacts on employment. So there is a double standard: no effort is made to quantify or qualify legal obligations to the Nez Perce Tribe but the interests of dependent communities are evaluated. Indeed, the Forest Service has sold, and may continue to sell, timber at deficit prices. (Lewiston Tribune, 9/9/85) Apparently, these sales have produced "nonpriced" job benefits (DEIS at II-76) for industry and dependent communities, but the Forest Plan does not discuss the parameters or potential for such sales and their worst case impacts. The very term "dependent communities" is laden with values and assumptions. As used, it implies that the Tribe is not dependent on the resources to be managed under this plan. Obviously, this is not the case, but the plan fails utterly to identify the magnitude of the Tribe's dependence.

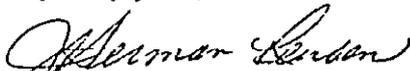
2) We agree that our Draft documents were deficient in this area, and your comments have been addressed in the Final Plan and EIS.

2

Thus, the plan fails to satisfy legal obligations toward the Nez Perce Tribe at the same time that it affirms a responsibility, almost a trust responsibility, toward industry interests. Recently, the United States District Court for the District of Montana found that an EIS formulated without adequate consideration of the cultural, social and economic effects of coal mining on a neighboring Indian tribe was a direct violation of NEPA and the federal trust responsibility in Indian affairs. We refer you to Judge James Battin's opinion in the case of The Northern Cheyenne Tribe v. Donald Hodel, Secretary of Interior, CV 82-116-BLG (D. Mont. 5/28/85).

Specific comments follow this letter.

Very truly yours,

  
 J. Herman Reuben, Chairman  
 Nez Perce Tribal Executive Committee

cc Clearwater National Forest, Orofino, Idaho

VI-136

CLEARWATER NATIONAL FOREST PLAN  
FISHERIES COMMENTS

RESPONSE TO NEZ PERCE TRIBAL EXECUTIVE COMMITTEE (Continued)

The Nez Perce Tribe has reviewed the Draft Environmental Impact Statement and the Proposed Forest Management Plan for the Clearwater National Forest. The Tribe understands the Proposed Plan (E) to be the preferred choice among the numerous alternatives developed within the timber production constraints imposed as "givens" by the National Forest Management Act using assigned resources values and various algorithms chosen by USFS personnel. The Tribe appreciates the effort which has gone into the development of the Plan and commends the Clearwater National Forest for the concern and respect which its staff has shown for anadromous and resident fish and their habitats in the development of the Plan.

In reviewing the documents, the Tribe limited the comments to land allocation issues in relation to management areas and the corresponding prescriptions. The Tribe realizes additional information is needed on all resource components of the Forest and this deficiency is causing concern over the validity of the Proposed Plan. The Forest's figures on economics, timber demand, fish and wildlife values, etc., are debatable and only an increased database generated in the future will provide the Forest with an accurate assessment. Therefore, the Tribe feels the best management direction in relation to fisheries would be a conservative approach which involves protecting the critical anadromous and resident habitat with roadless or wilderness designations.

The Tribe notes that alternatives not considered by the U.S. Forest Service do exist which might better protect and enhance fisheries resources and their habitats. An alternative prescribing roadless and wilderness designations which provides the optimum protection for the fisheries resource in all remaining critical areas of anadromous and cold water fish was not formulated in the planning process. Several viable alternatives including the Preferred Plan (E) proposes management area prescriptions in various degrees to accommodate the fisheries interests, but all concede to development oriented activities in crucial areas of pristine fisheries habitat. In developing Tribal comments to achieve minimal protection of critical fisheries habitat, the Tribe supports alternative F as the best alternative with the least amount of modification.

With the additional roadless and wilderness acreage in the Lochsa River and Kelly Creek drainages, alternative F is more accommodating to the fisheries interest than the Proposed Plan. The Proposed Plan provides only marginal protection to the fisheries resource and requires extensive modification to meet Tribal recommendations. The Tribe notes that all roads, including temporary and non-forest developmental roads must be prohibited from management areas C6 and A3. The Tribe has

3) We agree - the Plan's figures on economics, timber demand, fish and wildlife values etc. are debatable. Our knowledge and data base are imperfect. We plan to increase the quantity and quality of our data base in a continuous manner so that we can provide the Forest and its publics with a more accurate assessment. However, for this planning cycle we have to go with the "best" available information.

4) We disagree - the Forest has considered and allocated roadless or wilderness management areas to a considerable number of key fishery watersheds. The Forest did not select alternatives that provided for more roadless or wilderness allocations because of the trade-offs associated with the timber program.

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VI-137

recommended C6 areas and concurs with the A3 areas delineated in alternative F on the assumption the Forest will change the language in the Forest Plan. If roads are permitted within these areas, the Tribe recommends all C6 and A3 areas be designated management area B2 (wilderness).

5) The Forest does not consider its commitment to fisheries and water quality as superfluous. Roadless allocations, special fisheries-watershed prescriptions, special management practices, and stringent fish habitat-water quality standards are designed to protect fish and water quality.

The Tribe is concerned over the Plan's vulnerability to future budget cutbacks, which might prevent its implementation and management directives in relation to roadless areas, riparian areas and fisheries/water quality. The Tribe feels that the following comments should be examined for incorporation into the Plan as they would better protect and enhance the fisheries resources and their habitat.

GENERAL COMMENTS

The Clearwater National Forest has in the Tribe's view created a situation that appears to show the Forest's commitments to the fisheries/water quality resources as superfluous and simultaneously directing development oriented interest groups to focus on this distortion as the reason for the declining timber harvest. During a public meeting, forest officials alluded to fisheries/water quality standards as being too restrictive and regulating the timber harvest. The briefing notes presented during the public meetings showed the percentage of anadromous and cold water fish habitat exhibiting the "no effect" standard increasing despite developing a third of the roadless areas as well as scheduling additional development in roaded lands. In addition, the projected habitat potential increases to unrealistic high levels for both anadromous and cold water fish, thereby creating a public outcry to lower the standards. This information suggests that roads and timber harvest do not significantly impact the water quality or fisheries. As a result, the public concludes the fisheries/water quality resources are receiving more consideration in relation to timber interest when in actuality the condition of fisheries habitat is declining at an alarming rate.

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The Tribe questions the ability of the Forest to increase the quality and quantity of fisheries habitat. The Forest states that mitigation will help achieve these projections. The Tribe notes that complete funding for mitigation measures is questionable and results of such mitigation techniques may only offset the impacts of any development oriented activities. The Tribe doesn't understand how the Clearwater National Forest can increase the fisheries habitat and developmental activities when several other Northern Regional Forests have stated that the fisheries habitat potential will decline as the result of their Proposed Plans.

VI-138

BUDGET

A major concern deals with an adequate budget to properly implement the Proposed Plan (E) Considering the current economy, present budget cutting measures in the federal government and the possibility of every forest requesting an increased budget to implement forest plans There is some doubt whether the required budget will be appropriated every year In order to properly implement the Plan, funding for fish and water quality mitigation and fish habitat improvement (for past practices and annual maintenance) need to be available every year Usually, budget cuts affect fisheries and water quality resources more than timber-oriented activities In years of inadequate funding, the budgets for development-oriented activities (timber, road construction) should be adjusted to meet fisheries and water quality goals and objectives

The forest-wide management direction identified research needs to improve and update the Forest Plan Research involving fisheries, water quality and other resources is needed to "fine tune" and improve on the models and increase the database Budget cuts will definitely prevent the Forest from achieving an effective long-term management plan

Monitoring, which is a basic component of the Forest Plan, essentially shows if the Forest is meeting its planned goals and objectives Budget cuts affecting the monitoring of any past, ongoing or planned activities would not adequately protect the fish/water quality resources Therefore, the Tribe strongly recommends that monitoring and evaluation of the Forest Plan be adequately funded to protect and enhance the fisheries resources

MANAGEMENT AREA PRESCRIPTIONS

ANADROMOUS FISHERIES

The Nez Perce Tribe is concerned with all activities which may alter the status of streams within the range of Columbia River anadromous fish The wild runs of both steelhead and chinook salmon are now at critical levels where environmental impacts could greatly reduce their ability to maintain their reproductive status The anadromous fisheries on the Clearwater River is a major concern for the Nez Perce Tribe in terms of protecting and enhancing the runs and providing for the ceremonial and subsistence needs of its people The anadromous fisheries habitat has been severely altered in the Lochsa River and Lolo Creek drainage by past developmental activities Planned mitigation will undoubtedly improve the habitat potential (if necessary funding is available), but existing roads and future roads with related timber harvest

RESPONSE TO NEZ PERCE TRIBAL EXECUTIVE COMMITTEE (Continued)

6) The budget required to implement the final Plan has been changed to reflect a total amount and a mix of funds that have a reasonable chance of being funded. The Forest Service will request budgets needed to implement Forest Plan direction and monitoring. If Congress chooses not to provide full funding the Forest will utilize funds received to implement Forest Plan direction to the extent feasible. If shortages occur over several years that prevent Forest Plan objectives from being accomplished a Forest Plan revision may be necessary.

We view the monitoring specified in the Forest Plan as required. Adequate monitoring will be done or projects may have to be cancelled.

6

VI-139

will prevent or delay the achievement of self-perpetuating and harvestable production levels. Therefore undeveloped areas are increasingly important to the Tribe, to provide the spawning and rearing habitat necessary for the production of wild runs and a harvestable supply of anadromous fish.

WHITE SAND CREEK DRAINAGE

White Sand Creek, the last major relatively unimpacted subbasin in the Lochsa River Drainage provides the Forest an excellent opportunity to protect and enhance the fisheries resources. The drainage is characterized by a large undeveloped area with high water quality conditions and unaltered fisheries habitat. The Proposed Plan allocates the remaining roadless areas within the drainage into three management area prescriptions: Wilderness (B2), sensitive watershed/high fisheries (C6S) and big game summer range (C2S). Within the White Sand drainage, the Proposed Plan schedules five timber sales harvesting 37 MMBF on nearly 2000 acres. These timber sales would require 30.6 miles of new roads and 7.4 miles of reconstruction on existing roads. Excluding the Big Creek Timber Sale which is located in management area prescription E1, the remaining four sales are located within management areas C6S and C2S and are scheduled for harvest within a five year period. Comparing the planned activity with the activity proposed for the larger Upper North Fork area (E1) which proposes four timber sales totaling 40 MMBF on 3080 acres and involving 46 miles of new roads, no significant difference can be found between the E1 and the C6S and C2S management prescriptions. The C6S and C2S management area prescriptions permit too much development to adequately protect the fisheries resource. The Tribe cannot support the proposed management area directives C6S and C2S within the White Sand drainage.

7

Several tributaries contribute to the habitat and/or high water quality conditions present within the White Sand drainage. Colt Creek provides excellent rearing and spawning habitat for steelhead trout and any development within the drainage will negatively impact the steelhead production. Recent enhancement efforts have included a barrier removal project and stocking of juvenile steelhead to supplement the wild population.

A major issue with the Swamp Creek drainage is the potential impacts to the water quality of Big Sand Creek which is located in the Selway Bitterroot Wilderness. Although migration barriers prevent anadromous fish from utilizing Big Sand Creek, the stream has excellent habitat and a thriving cutthroat trout population. Any impacts to Swamp Creek would not only alter the existing cold water fishery and degrade wilderness qualities, but would affect the water quality of White Sand Creek and the anadromous fisheries inhabiting downstream.

7) The C2S and C6S management areas have been changed to a C8S Management Area and the planning model adjusted to correct these apparent problems. A portion of Elk Summit and the White Sands drainage has been changed to C6. The remaining White Sands breaklands are designated either unsuitable or E3 requiring aerial logging systems to reduce adverse impacts from road construction.

VI-14h

The Tribe supports the management area prescription C6 delineated in Alternative F with some modification (Map A). The Tribe proposes increasing the C6 designation to include the entire Colt Creek drainage and the area between the Elk Summit Road (#360) and White Sand Creek. The Tribe also recommends the area east of White Sand Creek be designated as proposed wilderness (B2). This area includes the management area A3 and the area between Storm Creek and the ridge dividing Crab and Beaver Creek drainages. The Tribe feels that the resource values in the White Sand drainage are too valuable to permit widespread development and in summary recommends roadless and wilderness classifications as the best solution to protect the fisheries resources.

8) The Warm Springs drainage has been designated Management Area C8S; however, no development is contemplated in the first decade.

9) We have evaluated your comments and designated the Hungery Creek drainage to C6. We feel that drainage is most critical to anadromous fish. The C8S designation in the head of Fish Creek will also protect upper Fish Creek from unacceptable impacts.

WARM SPRINGS CREEK DRAINAGE

The Tribe recommends management area directive C6 for the lower Warm Springs Creek drainage (Map C). Management area C2S which is proposed in alternatives E and F does not provide adequate protection for the anadromous fisheries. Only roadless management area prescriptions (C6 or A3) would assure "no effect" on the water quality and fisheries habitat.

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FISH CREEK DRAINAGE

The Fish Creek drainage exemplifies unaltered unique anadromous habitat that supports a wild run of steelhead trout. The Proposed Plan's objective to protect the drainage's fisheries resource by allocating the lower portion of the drainage to a C6 prescription is "watered down" with development scheduled in the upper drainage. The ten year timber sale program schedules three timber sales harvesting 20 MMBF of timber on 970 acres while retaining a "high fish" objective. Impacts to the fisheries resources cannot be fully ascertained as the mileage of roads required for sale implementation is not included in the Proposed Plan. The large volume of timber harvests and the preceding road construction all scheduled within a six year period causes concern over the validity of the C6S classification in relation to fisheries protection. Further environmental impacts from development (especially roads) within the upper drainage will definitely have detrimental impacts on the quality of habitat in the downstream reaches.

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Alternative F proposes a better management strategy (management area C6) for the entire Fish Creek drainage. The C6 prescription provides a uniform and biologically sound management directive that will protect the valuable habitat that supports the existing wild steelhead population.

VI-141

LOLO CREEK DRAINAGE

The Tribe is concerned over the Forest's proposed activities within the Lolo Creek drainage. The Proposed Plan recommends management area E1 (Timber prescription) for the entire drainage with a few minor exceptions. Even though the proposed water quality objectives for Lolo Creek are mainly "high fish", numerous timber sales with associated roads are planned in the next decade. The Proposed Plan neglects to inform the public how the Lolo Creek drainage will recover to a "high fish" water quality object and if it does, how it will retain the objective with the major development planned in the future.

10

Substantial sums of money have been and will be spent restoring and improving anadromous fisheries habitat in the drainage. Increased roading and timber harvest will only offset or delay the progress of the rehabilitation efforts. To further impact the drainage would definitely have an impact on the proposed anadromous fish rearing facility under consideration for the upper Lolo Creek drainage. The Tribe recommends the Forest reduce the amount of road construction planned in the drainage during the next decade.

RESIDENT FISHERIES

KELLY - CAYUSE CREEK DRAINAGE

The Proposed Plan (E) makes a modest attempt to protect the fisheries resource by allocating the upper Kelly Creek drainage to the wilderness management prescription. The Forest's primary management goal of protecting the fisheries and water quality should encompass the entire Kelly Creek (Cayuse Creek) drainage. The Tribe notes that Toboggan, Monroe and lower Kelly Creek drainages must be included within the wilderness proposal to effectively manage and protect the unique fisheries resources.

11

The Tribe has selected Alternative F with one minor modification as the proper management direction (wilderness) for the Kelly and Cayuse Creek drainages. The Proposed Plan management area prescriptions C2S and C6S appear to be less intensive timber management prescriptions that will entail excessive road construction. Considering the fragile area and resource values at stake, the Tribe can not support any additional roads within the drainage.

One modification of alternative F involves the Moss Creek area, south of Blacklead Mountain, which is allocated in the E1 prescription. Intensive development in this area will affect the water quality and fisheries within the entire Cayuse Creek drainage. Therefore the management area prescription C6 is recommended for this area (Map B).

RESPONSE TO NEZ PERCE TRIBAL EXECUTIVE COMMITTEE (Continued)

10) Lolo Creek has been subjected to extensive and intensive habitat enhancement. We believe this treatment will recover Lolo Creek to a "high fishable" standard. Future development in the drainage will be contingent upon compliance with the water quality and fish habitat standards established for the drainage.

11) We have considered your comments and the numerous other comments we received and have designated Toboggan, Monroe, and main Kelly Creek portion to either roadless or wilderness management.

VI-142

ROADLESS AREAS

A major concern relating to designated roadless areas is the future ability of the Forest to gain access through road construction. The Proposed Plan's standard for management area A3 ("Do not build new permanent roads") and management area C6 ("Do not construct roads for Forest development") do not satisfy the Tribal definition for a roadless area. The Tribe recommends the Forest change the wording to prohibit all new road construction within these roadless areas.

12

RESPONSE TO NEZ PERCE TRIBAL EXECUTIVE COMMITTEE (Continued)

12) We don't know how we can state it any clearer. "Do not construct new Forest System roads." We still however may put in temporary roads for emergencies such as fire, and are required by law to provide access for mining and adjacent private land.

13) The riparian management area and the modelling of this area has been changed to protect riparian dependent resources.

RIPARIAN AREAS

The riparian standards outlined to achieve the management intent of protecting or enhancing riparian-dependent resources in management area M2 indicate improvement over past Forest practices, but are not rigid enough to adequately protect the fisheries resources. The riparian acres that are included in other management areas are a concern to the Tribe. The Tribe opposes all incursions into riparian areas that have detrimental effects on the anadromous and resident fisheries and their habitat.

13

The Proposed Plan (E) allows for clearcut and selection harvesting practices in riparian areas. Even though the standards require designing timber harvest activities to protect or enhance riparian-dependent resources, the Forest needs to restrain excessive harvesting in riparian areas. Reduction of basal area from timber harvest in riparian areas should be limited to 25 percent to minimize effects on stream cover and temperature. Also, to provide for natural structure recruitment, management activities should avoid harvesting only mature and old growth trees.

The management area M2 direction had several statements that if changed in wording could better protect and enhance riparian-dependent resources. The Proposed Plan stated "Avoid new road construction near or adjacent to streams except at specified crossings." If conditions require roads parallel to streams, a buffer strip of 100' wide should be required between the road and stream. This buffer strip should be protected from harvesting and not be prescribed in road management plans as the mitigation of road runoff.

Guidelines for riparian management in the Proposed Plan stated "Located skid trails on margins or outside of riparian areas when possible. If not possible designate skid trails and provide erosion control prior to the wet season." The Tribal interpretation of these statements indicate a question

VI-143

when it is necessary to abide by the guideline and the problem of the Forest using mitigation as the solution For fisheries, streambank and streambed protection and reducing overall sediment impacts, the guidelines should state Located skid trails outside riparian areas and suspend logs completely when crossing riparian areas of perennial streams

D R A F T   C O M M E N T S  
Clearwater National Forest Plan

Introduction

A complex management plan, like this one, is a search for balance between competing interests. The final compromise should represent a wise use of the vast resources present on the Clearwater National Forest. The word "wise" implies value judgments that must be made to compromise. Those judgments are based on conditions existing on the forest and the philosophy of the evaluating party. Our comments are an attempt at integrating some of our values for this area into the framework the Forest Service has established

One of the immediate quandaries we recognized, that is discussed on page IV-2 of the plan, is that tracts of land currently intensively managed for timber are not suitable for maintaining the minimal wildlife values attributable to the proposed E1 land use classification unless future management activities are dispersed over areas currently unroaded. Thus, areas that are now at or near their peak potential to support elk may have to incur a decrease in potential to maintain twenty-five percent of potential on lands now managed intensively for timber

Management Concerns

To try and understand where some of the tradeoffs are being proposed, it is necessary to understand the Management Area Directions proposed. There are 75 pages of text delineating the goals and standards of the 20 different classifications. All the different classifications are confusing due to a lack of uniform language to track through each classification.

As an example, management classification A3 will not allow the construction of "new permanent roads," while classification C1 will not allow the construction of "forest development roads." Does this mean that no roads will be built in these management areas or only certain types of roads will be allowed in these areas? It is not clearly stated.

It is confusing to discover that, although the management direction of E1, C25, and C4 are widely divergent, the timber outputs are roughly the same on a per acre basis. By comparing the average yearly outputs, within the first decade, the total miles of road per acre and the timber harvested in MBF/acre are almost identical.

Within the C4 classification, timber production should be deemphasized. Preliminary reports, from work in progress, by the Idaho Department of Fish and Game on winter range along the Lochsa shows differential habitat preferences between mature bulls and other segments of the elk population. Although this work is incomplete, it shows that mature bulls exhibit a preference for timbered sites. This phenomenon is not completely understood at this time, but it is clear that timber harvest at the same intensity as found on E1 lands is not appropriate.

Within the A7 management classification, part 8,f should be rewritten to delete all references to temporary or permanent vehicle bridges in this area. It is our opinion that vehicle bridges, however temporary in intention, will become permanent and thereby decrease the value of this area as big game habitat.

The final plan adopted should have the priorities and constraints of each management area stated clearly.

14) Data from the study mentioned also suggests that the bull segment of the elk population is wintering above designated winter range or C4 allocation. The creation of seral brushfields through logging is fully supported by the Idaho Fish and Game.

15) We disagree with you, temporary means temporary.

VI-146

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Specific Plan Recommendations

Plan E contains some extensive tracts of land classified as E1, which is intensive timber management. This classification is only required to maintain 25% of the elk it could potentially support. Due to flaws in the Forplan model, such as the direct, straight line relationship of browse production and numbers of elk, the Nez Perce Tribe does not believe that the desired big game outputs specified in Plan E can be attained with the magnitude of E1 classification in the preferred plan. That is why the Nez Perce Tribe supports Plan F with two modifications. The attached map shows two areas classified as E1 that should be classified as C25 to maintain the productivity at 75% of potential.

The fishery recommendations in the Elk Summit area benefit elk and moose as well.

Budget Concerns

Implementation of the forest plan calls for an increase in budget, which may or may not be forthcoming from Congress. The Nez Perce Tribe wants the Clearwater National Forest to specify how they plan to proceed in the absence of funding or in a partial funding situation. In a funding crunch the Nez Perce Tribe believes that the monitoring program, which is essential to evaluating impacts of planned activities, should be fully funded.

There is a foreboding that, in a budget shortfall situation, the plan may be implemented by program. The plan does not delineate a preferred approach in a funding shortfall situation.

RESPONSE TO NEZ PERCE TRIBAL EXECUTIVE COMMITTEE (Continued)

16) We disagree, however, changes made in allocations (for other reasons) and winter range direction will help alleviate your concerns.

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VI-147

Monitoring

Comparing the data sources, within the monitoring program, for white-tailed deer, moose, and elk portrays a fundamental difference in criteria. The moose and deer monitoring effort will utilize IDF&G surveys and records while the elk monitoring program does not. The USFS is charged with managing habitat and the IDF&G is officially charged with managing the species in question. However, through managing habitat many of the big game managerial options are limited. So, though the lines of authority and management responsibility are clear, the effort to manage elk in this area is very much a cooperative venture. The monitoring criteria for elk, therefore, must be partially based on IDF&G information and surveys as well as on the number of areas of habitat managed.

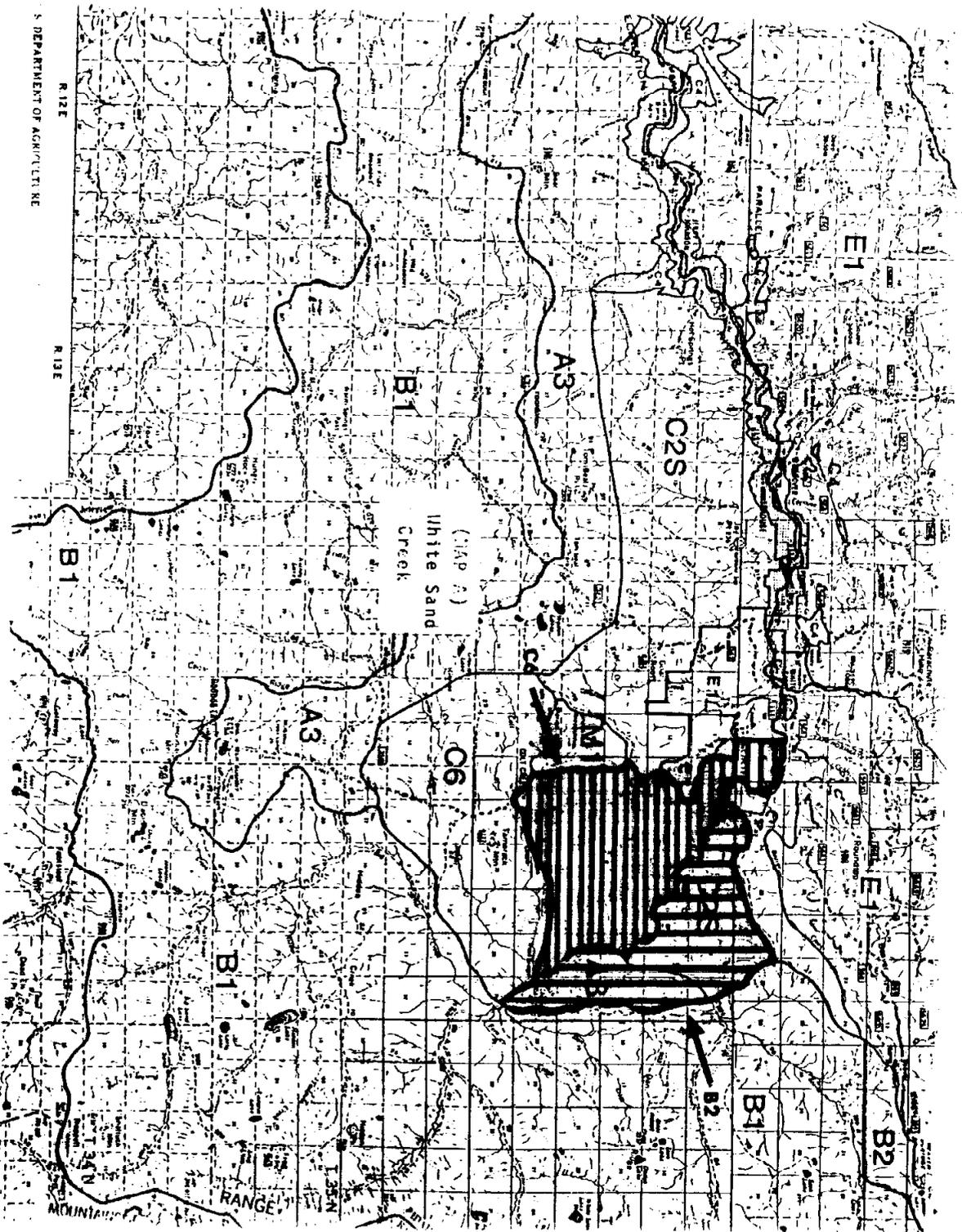
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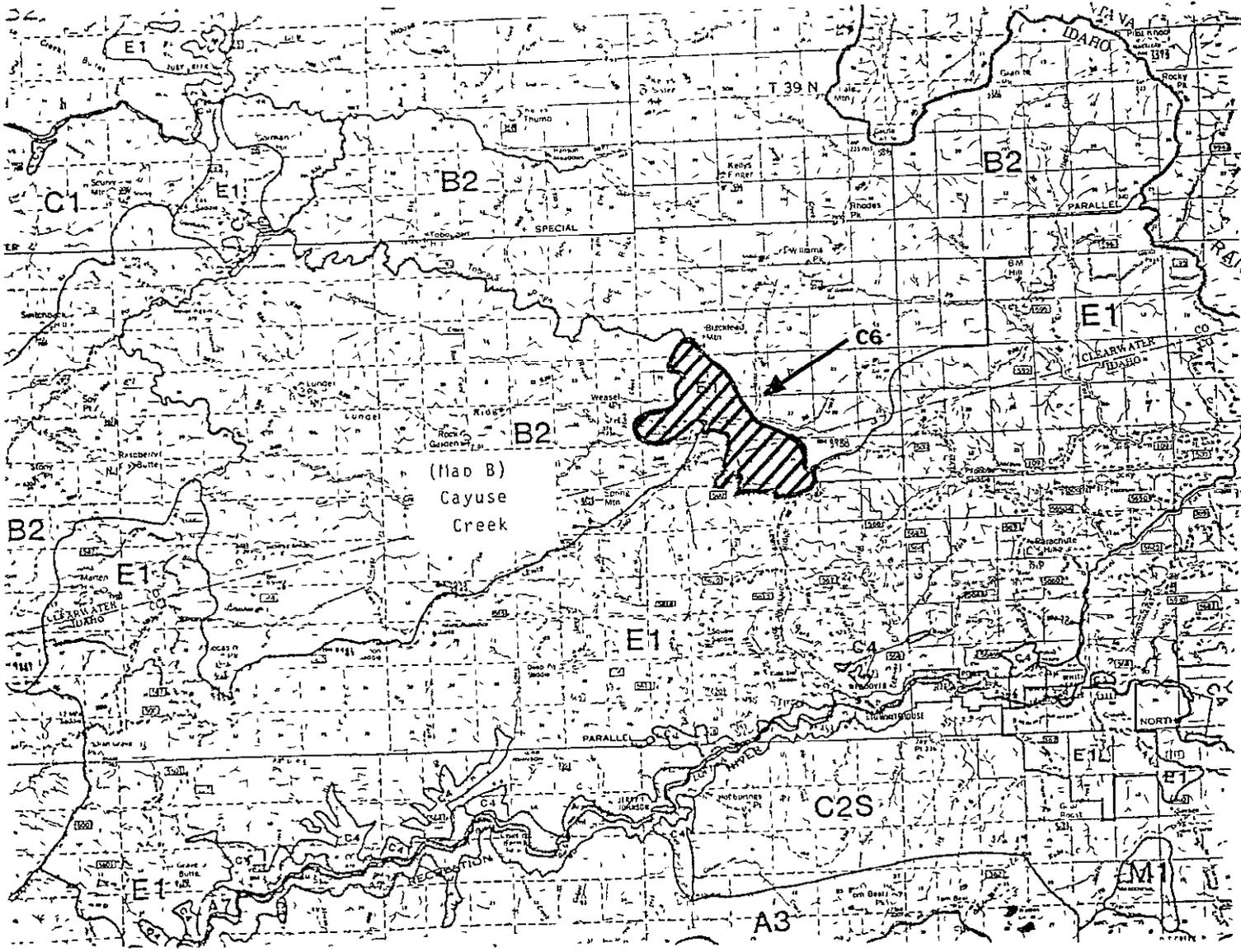
RESPONSE TO NEZ PERCE TRIBAL EXECUTIVE COMMITTEE (Continued)

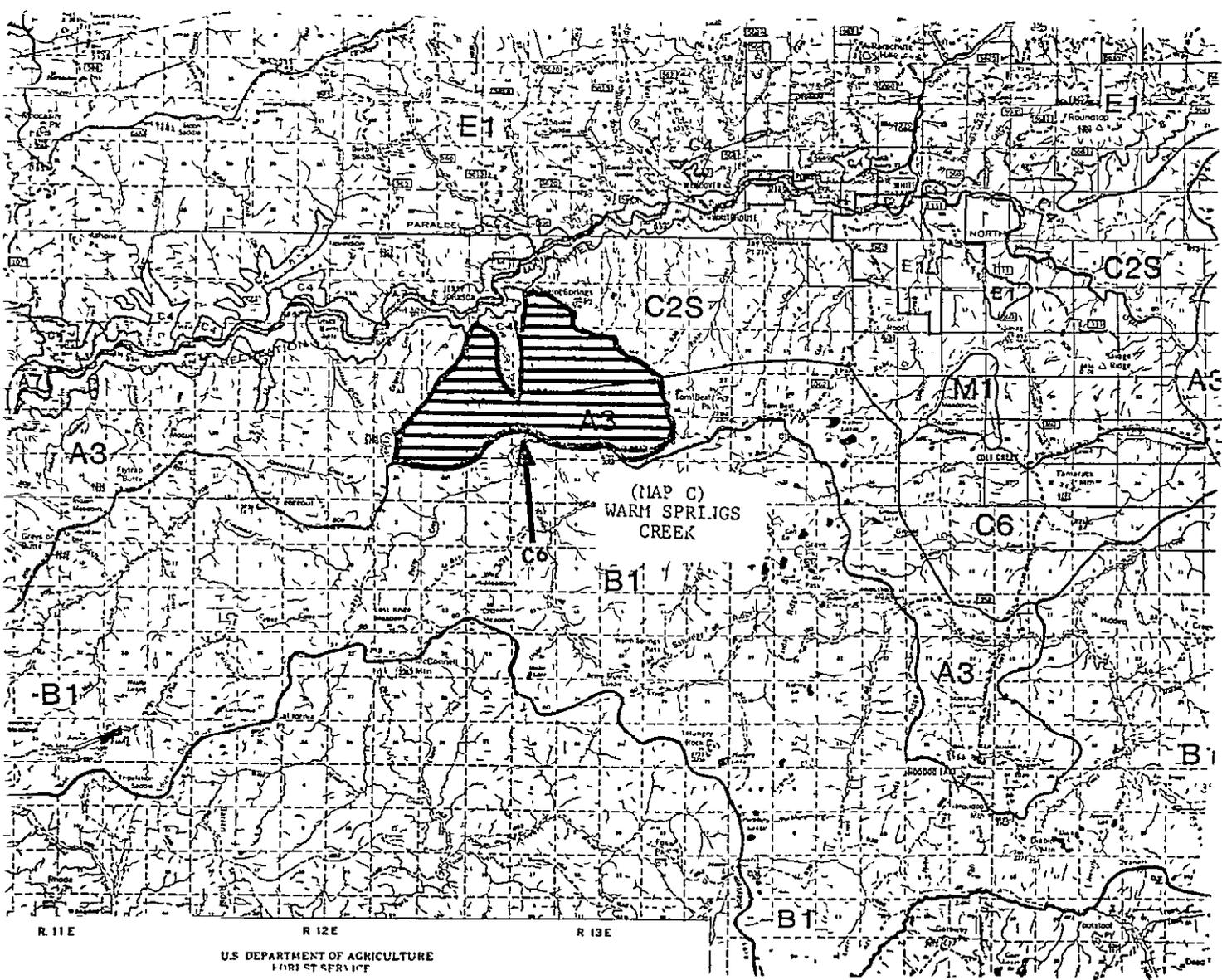
17) We agree and have made that change.

VI-148









U.S. DEPARTMENT OF AGRICULTURE  
 FOREST SERVICE



U.S. Department  
of Transportation  
Federal Highway  
Administration

SEPTEMBER 26 1985

In Reply Refer to.  
HPP-010.3

3305-1-10-1-7

Region 10  
Alaska Idaho  
Oregon Washington  
IDAHO

708 S W Third Avenue  
Portland Oregon 97204

Mr. Tom Coston, Regional Forester  
Federal Building  
P. O. Box 59801  
Missoula, Montana 59801

Dear Mr. Coston:

Federal Highway Administration, Region 10, has reviewed the Clearwater National Forest Land and Resource Management Plan draft EIS and offer the following comments for your consideration:

1. The subject document does not describe how the Forest Service will manage the U. S. Highway corridor. What are the standards and guidelines defined by the Wild and Scenic Rivers Act (II-64, 65, and 66 #14).
2. According to a December 14, 1983, meeting involving representatives of Idaho Transportation Department (ITD), Federal Highway Administration (FHWA), and Clearwater National Forest, it was agreed that a transportation corridor be identified.

Enclosed for your information; copies of the following correspondence pertain to the need for an identified corridor:

- a. January 10, 1984, letter to ITD from FHWA summarizing discussion and conclusion reached at the December 14, 1983, meeting.
- b. January 23, 1984, letter to ITD from Forest Supervisor, Clearwater N.F.
- c. July 16, 1985, letter to Clearwater N.F. from ITD. On page 2 of this letter, river encroachments are mentioned. Due to the Wild and Scenic River designation of the Locksa River, FHWA may not be able to support encroaching into the river.

Sincerely,

M. Eldon Green  
Regional Administrator

By: L. N. MacDonald  
Deputy Regional Administrator

RESPONSE

The Forest Plan documents describe how we will manage the corridor. The Wild and Scenic Rivers Act spells out our responsibility and obligation to protect and enhance the values of these particular rivers and their surrounding environments. The Idaho Transportation Department (ITD) on the other hand has had responsibility for management of the existing U.S. Highway 12. The standards in the Plan are an attempt to provide overall direction so that we may be able to work with the ITD in achieving our respective responsibilities.

We have spelled out those major items of concern to the ITD in the standards section of the Wild and Scenic Rivers Corridor Management Area Section. We also recognize that it would not only be impossible to address every site specific concern, but it would not be desirable. Most site specific decisions will still have to be made on the ground between Forest Service and ITD personnel.

VI-153

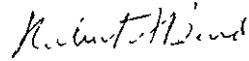
Enclosures



Our discussions with your staff have convinced us that the Final EIS and Plan can adequately and reasonably address our concerns. In doing so, some significant revisions to the preferred alternative will likely be necessary. Once you have had a chance to consider these comments, please contact us at the number below. We would be happy to arrange a meeting to begin discussing the Final EIS and Plan. We look forward to working with your staff during the revision process.

Thank you for the opportunity to review the DEIS and Plan. Continued coordination and any questions should be directed to Brian Ross of our EIS and Energy Review Section at (206) 442-8516 or FTS 399-8516.

Sincerely,



Robert S. Burd  
Director, Water Division

Enclosure

cc: USFS, Overbay  
USFWS  
NMFS  
IDHW  
IDFG  
CRIFC  
TWS

VI-155

USEPA REGION 10 DETAILED COMMENTS  
ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT  
AND PROPOSED FOREST PLAN  
FOR THE CLEARWATER NATIONAL FOREST, IDAHO

General

The Forest Plan is meant to be a document which outlines the direction for management of the CNF's resources. It is designed to establish the framework for planning, we recognize, however, that Forest Plans typically do not provide the detailed planning for individual projects. One of the Plan's major purposes is to provide detailed descriptions of the standards and processes that will be used for planning specific activities on the CNF during the next 10 to 15 years. Given the projected outputs of the EIS preferred alternative, the Plan describes how these outputs may be achieved. The key, however, is that the outputs are targets. The standards presented in the Plan (both forestwide and management area-specific) are interpreted as the primary "rules." The EIS describes the affected environment and analyzes the environmental consequences of implementing alternative management schemes. The EIS, then, is meant to support the reasonableness of the Plan in terms of the potential for its implementation to result in adverse impacts.

In order to determine whether the standards and planning framework in the proposed Plan will sufficiently protect environmental quality, public health, and welfare, the associated EIS should include more detailed descriptions of the affected environment and environmental consequences. In general, too little information regarding existing conditions on the CNF is presented. Without adequate descriptions of existing conditions (including sensitive resources and uses, and any current degradation) an adequate environmental consequences analysis cannot be performed. Similarly, it is not possible to determine whether any impacts that are evaluated may be acceptable. Finally, it makes it very difficult to determine whether the proposed standards sufficiently avoid or minimize impacts.

Many of the following discussions should be read with this background; adequate discussions of existing conditions and the processes the Forest Service will utilize during implementation of the CNF Plan will provide the necessary support for later planning decisions. We believe that much of what we suggest for inclusion in the Final EIS and Plan is readily available or can be reasonably obtained. We are optimistic that the final documents will be adequate for decisionmaking and for planning future activities on the CNF that are environmentally sound.

Fisheries and Water Quality

We discuss below several concerns regarding both the analyses of fisheries and water quality issues presented in the DEIS and Plan, and the potential for adverse impacts to result from implementation of the proposed Plan.

Existing Conditions The Final EIS should present more information about existing fish habitat and water quality conditions. Based on the information provided in the draft documents, it does not appear that the proposed Plan can adequately protect beneficial water uses.

RESPONSE

1) We have made some minor changes to Chapter III - Affected Environment, and Chapter IV - Environmental Consequences, but in general we feel the information contained in these chapters is adequate.

2) Important habitat areas for both anadromous fish and species of special concern have been identified on maps. Critical fish streams have been specifically identified. These maps are on file in the Supervisor's Office. Streams which were once important for their fisheries will be managed for long-term recovery.

Existing levels of habitat quality will be displayed for important fishery streams. This information is on file in the Supervisor's Office.

Where known, the existing habitat quality and water quality are tabulated and were used in the analysis and decision-making process. However, this specific information is not available for every reach of every stream on the Forest. At the planning level, certain assumptions must be made, and various offsite assessment tools must be incorporated (like models and extrapolation techniques) to help assess the potentials and risks of various management alternatives. At the more detailed levels of area level analysis and project planning, existing quality parameters are more precisely measured and evaluated. We do not feel that it is appropriate to list habitat quality for every stream reach because in many cases it would imply precision that is not there.

The water quality standards and criteria in the Draft and in the Final Plan never call for "maintenance of existing conditions." The standards are designed with the intent of promoting recovery in all waters that may incur short-term reductions through Forest management actions. Those short-term reductions are limited to those criteria listed in the Plan (in terms of magnitudes and duration) to achieve no long-term damages to beneficial uses. In the event that a particular stream has been damaged by pre-Plan Forest management activities, the Plan standards require that the watershed be managed such that natural recovery of the system will not be impeded or delayed more than five years.

By necessity and regulation, only significant issues were addressed in the EIS - as they are the elements that drive the planning process and decisions in the Plan. In the case of water resources, fish habitat was the principal issue of water quality and stream condition. Other beneficial uses of the water were addressed in the planning process, and standards and criteria are presented in the Plan for them. The Plan and EIS cannot and should not dedicate a lot of space to non-issues or concerns that do not require major policy decisions. In the case of domestic

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VI-156

Important habitat areas for both anadromous fish and species of special concern (i.e., westslope cutthroat and bull trout) should be identified on maps. It would be most useful for these maps to be indexed by management area designation. Critical fish streams should be specifically identified. We believe that critical fish streams on the CNF should include those important to species of special concern, those having critical spawning or rearing habitat for major fisheries, those having any spawning or rearing habitat for anadromous fish (especially chinook salmon), or those supporting a nationally renowned fishery. Streams once important for these uses, but not presently capable of supporting them at full biological potential, would most appropriately be managed for long-term recovery, not merely maintenance of existing conditions (see Stream Recovery, below).

The existing habitat quality should also be presented. This could be accomplished by adding a column in the List of Specific Streams and Assigned Standards referenced in Appendix J of the proposed Plan. (This list should be published along with the Final EIS and Plan.) The added column would present the existing habitat condition of the specific streams measured as percent of biological potential. Once the Final EIS has identified these watersheds and described their existing conditions, the Final Plan should apply appropriate management prescriptions which allow recovery and use of these important aquatic habitats. This information would allow the public to see how the Plan will take existing conditions into account; it would also help describe both the basis and the need for such potential management decisions as deferring particular drainages from timber harvesting.

Existing water quality conditions should be discussed not only in terms of fish and fish habitat, but also relative to other beneficial uses such as domestic water supply (see Domestic Water Supplies, below). The DLIS does not mention domestic water supplies on the CNF. The Final EIS should identify water supply intake locations, and the existence of any other special or protected beneficial uses. The Final Plan should then apply management standards which afford the necessary protection to the watersheds in which those uses occur.

Fishery Standards The Idaho Department of Health and Welfare (IDHW), the agency responsible for determining whether the "prevention of serious injury" component of the state water quality standards is satisfied, has reviewed the DEIS and Plan<sup>1</sup>. They indicated that several of the Fishery Standards presented would not prevent "serious injury." These include:

- Moderate fishable standard, in relation anadromous fish
- Low fishable standard, for anadromous fish and for species of special concern
- Minimum viable standard, in general

As well as allowing unacceptably high levels of habitat degradation, these standards permit their effects thresholds to be exceeded for up to 20 out of 30 years, and would not allow for full habitat recovery. We agree with IDHW that these standards would not adequately protect beneficial uses from serious injury, and should therefore be revised in the Final LIS and Plan. (When revising the Fishery Standards and Water Quality Objectives for the final documents, consideration should also be given to our comments under Soil/Slope Hazards, below.) We recognize that these revisions may result in significant changes in target levels for other outputs.

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2) Continued water supplies, there are no municipal water supply intakes on or near the Forest. There are a few single-family supplies derived from the Forest, and these are mostly springs. Standards and criteria are provided, as well as state law, for management of these isolated situations.

3) The low and moderate fishable and the minimum viability standards have not been applied to streams of critical fishery significance. They have been applied to streams of mixed ownership and to those suffering from mining, agriculture, and logging. Under the highest standards, it is unlikely that these drainages would recover in several decades because of the diverse management situation and because of the reluctance of the regulatory agencies to enforce the water quality standards on state and private ownerships.

Natural variation of salmonid populations in streams is substantial -- sometimes exceeding 100 percent (Hall and Knight, 1981). In the Clearwater Basin, steelhead populations have been reduced to 15 percent of habitat potential (85 percent reduction) and still managed to recover within a short time frame (less than 5 years). A 20 percent reduction is well within a salmonid population's ability to recover to full habitat potential within one year.

From a biological perspective, a "serious injury" to a population would be represented by a situation whereby the stock would not be able to replace itself over time. It can be displayed quantitatively that a 20 percent reduction (80 percent of habitat potential) does not reduce a stock to or below its replacement equilibrium.

VI-157

<sup>1</sup> Letter to James C. Bates, Forest Supervisor, CNF, dated August 30, 1985, from Lee W. Stokes, Administrator, IDHW.

The "No Effect" standard is misleading. It means that no measurable adverse changes should occur; however, the fish response model is incapable of detecting habitat quality degradation of less than 10 to 20 percent. For critical stream reaches, as we believe they should be defined (see above), a 10 to 20 percent habitat degradation would be unacceptable. This is particularly true for chinook salmon. In addition, the "No Effect" standard is the most restrictive of those presented in the proposed Plan; apparently, no drainages (other than those receiving wilderness designation) have been deferred or otherwise removed from the timber base on the basis of their critical importance to designated beneficial uses. Once the Final EIS has adequately described the critical fish habitat (see Existing Conditions, above), it will be possible to determine the areas that should be managed for zero degradation of habitat quality. Due to the extremely low numbers of chinook salmon on the CNF, they should be managed separately from steelhead; i.e., separate standards should apply where chinook spawning and rearing habitat occurs. These areas and populations, at least, should be managed for zero degradation. The "No Effect" standard, because it relies on the detection limits of the model, does not guarantee the necessary protection. To the extent that the "High Fishable" standard would be applied to critical streams or stream reaches, we have the same concerns for its use.

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For both the "No Effect" and "High Fishable" standards, thresholds could be exceeded for 10 of 30 years. It is unclear how such conditions could allow for the full recovery these standards prescribe (also, see Stream Recovery, below). This would be of particular concern if there were latitude for interpretation such that thresholds could be exceeded one year out of three. "Sustained damage" could be considered to be occurring if it either spans more than a generation or occurs repeatedly to each generation of fish, for example. The allowable frequency and duration for exceeding the threshold should be clarified in the Final Plan. For critical fish streams, we believe that thresholds should never be exceeded.

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Because of the uncertainties involved with use of the fish and sediment models it would be most appropriate to limit their application to preliminary screening of activities, especially where anadromous fish or species of special concern occur. For example, whenever the models show any detectable decrease in habitat quality resulting from a planned activity, it should be assumed that unacceptable impacts (above the fisheries standard) could occur. In those instances, on-the-ground analyses (including ambient water quality or sediment and fish habitat sampling as necessary) should be undertaken to determine whether any special management practices or modifications to the sale could allow the planned activity to comply with water quality standards (also see Monitoring Plan, below). In this manner, the CNF can use the models to help implement the Plan. The shortcomings and uncertainties of the data are acknowledged, however, and Plan implementation relies primarily on site-specific analyses.

Stream Recovery. The proposed Plan appears to relegate presently degraded streams to lower-standard management. The Final EIS should discuss the degree to which these streams could recover or be enhanced. The Final Plan should then apply appropriate standards so that long-term recovery occurs. (This is especially important where habitat for anadromous fish or species of special concern is at issue.) The Final Plan should also discuss how recovery will actually be measured and taken into account before new activities are permitted to occur. Stream recovery eventually becomes an existing conditions issue. The Plan is the appropriate document to disclose the process that will be used to determine existing conditions, now or in the future (i.e., after recovery has been allowed). If existing conditions are only indirectly considered, "serious injury" could result incrementally.

5

4) Our standard for "high fishable" is  $\geq 80$  percent. On a Forest-or-watershed basis, it is very unlikely that all streams or stream reaches would be driven to the floor of 80 percent. Therefore, at any point in time, it is very likely that habitat potential would range from 85 to 100 percent. The actual difference would be insignificant. The habitat potential of  $\geq 80$  percent provides for species perpetuation plus a healthy surplus for harvest. An increase of 10 percent in the "high" fishable standard would essentially require a roadless allocation.

The Forest will maintain the "no effect" or "high fishable" standard by:

1. reducing the amount of road construction in a drainage within a set period of time which will spread out the impact and allow time for recovery;
2. reducing the sediment yields through more intensive and effective mitigation practices -- i.e., slash windrow filter strips;
3. avoiding the location of roads on hazardous, mass-wasting landforms, or in stream corridors;
4. utilizing helicopter and other aerial logging systems on landforms that are prone to mass-wasting -- i.e., stream breaklands;
5. implementing cumulative analysis of impacts within watershed systems, we shall be able to "tailor" management activities to meet the objectives (Area Analysis);
6. implementing (funding) a more intensive and effective monitoring program -- keyed to critical fishery drainages;
7. changing our riparian prescription to include more specificity and by reducing the road construction and timber outputs to levels commensurate with attainment of the standards.

5) The Forest has designated some streams to lower standards because of their existing degraded condition and potential to recover within a reasonable period of time; most of the streams are in watersheds of mixed ownership -- e.g., Potlatch Creek and Orogrande Creek -- where impacts are manifold and generated from multiple ownerships and activities. The potential of these streams to recover is largely tied to the State's willingness to enforce the Forest Practices Act and water quality standards on state and private ownerships. Unless this effort is initiated, these streams and their habitats will unlikely recover within two or three decades.

Best Management Practices In discussions regarding water quality standards compliance, the DEIS and Plan emphasize the use of BMPs. We recognize that BMPs are an important tool for helping to meet standards. The Final EIS and Plan should specifically acknowledge, however, that use of BMPs does not automatically mean that standards have been met. The importance of monitoring (see Monitoring Plan, below) cannot be overemphasized in this regard. The DEIS and Plan discuss significant activity on lands that have not previously been developed. Much of this land may present a significant risk due to soil and slope conditions (see Soil/Slope Hazards, below), and can be considered as being more marginal than that on which harvesting has occurred in the past. For these marginal lands, generally applied BMPs may not be adequate to protect the aquatic environment, monitoring must be emphasized in these cases if practices are to be modified in time to prevent serious injury from occurring to protected beneficial uses.

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Cumulative Effects on Fisheries and Water Quality The proposed Plan (page H-26, No 9) mentions that an area development analysis "should be conducted prior to first entries into roadless areas designated for development and in other areas depending upon the complexity of proposed projects." We have discussed the use of area analyses with other national forests in Region I and generally support their use. It would appear that much of the detailed analysis we feel to be necessary, but which the Forest Plan cannot provide and is often missed by individual project evaluations, would be included in this new level of study. For example, area analyses would be the most appropriate place to evaluate the cumulative effects of many similar activities, and the combined effects of different types of activities, in a fairly large area and over a period of time. Because detailed and specific analysis of these impacts are extremely important, the Final Plan should discuss the area analysis process in more detail. For example, on what level (3rd order drainages?) would such analyses be performed? What period of time between projects would be considered? Would all activities producing sediment in the area to be analyzed be included (e.g., timber harvests, plus roads, mines, grazing, etc)? How will multiple ownership drainages fit into these analyses? Will documents be prepared and available for public review and comment?

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The potential is high for resource conflicts to occur on portions of the CNF, in large part because much important fish habitat is surrounded by hazardous soil or slope areas (see Soil/Slope Hazards, below). For this reason, area analyses would be appropriate to perform for all areas in which development is planned near important aquatic resources. Finally, we believe that area analyses should generally receive public review as draft EAs or EISs, depending upon the resource conflict potential of the projects.

Meeting Water Quality Standards Because of 1) the lack of discussion of existing conditions, 2) the use of some fishery standards that do not provide adequate protection for beneficial uses and others that are unclear, 3) the potential underestimation of impacts inherent in the application of the sediment and fishery models, and 4) the uncertainties associated with stream recovery, the DEIS and Plan do not establish that water quality standards can be met under the preferred alternative. We are confident that, by addressing our concerns and comments, the CNF will present a Final EIS and Plan which clearly show that water quality and important aquatic resources will be adequately protected, while providing CNF personnel with the necessary flexibility to manage day to day activities on the ground. We recognize that in doing so, some of the output levels presented in the DEIS and Plan will have to be revised (e.g., for streams where the Final Plan presents a standard of "No Effect," less timber harvesting may be possible than under the proposed Plan when the stream was shown as having a "Moderate Fishable" standard.)

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5) Continued

The Forest is concentrating their fish habitat enhancement efforts in critical anadromous fish streams. The following projects have been completed in the last three years: Lolo, Eldorado, Pete King, Squaw, Doe, Crooked Fork, and White Sand. Six of the seven projects have been designed to speed the recovery of degraded habitats. These projects are being evaluated for effectiveness.

The Forest is planning to restore or enhance additional habitat as soon as possible in the following drainages: Papoose, Upper Crooked Fork, Eldorado tributaries, North Fork of the Palouse, Elk Creek, Warm Springs, and Deadman Creeks. Funding of these projects will be accomplished via Power Council -- B.P.A. and Forest Service Funds (P. & M. and KV-Other).

6) The forestwide standards and the individual management areas standards stand on their own. For example they are what we measure against to determine if we have either avoided, or minimized adverse effects. Best management practices are one of the tools that will be used to meet these standards. We acknowledge that monitoring will be the tool to use to determine if and when we meet all of the standards and constraints established in the Forest Plan. Watershed standards as applied to steep stream breaklands and other sensitive landscapes will determine which management activities we can and cannot do.

7) We have revised the area analysis. See Chapter II of the Forest Plan. We have added a statement about cumulative effects. We have not added the detail requested in your comments as we believe only project level analysis can address those site specific items.

All project analysis will be subject to the NEPA process which includes public involvement and opportunity for review.

Regarding the activities and uses being analyzed, this depends upon their particular importance in an area. For example, normally all timber sale projects would include as a minimum, a watershed analysis to the detail necessary to address its potential impact.

8) It is our position that the standards, criteria, and objectives stated in the Plan for water resources were appropriately developed using public input, available technology, and professional judgments. The analyses suggest that the Plan activities can potentially meet those objectives - but not without risk. These risks are recognized, monitoring systems are in place to identify them with effective timing, and mechanisms for adjustment are provided in the Plan, the regulations, and National Forest policy.

VI-159

Soil/Slope Hazards

The final EIS must present a thorough discussion of high hazard soil and slope conditions on the CNF. The CNF's Land Systems Inventory would provide an appropriate data base for the discussion. It should be summarized in the final EIS in such a way that readers can overlay the soils information (along with information on such critical habitats as spawning and rearing areas for anadromous fish and species of special concern) on the Forest Plan map that shows management area designations. In this way potential large scale resource conflicts would be immediately apparent, as would the CNF's mechanism (management area designation) for dealing with them.

We have made a preliminary attempt at overlaying critical habitat areas, potentially hazardous soil and slope conditions, and management area prescriptions. The information available to us indicates that there is a significant potential over large areas of the CNF for road construction and timber harvesting activities to result in serious adverse impacts to water quality and critical fish habitat from both increased sediment yields and mass failures. Analyses have not been presented in the DEIS and Plan which adequately consider these potential impacts. Rather, reliance is placed on BMPs to minimize the impacts. The proposed plan does designate slightly more than 4,000 acres (0.2 percent of the CNF's 1.8 million acres) of steep and/or unstable land as management area E3, but defines the land as suitable for timber harvesting. Many additional acres are likely to present high erosion and mass failure risks; for example, the DEIS (page III-1) states that the CNF is generally characterized by steep slopes and unstable lands, and has a history of "slumping or mass wasting."

Because past development activities have significantly reduced salmonid habitat, and the chinook salmon population in particular is dangerously depleted, it is essential that remaining high quality habitat be protected. BMPs for the high hazard lands discussed above will require very expensive road construction or harvesting techniques in order to reduce the mass failure risks. We are concerned that, in the past, many Forest Service roads have not been built to appropriate standards (for example, see the Idaho Panhandle National Forests' DEIS and Proposed Plan). If poor roads are constructed and timber harvesting occurs on steep, unstable slopes the mass failure risk will be greatly increased.

The effort to identify specific areas having a significant mass failure risk, and to identify special management direction for those lands, is important for two primary reasons. First, one large mass failure can result in more water quality and fish habitat degradation than a wide variety of other activities occurring in a watershed over a long period of time. Second, to the extent that high hazard areas are known and can be managed appropriately, mass failures resulting from planned activities on the forest would have to be considered avoidable. We believe that sufficient information is available for these discussions to be included in the Final EIS and Plan.

Mining

The DEIS presents little information regarding impacts of past and present mining activities. The DEIS does state that placer mining activity on the CNF is expected to increase in the future. Several important questions that are raised by the lack of information presented in the DEIS should be addressed in the Final EIS.

Has water quality monitoring been used in the permitting of mining activities up to the present; i.e., does specific information exist so that the Forest Service could determine whether and where problems may have occurred?

9) The Forest's Land System Inventory (LSI) is too detailed to be contained within the Forest Plan documents. "High-risk" lands have been identified and were considered in the process. Onsite detailed assessments will be made during project level analysis.

EPA suggests that by overlaying LSI maps (which are at 1:24000) with "critical" fish habitats, the general reader could identify potential large scale resource conflicts. Even though this exercise is not appropriate at this level of planning, it would indeed point out the potential for resource conflicts. These resource conflicts were identified using capability area maps during the early planning stage, and the results were considered throughout the planning process.

10) The Forest Plan states that the minimum coordinating requirements for projects on land types with high or very high mass stability or parent material erosion hazard ratings are

1. The field verification of the mapped unit and predicted hazard rating.
2. Review road locations using a team consisting of an engineering geologist, hydrologist, soil scientist, and a silviculturist. Assess concerns and possible mitigation measures to determine if a geotechnical investigation is needed.
3. After the "P" line has been located, stake mitigating road designs, using the original ID team members and road designer.

When timber harvesting on land types with old slumps, the silviculturist and soil scientist shall jointly field verify and design the unit location and silvicultural prescriptions to mitigate mass stability concerns.

Almost all lands are susceptible to some form of mass wasting of varying magnitudes. This susceptibility is one of the key elements of the Land System Inventory (LSI) that has been completed on all the lands of the Forest. The LSI and onsite surveys and analyses are used to identify and evaluate the risks associated with road building (and any other site disturbing activity) during the planning stages of a project.

VI-160

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- Is there existing degradation that is of an extent that violations of water quality standards are occurring at or below mine sites and mining operations?
- Is any existing degradation due to non-compliance with operating plans, and are current operating plans adequate for sufficient environmental protection?
- Where there is ongoing degradation due to past mining activities, what options exist for remedial measures to be taken?
- How will existing degradation be taken into account when planning for other types of activities in the affected watersheds?
- Will water quality monitoring in relation to future mining activities be sufficient to detect serious water quality degradation, and to trigger modification of operating plans if necessary?

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The last two questions should also be addressed in the Final Plan, especially in the Implementation discussions. The standards in the proposed Plan do not specifically address avoiding or minimizing impacts due to mining, similarly, monitoring for compliance with Operating Plans and for impacts from minerals exploration and development are not listed in the Monitoring Plan (proposed Plan, Table IV-1)

Domestic Water Supplies

Forest Service Guidance (2543 1) dictates that Forest Plans include planning considerations for watershed control; however, there is no comprehensive assessment of the impact that the proposed Forest Plan will have on drinking water supplies. It is essential that this assessment be carried out, since any of the alternatives presented in the DEIS could have significant effects.

The Forest Plan should identify public supply watersheds and include management prescriptions and standards which comply with state water quality standards for both community and non-community water use. Management should be coordinated with and reviewed by the water users and IDHW, the state agency responsible for public water supply standards. Since the effects of activities on drinking water supplies have not been assessed in the DEIS and Plan, we have the following recommendations:

12

1. Present background information pertaining to drinking water supplies, including
  - Name, location, size, source, and treatment of each system.
  - Historical water quality information (ambient and drinking water). This would be available from the municipalities, local and state health departments, and the US Geologic Survey.
  - Past and present watershed usage, including whether the watershed is open or closed to public access.
  - Whether waterborne disease occurrences have been associated with these supplies.
  - Reference to applicable federal, state or local regulations regarding ambient and drinking water quality.

10) Continued

Probably the most unstable land on the Forest is referred to as "landtype 50." Landtype 50 is a broad classification for lands dominated by historically mass wasting processes. The site factors within this classification are extremely variable, and are often difficult to predict or even measure. Inclusions of instability and/or high water tables are often extensive, but they do not usually encompass the entire landtype. Therefore, there are sometimes alternative routes, or even alternative logging systems available that provide a means of managing the timber without accelerating instability (or increasing surface erosion, which is also a common hazard in this landtype.)

Broad statements such as "...no land disturbing activities is permitted on soils susceptible to mass failure..." tend to be arbitrary and are unnecessary for achieving the goals of protecting water resources. Project-level surveys and analyses are required, at which point decisions can be made to meet the standards in the Plan. The standards for water quality will certainly require "no land disturbing activities permitted" decisions in some cases, but not until adequate site data is acquired and analyzed.

11) An approved plan of operation for mining activities must contain specific mitigation measures to minimize or avoid impacts to soil, air, water, fisheries, etc. These measures are developed from the recommendations of an interdisciplinary team consisting of a wide range of specialists from the Forest Service and the State of Idaho, who developed mitigation measures based on past, present, and future activities in the watershed. These measures, including water quality monitoring and feasible and up-to-date exploration and mining methods are incorporated into the approval plan of operations. These are actions that could be taken during the operation, on a seasonal basis, and before final reclamation has begun.

There is no existing degradation occurring below existing mine sites or mining operations.

12) Public supplies from surface waters on the Forest was not a major issue, and therefore it was not displayed extensively in the EIS. A section in the Forestwide Standards has been added in the Final Plan to state the existing National Forest policies that EPA suggests.

Although EPA would like to see extensive detail on every facet of the National Forest, the Forest planning process does not address project level analysis.

VI-161

2. Identify watersheds or areas within watersheds which are particularly sensitive to activities which might have a detrimental effect on water supplies. Sensitive areas may be defined by such factors as the physical features of the watershed, the number of water users in the watershed, the type of water treatment employed, the location of water intakes, and past history of water quality problems.
3. Identify activities which have the potential to degrade potable water quality. These would include such things as timber harvesting, road construction, mining, livestock grazing, herbicide or pesticide usage, recreational development, etc. Increased sediment input as a result of timber harvesting and road construction, and the effects of livestock grazing, are of particular concern. The cost and effectiveness of treatment and disinfection (e.g., for *Giardia lamblia*) are greatly compromised as turbidity increases. Grazing along streambanks can cause an increase in turbidity as well as serious bacterial contamination.
4. Assess the impact on the watershed and municipalities of planned forest activities. Quantification of the expected impact is desirable; however, we realize that this may not always be possible with the data available.
5. Discuss the process the CNF will use for protecting domestic water supplies. It would be desirable to designate domestic water supply watersheds as separate management areas in Section III of the Plan. For these areas appropriate management goals and standards should be developed per 2543.1 of the Forest Service Manual. Municipal watershed management plans should be cited or developed which allow the water users, the land management agency, and the state agency responsible for public water supply standards to cooperatively monitor the watershed.

The above recommendations apply primarily to surface water supplies. There may also be effects on ground-water supplies. The potential impact of the Forest Plan on drinking water aquifers should be considered.

To determine how effective the planning and management of the CNF has been in protecting water quality, it is essential that a monitoring component be included (see Monitoring Plan, below). Such a monitoring program should address both ambient water quality and finished drinking water quality. Sampling parameters for water systems would include those specified in the National Interim Primary Drinking Water Regulations, and for ambient water quality would include turbidity and coliforms (total and fecal). Site specific parameters may also be valuable additions; for example pH where acid mine drainage is a concern. *Monitoring information will not only provide data about effectiveness of management actions, but will also create a reference base for future management decisions regarding appropriate activities in municipal watersheds.*

Riparian Area Management

Riparian areas are designated in the proposed Plan for providing timber and other outputs. Although the intent of the proposed Plan is to provide for long-term improvement of riparian area quality while providing other outputs, we are concerned that the existing condition of the CNF's riparian areas and the impacts of grazing and timber harvesting activities on them have not been adequately addressed.

12) Continued

The Final includes a comprehensive framework for a Monitoring Plan. It is designed to characterize water quality, assess the affects of management practices, validate assumptions, identify potential high-risk situations, and demonstrate the effectiveness of management practices. The design of a monitoring program is oriented toward the water resource issues and concerns for the particular water system. Those issues are usually oriented toward fish habitat; and therefore, monitoring plans are usually designed to address sediment, stream condition and stability, water temperature, and other parameters sensitive to fish.

Primary drinking water supply is not an issue for the Forest.

13) EPA is correct that (some) riparian areas are designated to provide timber and other outputs. Grazing is not a principal issue on the Forest at this time. Timber harvest is, and its activities were strongly considered in the development of the riparian prescription. The riparian prescription was revised in the Final to better reflect the Forest's intent to manage them for riparian dependent resources. This intent was not clear in the Draft.

Riparian areas play an important role in water, fish, and wildlife habitat quality; but these qualities are usually functions of cumulative effects and actions over larger areas than just the riparian areas. Those assessments are best made at the next level of the planning process. The question of whether timber in riparian areas should be regulated or unregulated was hotly discussed. The decision was that it should be regulated in some areas (for economic reasons), and could be regulated in those areas with the specified criteria and management direction requiring that the primary objectives for management fully protects riparian dependent resources.

VI-162

The importance of riparian zones to water quality and fish and wildlife habitat quality greatly exceeds the actual area occupied by riparian vegetation. Any evaluation of the cost effectiveness of timber production in these areas should reflect this fact. If harvesting is to occur, it should be done in such a way that impacts are minimized. In our view, the most appropriate timber management for most riparian areas would be their classification as unsuitable for harvest. More severely restricting other activities in riparian areas, such as grazing, would also have important water quality and channel stability benefits. In addition, the risk of bacterial contamination of domestic water supplies would be reduced.

13

The Final FIS and Plan should more thoroughly address riparian areas. It is essential to carefully consider how activities such as timber harvest and livestock grazing can be made compatible with other riparian area resource goals (e.g., protecting and enhancing water quality and fish habitat potential).

Monitoring Plan

The introduction to the proposed Plan (page I-1) implies that monitoring and evaluation activities would not be affected by budget fluctuations. While we would be very pleased should this be the case, it is counter to our understanding of the Forest Service budgeting process based on our discussions with other national forests. Is the situation on the CNF different from other forests in the Region? This is an important point, because we discuss below the need for a significant commitment to environmental monitoring to be performed in conjunction with the activities proposed for the CNF.

The monitoring plan discussed in the proposed Forest Plan (pages IV-5 through IV-20) includes appropriate and laudable goals. It should be greatly expanded in the Final Plan in order to show the Forest Service's capability to adequately meet those goals.

In general, the monitoring plan outlined in Table IV-1 appears to emphasize information necessary to determine whether output targets may be achieved. We understand that such monitoring information is important for planning activities on the CNF. However, further emphasis needs to be placed on monitoring the environmental impacts of new or ongoing activities, and recovery from effects of past activities. Environmental monitoring should key on the standards that CNF activities must meet (whether federal, state, or those adopted in the Plan at Sections II and III).

For example, the primary cause of impacts discussed in the DLIS and Plan is sediment. How will sediment and sedimentation impacts be monitored? Items C-8 and C-9 ("Wildlife and Fish" elements) in Table IV-1 discuss anadromous fish and cutthroat trout, but do not clearly address bull trout, a fish species of special concern. Also, decreases in habitat for anadromous fish beyond the "planned level" could mean that activities are having unacceptable impacts and should be halted, rather than triggering further evaluation. Finally, an annual loss of habitat for cutthroat trout (and for bull trout?) could not be detected after the first three years since monitoring is slated to occur only once every three years thereafter. It is therefore unclear how the proposed monitoring can meet its objective. The reporting period of six years for these items is simply too infrequent to allow efficient public and agency involvement in assessing the acceptability of impacts.

14

14) Since this is a forestwide Plan we have not included much discussion of individual project monitoring. That will be done primarily at the District level through project environmental analysis. The Forest Plan is primarily concerned with project monitoring as it relates to cumulative effects. As you state monitoring will evaluate all activities and effects against the standards as stated in Chapters II and III of the Plan.

Sediment impacts on fish resources will be monitored in the water column, in the habitat, and upon the populations. Critical fishery drainages will be monitored annually and reports documenting the conditions will be filed annually. Data on indicator species plus species of special concern, i.e., Bull trout, will be collected along with standard sediment habitat parameters such as cobble embeddedness. Planned activities that are generating unacceptable impacts will be halted.

We do plan to monitor the effects of mining and again we will use the standards as stated in Chapters II and III to measure these effects. In addition, each mining operation has an operating plan. These plans contain all the necessary stipulations that the miner must comply with to meet Forest Plan standards.

We agree that monitoring is the vehicle that will determine the success or failure of implementing the Forest Plan. We believe that we have established a solid monitoring plan that will accomplish this. We already have an excellent water monitoring program, and we believe that the standards established for the streams are adequate to protect this resource. A complete list of the standards for streams is shown in Appendix J of the Plan.

To our knowledge there are no other agencies or groups that have any kind of systematic monitoring in the Forest. If such systems are developed that do not duplicate our own system, we would cooperate with them. We do cooperate with Idaho Fish and Game Department who monitor wildlife (primarily elk) through observation.

We recognize the limitations of the sediment and fish models, although they are the state-of-the-art systems, we routinely conduct on-the-ground inspections of timber sales, road construction and all other major activities that may cause adverse impacts to the resources, especially water and fish.

We think we have adequately discussed how the monitoring data will be used in the introduction to Chapter IV of the Plan. The significance and magnitude of any adverse impacts discovered during monitoring will determine what action we would take.

VI-163

Minerals are another example. Departure from operating plans is mentioned, but an explanation of how departures will be detected is not. Environmental impacts of exploration and development need to be explicitly monitored.

We expect that such impacts are meant to be covered under other items, e.g., that water quality impacts of mining activities would be assessed with elements under Soil and Water. This is not obvious in the proposed Plan and needs to be clarified.

The adequacy of the monitoring plan for environmental impacts is the cornerstone for EPA's decision to accept that the major timber harvesting and roading proposed for previously undeveloped areas (many with critical aquatic resources and high soil and slope hazards) can be achieved without significant environmental degradation. We recognize that the type of monitoring we suggest would not be possible for the Forest Service to undertake in conjunction with each activity on the CNF. We would encourage a Forest Service-led effort at coordinating the work of all agencies, tribes, and other groups who may monitor specific impacts on CNF lands. To the extent that methods and parameters can be agreed upon and sampling stations and timing be coordinated, a forestwide data base can be developed that can be effectively used for decisionmaking. Until such coordinated monitoring occurs, the Forest Service can still maximize the usefulness of its own efforts by focusing its environmental monitoring on activities and in areas which are most likely to result in significant resource conflicts. For example, we would not suggest undertaking major monitoring efforts in drainages that are so important to fish species of special concern that the drainages have been deferred or excluded from the timber harvest base. Similarly, where other resources of concern do not occur or are not highly sensitive, the highest degree of monitoring would not be required.

14

Monitoring should play a key role where planned activities could be in direct conflict with other important resources. Many such possibilities exist, given that much of the previously roadless land on the CNF has been proposed for development, and given that significant impacts (such as loss of chinook salmon habitat) have occurred as a result of past activities. Adequate monitoring where significant resource conflicts are possible is important for other reasons as well. The limitations and uncertainties associated with the sediment and fish models, for example, render them inadequate by themselves for implementing the Plan (i.e., for planning specific actions). They must be coupled with on-the-ground monitoring and evaluation when they predict any degradation where aquatic resources of concern occur.

Monitoring cannot be effective unless mechanisms exist for utilizing the information gathered to modify activities in a timely manner where necessary. This section of the Final Plan should discuss how monitoring data will be used. We are confident that the Final Plan will provide adequate consideration of these points; we know the CNF planning staff recognizes the importance of adequate monitoring when resource conflicts may occur.

VI-164



2. It appears to us that some confusion exists because the Guidelines address, but do not clearly distinguish between the Forest Service's responsibilities under the National Historic Preservation Act of 1966 and the National Trails System Act of 1968. For instance, a primary focus of the Trails Act appears to be recreation opportunities and development of a trail system while the primary focus of the National Historic Preservation Act is the identification and preservation of remnants of the historic trail. This divergence in objectives causes confusion about the reasons for Forest Service goals and objectives within the document.

2

3. It is unclear how the "Lolo Trail System Corridor" relates to the boundaries of the National Historic Landmark. It appears that the "Corridor" is much smaller than the Landmark. If this is the case, then the Forest Service's planning efforts are not sufficiently broad.

3

4. The Guidelines are arranged in such a way that it is difficult to correlate the proposed management direction with situation statements and the presence or absence of significant historic trail remnants. This makes it difficult to determine whether the proposed management directions are appropriate under the circumstances.

4

5. The Guidelines often appear to focus management of the trail corridor on the basis of vegetation type rather than management of the vegetation because of the presence of a significant historic property.

5

6. The relationship of the visual quality objectives (VQO) established for the Lolo Trail System Corridor to the boundaries of the National Historic Landmark is unclear. This is an especially important issue since the Landmark boundaries were established to allow for the "necessary 'wilderness' setting" (see page 24 of the Guidelines).

6

7. We note on page 83 that it is proposed that commercial grazing be excluded from areas only where its effects are worse than those caused by big game. This action item could result in objectionable and adverse effects to historic properties because of the direction from which the guidance comes (e.g., if big game is already adversely affecting historic properties through trampling, etc., then cattle and sheep won't be allowed to do any more damage than the big game already does). In effect, this management decision

7

3) We agree that there needs to be further clarification of this point in the "National Historic Landmark Boundaries" section on pages 24-25. As mentioned previously, public acceptance of the existing trail tread along with our marking of that tread and associated historic sites has provided a basis for redefinition of the original Landmark boundaries. We have consulted extensively with the Idaho State Historic Preservation Office (Dr. Merle Wells, recently retired SHPO) and the National Park Service (Ms. Ann Houston of the San Francisco Historic Landmarks Office) on this issue. Both are in agreement that the Landmark boundaries should be redrawn based on the trail system corridor as defined in our LTIG. Subsequently, we believe their support indicates that our planning is sufficiently broad.

4) It is important to recognize that the LTIG were designed primarily for ease of use by the responsible Forest Service managers of the various trail segments across the Clearwater National Forest. We believe this function of the document is extremely important to retain. In recognition of your concern, we plan to add maps showing key recreational, historical, and interpretive areas of significance which will tie back to proposed management direction. This change should be more beneficial to the casual reader who does not have intimate on-the-ground knowledge of the trail route.

5) I can understand your viewpoint but that was not our intent. It is important to recognize that the route traverses over 100 miles of the Clearwater National Forest. For the most part, it is roaded and passes through a mosaic of vegetation types, ownership patterns, and past and present forest management activities. The vegetative mosaic has changed throughout time and is an integral part of the character of the route. Major vegetative changes have historically resulted from catastrophic events such as wind, fire, insects and disease. The guidelines recognize the existing or desired vegetative mosaic of various route segments and provide a strategy for maintenance or enhancement of that mosaic through prescribed management techniques. Since vegetation is a very complex resource to manage, it appears to be emphasized due to more detail.

6) Visual quality objectives (VQO's) are established from points where the majority of users will view adjacent landscapes. In this case, we used the Lolo Motorway and known route segments that deviate significantly from the Motorway. Viewing distance may vary from a few feet in heavy vegetation to several miles from vista points. VQO's provide management objectives for the seen area, regardless of distance or the arbitrary landmark boundary. As explained on page 24, the term "wilderness setting" is a misnomer and should be more appropriately referred to as a natural setting. Management activities both within and outside of the Landmark will be guided by the VQO's to maintain the desired natural setting.

says that the Forest Service will permit controllable adverse effects to occur where they are not greater than another adverse effect which the Forest Service cannot control. This does not seem to us to be positive management of the historic properties involved. Viewed from a different perspective, this action item could read something like: "Exclude cultural sites from grazing allotments where it is found that or believed that adverse effects to the cultural sites would occur. Range control facilities will be used as necessary to regulate stock use and avoid effects on cultural sites."

7

7) Your point is well taken and we will incorporate your suggested wording in the final version.

8) Most of the side trails listed in the appendix were identified as Native American routes in a 1977 University of Idaho publication. Many of those trail locations have been studied by Forest Service archeologists and have turned out to be Forest Service constructed trails used by Native Americans in the 1920-1940 period to access hunting and fishing areas. It is possible that some of these trails may be eligible for inclusion in the National Register. They will be studied individually as time and funds permit. In the meantime, we believe the highest priority is to get acceptance of and implement management guidelines for the Lolo Trail system.

Native American sites of known and possible significance are listed in the Appendix (pages 102-105). Native American tribes (see Public Involvement section, pages 85-90) have been consulted and provided copies of the draft LTIG for review and comment. No additional information or concerns have been provided by them to date.

9) We estimate that 98 percent of visitors traveling this portion of the Lolo Trail system will do so by motor vehicle. Therefore, access routes to and along the system are important. The guidelines will assist us in planning road maintenance, reconstruction, signing and other provisions for public safety and use. All of these roads are used for a variety of reasons and none are used solely for the purpose of visiting the historic property. However, this use is considered in making road management and maintenance decisions.

10) We appreciate and have shared some of your concerns relating to mineral guidelines in the draft LTIG. As written, they reflected national direction established by the Secretaries of Interior and Agriculture in compliance with Section 204(1) of Public Law 94-579 (Federal Land Policy and Management Act of 1976). This has been a major topic of discussion during the past year between us and our Regional Office. We have obtained agreement to modify our mineral guidelines to incorporate the following:

1. Existing mineral withdrawals on known historic sites will be retained.
2. Mineral withdrawals or use reservations will be applied for in order to protect any significant historic sites not presently withdrawn from mineral entry.
3. Mineral withdrawal will be pursued for the 12 miles of Hungery Creek traveled by Lewis and Clark.

8. We note on pages 107-108 of the Guidelines that numerous Native American trails are identified as coming off the Lolo Trail Corridor. It seems likely that some of these properties are eligible for inclusion in the National Register and that their management should be integrally incorporated with the management of the Lolo Trail. What planning is intended to deal with management of these historic properties? Has the Forest Service contacted Native American groups to learn of the existence of any culturally significant properties of concern to these people?

8

9. The "Transportation" section of the Guidelines (see page 64, et. seq.) seems rather tenuously tied to management of the Lolo Trail from an non-forest Service point-of-view. Does this section actually achieve something in management of the historic properties, or, is this section simply a catalog of access opportunities provided by the existing road system? For instance, would a road be kept open and maintained simply to provide access to the historic trail? Is providing access to the historic property a factor in allocation of road maintenance monies?

9

10. The "Minerals" section of the Guidelines is the least acceptable to us at this time because it abandons positive management decisions which would protect the National Historic Landmark by avoiding potential unnecessary conflicts between the historic property and mining activity.

10

We are quite concerned that Federal agencies plan ahead to avoid potential adverse effects to historic properties. In the case of National Historic Landmarks, to implement the intent of Section 110(f) of the National Historic Preservation Act, it is appropriate for the Federal agency to take extraordinary steps to assure that all means of

VI-167

avoiding potential adverse effects are explored and planned for. In this instance, protection of the Lolo Trail through withdrawal from mineral activity seems an appropriate, farsighted means of protecting the historic property and avoiding any potential conflicts between mineral development and the historic property.

In point of fact, the only "protection" afforded the trail and its associated sites is that given by positive agency planning and decision making. The planning encompassed in a Forest Service decision to protectively manage a historic property through a mining withdrawal is a positive management decision by the agency which avoids potential conflicts and effectively implements the planning policy enunciated in sections 1 and 2 of the National Historic Preservation Act. Sections 106 and 110(f) of the National Historic Preservation Act of 1966 and Section 9(a) of the Mining in National Parks Act of 1976 simply provide a procedural process through which an agency must go prior to approving an undertaking. If the Forest Service chooses to rescind mineral withdrawals, it is effectively foreclosing its management prerogative of assuring the protection of the National Historic Landmark. This is true because once a mining claim is filed the Forest Service can effectively only seek compromise solutions to environmental problems. Through a mineral withdrawal the Forest Service can effectively set a management direction and maintain complete management control of the historic property through control of both surface and subsurface rights to the land. We strongly suggest that the Forest Service reconsider this decision and reimplement its policy of mineral withdrawal for the Landmark and associated sites.

10

11. It appears that the maps in the document could more clearly differentiate between responsibilities under the Trails Act and the Historic Preservation Act by color coding the trail to indicate where remnants of the trail actually exist and must be protected as opposed to areas where the objective is the preservation of a trail corridor.

11

12. The Guidelines do not address the issue of identification of the route(s) of the Trail which have been obscured by vegetation. There are techniques which might prove useful for this purpose, e.g., infrared photography, distribution of scarred trees, ground-penetrating radar, etc.

12

10) Continued

4. Consult with SHPO if any mineral activities may affect significant cultural resources within the Landmark boundary.
5. To insure the BLM addresses the importance of the Lolo Trail System when reviewing mineral proposals, we will pursue a Record of Notation so the entire trail will appear on their record and title plat as an area of special consideration.

We recognize that this does not provide the guaranteed protection you would prefer but we believe it is a reasonable and totally workable approach that will protect significant resources within the Landmark.

The reasons we cannot support withdrawal of the entire Landmark are:

1. If minerals were discovered within the Landmark boundaries, it may be possible to extract them with no effect by underground operations commencing outside of the boundary. Withdrawal would totally eliminate this possibility.
2. The Landmark boundaries are arbitrary and there are areas where surface mineral development could be permitted that would not affect any significant sites, the normally visible natural setting or use by the public.
3. The Forest Service now has substantial authority under our locatable minerals regulations (36 CFR 228) to control activities affecting the surface resources on National Forest System lands. Those controls range from simple approval of operating plans to requirements for full-blown environmental impact statements, on proposed mineral activities. We do not intend to approve any activity that will impact significant cultural resources without implementing any studies or controls appropriate for the situation.

11) We believe our responses to questions two and four adequately answer this question.

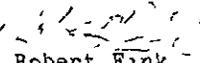
12) The routes have been researched and documented on the Clearwater National Forest for over 40 years. We used this wealth of information in aggregate to mark a route and landmarks acceptable to all entities consulted to date. We do not believe the methods you suggest would add significantly to our knowledge of the trail or our management objectives.

The entire Guidelines as well as the Forest Service's proposed acquisition of private lands along the Lolo Trail System propose a positive approach to management of the Landmark. We believe that an amended set of Guidelines may provide the basis for a PMOA. We particularly believe that alteration of the proposed policy regarding mining withdrawals would be another very positive step in the Forest Service's management of this historic property.

This letter constitutes the Council's comments on the draft Guidelines. It does not constitute the Council's comments pursuant to Section 106 or Section 110(f) of the National Historic Preservation Act regarding the Forest Service's proposed management plans for the Lolo Trail and associated sites and trails.

If there are any questions, if we may be of assistance, or if the Forest Service wishes to initiate compliance with Section 106, 110(f), or consultation in accordance with the Council's regulations, please contact Brit Allan Storey at (303) 236-2682 or at 776-2682 on the FTS system.

Sincerely,

  
Robert Fink  
Chief, Western Division  
of Project Review

3314-1-6-1-6

IDAHO STATE HISTORICAL SOCIETY  
610 NORTH JULIA DAVIS DRIVE BOISE, 83702



October 17, 1985

Mr. Doug Gievanik  
Planning Section  
Clearwater National Forest  
12730 Highway 12  
Groton, Idaho 83514

Dear Mr. Gievanik:

We have recently reviewed the Clearwater National Forest Proposed Forest Plan and Draft Environmental Impact Statement and realize the review period deadline has passed. However, we still wish to make our concerns known regarding the treatment of cultural resources in the management plan.

It appears that the current resource management procedures will be continued. We are somewhat disappointed, though, that cultural resources did not receive more attention in the overall forest plan since they are a non-renewable resource. We anticipate working with you in the future on specific management procedures for individual properties.

We appreciate the opportunity to review the forest plan and EIS and to express our views.

Sincerely,

Thomas J. Green  
State Archaeologist  
State Historic Preservation Office

RESPONSE

To avoid repetition in the Forest Plans, the Washington and Regional Offices directed the Forests to reference existing cultural resource management (CRM) documents rather than include them within the Plans. These documents are available for review in the Forest Supervisor's Office.

VI-170



identifies these corridors and their status. You will note that only five corridors remain. Two of the corridors (corridors I and IV) have been eliminated due to wilderness classification. One of the remaining five corridors (corridor VII) is restricted by roadless area study classification (Rare II) and potential wilderness designation. The Garrison-Taft-Bell Corridor (corridor II) is currently under construction for a major 500-kV transmission line. The remaining two (corridors V and VI) require use of critical corridor segments on the Challis NF which are also threatened by land use restrictions.

Not being able to use the Clearwater Corridor (corridor III) could critically reduce the number of cross mountain corridors to only one or two corridors which are not threatened. At \$2 million a mile for a high capacity transmission line, or perhaps more for other forms of energy transportation (coal slurry, oil or gas pipeline), detours would become extremely expensive, with significant potential increases in environmental impacts and project delays, as a result of greatly increased line lengths and the extensive use of the remaining corridors. Such limitations would also substantially reduce the west's strategic options for handling long-range energy requirements. Reducing the number of available corridors will mean that each corridor will have to accommodate greater transmission capacity. This can lead to reduced reliability and more severe impacts as the result of corridor outages.

Several corridors will undoubtedly be needed in the Clearwater area within the next 50 years. They could be required for a variety of reasons, including the need to serve or provide better service to area or local loads. The most recent Pacific Northwest Utility Conference Committee (PNUCC) high load forecast indicates the need for generation could be as soon as the 1990's. The Pacific Northwest Power Planning Council and BPA are having to look at coal generation and renewable resources as means of meeting such worst-case power deficits.

It is extremely important that the Forest Service address long-range corridors (windows, exclusion, and avoidance areas) at this time. This will help preserve options for the future as well as make the future siting and construction of energy projects more timely and cost effective.

2. Maps: Existing corridors or transmission lines and corridor windows should be shown on forest plan maps.

Forest Plan Comments

1. The forest plan does not adequately address corridors. Avoidance and exclusion areas are mentioned only to the extent that they are a constraint in a management area. It is the responsibility of the Forest to plan for corridors; this has not been done. The Forest should establish a management area that specifically addresses corridors (windows). This should include transportation and energy corridors as required by the Federal Land Management Policy Act (FLMPA). The plan should also address corridors in the discussion of forest goals, objectives, research needs, and standards.

3) We do not show the existing BPA transmission line or the corridor windows as a special management unit on the Forest Plan map. The transmission line is included on the base map however. We make reference to the "Corridor Need Report" as prepared by your office for us in May 1986. That report shows the potential corridor window.

Until such time that we have a definite proposal we cannot evaluate the potential environmental effects other than in a general way, which we have done in Chapter IV of the FEIS.

4) As noted above until there is a definite proposal showing a specific area, we do not plan on establishing a special management area. We have added two forestwide goals in the Forest Plan that address the corridor situation in general and small hydropower projects.

VI-172

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2. The plan and DEIS do not address renewable energy resources. The potential use of forest resources for biomass, small hydro, hydro, or other renewable energy resources should be addressed.

4

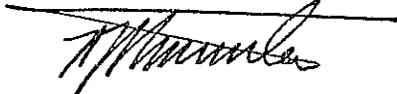
Recommendation

From a corridor planning standpoint, we cannot support any of the plans proposed until the revisions we have requested are made.

We appreciated the opportunity to meet and discuss our concerns with Doug Glevanik. Doug was very informed and able to address our comments. He identified some of the problems that would be faced developing a corridor through the Clearwater Forest.

If you or your staff have any further questions or feel it appropriate to have us attend any meetings, please contact me on FTS 429-4683 or 503-230-4683 or John Hooson on FTS 429-3299 or 503-230-3299.

Sincerely,



Wesley J. Kvarsten  
Director, Division of Land Resources

Enclosure

cc:  
Regional Forester, Region 1, USFS  
Earl Reinsel, USFS, Region 1, Missoula, Montana  
John Cheek, Chairman, Western Utility Group  
Pacific Northwest Power Planning Council

VI-173

STATUS TABLE  
EAST - WEST CORRIDORS

Corridor	Critical Segments	Status
I. Great Bear Corridor	R-2	Eliminated by wilderness designation
	R-3	Eliminated by wilderness designation
II. Garrison-Taft-Bell Corridor	R-17	Existing Corridor (under construction)
III. Clearwater Corridor	R-26	Threatened by wilderness designation and National Register Historic Trail
IV. McGruder Corridor	R-28	Eliminated by wilderness designation
V. Salmon River Corridor	R-42	Restricted by visual quality objectives
	R-38 or	Unrestricted
	R-39	Unrestricted
	R-40	Restricted (no overhead lines)
	R-41	Restricted (no overhead lines)
VI. Northern Snake River Plain Corridor (Also provides north - south corridor)	R-38	Unrestricted
	or	
	R-39	Unrestricted
	and	
	R-41	Restricted (no overhead lines)
or		
R-43	Restricted (no overhead lines)	
or		
R-44	Restricted (no overhead lines)	
VII. Southern Snake River Plain or Southern Oregon Corridor	R-49	Potentially restricted by Rare II
	R-47	Potentially restricted by Rare II
	R-45	Potentially restricted by Rare II
	or	
	R-52	Potentially restricted by Rare II
	R-51	Potentially restricted by Rare II
R-46	Potentially restricted by Rare II	

VI-174



United States  
Department of the Interior

Fish and Wildlife Service

Lloyd 500 Building, Suite 1692  
500 NE Multnomah Street  
Portland, Oregon 97232

In Reply Refer To

Your References

August 15, 1985

Mr. Tom Coston  
Regional Forester  
U.S. Forest Service  
Federal Building, P.O. Box 7669  
Missoula, Montana 59807

Dear Mr. Coston:

This is the Fish and Wildlife Service's (FWS) Biological Opinion in response to your April 12, 1985, request for formal consultation on the proposed Clearwater National Forest Plan (FSW-1-4-85-F-35) and the subsequent impacts on the endangered bald eagle, peregrine falcon, and gray wolf, and the threatened grizzly bear. The complex nature of the proposed Forest Plan and Draft Environmental Impact Statement (DEIS) and the broad spectrum of activities covered, have made it difficult for the FWS to analyze all potential site specific and cumulative impacts. This Biological Opinion refers only to the potential effects of the Plan on threatened and endangered species and not the overall environmental or economical acceptability of the proposed action.

On July 19, 1985, we completed our review of the Forest Plan and the DEIS that you provided with your consultation request, as well as additional information obtained by us or already available in our files. In the course of this review, the following people were contacted and contributed additional information used in this Opinion.

Dan Davis, Clearwater National Forest  
Timm Kaminski, Montana Cooperative Wildlife Research Unit  
Dick Thiel, Wisconsin Department of Natural Resources  
Gary Power, Idaho Department of Fish and Game

A list of documents used in this consultation is included as Appendix I. By mutual agreement between our services the completion date for this Opinion has been extended to August 7, 1985.

BIOLOGICAL OPINION

It is our biological opinion that implementation of the Clearwater National Forest Plan (Plan), as submitted to our office in April, and subsequently discussed with members of your staff, and others, is not likely to jeopardize the continued existence of any of the four wildlife species mentioned above. Background information on your proposed plan and biological

RESPONSE

Response starts below

information pertinent to this determination follow. Further informal and formal consultation will be needed on project specific cases as the Forest implements the Plan.

#### PROJECT DESCRIPTION

The proposed Clearwater National Forest Plan guides all natural resource management activities and establishes management standards for the administration of the Clearwater National Forest. The Plan is based on the proposed action (Alternative E), described in the Clearwater National Forest Plan Draft Environmental Impact Statement (DEIS). The proposed Plan sets forth specific goals, objectives, standards, schedules of management practices, and monitoring and evaluation requirements for the next ten years and proposed management direction for the next 50 years. The projected resource outputs and activities for the next 50 years are also displayed. The goal of preferred Alternative E is to provide a mix of market and nonmarket outputs with emphasis on timber production, fishery habitat, and potential elk production.

The following goals, objectives, and other management directions have been identified as the major proposals affecting peregrine falcons, bald eagles, grizzly bears, and gray wolves.

1. Threatened and Endangered Species: A stated goal of the Plan is to provide habitat to contribute to the recovery of threatened and endangered species in accordance with approved recovery plans, and participate in studies and inventories to provide additional information (Plan II-3). The Plan also states that habitat for the gray wolf, grizzly bear, and bald eagle are high management priorities (Plan II-7) and that there is no essential habitat on the Clearwater Forest to aid in the recovery of the peregrine falcon (Plan II-8).

A standard listed in the Plan is to provide an adequate amount of habitat to support the Clearwater Forest's assigned goal of 10 wolves as based on recommendations from the Northern Rocky Mountain Recovery Team (Northern Regional Guide, 1983). When the Northern Rocky Mountain Draft Revised Wolf Recovery Plan is approved, the Forest will cooperate with the Idaho Department of Fish and Game (IDFG) and FWS to identify specific areas to be managed for recovery and the implementation measures necessary to reduce potential for man-induced mortality (Plan II-24).

The Forest will cooperate with future recovery efforts on behalf of the gray wolf, bald eagle, and grizzly bear. The Clearwater Forest will manage active identified bald eagle nesting, roosting and perching sites in a manner to maintain their use, and schedule land management activities in the vicinity of occupied sites to avoid the seasons the sites are used by the birds (Plan II-24). Population trends of management indicator species (including the gray wolf, bald eagle, and grizzly bear) in relation to habitat changes and/or condition, will be monitored on a specified schedule (Plan IV-9).

The DEIS reiterates, as a matter of policy, that no action will be taken that adversely affects the threatened and endangered species on the Clearwater Forest (DEIS II-26). The DEIS goes on to state that as more specific information is gathered regarding implementation of the Plan and the scope of individual projects, impacts on threatened and endangered species will be reevaluated and changes necessary to prevent adverse effects will be made. The FWS will be informally consulted throughout implementation of the Plan and formal consultation will occur if an activity may affect a species or its habitat (DEIS IV-15).

2. Timber Production A stated goal of the Plan is to manage the 997,500 acres of land available and suitable for timber production for optimum production of timber while providing for other resources as appropriate (Plan II-3). The timber harvest level will increase from the first decade harvest of 150 MMBF/year to a long term sustained yield of 443 MMBF/year by decade 10. Currently, the average annual timber harvest is 170 MMBF (Plan V-12).

3. Road System: The existing road system of 4,234 miles will be increased an average of 62 miles per year for the next 10 years. A total of 4,880 miles of new roads are planned over the next 120 years in the Clearwater Forest (Plan II-10).

4. Wilderness and Roadless: About 259,165 acres of existing wilderness will be retained. About 188,871 acres of new wilderness will be proposed in the Plan, including Mallard Larkins, Hoodoo (Great Burn), Elk Summit and the Lakes Addition to the Selway-Bitterroot. A total of 188,400 acres of currently roadless acres will remain roadless, including portions of Little North Fork, Elizabeth Lakes, Moose Mountain, North Lochsa Slope, Coolwater, Fourth of July, Kelly Creek, Cayuse, and Fish Creek (DEIS II-25). The Plan states that roads may be constructed into areas being managed as roadless for fire suppression or for salvage of timber due to catastrophic losses from fire or insects and diseases. Such roads will be closed and obliterated (Plan II-32). A total of 572,900 acres of current inventoried roadless areas is scheduled for development during implementation of the Plan. Approximately 33 percent or 190,000 acres of those lands scheduled to be developed will be developed by the end of the first decade (Plan II-7). This would leave 383,000 acres undeveloped by 1995.

5. Wildlife: The Plan states that elk and moose winter and summer range are high management priorities. A proper mix of hiding and thermal cover, forage, and protection from harassment during critical periods will be provided on big game summer range in accordance with "Guidelines for Evaluating and Managing Summer Elk Habitat in Northern Idaho" (Plan II-24). Elk summer range will be managed to support a minimum of 21,250 elk for all decades. A minimum of 3000 acres of key big game winter range will be rehabilitated annually by prescribed burning through the first decade (Plan II-24). The elk population goal on winter range is greater than or equal to 18,700 animals for all decades.

The Plan states "as more of the roadless areas are accessed during the planning period (10 years), elk summer range will become limiting (Plan II-7).

6. Range: Livestock permitted use will increase from the current level of 16,400 to 20,000 animal unit months by the fifth decade. Grazing management will provide for protection of soil and water resources, riparian areas, threatened and endangered species, and timber resources on transitory range (Plan II-9).

7. Minerals: Mineral access, exploration, and development activities will be encouraged and supported while simultaneously integrating these activities with the use and conservation of other resources to the fullest extent possible (Plan II-40). Opportunities for mineral exploration and development increase as new areas become accessible.

8. Water Quality/Fishery: The Clearwater Forest will manage the fishery resource at a high (optimum) level of production by 1) establishing high water and habitat quality objectives for individual drainages that are productive, 2) enhancing the productive capability of existing habitat on a sustained, annual basis, 3) rehabilitating degraded habitats by reducing sediment loads and re-vegetating riparian areas, 4) restoring watershed stability through road sediment management, and 5) managing high quality watersheds to maintain near natural conditions (Plan II-8). These objectives result in a maximum population of 685,000 anadromous fish and 595,000 cold-water fish which steadily decline after the first decade to a low of 684,000 and 594,000 respectively.

9. Recreation. Opportunities for recreation in roaded natural settings will increase approximately 69 percent by the fifth decade as new roads are constructed in areas available for timber management. Public use of roads will be controlled to prevent road damage and to protect other resources (Plan II-6).

The Clearwater National Forest has been divided into 20 management areas, each with different management goals, resource potential, and limitations. Management areas B1 (existing wilderness), B2 (recommended wilderness), C1 (key big game summer range), C6 (critical watersheds), and M1 (research natural areas) will remain roadless. Management areas A3 (dispersed recreation) and C3 (big game winter range) will be managed as unsuitable for commercial timber harvesting with no new road construction planned.

Four management areas, C2S (big game summer range), C4 (big game winter range), C6S (sensitive watersheds), and M2 (riparian areas) all allow timber harvesting, road building, and other management activities with various constraints based on protection of identified important resources. Management area E1 (optimum timber production) is the largest block of land on the Forest (480,029 acres) and will contain the most intensive timber harvesting and road construction activities

VI-178

During implementation of the Clearwater Forest Plan, management activities in these five areas (C2S, C4, C6S, M2, E1) will have the most potential to affect threatened and endangered species on the Clearwater Forest. Potential effects will be discussed under the Analysis of Impacts section.

## SPECIES ACCOUNT

### Bald Eagle

The bald eagle is the only North American representative of sea eagles and is endemic to North America. The Pacific Northwest is a major habitat area for this species. Bald eagles occur both as a nesting and wintering species. Nesting occupancy in Idaho has increased steadily since the first census was conducted in 1979. In that year 11 occupied nests were documented and by 1984 that number had risen to 20. While the statewide nesting population is expanding, there are no known nests on the Clearwater National Forest.

Wintering bald eagles are found in abundance throughout the state. Winter census of bald eagles have varied from 404 in 1979 to as high as 735 in 1981. They are primarily associated with large river systems and lakes. In the Clearwater National Forest, from 70-80 bald eagles have been observed during the annual winter census. Overall decline of the population in the northwest has been due to contamination of its food base by pesticides, destruction of nesting and foraging habitat, and illegal persecution.

### Peregrine Falcon

The American peregrine falcon has sustained unprecedented declines as a nesting species in the west during the past 30 years. Formally, 17 known eyries were active in Idaho with possibly as many as 25 eyries being present in the state. By 1975, there was no known reproduction of this species occurring in Idaho.

Only occasional sightings have since been recorded for this species. No confirmed nesting has occurred, however, reports from staff on the Nezperce National Forest, Salmon National Forest, and from knowledgeable citizens indicate nesting may have occurred within the past three years. Concurrent with these observations are the reintroduction efforts of The Peregrine Fund, a nonprofit foundation underwritten by the FWS and others, whose major objective is to reestablish the peregrine falcon. To date, 31 peregrine falcons have successfully fledged in Idaho since these efforts were begun in 1982 (Burnham 1984). One wild pair resulting from this reintroduction effort has successfully hatched 2 young in eastern Idaho in 1985.

The reasons for the decline of nesting peregrine falcons in the west are complex, but the contributing variables are the use of

DDT to control insects and climatic drought which began in the 1930's (Heany 1981). The drought dried up many inland marsh and wetland areas that supported waterfowl, shorebirds, and associated passerine birds in high densities. These groups of birds are major prey of the peregrine falcon.

The other major variable is DDT. It is a chemical that was used on forests primarily to control infestations of spruce budworm and Douglas-fir tussock moth. DDT is biomagnified in the food chain in concentrations that cause interference in the reproductive process of peregrine falcons. In Idaho, 3,850,000 acres were sprayed with DDT between the 1950's and 1974 for control of these two insects (Escano 1983). The Clearwater Forest sustained applications of 232,000 lbs. of DDT between 1947 and 1974. No other DDT applications of major proportions have been conducted since that time.

### Grizzly Bear

Zager (1981) provides a general account of grizzly bear ecology in the Northern Rockies. Historical evidence indicates that grizzlies once occupied portions of the Clearwater Forest along the Clearwater River and within the Selway-Bitterroot Wilderness. Observations over the past ten years indicate that a number of scattered individuals may still occupy the North Fork Clearwater River area and Selway-Bitterroot Wilderness (Melquist 1985). The Selway-Bitterroot ecosystem is identified in the 1982 Grizzly Bear Recovery Plan as a recovery area. Research to evaluate quality of grizzly habitat in this area is planned for the summer of 1985 with Section 6 funding under the Endangered Species Act.

### Gray Wolf

One hundred years ago, wolves roamed over vast areas of the Great Plains and forests of North America, including most of the state of Idaho (Goldman 1944). During the latter half of the 19th century, buffalo hunters, settlers, and others decimated the buffalo herds and other ungulates that provided prey for wolves roaming the northern Rocky Mountains (Northern Rocky Mountain Wolf Draft Revised Recovery Plan, 1983). Along with the decline in buffalo and other prey, came an increase in livestock, which some wolves began to include in their diets. Stockmen and government trappers began an intensive campaign to eradicate the wolf. By 1930, wolves were essentially gone from the west. The last of these animals were believed to have been extirpated from the mountainous regions of Idaho in the late 1930's. Because a 99 percent reduction in wolf distribution has occurred in the contiguous United States within the past 100 years (Jorgensen 1970), the Northern Rocky Mountain wolf was listed as endangered in 1973 under the Endangered Species Act. In 1978 the entire wolf species throughout the lower 48 states was listed as endangered, except in Minnesota where the last viable wolf population in the contiguous 48 states was listed as threatened.

The Northern Rocky Mountain Wolf (NRMW) Recovery Plan was approved by the FWS in 1980. The primary objective of the plan called for securing and maintaining, where feasible, viable populations of wolves within their former range. The central Idaho area, encompassing two wilderness areas and adjacent national forest lands, is one of three areas selected as having potential for its recovery. Reports of wolves have persisted in central Idaho from the early 1940's to the present (Kaminski and Hansen 1984). Fewer than 15 wolves are believed to remain in the central Idaho area at present, with surviving wolves inhabiting both wilderness and non-wilderness areas on national forest system lands (Kaminski and Hansen 1984).

On the Clearwater National Forest, 101 of 156 wolf reports received since 1974 have been rated as probable (Kaminski and Hansen 1984). Ninety-nine of the 101 probable wolf reports since 1974 involved lone animals, eight referred to pairs, one identified 3 or more wolves together and one was unclear on the number of animals.

In June of 1978, a lone black wolf was photographed by IDFG personnel near Paradise Meadows. In the winter of 1982 and again in the winter of 1983, a lone black wolf was photographed in the Kelly Creek area. Tracks of a wolf were observed along Little Moose Ridge, Kelly Creek, and in Bear Creek Basin during the winter of 1984. These tracks were judged to be similar to those measured during previous winter study periods.

Weaver summarized the ecology and behavior of wolves in the Rocky Mountains of Canada and the United States in the Northern Rocky Mountain Wolf Draft Revised Recovery Plan, 1983. The following account further condenses Weaver's summary with some additional information.

The niche or ecological role of the wolf is that of the preeminent predator of large ungulates in the Northern Hemisphere. The basic unit of wolf populations is the pack-- a cohesive group of two or more individual wolves traveling, hunting, and resting together throughout the year (Mech 1970). The proportion of lone wolves in established wolf populations typically is quite low (1-15%) (Mech 1970, Mech 1973, Peterson 1977, Carbyn 1980, Fuller and Keith 1980). A dominant (alpha) male and female are the central members of the pack. The other subordinate pack members are usually related to the alpha pair. Normally, only the alpha pair breed each year. Subordinate wolves often disperse from the pack in the fall in search of new mates (Fritts and Mech 1981).

There may be a positive relationship between pack size and the size of principal prey species. For example, wolves preying on white-tailed deer are commonly organized into packs of two-nine (Pamlott et al. 1969, Mech 1973, Fritts and Mech 1981); those on elk, 5-16 (Weaver 1978, Carbyn 1980), and those on moose, 6-22 (Peterson 1977, Fuller and Keith 1980). Human exploitation or control of wolves can reduce wolf packs to small units (Carbyn 1980).

Sizes of many of the reported territories for packs with more than or equal to five wolves fall in the range 50-200 square miles (Mech 1970, Van Ballenberghe et al. 1975, Peterson 1977, Carbyn 1980, Fritts and Mech 1981). Home ranges for large wolf packs in Alaska approached several thousand square miles (Murie 1944, Burkholder 1959). Lone wolves, too, may have home ranges of 1000 square miles or larger (Mech and Frenzel 1971, Mech 1973, Carbyn 1980).

Pack wolves usually exhibit a certain pattern of movement during the course of a year (Mech 1970). Wolf packs in Yellowstone National Park apparently followed the ungulates in their altitudinal migrations to and from summer and winter ranges (Weaver 1978)

During summer, wolves travel along game trails and ridges; in winter, they use frozen waterways, windswept ridges, and broken game trails (Mech 1970). Some wolves use secondary roads (if plowed in winter) even though the probability of harmful contact with humans is increased considerably (Fritts and Mech 1981). In general, wolves depend upon ungulates for food in the winter and supplement this during spring-fall with beaver and smaller mammals (Mech 1970, Pimlott 1975). In the Rocky Mountains of North America, elk, moose, and deer are the principal prey species (Cowan 1947, Carbyn 1974). Annual consumptive rates of ungulates by wolves are 16.6 deer or elk/wolf/year and 8.5 moose/wolf/year (Keith 1982). These consumptive rates are estimates and are based on prey levels described from research throughout North America

The breeding season of wolves occurs from late January through April. Pups are born in late March to May after a 63 day gestation period. Litter sizes usually range from four to seven (Mech 1970). Wild wolves typically do not breed until 22 months of age (Mech 1970). Average mortality rates in pups are around 50 percent (Van Ballenberghe et al. 1975, Fritts and Mech 1981).

Most wolf packs appear particularly sensitive to human disturbance near den sites and thus may abandon the den (Joslin 1966, Carbyn 1974, Chapman 1979). Most active wolf dens are located at least one mile from recreation trails and one to two miles from back country campsites (Carbyn 1974, Peterson 1977, Chapman 1979).

Murie (1944) used the term "rendezvous site" for specific resting and gathering areas occupied by a wolf pack during summer and early fall after the natal den has been abandoned. These sites are usually complexes of meadows and adjacent hillside timber, with surface water nearby (Kolenosky and Johnston 1967, Carbyn 1974, Peterson 1977, Weaver 1978).

As with dens, rendezvous sites, especially the first one, may receive traditional use by wolves year after year (Carbyn 1974, Weaver 1978). Wolves appear less sensitive to human disturbance at later rendezvous sites than they do at the first ones.

Gray wolves are susceptible to a variety of natural mortality factors including parasites, disease, malnutrition, injuries, and intraspecific strife. Although harmful to individuals, natural factors are not known to have exterminated wolves on either a local or regional basis (Mech 1970)

Human caused mortality has had a major impact on wolves in many areas. Following legal protection of wolves, the percent mortality caused by humans was 42 percent in northeastern Minnesota (Mech 1977) 33-50 percent in northwestern Minnesota (Fritts and Mech 1981), 76 percent in northcentral Minnesota (Berg and Kuehn 1982), and 78 percent in the Minnesota/Wisconsin border area (D. Thiel, pers. comm.).

Thiel (1985) examined the relationship between rural road systems and wolf vulnerability in Wisconsin. As road densities exceeded 0.94 miles/mile<sup>2</sup> of habitat, wolf populations declined from breeding to non-breeding and finally disappeared. Although maintenance and improvement of suitable habitat may be the key long-term factor in wolf conservation, an important factor limiting wolf recovery in the northern Rocky Mountains is human-induced mortality (Northern Rocky Mountain Wolf Draft Revised Recovery Plan 1983).

#### ° ANALYSIS OF IMPACTS

##### Bald Eagles and Peregrine Falcons

Implementation of the proposed Plan as it relates to bald eagles and peregrine falcons indicate that adequate consideration has been given to these wildlife resources. The objectives stated in the DEIS, designating Management Area M2 (127,455 acres) as riparian habitat, will provide the necessary recognition to protect foraging habitat and contribute to the recovery of these Federally listed birds.

Additionally, we find the Clearwater National Forest will need to implement planning objectives stated in the Pacific States Bald Eagle Recovery Plan. The primary objective in this recovery plan is to provide secure habitat, both for breeding and wintering populations. Presently, only wintering birds are found on the Forest. The significance of Clearwater National Forest resource allocations to protect and maintain habitat for wintering populations of eagles can not be understated. A reasonable assumption and prediction can be made that the condition of bald eagles returning to breeding sites in the late winter or early spring will directly influence the birds' breeding success

##### Grizzly Bear

Because the Clearwater National Forest's management emphasis for the bear is confined to the Selway-Bitterroot Wilderness and adjacent large blocks of habitat, and because no alteration to habitat in the Wilderness or adjacent large blocks of habitat is

planned, the FWS believes that the Plan should have only minimal impacts on the grizzly bear. However, as recovery of the grizzly bear progresses in the Selway-Bitterroot Wilderness and adjacent areas, bears will travel more frequently into non-wilderness lands. As that happens, consultation with the FWS will be necessary concerning land use activities in those areas.

#### Gray Wolf

Since 1974, more wolf sightings have occurred on the Clearwater Forest than any other national forest in Idaho (Kaminski and Hansen 1984). A wolf was photographed on the Forest in 1978, 1982, and again in 1983.

The Northern Rocky Mountain Wolf Draft Revised Recovery Plan promotes wolf recovery in the Northern Rocky Mountains by recolonization from western Canada. The FWS feels that northern forests play a key role in fostering wolf recovery in Idaho, both to support establishment of packs and provide secure areas for wolves dispersing to southern portions of the recovery area. The Clearwater National Forest is the northernmost forest of the Central Idaho Recovery Area. The primary objective of the Northern Rocky Mountain Wolf Draft Revised Recovery Plan is to remove the northern Rocky Mountain wolf from the endangered and threatened species list by establishing and maintaining at least 30 breeding pairs dispersed over three recovery areas, with a minimum of 10 breeding pairs for three successive years in two of the three areas. Based on the primary objective of the revised Recovery Plan, the FWS feels that a feasible recovery goal in Idaho is the establishment of 10 breeding pairs. Given the importance of the northern forests to wolf recovery in Idaho, the Clearwater Forest must assume responsibility for at least two breeding pairs. Since wolves preying on elk are often organized in packs of from five to sixteen individuals (Weaver 1978, Carbyn 1980), it is likely that the Clearwater will need to manage for greater than ten wolves.

The biological evaluation for the gray wolf states that the preferred alternative provides enough wolf habitat components to support approximately 15 wolves. The DEIS (page II-26) attributes this number to the acreages of existing wilderness, recommended wilderness, recommended roadless, wildlife habitat improvement, and resource timber prescriptions. However, the methodology used to arrive at 15 wolves is not well defined.

The biological evaluation concludes that because the Clearwater Forest will manage for 15 wolves, implementation of the Plan will have a positive effect on the gray wolf. The Clearwater Forest has made a good effort to protect portions of key wolf habitat and manage the Forest for recovery of the species. However, because of the low number of wolves believed in Idaho, with the present rate of land use activities, and because the Clearwater Plan proposes to substantially increase the rate of these land

use activities in future decades in areas of key wolf habitat, the FWS feels that implementation of portions of the Plan have the potential to adversely affect the wolf.

Kaminski and Hansen (1984) delineate five areas believed to be key to wolf conservation on the Clearwater National Forest. These five areas are the Selway Bitterroot Wilderness, Cook Mountain/Kelly Creek, North Fork Clearwater River, Middle Creek/Weitass Creek and Coolwater. These are areas of key wolf habitat components needed to support wolves annually and potential migration corridors for movements. In addition to these five key areas, additional drainages believed important in facilitating wolves' southward movements from the Clearwater Forest are discussed in Wolves of Central Idaho.

The FWS feels that planned management activities in the foregoing areas on the Clearwater Forest have the most potential to affect the gray wolf. We support the addition of 188,871 acres of wilderness on the Clearwater Forest and the continued management of 188,400 additional acres as roadless. These measures will help protect key wolf habitat in these areas on the forest and help promote the conservation of the wolf.

Planned increases in timber production, road construction and subsequent increases in livestock grazing, dispersed recreation and mineral exploration on the Clearwater Forest as the Plan is implemented could have long term adverse effects on the wolf. This assumption is based on the present precarious position of the wolf population in central Idaho (less than 15 wolves are believed present in central Idaho (Kaminski and Hansen 1984)) and the fact that increased access into previously unroaded areas increases the potential for human caused wolf mortality. In addition, planned development in roadless areas on the Clearwater Forest will fragment large chunks of previously remote areas used by wolves and ungulates on an annual basis. This will initiate long term, downward trends in ungulate populations (Plan II-7). At the same time, existing wolf populations on the Clearwater Forest will become more isolated as security areas are removed. The C2S (key big game summer range) and C6S (sensitive watersheds) management areas overlay much of the key wolf habitat (currently roadless) scheduled for development as the Clearwater Plan is implemented. Management prescriptions C2S and C6S cover a portion of Cook Mountain-Kelly Creek, Middle Creek-Weitass Creek, and Coolwater, all key wolf areas described in Kaminski and Hansen, 1984. The gray wolf biological evaluation for the Clearwater Forest Plan states that these two prescriptions (C2S, C6S) will protect or mitigate wolf habitat. Various mitigative measures such as road closures, modified unit layout and design, alternate scheduling, and modified road building and location will be used in these areas.

The FWS feels that the standards outlined in these two management areas will normally be adequate to protect wolves and their habitat. Two particular standards of each management area to 1) normally manage road densities at one half to one mile per square mile of habitat and 2) manage big game summer range for at least

75 percent of habitat potential, may be adequate compensation for future development in most of these areas. However, the FWS feels that the word "normally" should be deleted from the first standard and that the Clearwater Forest should always manage road densities in these areas at less than one mile per square mile of habitat. As stated before, Thiel (1985) found that as road densities in Wisconsin exceeded 0.94 miles/mile<sup>2</sup> habitat, wolf populations declined from breeding to non-breeding and finally to absent. Also, although good elk management is generally good wolf management, in areas containing confirmed or highly probable wolf activity, elk standards may not be stringent enough to adequately protect wolves. Human disturbance around den sites and early season rendezvous sites can have serious effects on wolves and increase chances of human induced mortality. Many people will shoot wolves if given a chance. Whereas elk may be able to absorb some human caused mortality without deleterious effects to the population, the loss of even one wolf due to increased access and subsequent human caused mortality can set recovery efforts in Idaho back several years.

The FWS feels that portions of the C2S and C6S management areas are of extreme importance to wolf conservation on the Clearwater and to the recovery of the species in Idaho. Any entry into portions of these key areas must be examined very closely in the future. All potential cumulative impacts must be analyzed. Further informal and formal consultation with the FWS will be required on all projects in C2S and C6S management areas which may affect the gray wolf.

We feel that management prescriptions under Alternative F, in which key wolf habitat in the Cook Mountain/Kelly Creek area and the Weitas Creek area is protected under a wilderness or roadless designation, would better protect the gray wolf and its habitat. The first decade timber harvest levels and Public Net Values are similar for both Alternative F and preferred Alternative E. The FWS would support incorporating some of the management direction in Alternative F into preferred Alternative E.

Standards in C4 management areas are designed to manage big game winter range while achieving timber production outputs. Because of the high probability of wolves in portions of these areas during the winter, road closures should be designed to protect wolves as well as big game (Plan II-45). The potential for human caused wolf mortality is high where open roads bisect areas of wolf activity on ungulate winter range. Further informal and formal consultation with the FWS will be necessary on individual projects in C4 management areas.

Management area E1 is the largest block of land within the Clearwater Forest, with approximately 420,000 acres that have been developed for timber harvest in the past and approximately 60,000 acres of presently undeveloped land. The goal in this management area is to provide for the greatest long term production of wood products. Although much of this area is not considered key wolf habitat (due to the existing high road

densities and other human activities), scheduled development of some roadless portions of the area may affect the gray wolf. In particular, El management direction in Middle Creek, the upper North Fork of the Clearwater River, and the area from Ashpile Creek to Deep Saddle may adversely affect the gray wolf and its habitat.

Twenty-seven wolf reports have come from the vicinity of Middle Creek since 1960. This drainage, in combination with Weitas Creek has been described as a key wolf area, able to sustain wolves annually (Kaminski and Hansen 1984).

The headwaters of the North Fork of the Clearwater River, from Chamberlain Mountain east is believed important to wolf movement into the Clearwater Forest from the north (Kaminski and Hansen 1984). It is especially important for an exchange of wolves from the St. Joe River drainage to the North Fork of the Clearwater, as both river systems begin in this area. This area is now essentially roadless. It provides an important link between the proposed Hoodoo Wilderness Area and the proposed Mallard Larkins Wilderness area.

The area from Ashpile Creek to Deep Saddle (essentially the Weir-Post Office Creek Roadless Area) is believed key to wolves' southward movements from the Clearwater National Forest. It is the last remaining undeveloped area in a long band of otherwise developed land which isolates proposed wilderness and roadless areas to the north in the Clearwater Forest from existing wilderness to the south.

Management standards El provide for a minimum of 25 percent of maximum potential elk habitat and open road densities of four to five miles per square mile of habitat. Application of these standards in the foregoing areas will adversely affect the gray wolf and its habitat during Forest Plan implementation. Development of the upper North Fork of the Clearwater River and the Weir-Post Office Roadless Area will impede the movements of wolves to the north and to the south of the Clearwater Forest. Key wolf habitat in proposed wilderness and roadless areas would be further isolated from forests both to the north and the south.

There are no State land school inholdings in this forest to our knowledge. Several small, private inholdings on the northeast and eastcentral part of the Clearwater Forest could affect gray wolves in the future, due to the cumulative impacts of increased development in several of the areas. However, future plans in these areas are not well known at this time, thus cumulative impacts are difficult to assess.

#### BIOLOGICAL OPINION

## BIOLOGICAL OPINION

It is our biological opinion that implementation of the proposed Clearwater Forest Plan, as submitted to our office on April, 1985, is not likely to jeopardize the continued existence of the bald eagle, peregrine falcon, grizzly bear, or gray wolf.

However, for recovery of these species, we stress the importance of inclusion of our Conservation Recommendations in future management direction of the Clearwater Forest.

## INCIDENTAL TAKE

Section 9 of the ESA prohibits any taking (harm, harassment, mortality, etc.) of listed species without special exemption. Under the terms of Section 7(b)(4)(B)iii and 7(o)2, taking that is incidental to and not intended as part of the agency action (in this case, implementation of the Forest Plan) is not considered taking within the bounds of the Act provided that such taking is in compliance with the terms and conditions of this Biological Opinion. Due to extremely low populations and high mobility of the species, the incidental take for the gray wolf, grizzly bear, bald eagle, and peregrine falcon is set at zero (0). If any individual(s) of any of the listed wildlife species discussed in this opinion is killed as a result of the subject project, the Clearwater National Forest shall require that the causative action of such taking cease immediately and shall reinstate formal consultation and/or seek authorization under Section 10(a)(1)(B) prior to proceeding with the action. All dead or injured individuals shall be retrieved and turned over to the Regional Director, FWS, or his representative, immediately. The Clearwater National Forest shall immediately telephone the Boise Field Office of the FWS if incidental take occurs and prepare a written report which shall include the date, location, and circumstances surrounding the taking and the disposition of the individual(s) taken. Written and telephone reports should be directed to Mr. Jay Gore at (208) 334-1806 or FTS. 554-1806.

## CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA authorizes Federal Agencies, in consultation with FWS, to utilize their authorities to carry out programs for the conservation of listed species. A goal of the Clearwater Plan is to provide habitat to contribute to the recovery of threatened and endangered species in accordance with approved recovery plans and participate in studies and inventories to provide additional information (Plan II-3). The DEIS reiterates, as a matter of policy, that no action will be taken that adversely affects the threatened and endangered species on the Clearwater Forest (DEIS, II-26).

The FWS believes that the Clearwater National Forest has good intentions of managing for threatened and endangered species according to the goals, objectives, and standards in the proposed

Plan. However, because of the precarious nature of the current wolf population in Idaho, and because wolf recovery in Idaho relies on natural recolonization from Canada, added pressure due to loss of security in key wolf habitat or potential travel corridors may have adverse effects on the species. We feel the following conservation measures are imperative for continued conservation of the wolf in central Idaho.

1. Manage the Middle Creek Drainage, from Snowy Summit and Beaver Dam Saddle downstream to near the confluence with Rocky Ridge Creek, with a C2S prescription instead of E1. This will help to protect the wolf and its habitat in this key area and also link C2S management areas to both the northwest (Hemlock Creek) and southeast (Weitas Butte).

2. Manage the upper North Fork Clearwater River, from Chamberlain Mountain east to Long Creek, and north of Diamond International private land, with a C6S (sensitive watersheds) management prescription. Because the Northern Rocky Mountain Wolf Draft Revised Recovery Plan (1983) promotes wolf recovery in the Northern Rocky Mountains by recolonization from western Canada, this area is very significant to potential wolf movements from northwestern Montana and northern Idaho. It also forms a continuous roadless/wilderness area from Mallard Larkins on the west to the Hoodoo area on the east. The FWS feels that if any timber harvest occurs in this area, impacts must be mitigated carefully through sale designs, road closures, and other standards outlined in the C6S management area description. Associated impacts of timber harvest, road building, and subsequent other activities, as they relate to wolf movements through this area, must be evaluated at the outset of any new project. Further formal and informal consultation with the FWS will be required on projects which may affect the gray wolf in this area.

3. Manage the Weir-Post Office roadless area as continued roadless during the first decade of Plan implementation. This area is the last remaining undeveloped area in a long band of otherwise intensively developed land which isolates proposed wilderness and roadless areas to the north in the Clearwater Forest from existing wilderness to the south. It is important to preserve this area as a travel corridor for wolves moving from the Clearwater Forest to more southern forests in the recovery area. In ten years, the necessity of continued roadless management in this area can be re-evaluated during Forest Plan revision and formal consultation with us.

4. Promote a public understanding of wolf ecology and the nature of conflict potential with timber harvest and roads, livestock, and other land use activities. Educate permanent and temporary/seasonal employees about wolves, habitat and prey needs, and wolf characteristics. Disseminate information on the presence and present status of the wolf on the Clearwater Forest

THIS RESPONSE WAS WRITTEN MARCH 21, 1986, AND SENT TO THE FISH AND WILDLIFE SERVICE AT THAT TIME.

3339

RESPONSE

1) Proposed change: Manage the Middle Creek Drainage, from Snowy Summit and Beaver Dam Saddle downstream to near the confluence with Rocky Ridge Creek, with a modified E1 prescription. Modifications would close all new road construction to public access and design standards would be for single use only. Also, any proposed project in this area will require informal and/or formal consultation with the Fish and Wildlife Service.

Reason. We feel that modifying the E1 prescription would better protect the wolf and this key area of habitat more than just changing the allocation to a C2S prescription.

2) Proposed change: Close all new road construction to public access in the upper North Fork Clearwater River, from Chamberlain Mountain east to Long Creek, and north of Diamond International private land. New road construction will be designed for single use to accommodate logging and other administrative activities.

Reason. At this time we are considering a number of different land allocations for this area. Regardless of which allocation is finally selected we feel that closing all new road construction to public access would adequately protect habitat for both the grizzly bear and wolf.

3) No change

to all people associated with land use activities on the Forest. Forest involvement with Project Wild would be a useful tool in this public education effort.

5. Coordinate land uses on one or more districts to avoid additive effects over large areas in key wolf habitats.

6. Enforce all road closures designed to protect identified resources.

7. Design timber harvest activities so that units at the far end of the road will be cut first. Timber units can then be cut sequentially, working back toward the entry area. As units are cut, sections of the road can be closed behind them.

8. Involve biologists from the FS, IDFG, and FWS (if appropriate) with road location planning before roads are constructed into key ungulate and wolf habitat, especially in C2S and C6S areas.

9. Follow conservation recommendations taken from Wolves of Central Idaho (Kaminski and Hansen 1984) and incorporate them into the Clearwater Forest management direction in key wolf areas during implementation of the Plan. Standards under C2S and C6S management areas address some of these recommendations:

A. Avoid logging activity within a one mile (1.6 km) radius of traditional ungulate calving/fawning or nursery areas, and known or suspected initial wolf homesites (dens, rendezvous sites) 15 May - 15 July.

B. Avoid logging activity near traditional ungulate migration routes and staging areas, or suspected initial wolf homesites after 15 September (migration will vary with region and weather).

C. Maintain 100-300 foot (31-93m) buffer (varying depending on timber type/region) between cutting units and/or roads near riparian areas in drainage bottoms and meadow complexes. Buffers should be 300 feet (93m) where elevational differences increase line of sight.

D. Shapes of cutting units should be irregular to reduce sight distances. Cutting units should not adjoin meadow complexes.

E. Where feasible, lay out roads to reduce sight distances.

F. Use K-V dollars to conserve or improve wildlife/wolf habitats, e.g.,

- Road Management; enforcement, gates or tank traps, etc.
- Seeding old roads no longer used.

RESPONSE TO U. S. FISH AND WILDLIFE SERVICE (Continued)

4) Proposed change: Change the first sentence to read: "When it is economical and compatible with water quality and fisheries objectives, design timber harvest activities in key wolf habitat..."

Reason. Extensive road construction within a relatively short time required by this recommendation could result in sedimentation in excess of the maximum limit allowed in order to meet objectives for anadromous fish and water quality. Also, there may be situations where it would not be economically practical to do this.

5) No change.

6) Proposed change. Change to read: Avoid logging activity on traditional calving/fawning or nursery areas from May 15-June 15. Identify these areas during the biological evaluations for individual projects. Immediately consult with the Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service to determine management of known or suspected initial wolf homesites (dens, rendezvous areas).

Reason. The peak of the calving period is about June 1. Animals are quite mobile and generally dispersed from calving areas by June 15. Use of the phrase "within one mile ... radius..." implies calving areas are well defined with a definite boundary. Rarely is this the case. Calving/fawning areas generally occur within certain elevational zones and are highly dependent each year upon annual climatic conditions.

7) Delete, was addressed in 9-A revision.

8) Proposed change: Combine these three recommendations into a single recommendation to read as follows: Manage riparian areas in key wolf habitat to maintain cover and security for riparian-dependent species with emphasis on maintaining and enhancing habitats for threatened and endangered species. Use "Guidelines for Evaluating and Managing Summer Elk Habitats in Northern Idaho" to evaluate the need for and to provide adequate hiding cover and security areas for big game and wolves. The biological evaluation and environmental analysis will be the processes through which site-specific needs and recommendations will be made.

Reason. All three recommendations are specific ways to provide adequate hiding cover and security for big game and wolves. They are covered in great detail in the direction for managing riparian areas and in the Guidelines for elk management.

VI-190

- Improvement of riparian areas.
- Planting of willow, shrubs, and/or aspen near riparian meadow complexes to enhance beaver habitat.

9

G. Maintain non-use or vacant allotments in areas adjacent to occupied livestock allotments (cattle or sheep) that overlap areas of key wolf habitat components.

10

H. Identify nearby alternate allotments for use in key wolf areas in case of conflicts. Follow criteria in NRMW recovery plan for control of wolves. Cooperate in use of contingency plan (FWS, IDFG) for control and translocation of wolves in Idaho.

11

I. Consult informally with FWS on allotment or livestock class changes (e.g. cattle to sheep, horse to cattle, etc) or grazing period extensions in areas where allotment boundaries overlap or are near key wolf areas.

J. Restrict livestock to identified allotments.

K. Livestock grazing should not occur on ungulate winter ranges.

L. Livestock grazing should not occur in traditional ungulate calving/nursery areas.

M. Remove, burn, or otherwise destroy livestock carcasses to avoid potential habituation of wolves to livestock carrion as food. The intent is to reduce the likelihood of food association with domestic herds and potential depredations. Emphasize this in areas near key wolf areas or ungulate calving and nursery areas.

10

N. Encourage permittees, through I&E, to follow husbandry and breeding programs that do not result in cows calving on allotments during summer grazing periods. Emphasize this where allotments are near key wolf areas or ungulate calving and nursery areas.

10. Identification of bald eagle winter roosts, foraging areas, and spring and fall migration routes needs to be completed so that effects of Clearwater National Forest activities can be adequately evaluated. Without documentation of such areas, impacts of logging, recreational developments, etc. cannot be fully evaluated in Management Area M2.

12

11. With respect to the bald eagle, a site specific nest, roost, and foraging management plan should be developed which maximizes the continued utilization of these sites. Plans should follow specific guidelines established in the Pacific States Bald Eagle Recovery Plan (U.S. Fish and Wildlife Service 1984) and be developed within two years after discovery.

RESPONSE TO U. S. FISH AND WILDLIFE SERVICE (Continued)

9) Proposed change. Change to read: Give management priority for use of available K-V funds to protect or enhance habitats for threatened and endangered species.

Reason. Specific methods to achieve habitat improvements can only be identified after a site-specific evaluation is made to determine what improvements are necessary. Although use of K-V funds for T&E species is a management priority, K-V funds can be used to improve, maintain or monitor habitats for other species such as moose, fisher, anadromous fish, and species dependent on old-growth habitats. K-V funds can also be used to achieve objectives for range, recreation, water quality, visual, and timber.

10) Proposed change. Combine into one recommendation to read as follows: Immediately consult with Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service whenever conflicts between wolves and livestock arise.

Reason. The recommendations appear to be designed to alleviate conflicts between livestock and wolves. Given the current status of wolves on the Clearwater Forest, we feel the recommendations are unnecessarily restrictive and impractical. We do not think they will benefit wolf recovery. In fact they may cause injury to the wolf recovery effort because they can be interpreted to be anti-livestock grazing.

11) No change.

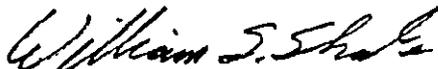
12) No change.

VI-191

12. Under the monitoring plan, gray wolf sightings and bald eagle nest observations should be reported as they occur, (not at a 5 year reporting period, as stated in the Plan). A population evaluation report should be developed every 3-5 years. There should be an estimated cost column for these monitoring activities in Table IV-1. A separate allocation for monitoring Endangered Species (wildlife) should be displayed in the projected ten year budget for the Forest (Plan C-1). Allocation for monitoring should be linked to allocations for land use activities on the forest such as road building and timber harvest so that land use activities could not proceed unless monitoring funds were available.

This concludes formal consultation on this project. If the proposal is significantly modified in a manner not discussed above or if new information becomes available on listed species or impacts to listed species, reinitiation of formal consultation with the FWS is required. We would appreciate notification of your intent in light of this opinion.

Sincerely yours,



William F. Shake  
Assistant Regional Director  
Federal Assistance

12

RESPONSE TO U. S. FISH AND WILDLIFE SERVICE (Continued)

13) In your biological opinion you requested that formal consultation remain open so that continued coordination can take place. We, too, see the need for continued coordination on the sensitive issues related to recovery of T&E species. We appreciate the opportunity to continue in the spirit of open cooperation that has been established between Jay Gore at your Boise Field Office and the Clearwater National Forest.

13

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D. LIST OF THOSE WHO RESPONDED TO THE DRAFT DOCUMENTS

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ADVISORY COUNCIL ON HISTORIC PRESERVATION  
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE  
U.S. DEPARTMENT OF COMMERCE - NATIONAL MARINE FISHERIES SERVICE  
U.S. DEPARTMENT OF ENERGY - BONNEVILLE POWER ADMINISTRATION  
U.S. DEPARTMENT OF INTERIOR - PACIFIC NORTHWEST REGION  
U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION  
U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL HIGHWAY ADMINISTRATION  
U.S. DEPARTMENT OF TRANSPORTATION - UNITED STATES COAST GUARD  
U.S. ENVIRONMENTAL PROTECTION AGENCY REGION 10

NATIVE AMERICAN TRIBES

COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION  
NEZ PERCE TRIBAL EXECUTIVE COMMITTEE

STATE AGENCIES

IDAHO DEPARTMENT OF FISH AND GAME  
IDAHO DEPARTMENT OF PARKS AND RECREATION  
IDAHO DEPARTMENT OF HEALTH AND WELFARE  
IDAHO STATE HISTORICAL SOCIETY  
IDAHO TRANSPORTATION DEPARTMENT  
WASHINGTON DEPARTMENT OF GAME

LOCAL GOVERNMENT AND ELECTED OFFICIALS

CLEARWATER COUNTY COMMISSIONERS  
GOVERNOR JOHN EVANS  
LEWIS COUNTY COMMISSIONERS  
NEZ PERCE COUNTY WEED CONTROL  
REPRESENTATIVE LARRY CRAIG  
SENATOR MARGUERITE MCLAUGHLIN

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AMERICAN FISHERIES SOCIETY  
AMERICAN WILDERNESS ALLIANCE  
BOISE VALLEY FLY FISHERMEN  
CITIZENS - ENVIRONMENTAL QUALITY  
CLARK-SKAMANIA FLYFISHERS  
COEUR D'ALENE WILDLIFE FEDERATION  
FEDERATION OF FLY FISHERS  
FOURTH CORNER FLY FISHERS  
FRASER GRANGE NO. 367  
FRIENDS OF WHITEWATER  
GREAT BEAR FOUNDATION, THE  
HARRISON SPORTSMEN CLUB  
IDAHO NATIVE PLANT SOCIETY -  
PAHOVE CHAPTER  
IDAHO CONSERVATION LEAGUE  
IDAHO ENVIRONMENTAL COUNCIL  
IDAHO FARM BUREAU FEDERATION  
IDAHO NATURAL AREAS COORDINATING  
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IDAHO NATURAL RESOURCES LEGAL  
FOUNDATION  
INLAND EMPIRE BIG GAME COUNCIL  
INLAND FOREST RESOURCE COUNCIL  
LEWIS-CLARK WILDLIFE CLUB  
LOWER COLUMBIA BASIN AUDUBON SOCIETY  
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THE NATURE CONSERVENCY  
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WESTERN FOREST INDUSTRIES  
ASSOCIATION  
WESTERN WOOD PRODUCTS ASSOCIATION  
WESTERN WOOD PRODUCTS ASSOCIATION  
WHITMAN COUNTY SPORTSMEN'S  
ASSOCIATION  
WILDERNESS SOCIETY  
WILDLIFE FEDERATION, DISTRICT 2  
WILDLIFE SOCIETY, WSU CHAPTER

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BAILEY, STEVEN  
BAILEY, TAMMY  
BAIRD, JAMES  
BAIRD, PHIL  
BAKER, ANGELA  
BAKER, JAMES  
BAKER, RAY  
BAKER, THELMA  
BAKER, TODD  
BALBI, HARVE  
BALBI, HARVE (MRS)  
BALDOCK, ROSE  
BALDRIDGE, ALLEN  
BALICE, RANDY  
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BALSIGER, BRIAN  
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BARDEN, PAUL  
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BARKER, HARRIET  
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BARNES, CLAUDETTE  
BARNES, R. H.  
BARNETT, CHESTER  
BARNETT, CINDY  
BARNETT, DANIEL  
BARNETT, PATRICK  
BARNETT, SHARON

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BARTON, KATHY  
BARTON, PHILIP  
BARTSCH, JOHN  
BASHARN, JULIE  
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BAUGH, NORMAN AND SHARON  
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BAUNE, JOAN  
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BAYLEY, JERRY  
BAYMON, RICHARD  
BAZE, KENNETH  
BAZE, LORI  
BAZE, MARIE  
BAZE, STUART  
BEACH, ANITA  
BEALE, PAUL  
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BECKMAN, LEROY  
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BEEBE, VIRGINIA  
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BEESON, KAREN  
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BEHLER, JOE  
BELL, BARB  
BELL, BRENDA  
BELL, ELIZABETH  
BELL, FRED  
BELL, GEORGIA  
BELL, PHYLLIS  
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BELL, ROBERT  
BELL, RONALD  
BELL, TERRY  
BELL, WARREN

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BENSON, MARK  
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BENTLEY, JOHN  
BENTLEY, TERRY  
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BERGEN, MARY  
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BERRETH, EDWARD  
BERSLETTE, RICHARD  
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BEST, LINDA  
BEST, MICHAEL  
BETTS, DAVID  
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BIDLAKE, QUENTEN  
BIDLAKE, RICK  
BIERHAUS, GLEN  
BIERHAUS, KARL  
BIERY, SHAWN  
BIERY, TOBY  
BIES, WILLIAM  
BIGGS, GRETCHEN  
BIGLER, LARRY  
BILLUPS, GREG  
BIRD, DAVID  
BIRD, JAMES  
BIRD, RICK  
BIRD, TAMMI  
BIRDELL, WILLIAM  
BISTLINE, BRUCE  
BLACK, PERRY  
BLACKBURN, REBECCA  
BLACKER, DAVID  
BLACKFORD, MICHAEL  
BLAKE, EARL AND JOYCE  
BLANKENSHIP, MELVIN  
BLANKENSHIP, SANDRA  
BLENDE, LARRY  
BLEVINS, ELAINE  
BLEVINS, GLEN  
BLEVINS, GROVER  
BLIGH, RAYMOND

BLIMM, JIMMY  
BLOOM, BERNARD  
BOCKINO, JOSEPH  
BOERSDORFF, FERN  
BOHANAN, NEWTON  
BOHN, ANDY  
BOHN, JODY  
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BOLING, KEVIN  
BOLLER, RANDIE  
BOLLER, RODNEY  
BOLLER, SHERYL  
BOLLMAN, VERN  
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BONNER, CARL  
BONNER, HAZEL  
BONOS, JUANITA  
BOOKER, JAMES  
BOOTHE, RONALD  
BORELLO, RICHARD  
BORNITZ, DORIS  
BOSSERMAN, L. J.  
BOTELLO, DOUGLAS  
BOWEN, KENNETH  
BOWEN, ROBERT  
BOWERS, CHET & MAIDA  
BOWLER, BRUCE  
BOWLER, PETER  
BOWLES, LOWELL  
BOYER, H. D.  
BOYER, MARK  
BOYLES, ROBERT  
BRAATEN, DALE  
BRACHAK, BILL  
BRADFORD, CAROL  
BRADLY, CHARLES  
BRAGGER, CHARLES  
BRAILSFORD, BEATRICE  
BRANDIN, PER  
BRANDT, DEAN  
BRANDVOLD, DONNA  
BRANDVOLD, RALPH  
BRANDVOLD, RUDY  
BRANSON, KIMBERLEE  
BRANSON, LAWERENCE  
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BREBNER, DEBBIE

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BREBNER, PAUL  
BRECHLIN, WILLIAM  
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BREHMER, STEVE  
BREWER, ARDATH  
BRIDGEMAN, DENNIS  
BRIDGES, PAUL  
BRIGHAM, MORTON  
BRINGMAN, JACK  
BRISCOE, MICHAEL  
BRISCOE, RESA  
BRISSON, HOMER  
BRISSON, MARJORIE  
BROEMOLING, EARL  
BRONCHEAU, WILLIAM  
BROOKS, L. J.  
BROOKS, LEE  
BROOKS, PETER  
BROOKS, ROY AND GLADYS  
BROWN, E. G.  
BROWN, EDWARD  
BROWN, FRED  
BROWN, JACKIE  
BROWN, JAMES  
BROWN, LARRY  
BROWN, LORALEE  
BROWN, MARK  
BROWN, R. L.  
BROWN, ROBERT  
BROWN, STEVEN  
BROWN, WILLIS  
BROWNLEE, WILLIAM  
BRUCHER, NANCY  
BRUCKER, JOY  
BRUCKER, ORVAL  
BRUDESETH, DEMI  
BRUEHER, CHRIS  
BRUMLEY, ANITA  
BRUMLEY, CHARLES  
BRUNELLE, ROGER  
BRUNO, SHARON  
BRUNO, STEPHEN  
BRYANT, DON  
BRYANT, FLOYD  
BRYANT, ORA  
BRYNTESEN, C. M.  
BRYNTESEN, VIRGINIA

BUDE, DOUGLAS  
BUDE, VICTOR  
BUDSELL, WILL  
BUELL, BRENDA  
BUELL, FRANK  
BUELL, JACK AND ELEANOR  
BUELL, KEVIN  
BUELL, MARTIN  
BUHL, NICK  
BUNCH, JIM  
BUNDERMAN, ED  
BUNDERMAN, GENEVIEVE  
BUNNEY, DENISE  
BUOSE, JAMES  
BURCH, LINDA  
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BURCHAM, DAVID  
BURGER, EUGENE  
BURGER, MARIE  
BURICA, DAVID  
BURNETT, DAVID  
BURNS, STANLEY  
BURSELL, CHARLIE  
BURTON, WAYNE  
BURWELL, ROGER  
BUSCH, STEVE  
BUTTERFIELD, CAL  
BUTTON, JULIE  
BUTTS, LARRY  
BYRD, EUGENE  
CADY, MIKE  
CAICCO, STEVEN  
CALAWAN, EARL  
CALKINS, DONALD  
CALLAND, CHARLES  
CALLISTER, LARRY  
CALVEST, KEN  
CAMERON, DARYL  
CAMERON, WILLIAM  
CAMPBELL, RICK  
CAMUTO, CHRISTOPHER  
CANADAY, GREG  
CANADAY, TRACY  
CANNON, DONNA  
CARD, LEONARD  
CAREY, RANDY  
CARLIN, ALICE  
CARLIN, GARY  
CARLSON, CATHERINE  
CARLTON, CLAIRE  
CARMAN, CONNIE

CARMAN, JAMES  
CARNEY, JO ANN  
CARNEY, RICHARD  
CARNINE, JIM  
CARPENTER, DAVID  
CARPER, KENNETH  
CARPER, VERNON  
CARRALL, ELIZABETH  
CARRICO, FRED  
CARRICO, MICHAEL  
CARROLL, EULIS  
CARRON, REID  
CARSON, M. E.  
CARTER, TERRY  
CARTWRIGHT, JOE  
CARTWRIGHT, LISA & DENN  
CARVER, BOBBY  
CARVER, CINDIE  
CARVER, MARY  
CARVER, THOMAS  
CASPER, HAZEL  
CASWELL, MAXINE  
CASWELL, WILLIAM  
CENTA, JOHN  
CHADBOURNE, JOYCE  
CHADBOURNE, WARREN  
CHAFFINS, FRED  
CHAMAN, LEO  
CHAMBERLIN, MIKE  
CHANCE, DAVID  
CHANDLER, NAHYDA  
CHANDLER, ROSS  
CHANG, CURTIS  
CHANG, SALLY  
CHAPMAN, JOHN  
CHAPMAN, MARY  
CHAPMAN, MARYANN  
CHAPMAN, STEVE  
CHAPPELL, WALTER  
CHARLES, FRANCES  
CHARLES, MILO  
CHARLES, TIM  
CHARLES, VICKI  
CHARLO, MARY  
CHASE, C.  
CHASE, VERDIE  
CHENOWETH, JULIE  
CHERRY, JIM  
CHEYNEY, WINSTON  
CHILDERS, LARRY  
CHINN, BRAD

INDIVIDUALS (cont.)

CHINN, DONALD  
CHOATE, ASA  
CHRISTENSEN, LOY  
CHRISTENSEN, WILMA  
CHRISTENSEN, JIM  
CHRISTIAN, ERNEST  
CHRYSLER, RUSSELL  
CHUPRINSKI, ROBERT  
CLANIN, BETHEL  
CLARK, FRANK  
CLARK, GARY  
CLARK, MARK  
CLARK, STEVE  
CLAY, ROY  
CLEAR, GARALD  
CLICK, FRANK  
CLIFFORD, BARBARA  
CLIFT, RICHARD  
COE, LARRY AND JEANE  
COELIN, MAUREEN  
COFFEY, CHARLES  
COFFEY, DONALD  
COFFEY, PATRICIA  
COLE, FLOYD  
COLEWELL, PATRICK  
COLLINGWOOD, CHARLA  
COLLINGWOOD, CHARLES  
COLPITTS, BERT  
COMPTON, GLENN  
COMPTON, JERRY  
CONNOLLY, MARY  
COOK, CARL  
COOK, DON  
COOK, JAMES  
COOK, JEANINE  
COOK, MILES  
COOK, RON  
COOK, VERLON  
COON, JO  
COONS, DONALD  
COONS, MICHAEL  
COONS, RONALD  
COONTS, LARRY  
COOPER, MICHAEL  
COPELAND, TONY  
CORBIN, TED  
CORBIT, CARL  
CORDER, CARL  
CORDER, RONALD

CORMANA, J. D.  
CORMANA, JAMES D.  
CORMANA, JAMES (MRS)  
CORNELL, TY  
CORNWELL, GERALD  
CORPRON, DOUGLAS  
CORRADO, RONALD  
COSNER, TERRY  
COSTA, JOEL  
COUDREY, ALBERT  
COULTER, JAMES  
COULTER, MAE  
COULTER, RICHARD  
COURTNEY, DONALD  
COURTNEY, GORDON  
COURTNEY, JEANNETTE  
COUTURE, B.  
COVEY, MYRON  
COX, BILL  
COX, BOB  
COX, DALE  
COX, DAVID  
COX, JAMES  
COX, JOHN  
COX, LYNETTE  
COX, MAXINE  
COX, RONALD  
COX, STEVE  
CRAFT, ROLAND  
CRAMER, RICK  
CRAMP, THELMA AND DOOLY  
CRANDALL, SHIRLEY  
CRANE, GREG  
CRANE, JACK  
CRANE, JIM  
CRANE, LYNDA  
CRANE, RALPH  
CRANE, VIVIAN  
CRANE, WILLIAM  
CRAVENS, STEPHEN  
CRAWFORD, HAROLD  
CRAWFORD, LARRY  
CRAWFORD, MARILYN  
CRAWFORD, THERON  
CRAWFORD, WILLIAM  
CRESS, KEITH  
CRETE, RON  
CRILE, JAMES L.  
CROCKETT, RON  
CROOKS, KRISTI  
CROWE, AMOS

CROWELL, CHARLES  
CULLEN, E. W.  
CUMMINGS, BARBARA  
CUMMINGS, BEN  
CUMMINGS, KEN  
CUMMINGS, PAMELA  
CUNNINGHAM, BILLY  
CUNNINGHAM, CLAUDE  
CUNNINGHAM, JAMES  
CURRY, DEAN  
CURRY, LARRY  
CUSHING, COLBERT  
CUTHBERTSON, BOB  
CUTLER, ALVIN  
CUTLER, CAROLYN  
DAHLIN, STEVE  
DAHLKEY, LARRY  
DAINOLD, CHARLES  
DAMEWORTH, BILL  
DANDER, JEANNIE  
DANDER, JOHN  
DANIELS, LYLE  
DARRAR, GEORGIA  
DARRAR, MIKE  
DARRAR, SUNDAY  
DARTER, DON  
DARTER, MARTHA  
DAUM, JACK  
DAVIDSON, DENNIS  
DAVIS, ANDREW  
DAVIS, EVA  
DAVIS, KATHY  
DAVIS, KEN  
DAVIS, PAUL  
DAVISON, TERESA  
DAWSON, GEO  
DAY, MICHAEL  
DE NIRO, ELIZABETH  
DE NIRO, JIM  
DEAL, MIKE  
DEAN, LAURENCE  
DEAN, STACEY & DENNIS  
DEAN, WARREN  
DEBREE, MARK  
DECKER, JEAN  
DEEULIS, LINDA  
DEFOREST, HAROLD  
DEFOREST, WILLIAM  
DEGREGORIO, JAMES  
DELANEY, HELEN  
DELANEY, JOHN

INDIVIDUALS (cont.)

DELANEY, MICHAEL  
DELORENZO, ROBERT  
DENISON, GILBERT  
DENISON, MAXINE  
DENNIS, HAL  
DENNISON, ROBERT  
DENNISON, SHIRLEY  
DEOBALD, LEE  
DEPLOES, DAVID  
DERRY, CHARLES  
DERRY, CHARLIE  
DERRY, EARL  
DERRY, MARK  
DERRY, MONA  
DERRY, PAUL AND PRISCILLA  
DERRY, PETER  
DESAUSSURE, JULIE  
DEUSER, CHERYLE  
DEVAULT, BONNIE  
DEYO, BRIAN  
DEYO, CONNIE  
DEYO, MARY LOU  
DEYO, MICHAEL  
DI IOLI, CHARLOTTE  
DI IOLI, GERARD  
DIANDA, SUE  
DIANDA, CHARLES  
DICKKEY, R. F.  
DICKINSON, GENE  
DICKSON, TIM.  
DIEBEL, G. E.  
DIETZ, EILEEN  
DIETZ, LESTER  
DILLING, JIM AND ELLA  
DILLMAN, LARRY  
DIMICO, EDWARD  
DIMICO, MARJORIE  
DITTMAN, DOROTHY  
DITTMAN, MARY K.  
DITTMAN, PAUL  
DITTMAN, PETER  
DITTMAN, ROBERT  
DITTMAN, SHAWN  
DITTMAN, SIDNEE  
DITTMAN, SONDA  
DITTMAN, STEVE  
DIXON, BETTY  
DIXON, JERRY  
DIXON, KIM

DIXON, W. C.  
DOAN, JAMES  
DODGE, GARY  
DODSON, DOUGLAS  
DOERING, RICHARD  
DOLPHIN, ANTHONY  
DONLEY, BOBBI  
DONLEY, JEANNE  
DONOHUE, PAT  
DORENDORF, STEVEN  
DOTY, CHARLES  
DOUPE, TERRY  
DOW, BARRY  
DOWD, MARTIN  
DOYLE, J. L.  
DOYLE, ROBIN  
DRAACH, JAKE  
DRAKE, CONNIE  
DRAZ, DOUGLAS  
DREDGE, RICHARD  
DREISBACH, MAURICE  
DREWS, BILL & ELAINE  
DREWS, ELAINE  
DROZ, JEANIE  
DRUKER, PHIL  
DUCOMMAN, WILFRED  
DUCOMMUN, PATRICIA  
DUCOMMUN, VERNON  
DUER, SANDRA  
DUFF, EUGENE  
DUFFEY, SHIRLEY  
DUFFEY, TERRY  
DUFFY, DEEBI  
DUFFY, JAMES  
DUGGER, CLAYTON  
DUGGER, LORRAINE  
DUGGER, MARVIN  
DUHR, RICHARD  
DUKE, GREG  
DUKE, KENNY  
DUNHAM, JOHN  
DUNN, DAVID  
DUNN, GREG  
DUNN, PATRICIA  
DUNN, ROBERT  
DUNNING, JIM  
DUNNING, MICHAEL  
DURANT, BETTY  
DURANT, W. H.  
DURANT, X. E.  
DURHEIM, ISLA

DURKEE, CHARLES  
DUTTON, DAVID  
DUVINAGE, THELMA  
DYGERT, RAYMOND  
DYKES, DONNA  
DYKES, RANDY  
EASTLAKE, WILLIAM  
EASTWOOD, ROY  
EATMON, DOROTHY  
EATMON, DOUG  
EATMON, MELVIN  
EBERT, DON  
EBERT, KAREN  
EBERT, PAUL  
EDDY, E. DAWES & MARY  
EDELBLUTE, TERRY  
EDISON, JEFF  
EDMINSTER, SCOTT  
EDWARDS, GWEN  
EDWARDS, MAUREEN  
EICHERT, JOE  
EIMER, WILLIAM  
EIMERS, BILL  
EISENBARTH, MELVA  
ELDERS, BABLY  
ELDRIDGE, RAY  
ELLEN, REBECCA  
ELLER, RANDALL  
ELLIOT, DAVE  
ELLSWORTH, LANA  
ELY, DON  
EMERY, VIRGIL  
ENGERBRETSON, DAVE  
ENGLISH, DUANE  
ENGLISH, LARRY  
ENTENMANN, JEROME  
ENTENMANN, MILDRED  
ENYEART, DAN  
EPLER, CHARLENE  
EPLER, CHARLES  
EPLER, DEWEY  
EPLER, LOLA  
EPLER, PHILIP  
ERDMAN, JERRY  
ERICKSON, ALVIN  
ERICKSON, BARRY  
ERICKSON, TERRY  
ERICKSON, WILLIAM  
ERLEWINE, DEBORAH  
ERLEWINE, LYLE  
ESMAY, JOYCE

INDIVIDUALS (cont.)

ESSIG, DON  
EVANS, CARMEN  
EVANS, DON  
EVANS, JIM  
EVANS, TIM  
EVENS, ROZANNE  
EVENS, TIM  
EVERETT, JAMES  
EWING, CHRIS  
EWING, J. R.  
FAIRHURST, FRANKIE  
FAIRHURST, SALLY  
FAIRHURST, THEODORE  
FAIRMAN, NORVAL  
FALLWELL, MICHAEL AND JONICE  
FANT, KAREN  
FARBO, TOM  
FARMER, CHARLES  
FARRELL, DEBBIE  
FARRELL, DOUG  
FARRELL, JANICE  
FARRELL, JOE  
FARRELL, RANDY  
FARRELL, RICK  
FARRINGTON, BERNADINE  
FARRINGTON, GLEN  
FARRINGTON, RICHARD  
FAY, GARY  
FEEAKE, DENNIS  
FEELEY, DONALD  
FELNER, WADE  
FELTON, JOHN  
FERGUSON, BURDETT  
FERGUSON, WARREN  
FEUCHT, BILL  
FEUCHT, EUGENE  
FEUCHT, JAMES  
FEYK, JOHN  
FIALA, DAVID  
FINCH, DENNIS  
FINDLAY, CLAYTON  
FINKE, CARL  
FINKE, CORBY  
FINKE, JAMES  
FINKE, JERROLD  
FINKE, KELLY  
FINLEY, ANN  
FINLEY, TOM  
FISBECK, CHARLES

FISHER, JOHN  
FISHER, RUTH ANN  
FISK, PAUL  
FITZGERALD, JIM  
FITZPATRICK, KATHY  
FITZPATRICK, SANDY  
FLAIG, DELBERT  
FLERCHINGER, GERALD  
FLERCHINGER, GEROLD  
FLETCHER, WAYNE  
FLOCH, JOHNNY  
FLORES, BILL  
FLOYD, RICHLAND  
FOCHT, JERRY  
FORD, JOSEPH  
FORD, PAT  
FORSTER, DAVID  
FOSKET, HAROLD  
FOSTER, ALAN  
FOSTER, BRENT  
FOSTER, FRED  
FOSTER, MILDRED  
FOSTER, MIRIAM  
FRANK, E. WILLARD (ET AL)  
FRANK, LEWIS  
FRANK, RICHARD  
FRANZESE, MARY  
FRANZESE, MARY LOU  
FRANZESE, ROBERT  
FRASER, ART  
FRASER, CHRISTINE  
FRASER, MITCH  
FRAZIER, CHARLIE  
FRAZIER, STEVE  
FRED, C. W.  
FREDERICK, ANNIE  
FREDERICK, WILLIAM  
FREDRICKSON, LARRY  
FREELIG, CRAIG  
FREEMAN, EVERETT  
FREEMAN, LARRY  
FREEMAN, TOM  
FRENCH, GARY  
FREY, CHARLES  
FRITZ, JANE  
FRITZ, PAUL  
FROST, ARCHIE  
FROST, C. A.  
FROST, CAROLYN  
FROST, PAT

FRY, ELAINE  
FRY, HARRY  
FRY, RAY  
FRYE, VERYL  
FUCHS, GEORGE  
FULLER, CHRIS  
FULLER, DAVID  
FULLER, RICHARD  
FULTS, RANDAL  
FUSON, CAROL  
FUSON, VIRGIL  
GALE, KEVIN  
GALLAGHER, BERTA  
GANNON, HUGH  
GANNON, MARGRET  
GANTT, GAMEWELL  
GAROFANO, MIKE  
GARRETT, ROGER  
GATHERER, SAM  
GAULKE, JERRY & PAT  
GAY, MAXINE  
GAYLORD, ALLEN  
GAYLORD, STEPHANIE  
GEHRKE, DEL & LOUISE  
GEHRKE, PAMELA  
GEIR, RAY  
GENRY, DEAN  
GENTRY, DEAN  
GENTRY, GLENDA  
GEORGE, ARCHIE  
GEORGE, DON  
GEORGE, DONALD  
GEORGE, PAT  
GERSH, ROBERT  
GIACOBBI, STEVE  
GIBBENS, G. W.  
GIBBON, RANDY  
GIBBONS, MANLEY & HOPE  
GIBBS, DANIEL  
GIBBS, DONNALYNN  
GIBSON, CAROL  
GIBSON, DOYLE  
GIBSON, GARY  
GIBSON, GRACE  
GIBSON, LARRY  
GIBSON, RANDY  
GIBSON, WESTON  
GIESER, GLEN  
GILBECH, MARILYN  
GILLIS, GEORGIA  
GILLISPIE, JERRY

INDIVIDUALS (cont.)

GILMER, JACK  
GILMORE, LAWRENCE  
GLADHART, DAVID  
GLADHART, SHARON  
GLEINN, LONNIE  
GLIDDEN, HERB  
GODWIN, MARION  
GOEDDE, FLOYD  
GOFFIN, SUSAN  
GOFFINET, JOHN  
GOLD, TED  
GOLDSMITH, JAMES  
GOLLER, BRIAN  
GOODWIN, ROBERT  
GORDON, RICHARD  
GORMAN, ED  
GORMSEN, SUSAN  
GOSPODNETICH, GERALD  
GOSSO, DON  
GOUGH, JOHN AND HELEN  
GOVE, WILLIAM  
GRAHAM, A.  
GRAHAM, JAMES  
GRAHAM, KAY  
GRAHAM, NANCY  
GRAMBO, ERNEST  
GRANBUD, ERIC  
GRANLUND, GORDON  
GRANSBURY, ROBERT  
GRANT, ROBERT  
GRANTHAM, STEVE  
GRASSER, GAIL  
GRAY, DARREL  
GRAY, DONALD  
GRAY, PETER  
GRAY, VICKIE  
GREEN, BILL  
GREEN, DEBBIE  
GREEN, JAMES  
GREEN, RANDY  
GREEN, RICHARD  
GREEN, RIR  
GREENE, BEN  
GREENE, BENJAMIN  
GREENE, BETTY  
GREENE, CHERYL  
GREENE, JANE  
GREENE, ROBERT  
GREENE, STEVEN

GREER, PHILIP AND MRS  
GREGAS, NORMAN  
GRENDINSKI, BILL  
GRENDZINSKI, BLANCHE  
GRIESER, JAMES  
GRIESER, ROBERT  
GRIMES, MELISSA  
GRIMM, BEN  
GRIMM, R. L.  
GROLL, STACIE  
GROSCLOSE, VIRGIL  
GROSS, SUSAN  
GRUBAUGH, VAUGHN  
GRUBER, EDNA  
GRUBER, GEORGE  
GRUBER, JACK  
GRUBER, MARY  
GRUBHAM, HARRY  
GRUBHAM, PAM  
GRUNDER, SCOTT  
GRUPP, LARRY  
GUENTHER, MARTHA  
GUIER, JOE  
GUNSEOR, FRANN  
GUSE, SHIRLEY  
GUSHLIAK, ROBERT  
GUSTIN, DONALD  
GUSWAN, DEXTER  
HAACK, R. (MRS)  
HABBERSTAD, GARY  
HACKENY, STEPHEN (ET AL.)  
HACKETT, BILL  
HAEG, GENE  
HAEG, RICK  
HAGEN, EVERETT  
HAGMAN, STEVE  
HAGMAN, STEVE  
HAIGHT, FAYE  
HAINES, GORDON  
HAINES, MARY  
HAINES, MIDGE  
HAINES, RAY  
HAINES, SANDRA  
HAIWOOD, DALE  
HALEY, RICHARD  
HALGREN, KENNETH  
HALL, E. EUGENE  
HALL, JOY  
HALL, ROBERT  
HALL, WENDELL A.  
HALLAGAN, WILLIAM

HALLISY, DICK  
HALSELL, JOHN  
HALSTEAD, CHRIS  
HALSTEAD, CHUCK  
HAM, ELSIE  
HAM, VERNON  
HAMILTON, WILLARD  
HAMMONS, ELIZABETH  
HAMMONS, ROBERT  
HANELY, CONNIE  
HANKS, DONALD  
HANKS, ELVIN  
HANKS, JUDY  
HANLEN, CHARLES  
HANLEY, CHARLES  
HANLEY, CONNIE  
HANLEY, DAVID  
HANNON, BEV  
HANSEN, MARGIE  
HANSON, DONALD  
HANSON, DONALD W.  
HANSON, GREG  
HANSON, MARCELLA  
HANSON, ROBERT  
HANSON, WES (ET AL.)  
HARDCASTLE, JAMES  
HARDWAY, WALTER  
HARDY, GREGORY  
HARLACHER, JOHN  
HARNACK, BILL  
HARNEY, JACK  
HARNEY, SALLY  
HARNEY, WALTER  
HAROLD, CHERI  
HARPER, AL  
HARPER, RANDY  
HARPER, ROBIN  
HARPOLE, SHERRY  
HARRIS, BILL  
HARRIS, CHRIS  
HARRIS, KENNETH  
HARRIS, MICHAEL  
HARRIS, SUSAN  
HARRISON, LEONARD  
HARRISON, M. H.  
HARRISON, T. MILFORD  
HARRYMAN, WAYNE  
HART, PAUL  
HARTDEGEN, PATRICIA  
HARTIG, ANN  
HARTIG, JANICE

INDIVIDUALS (cont.)

HARTIG, LEROY  
HARTIG, RONALD  
HARTMAN, DOLLY  
HARTMAN, STEPHEN  
HARTVEDT, MARIAN  
HARTWIG, MELVIN AND CHRISTINE  
HARVEY, GEORGE  
HARVEY, SHIRLEY  
HASENOEHL, DWAIN  
HASENOEHL, PENNY  
HASH, JACK  
HASH, JEFF  
HASKINS, BONNIE  
HASKINS, ED  
HASKINS, JOHN  
HASSELSTROM, RANDY  
HASSELSTROM, SHELBY  
HATCH, SHARON  
HATLEY, ELVA  
HAVENS, IRA  
HAWKES, JUDE  
HAWKS, DEANNE  
HAWLEY, BUD  
HAYES, PAT  
HAYES, PAT (MRS)  
HAYES, REBECCA  
HAYES, RONALD  
HAYES, WILLIAM AND MARJORIE  
HAYMAN, DUANE  
HAYNES, RICK  
HAYS, SANDY  
HAYSE, BRUCE  
HEAD, JOHN  
HEATH, JOHN  
HEATH, PHYLLIS  
HEATH, TREVER  
HEATON, JIM  
HECKER, A.  
HEDGECOCK, ONA  
HEDLUND, ERIC  
HEDLUND, MORRY  
HEDRICK, DIANA  
HEDRICK, KEITH  
HEDRICK, ROLLAND  
HEFFNER, STEVE  
HEIMARK, FRANCES  
HEIMARK, LAWRENCE  
HEIN, JOE  
HEIN, SHIRLEY

HEINSOHN, ROCKY  
HELLMAN, NANCY  
HELTINGER, JAMES  
HEMMINGER, ALBERT  
HENDERSON, JIM  
HENDREN, ELBERT  
HENDREX, VONNIE  
HENDRIAN, ALEX  
HENDRICKSON, TOM  
HENDRICKX, BRENDA  
HENDRICKX, CARLA  
HENDRICKX, TERRANCE  
HENRIKSEN, D. G.  
HENRIKSEN, RONALD  
HENRIKSON, PATRICIA AND D. G.  
HENSON, ARTHUR  
HENSON, JUDITH  
HENSON, PETE  
HERBOLDT, MICHELE  
HERBOLDT, WAYNE  
HERMAN, JENNIFER  
HERMAN, MICHAEL  
HERNDON, ANNE  
HERRING, EVA  
HERRING, KEITH  
HERRINGTON, STAN  
HESTER, HELEN  
HEWSON, RONALD  
HEYWOOD, JIM  
HEYWOOD, PHYLLIS  
HICKEY, CHERL  
HICKMAN, JERRY  
HICKS, IRENE  
HIERATH, R. DENNIS  
HIGGINS, DON  
HILL, ALAN  
HILL, DAVE  
HILL, EDWARD  
HILL, LARRY  
HILLS, GEORGE  
HILLS, KATHY  
HILLS, RICHARD  
HINES, DON  
HINMAN, GEORGE  
HINMAN, MICHAEL  
HINNEN, MICHAEL  
HINSON, KAREN  
HIPPLER, PATRICIA  
HIRSCH, EDWARD  
HIRSCH, MIKE  
HIXSON, CREIG

HOALSTROM, JIM  
HODGES, JIM & TAMMY  
HODGSON, DOROTHY  
HOFFMAN, K. T.  
HOHS, TIMOTHY  
HOISINGTON, ED  
HOLBEN, BARRY  
HOLBEN, BARRY & CINDY  
HOLBEN, CINDY  
HOLDAHL, DONALD  
HOLDIN, DAVID  
HOLLIBAUGH, DAN  
HOLLIBAUGH, ROBERT  
HOLMES, HOWARD  
HOLMES, TIM  
HOLSTEIN, DAVID  
HOLSTEIN, JIM  
HOLSTEIN, K. K.  
HOLSTEIN, KARLA  
HOLSTEIN, OLINE  
HOLTHAUS, TED  
HONEYCHURCH, MAUR. & GARY  
HOOD, DENNIS  
HOOKS, COLIN  
HOPKINS, DONNA  
HOPKINS, GARY  
HOPPENRATH, LOUISE  
HORNSBY, ROGER  
HORSTMEIER, DUANE  
HORTON, ROBERT  
HORTON, TIM  
HOUCK, HOWARD L.  
HOUNEBERRY, MICHAEL  
HOUSTON, CHRIS  
HOUSTON, DONNA  
HOUSTY, CHRIS  
HOWARD, LEROY  
HOWE, DAVID  
HOWE, GERALDINE  
HOWE, GERRY  
HOWE, LIRENDA  
HOWE, MELVIN  
HOWELLS, JAMES  
HUBBARD, HENRY  
HUBBARD, RICHARD  
HUBER, SCOTT  
HUBERT, DENISE  
HUBERTY, DAVID  
HUBERTY, JOHN & MARY  
HUDGINS, HORACE  
HUDSON, HELEN

INDIVIDUALS (cont.)

HUFFMAN, DEAN  
HUFFMAN, DENNY  
HUFFMAN, SHARON  
HUFFMAN, TERESA  
HUGHETT, HARVEY  
HULIN, CLIFF  
HUMMEL, KAY AND JEFF FEREDAY  
HUNTER, JAMES  
HUNTER, ROBERT  
HUPP, BILLY  
HURT, THOMAS  
HUSTRULID, ROBERT  
HUTCHINS, ALICE  
HUTCHINS, DAVID  
HUTCHINS, ELATA  
HUTCHINS, ELWIN  
HUTCHINS, EMERALD  
HUTCHINS, LAWRENCE  
HUTCHINS, LESLIE  
HUTCHINS, LOUISA  
HUTCHINS, MARVIN  
HUTCHINS, R. LORRAINE  
HUTCHINS, RONALD  
HUTCHINS, SHARON  
HUTCHINSON, CHARLENE  
HYDE, MARLENE  
IHENKELMAN, N. A.  
ILLI, JOHN  
INGRAM, BOBBY  
INGRAM, GARY  
IRBY, ALEX  
IRBY, ARDATH  
IRBY, DONNA  
IRBY, JAMES  
IRBY, JULIA  
IRBY, JULIE  
IRBY, RAY  
IRELAND, ERNEST K.  
IRVING, MICHAEL  
ISBELLE, HAROLD  
ITHITHILL, M. PATRICK  
ITTNER, RUTH  
IVERSON, BEN  
JACK, JAMES  
JACKS, DAVID  
JACKS, GLORIA  
JACKS, WILLIAM  
JACKSON, B. D.

JACKSON, DONNA  
JACOBS, BILL  
JACOBS, MARJORIE  
JACOBS, RANDY  
JACOBS, RAY  
JACOBUS, DENNIS  
JAMES, JIM  
JAMES, JOHN  
JAMES, NORMAN J.  
JAMES, WANDA AND JESSE  
JANDQUIST, DAVID  
JANES, BENNIE  
JANTZEN, DEBBIE  
JARED, JONNA  
JARRELL, BEN  
JASINSKI, EDWARD  
JASPER, JIM  
JAVORKA, ED  
JAYNE, JERRY  
JEFFREY, ALLAN  
JENKINS, MIKE  
JENKS, MARSHA  
JENNINGS, BILL  
JENNINGS, CINDY  
JENNINGS, DON  
JENSEN, DEBBIE  
JENSEN, ERIC  
JENSEN, J. MARK  
JENSEN, JAMES  
JENSEN, TERRY  
JEPSEN, D. G.  
JER, SES  
JERNIGAN, FRANK  
JETER, FRANCES  
JETER, JEANETTE  
JETER, LEROY  
JETER, STEVE  
JOHANSEN, DAN  
JOHNSON, ABBIE  
JOHNSON, ANTHONY  
JOHNSON, ARTHUR  
JOHNSON, BERT  
JOHNSON, BLANCHE  
JOHNSON, CHRISTINE  
JOHNSON, DECKER  
JOHNSON, DENNIS  
JOHNSON, DONALD  
JOHNSON, DONNA  
JOHNSON, E. DAVID  
JOHNSON, ESTHER  
JOHNSON, GREG

JOHNSON, HAROLD  
JOHNSON, JERRY  
JOHNSON, JULIE  
JOHNSON, KIM  
JOHNSON, LOUISE  
JOHNSON, MARK  
JOHNSON, MARNIE  
JOHNSON, MAURICE  
JOHNSON, PAUL  
JOHNSON, RICHARD  
JOHNSON, ROBERT  
JOHNSON, ROY  
JOHNSON, RUSSELL  
JOHNSON, RUTHI  
JOHNSON, STELLA  
JOHNSON, TERESE  
JOHNSTON, BARNEY  
JOHNSTON, DOLORES  
JOHNSTON, JOSEPH  
JOHNSTON, JUSTIN  
JOHNSTON, RONALD  
JOHNSTON, SHARLYN  
JOHNSTONE, DONALD  
JOHNSTUN, JESS  
JOHNSTUN, JOEL  
JOLLEYM, ANDY  
JONES, MARIAN  
JONES, BRIAN  
JONES, DOUGLAS  
JONES, JERRY  
JONES, ROBERT  
JONES, SHIRLEY  
JONEYCHANL, GARY  
JOSE, JULIA  
JOSE, NICK  
JRENT, DAVID  
JUDY, EDDIE SUE  
JUDY, TAM  
KACHELMAEIR, BILL  
KACHELMIER, TERRI  
KAERLING, MABLE  
KAERLING, WILLIAM  
KAPPAS, JACK  
KARMAZINAS, JAMES  
KARN, MARVIN  
KARN, NETTIE  
KASPER, ROY  
KATOVICH, JOHN  
KAUFMAN, DAVID  
KAUFMAN, DONALD  
KAUFMAN, WILLIAM

INDIVIDUALS (cont.)

KAUTZ, SHIRLEY  
KAUTZ, WILLIAM  
KAZANIS, DICK  
KEELER, ROD  
KEET, ROBERT  
KEITH, EARL  
KELLER, MARK  
KELLER, PAMELA  
KELLER, WARREN  
KELLEY, A. V. (REV AND MRS)  
KELLEY, BARBARA  
KELLEY, NICKIE  
KELLEY, PAUL  
KELLEY, RHODA  
KELLOM, DALLACE  
KELLY, J. R.  
KELLY, MARK  
KELSO, KELLY  
KELSO, SANDRA  
KENNEDY, STEVEN  
KENNEDY, VERNON  
KENNEDY, WADE  
KENNON, MARY  
KENNY, WILLIAM  
KENT, DAVID  
KENT, JERALD  
KENT, LARON  
KERBY, PAT  
KERN, ELISABETH  
KERN, LLOYD  
KERNS, RICHARD  
KERRICK, JOHN  
KERZMAN, ARTHUR  
KESTNER, STUART  
KIBBEE, ROY  
KIDDER, JAMES  
KIDDER, LYLE  
KIELE, DANIEL  
KIELE, DONALD  
KIELE, GENE  
KIELE, TERRY  
KIENHOLZ, STEVE  
KILLER, JOHN  
KILLMER, JOHN  
KILTERMAN, JACK  
KIMBALL, FRANK  
KINCART, ROBERT  
KING, DAVID  
KING, GEORGE  
KING, KENNETH  
KINGSLEY, BETTY  
KINGSLEY, DAVID  
KINGSLEY, DON  
KINGSLEY, R.  
KINION, TIFF  
KINNICK, RALPH  
KIRCHER, BEN  
KIRCHER, CAROL  
KIRK, M.  
KLEIN, FLOYD  
KLEIN, KERRY  
KLEIN, SHERRY  
KLEINHOF, A.  
KLIOWER, KATHIE  
KLUDT, JANET  
KNABE, BERNARD  
KNAPP, JULIE  
KNAPP, MEL  
KNAPP, R.  
KNAPP, TONY  
KNEPPER, RON  
KNERR, LLOYD  
KNOPES, IRENE  
KNOPES, R. W.  
KNOX, VERN  
KOCHAUER, JAMES  
KOEKI, AUMENS  
KOERLING, JERRY  
KOHL, KEITH  
KOHL, S. E.  
KOHOUT, GEORGE  
KOLAR, JOE  
KONKOL, ANDREW  
KONKOL, DON  
KONKOL, MARY  
KONKRIGHT, STEVE  
KOPPEL, ROB  
KOTZENBERGER, JERRY  
KRAACK, DEAN  
KRAACK, DEBBIE  
KRAACK, DEBRA  
KRAACK, RONNITA  
KRAACK, TERESA  
KRAACK, TIMOTHY  
KRAKOWSKI, ED  
KRAMER, BONNIE  
KRANCHES, RAY  
KRASSETT, LINDA  
KRIEG, E. G.  
KRIETER, CAREY  
KRIETER, JEFF  
KRUEGER, DEBRA  
KRUEGER, DELMAR  
KRUEGER, EDWARD  
KRUEGER, ELMER  
KRUEGER, ELMER  
KRUEGER, PHYLLIS  
KRUEGER, RONALD  
KRUEGER, GISA  
KRUG, FRANK  
KRUG, SHIRLEY  
KUBICEK, PETE  
KUCHYNKA, ED  
KUECHENMEISTER, MARK  
KULAWINSKI, DICK  
KUNZE, DONALD  
KURTZ, GENE  
KYLE, KY  
LACKOFF, BEA  
LACOCK, LUTHER  
LAFRENY, MARY  
LAGE, CAROLYN  
LAGE, CLARENCE  
LAHAIE, ALICE  
LAHTO, DAVID  
LAMBERT, LAWRENCE  
LAMBRECHT, KEITH  
LAMM, BOB  
LANDERS, RICH  
LANGAGER, BRAD  
LANGDON, DAVID  
LANGDON, MARY  
LANGFORD, CHARLES  
LANGFORD, RUTH  
LANGWORTHY, ED & HELEN  
LAOPPO, TY  
LAPINSKI, AGNES & MI.  
LAPLANTE, ALFRED  
LAREON, NANCY  
LARSEN, DON  
LARSEN, NILS  
LARSON, BRIAN  
LARSON, DONALD  
LARSON, FRANKIE  
LARSON, GORDON  
LARSON, RONALD  
LATHROP, BOB  
LATHROP, HOBERT  
LATSHAW, THERESE  
LAW, LINDA  
LAWS, KARL

INDIVIDUALS (cont.)

LAYSHUR, GLENN  
LE MASTTER, ROSS  
LEACH, RAE  
LEACH, RODGER  
LEAF, FRANK  
LEAF, VIRGINIA  
LECAUF, BEA  
LECOULTRE, ANDRE  
LECOULTRE, CRYSTAL  
LECOULTRE, DORIS  
LECOULTRE, R.  
LECOULTRE, SHERRY  
LEDDIGE, JOHN  
LEE, CARL  
LEE, CHARLES  
LEE, ERICK  
LEE, HELEN  
LEE, L. DANIEL  
LEE, LAURENE  
LEE, LEROY  
LEE, RANDY  
LEE, SHIRLEY  
LEE, VOILET  
LEE, WAYNE  
LEGAULT, LOLA  
LEGAULT, RICHARD  
LEHMAN, NANCY  
LEIFSON, A. L.  
LEITZ, HUBERT  
LEMKE, MIKE  
LEMM, LES  
LEMM, WILLIAM  
LENNON, MARY  
LENNON, THOMAS  
LEONARD, JACK  
LEONARD, JOHN  
LEONARD, LARRY  
LEONARD, PATSY  
LEONARD, ROBERT  
LEONARD, SUE  
LER, JOHN  
LERS, JAMES  
LETTAU, ROBERT  
LEWIS, B.  
LEWIS, JAMES  
LEWIS, JUDY  
LEWIS, LINDA  
LEWIS, OLIN  
LIEDKIE, ERNEST

LILLIS, BERT  
LIND, DON AND JUDIE  
LINDBLOOM, JAMES  
LINDERMAN, DUANE  
LINDSAY, PATRICIA & RONALD  
LINDSTROM, BETH  
LINDSTROM, WILLIAM  
LINEBERRY, KARI  
LINEBERRY, KELLY  
LINEBERRY, KELLY JOE  
LINEBERRY, LOIS  
LINEBERRY, MONTIE  
LINN, BEVERLY  
LINN, WILLIAM  
LINN, WILLIE  
LINNEMEYER, JACK  
LINNEMEYER, JANET  
LINNEMEYER, LARRY  
LINNEMEYER, LARRY AND MYRNA  
LINNEMEYER, MAX  
LINNEMEYER, MICHAEL  
LINNEMEYER, MYRNA  
LINNEMEYER, RONALD  
LINNEMEYER, WILLIAM  
LINTON, GINGER  
LINTON, NORM  
LINVILLE, RICHARD  
LITUS, NETA  
LIVENGOOD, G. STAN  
LLOYD, R. M.  
LOBUONO, JOHN  
LOCKARD, STEVE  
LOE, ROBERT  
LOHMAN, BRENDA  
LOHMAN, DAVID  
LOHMAN, MONTE  
LOHRMEYER, ROB  
LOMAX, JUNE  
LOMAX, SHEARL  
LOMBARD, DON  
LOMBARDI, LISA  
LONG, BILL  
LONG, HAROLD  
LONG, JESSE  
LONG, LESTER AND JOYCE  
LONGENECKER, STEVE  
LOPEZ, ROLAND  
LOSETH, JOHN  
LOUGEE, BEN  
LOUGEE, BERNIE  
LOUGEE, LEE

LOUGEE, PAULA  
LOUGH, BERTHA  
LOUGH, I. N.  
LOUNSBURY, DIRK  
LOUNSBURY, HERMAN  
LOUSLING, JAMES  
LOVE, HELEN  
LOW, JENNIFER  
LUCH, DEAN  
LUCHANSKY, BILL  
LUECK, CHARLES  
LUECK, FAYE  
LUNDSTROM, JULIE  
LUNDT, JUANITA  
LUST, ROBERT  
LUSTAVSON, JOHN  
LUTZ, R. SCOTT  
LYCAN, RANDY  
LYDIG, DEAN  
LYNCH, DONNA  
LYNCH, JANET  
LYNCH, JOHN  
LYNN, ED  
LYNN, WAYNE  
LYONS, CLEM  
LYONS, CLEM (MRS)  
LYONS, COLETTE  
LYONS, DEWAINÉ  
LYONS, JOHN  
LYONS, PAM  
LYONS, THOMAS  
LYTLE, LARRY  
MABBOTT, CHARLES  
MACLEOD, SUSAN  
MACPHERSON, RONALD  
MACPHERSON, SHARON  
MADDOX, GERALD  
MADSEN, ARTHUR  
MAEL, ROBERT  
MAGERS, MIKE  
MAGERS, PAM  
MAHONEY, DAVID  
MAHONY, BILL  
MAHURIN, JERRY  
MAISON, FAMILY  
MAITLAND, JOHN  
MAKI, BILL  
MAKI, DEBBIE  
MAKI, ED  
MAKI, NANCY  
MALAKY, LOLA

INDIVIDUALS (cont.)

MALINAK, LES AND SALLY  
MANGUM, DEAN  
MANGUM, DIANE  
MANLICH, BONITA  
MANTEL, BURK  
MARKLEY, JACK  
MARKS, ALVIN  
MARLEY, FRAN  
MARLOWE, RICHARD  
MARNER, DELVIN  
MARSH, HOWARD AND VELVA  
MART, ED  
MARTIN, BEN  
MARTIN, EVERET  
MARTIN, EVERETT  
MARTIN, F. L.  
MARTIN, G. R.  
MARTIN, GERALD  
MARTIN, JERRY  
MARTIN, MICHAEL  
MARTIN, ORRIN  
MARTIN, R. JAMES  
MARTIN, RONALD  
MARTIN, SUSAN  
MARTIN, VIRGINIA  
MARTINSON, LLOYD  
MARVIN, ERIN  
MARVIN, JERRY  
MASON, LAUREN  
MASON, NEIL  
MASON, ROBERT  
MASON, SARAH  
MASSEY, MARK  
MASTERSON, RAYMOND  
MATHERS, HOMER  
MATSON, GERALD  
MATSON, HARLA  
MATTERS, NELLI  
MATTESON, MOLLIE  
MATTOX, GLADYS  
MATTSON, ROY  
MATTSON, RUSTY  
MATZER, HAROLD  
MAUGHAN, RALPH  
MAUK, WILLIAM  
MAY, EMMA  
MAY, LAWRENCE  
MC PHERSEN, FLOYD  
MCALISTER, GARY

MCALLISTER, AUDRY  
MCALLISTER, FERN  
MCALLISTER, JAMES  
MCALLISTER, LELAND  
MCALLISTER, MIKE  
MCATTY, ROD  
MCCAENE, TORE  
MCCANN, JAMES  
MCCANN, JEANINE  
MCCARTER, BRIAN  
MCCARTHY, PATRICK  
MCCLARAN, DON  
MCCLARON, CONNIE  
MCCOLLISTER, JIM  
MCCRAY, CHARLES  
MCCRAY, DOREEN  
MCCRAY, EVA  
MCCRAY, GWENDOLYN  
MCCRAY, JIM  
MCCRAY, NADINE  
MCCRAY, RALPH  
MCCRAY, REBECCA  
MCCRAY, VAN  
MCCULLOUGH, JANA  
MCDOWELL, HERBERT  
MCEWEN, DICK  
MCFALL, LAURIE  
MCGARVEY, MICHAEL  
MCGEE, RONALD  
MCGOLDRICK, LOU  
MCGOVERN, MICHAEL  
MCGOVERN, SHIRLEY  
MCHARGUE, MIKE  
MCINROY, ROBT & DOUG CASSEL  
MCINTOSH, CHARLES  
MCINTOSH, DON  
MCINTOSH, LORI  
MCINTOSH, RICHARD  
MCIVER, JIM  
MCKAY, DAVID  
MCKINLEY, DICK  
MCKUEN, VICKIE  
MCLAIN, C.  
MCLEAN, DOLAN  
MCLEAN, MEL  
MCMILLEN, GURNEY  
MCMILLIN, JOE  
MCMURRAY, RON  
MCNABB, CLOANN  
MCNAMARA, WILLIAM

MCNUTT, L.L.  
MCPERSON, WALLAN  
MCPOLAND, D.  
MCPOLAND, SHARON  
MCQUARY, DALE  
MCQUEEN, DAVID  
MCQUEEN, GLORIA  
MCQUEEN, MARK  
MECKER, BILLY  
MEDLEY, MARK  
MEDLEY, MARY JO  
MEHLE, J. L.  
MEIERS, RUTMEL  
MEINERS, WILLIAM  
MEIS, RICK  
MELINA, CARL  
MELINA, DAVID  
MELINA, THOMAS  
MELING, MIKE  
MELLEN, BENITO  
MELLEN, ED  
MELLEN, JOSEPH  
MELLEN, MYRTLE G.  
MELICK, JOHN  
MENTEN, THOMAS  
MENTEN, TOM  
MEREDITH, JOHN  
MERRIMAN, DIXIE  
MERRIMAN, LARRY  
METCALF, MEL  
METZER, NOEL  
METZER, JOAN  
METZER, LUCY  
METZER, WALTER  
MHOON, BONNIE  
MHOON, CATHY  
MHOON, MARY  
MICHAEL, ALAN  
MICHAEL, DOUG  
MICHAEL, GARY  
MICHAEL, LISA  
MICHAEL, LISA  
MICHAEL, MYRNA  
MICHAEL, S. KEITH  
MICHAEL, STEVE  
MILBURN, DOUGLAS  
MILES, JOHN  
MILES, SHARON  
MILLARD, DON  
MILLARD, RANDY  
MILLER, BEN (MRS)

INDIVIDUALS (cont.)

MILLER, BRIAN  
MILLER, CHARLES  
MILLER, DONNA  
MILLER, FRED  
MILLER, HERMAN  
MILLER, JACK  
MILLER, JACOB  
MILLER, JEANNE  
MILLER, KENT  
MILLER, LAURIE AND DAVID  
MILLER, LINRELLA  
MILLER, LISA  
MILLER, LORI  
MILLER, LYLE  
MILLER, MARIE  
MILLER, PATRICIA  
MILLER, RICHARD  
MILLER, S. G. PETE  
MILLER, SIM  
MILLER, WARREN  
MILLIGAN, BILL  
MILLIMAKI, GAIL  
MILLISER, GARY  
MILOT, CINDY  
MILOT, RONALD  
MILUS, GENE  
MINNICK, W. L.  
MINNICK, WALTER  
MINOR, BILL  
MINTER, ROBERT AND KITTY  
MISCAVIGE, GERARD  
MITCHELL, WILLIAM  
MLADENKA, GREG  
MLPTHLL, DON  
MOAK, JOHN H.  
MODGE, RONALD  
MOE, JOHN  
MOELLER, MARK  
MONAGHAN, MIKE  
MONDRAGON, TERESA  
MONTAMBO, JAMES  
MONTAMBO, ROGER  
MONTAMBO, RUSSELL  
MONTEE, D.  
MONTGOMERY, ROBERT  
MOODY, WILLIS  
MOORE, LOIS M.  
MOORE, ALAN  
MOORE, DAVID

MOORE, GEORGE  
MOORE, GERALD  
MOORE, GEROLD  
MOORE, JACKIE  
MOORE, JIMMIE  
MOORE, KENNETH  
MOORE, KENNY  
MOORE, NIAN  
MOORE, RAYMOND  
MOORE, RONALD  
MORDEN, DON  
MORRIS, GORDON  
MORRIS, JAMES  
MORRIS, MILLIE  
MORRIS, RICHARD  
MORRIS, THOMAS  
MORRIS, TOM  
MORRISETT, NANCY  
MORRISON, RONALD  
MORTENSEN, KRISTIN  
MORTENSEN, ROY  
MORTON, BILL  
MOSCONI, SANDRA  
MOSER, JANICE  
MOSER, MATTHEW  
MOSER, STEVEN  
MOSER, WILLIAM  
MOSHIMSKY, DOROTHY  
MOSHIMSKY, M. H.  
MOSS, GARY  
MOSS, JAMES  
MOURNING, CHARLES  
MOURNING, CHARLOTTE  
MOURNING, FRED  
MOURNING, LARRY  
MOURNING, LOU  
MOURNING, MARGARET  
MUELLER, CONNIE  
MUELLER, FRANCES  
MUELLER, LARRY  
MUIRHEAD, HELEN  
MULLIGAN, BILL  
MULLINS, WILLIAM  
MUNDELL, LARRY  
MUNDS, LOIS  
MUNDT, KENNETH  
MUNKITTRICK, MARK  
MUNSON, A. H.  
MURPHY, ELIZABETH  
MURPHY, JOHN  
MURPHY, ROBERT

MURPHY, WILLIAM  
MURRAY, L. P.  
MURRAY, LYNN & VINCE  
MUSGRAVE, DANIEL  
MUSIAL, MARK  
MUSSELMAN, JERRY & PAT  
MYERS, DONALD  
MYERS, GERALD  
MYERS, LA NORA  
MYERS, MIKE  
MYERS, RICHARD  
MYHRE, EUGENE  
MYKKANEN, TOIVO  
NANCE, JIM  
NANIA, JAMES  
NANIK, N. F.  
NAPIER, DOTTI  
NAPIER, JOHN  
NASTALI, DONALD  
NASTALI, PATSY  
NEEDHAM, DOROTHY  
NEEDHAM, EULA  
NEEDHAM, KEITH  
NEEDHAM, LORI  
NEEDHAM, MAXIE  
NEEDHAM, MICHAEL  
NEEDHAM, RALPH  
NEEDHAM, SUSIE  
NEEDHAM, TERRY  
NEFF, BARBARA  
NEFF, STEVE  
NEJDL, BONNIE  
NELSON, JANET A.  
NELSON, ALVIN  
NELSON, DONNA  
NELSON, EARL  
NELSON, ERNA & JANET H.  
NELSON, JAN  
NELSON, JUDY  
NELSON, MARGIA  
NELSON, MARVIN  
NELSON, MICHAEL  
NELSON, MICHAEL & DONNA  
NELSON, NORMAN  
NELSON, RAMONA  
NEMETH, BETTY  
NEMETH, STEVEN  
NEUMAYER, TIM  
NEWCOMB, J. KEITH  
NICHOLSON, FLOYD  
NICHOLSON, JOANN

INDIVIDUALS (cont.)

NICHOLSON, KERRY  
NICKELL, WAYNE  
NIELSEN, HARN  
NIGHTINGALE, JACK  
NITCY, JEFF  
NIYHRE, MICHAEL  
NORELL, TERI  
NORLEY, PHIL  
NORTHRUP, JERRY  
NORTON, AUDREY  
NORTON, BILL  
NORTON, JOELLEN  
NUTT, CLARENCE  
NUXOLL, PHILIP  
NYBERG, CARL  
NYGAARD, CONNIE  
NYGAARD, JACEY  
NYSTROM, CHRIS  
O'CONNELL, TIM  
O'DONNELL, RICHARD  
O'MALLEY, ROBERT  
OAKES, KEITH  
OAKES, NICOLE  
OAKES, VIRGINIA  
OBERST, ROBT  
OBETH, DANIEL  
ODOM, ARTIE  
OGDEN, EDWARD  
OHLSON, JOHN  
OLIN, FRANKL  
OLIVER, CHRISTOPHER  
OLIVER, GEORGINNE  
OLIVER, ROY  
OLMSTEAD, D. E.  
OLSON, CONNIE  
OLSON, DALE  
OLSON, DELLARESE  
OLSON, STEVE  
OMOTO, CHARLOTTE  
OPPENHEIMER, BOB  
ORETZMON, DALE  
ORTON, ORA AND FLOYD  
OSBORN, JOHN  
OSBORNE, ELMER AND JUNE  
OSBURN, CHARLES  
OSBURN, SONJA  
OSBURN, W. B.  
OSBURN, WAYNE  
OSTERBERG, DON

OSTERBERG, EUGENE  
OSTERBERG, MARILYN  
OSWALD, JOHN  
OTT, JEANNE  
OTTO, LEN  
OTTO, STEVE  
OUDKIRK, FRANK  
OUHL, STEPHEN  
OWEN, DORIS  
OWENS, LEANA  
OWENS, CHRISTINE  
OWENS, DAVID  
OWENS, JEANNIE  
OZARK, B. L.  
OZARK, CHERYL  
OZARK, MICHAEL  
PAANANEN, FERN  
PAANANEN, PAULA  
PAANANEN, RICHARD  
PACHOLKE, JAMES  
PAGE, GORDON  
PAKKALA, MICHAEL  
PALBECKI, WILLIAM  
PALBICKI, SHIRLEY  
PALIN, DONALD  
PALMER, GARY  
PALMER, PETER  
PALMER, SID  
PALUSO, TERESA  
PANKRATZ, VICKI  
PARIS, GARY AND JOYCE  
PARKER, R. AND JOY  
PARKER, ROSA  
PARKMAN, TOM  
PARKS, ROBERT  
PARMENTER, JOHN  
PARRET, TERRY  
PARRIS, ARCHIE  
PARRIS, KILE  
PARRIS, ROBERTA  
PATTERSON, J. SCOTT  
PATTERSON, WAYNE  
PATTILLO, JAMES  
PAUL, DWAYNE  
PAUL, VIOLA  
PAULSEN, DANIEL  
PAVIA, JERRY AND JOANNE  
PAYNE, KELLY  
PAYTON, DANNETTE  
PAYTON, GARY  
PEARSON, LEWIS

PEASE, EARLE  
PEASE, ETHEL  
PEAVEY, V. GARY  
PEEK, JAMES  
PEEL, ARTHUR  
PEET, BLAIR  
PELROY, CALVIN  
PEMEL, LEE  
PENBERTHY, JOHN  
PENDELL, ERNEST  
PENNY, SAMUEL  
PENTLAND, ERNIE  
PERKINS, CHARLES  
PERRINE, BILL  
PERSON, SUSAN  
PETERS, BONNIE  
PETERS, CONNIE  
PETERS, JON  
PETERS, M. E.  
PETERSON, ANNE  
PETERSON, ARNOLD  
PETERSON, EARL  
PETERSON, NORMAN  
PETERSON, RUTH  
PETERSON, SUE  
PETERSON, WARREN  
PETRIE, CLIFFORD  
PETRIE, RAE DEAN  
PETTEE, RICHARD  
PETTY, LLOYD  
PEWELL, MARJORIE  
PFELFER, GEORGE  
PHARNESS, BUTCH  
PHARNESS, ROD  
PHILLIPS, CLARA  
PHILLIPS, JOHN  
PHILPOT, DOUGLAS  
PIERCE, CATHERINE  
PIERCE, DUANE  
PIKE, RONALD  
PINCH, JACK  
PINGREE, KARYL  
PIPPINGER, LEE  
PIRAINO, LOUIS  
PITN, DAN  
PLATT, JOHN  
PLATT, LINDA  
PLEMMONS, MONA  
POLLOCK, RUBY  
POMERINKE, FLOYD  
POMERINKE, JUNE

INDIVIDUALS (cont.)

POMEROY, C. W.  
POMEROY, JOHN AND MRS.  
POMEROY, TOM  
POMPONIO, RICHARD  
POPE, DAVE  
POPE, JAMES  
PORRET, E. HAROLD  
PORTER, ANDY  
PORTER, SALLY  
PORTER, SHARON  
PORTER, WAYNE  
PORTLOCK, ROBERT  
POSTON, ALBERT  
POTTALA, CHUCK  
POTTENGER, BETTY  
POTTENGER, MATT  
POTTER, CARLA  
POTTER, FRANCIS AND JUNE  
POTTER, MARION  
POTTER, SUSAN  
POWELL, JOHN  
POWELL, KEITH  
PRATER, DARLENE  
PRATT, MARGARET  
PRESNELL, BLAKE  
PRESNELL, CRAIG  
PRESNELL, DEE  
PRESNELL, RALPH  
PRICE, JAMES AND SUSAN  
PRICE, KEVIN  
PRICE, WILLIAM  
PRICKETT, TRACY  
PRIESTER, WAYNE  
PRIMMER, ELVIN  
PRIMMER, MIKE  
PRINGLE, PETE  
PRITCHETT, OSCAR  
PROCTOR, ROBERT  
PROFINS, JOHN  
PROFITT, DONALD  
PROFITT, YVONNE  
PROOLES, BILL  
PRUGH, MICHAEL  
PUGH, CANDACE  
PUGH, DARLA  
PUGH, SERRI  
PUGH, STAN  
PUGH, STANLEY  
PUGH, WILLIAM

PULLEN, BOBBE  
PURCELL, PAT  
QUADE, SKIP  
QUICK, RENEE  
QUIGLEY, JOHN  
RABE, FRED  
RAEBER, HILDEGARD  
RAGAN, BARBARA  
RAGAN, JANICE  
RAGAN, MYRON  
RAGAN, MYSON  
RAINES, CHARLES  
RAJSPIC, RICHARD  
RALSTIN, JIMMY  
RALSTON, LEWIS  
RAPP, GREG  
RAPP, GREGORY  
RASMUSSEN, BARBARA  
RASMUSSEN, ELMER  
RASMUSSEN, LESTER  
RASMUSSEN, TOM  
RASPONE, BOB  
RASPONE, JOHN  
RAU, DONALD  
RAUCH, BRENDA  
RAUCH, MITCH  
RAUCH, ROCKY  
RAVE, CARRIE  
RAY, ROBERT  
REA, RONALD  
REAM, ROSALIE  
REAVES, DORIS  
REAVES, ED  
REAVES, EDMUND  
REAVES, RICK  
REBEL, ALBERT  
REBEL, GERALDINE  
REDDEKOPP, ART  
REDMAN, D. SCOTT  
REDRHERNT, JERRI  
REED, BUTCH  
REED, CHARLES  
REED, DENNY  
REED, KIRK  
REED, SABINA  
REEVES, DAVID  
REEVES, WAVERLY  
REGER, LUELLE  
REGER, ROBERT  
REICHENBERG, ALLEN  
REID, D. BRYAN

REID, DON  
REID, ED  
REID, MARK  
REID, NOUJUANA  
REID, SERENA  
REIDHAAR, ROSE MARY  
REINHARDT, DON  
REINHARDT, DON (MRS)  
REITSCH, ARTHUR  
REITSCH, DR. ARTHUR  
RENFREW, JAMES  
RENFRO, SUSAN  
RENSHAW, LYNDA  
RESOR, MAMIE  
RESOR, STEVE  
REYNOLDS, ALICE  
REYNOLDS, CRAIG  
REYNOLDS, DEFOREST  
REYNOLDS, HARRY  
REYNOLDS, JAMES  
REYNOLDS, W. L.  
RICE, BRADLEY  
RICE, VINCENT  
RICHARDS, ERMA  
RICHARDS, MELVIN  
RICHARDSEN, GREG  
RICHARDSON, ROBERT  
RICKETT, BARBARA  
RIDDLE, R. LEROY  
RIDDLE, YVONNE  
RIDER, BRUCE  
RIDGE, FRANKLIN  
RIDINGER, JENNY  
RIEK, ROBERT  
RIGBY, CHAD  
RIGGERS, GARY  
RIGGS, MIKE  
RIMEL, JAMES  
RIN, KENNETH  
RINALDI, PETER  
RINEHART, CHARLIE  
RINGEN, RON  
RINGO, WILLIAM  
RINGOLD, GARRY  
RIPPEE, JOSEPH  
ROBB, HANK  
ROBERTS, HOWARD  
ROBERTSON, EDWARD  
ROBINETT, DAVE (MRS)  
ROBINETT, SKIP  
ROBINSEN, PHILLIP

INDIVIDUALS (cont.)

ROBINSON, AARON  
ROBINSON, BETTY  
ROBINSON, DAVID  
ROBINSON, J. E.  
ROBINSON, JEANNE  
ROBINSON, JIM  
ROBINSON, KAREN  
ROBINSON, L. B.  
ROBINSON, OTHA  
ROBINSON, PALLY  
ROBINSON, PHILLIP  
ROBINSON, ROGER  
ROBINSON, RONALD  
ROBISON, CATHY  
ROBISON, KAREN  
ROBISON, PATTI  
ROBNETT, DAVE  
ROCHE, JOHN  
RODE, WALTER  
RODE, WALTER  
ROE, JANEL  
ROE, RANDY  
ROGERS, ANDREW  
ROGERS, G. M.  
ROGERS, THOMAS  
ROM, WILLIAM  
ROMAN, JOE  
ROMEY, MAIN  
RONEY, ROXIANNE  
RONEY, STEVEN  
ROSALES, COOEE  
ROSE, BERNARD  
ROSE, DAN  
ROSE, JOHN  
ROSE, LUCAS  
ROSEBERG, RALPH  
ROSS, B. L.  
ROSS, BEVERLEY  
ROSS, LEROY  
ROSS, MYRTLE  
ROTH, ROBERT  
ROTHANGS, R. JAMES  
ROUTH, JIM  
ROWE, IDA  
ROY, MARTIN  
ROYCE, GORDON  
RUDD, DENNIS  
RUDY, RONDA  
RUETSCH, FRED

RUNCORN, IVAN  
RUNYON, CHRISTINA  
RUNYON, KENNY  
RUSKAI, EVELYN  
RUSS, DONALD  
RUSSELL, ALLAN  
RUSSELL, BERT  
RUSSELL, ERIC  
RUSSELL, LINDA  
RUSSELL, P. E.  
RUSSELL, RICHARD  
RYAN, DOUGLAS  
RYAN, PHILLIP  
RYLE, RONALD  
RYLE, TERRY  
SAARELA, TERRI  
SACAVAGE, ROBERT  
SACKMAN, OTTO  
SADY, TAMARA  
SAILOR, MURIEL  
SALISBURY, JAMES AND ISABEL  
SALISBURY, RICK  
SALTUS, BRIAN AND JEANNIE  
SAMPSON, DARLENE  
SAMPSON, JERRY  
SAMPSON, MARK  
SAMPSON, SAM  
SAMUELS, BOBBI  
SANDAHL, LEVERN  
SANDER, MARK  
SANDERS, BILL  
SANDERS, HARRY  
SANDERS, ROSE  
SANFORD, DEBBIE  
SANFORD, JAMES  
SANFORD, SHELLEY  
SARCHIAPONE, RANDY  
SARGEANT, GENE  
SARNI, FRIMCE  
SAS, BETH  
SATHER, KAY  
SATHER, RUSSELL  
SAUERBIER, GERALD  
SAUNDERS, LELAND  
SCALES, ANN  
SCHAEFER, RICH  
SCHAFER, MARK  
SCHAFFER, DANIEL  
SCHEIBE, DONALD  
SCHERR, EMANUEL  
SCHIERMEISTER, AL

SCHIERMEISTER, JODI  
SCHIERMEISTER, KEN  
SCHIERMEISTER, KIM  
SCHIERMEISTER, MARY  
SCHIERMEISTER, STACI  
SCHIERMEISTER, TIM  
SCHILLING, CHRIS  
SCHILLING, DREXEL  
SCHILLINGER, DALE  
SCHILLINGER, KATRINA  
SCHLADER, JO ANN  
SCHLADER, JULIE  
SCHLADER, ROBERT  
SCHLIEPER, REX  
SCHMADEKA, GARY  
SCHMITT, MICHAEL  
SCHNEBLY, LAURLEE  
SCHNEBLY, RICHARD  
SCHNEBLY, RICHARD  
SCHNEBLY, SHARON  
SCHNEIDER, EARL  
SCHNEIDER, MIKE  
SCHNIDER, JOHN  
SCHOTT, JOSEPH  
SCHROEDER, DOUG  
SCHRUP, JOHN  
SCHUELLER, BONITA  
SCHUELLER, DEBBIE  
SCHUELLER, FRANCIS  
SCHUELLER, RAMONA  
SCHUELLER, STEVE  
SCHUELLER, TIM  
SCHUELLER, TIMOTHY  
SCHULTZ, ARTHUR  
SCHULTZ, RICH  
SCHUMACKER, CARRIE  
SCHUMACKER, CRAIG  
SCHUMACKER, LANA  
SCHUYLER, ANN  
SCHWAB, ART  
SCHWANE, ERIC  
SCHWANZ, KIM  
SCHWARTZ, GARY  
SCHWARTZ, RANDOLPH  
SCHWARTZ, VICKIE  
SCOLES, LARRY  
SCOTT, BONNIE  
SCOTT, BRYCE  
SCOTT, CHUCK  
SCOTT, JAMES  
SCOTT, PENNY

INDIVIDUALS (cont.)

SCRIVEN, LAVERNE  
SCRIVEN, TAM  
SEAL, CINDY  
SEAL, DANNY  
SEAL, INGRID  
SEAMAN, JAMES  
SEARS, DAVID  
SEELEY, GREG  
SEELEY, JIM  
SEEMAN, CAT  
SEID, DAN  
SEID, VICKY  
SEIDEL, JOAN  
SEITZ, MAY  
SELZLER, MAXINE  
SEMMLER, K. C.  
SEMMLER, K. C. (MRS.)  
SEMMLER, LENORE  
SEVERSON, LARRY  
SEWELL, TOM  
SEXTON, CHRIS  
SEXTON, JERRY  
SEXTON, SCOTT  
SEYFERTH, CF  
SEYMOUR, CURTIS  
SHAFFER, R. W.  
SHAFFER, THOMAS  
SHANKS, JEAN  
SHANKS, RODNEY  
SHANNON, DERRIL  
SHARP, JOHN  
SHARP, MARGIE  
SHAVER, DON (MRS)  
SHAVER, DONALD  
SHAW, CAROL  
SHAW, JOHN  
SHAWNER, DEWEY  
SHAWVER, DEWEY  
SHEDD, RICHARD  
SHEPHARD, JOHN  
SHINK, JANELLE  
SHIPP, STAN  
SHIPPY, DEANNA  
SHIPPY, JEFF  
SHOEMAKER, LEWIS  
SHOPE, RICHARD  
SHORT, BOB  
SHORT, JAYSEN  
SHORT, LAURI

SHOWN, FORREST  
SHRIER, MARY  
SHRIVER, WAYNE  
SHUBERT, JAMES  
SHUBERT, SUE  
SHUE, GARY AND DOROTHY  
SHULER, MARIE  
SHULER, ORRNI  
SHUMACHER, RICHARD  
SHUTTS, JUANITA  
SIBERT, RAYMOND F.  
SIBLES, JEFFREY  
SIKES, RON AND ROSEMARY  
SILER, RANDY  
SIMEONE, ROBERT  
SIMMONS, JOHN  
SIMPSON, GLEN AND MILDRED  
SIMUNDSON, DION  
SINDT, FREDERIC  
SINES, ANNE  
SINES, JENNY  
SINES, JOE  
SINES, JOHN  
SINES, MURL  
SINES, SHIRLEY  
SIRON, BONNIE  
SIRON, JAMES  
SIRON, SANDRA  
SIRON, SANDY  
SIRON, TRUDY  
SJODEN, ROBERT  
SKEELS, THOMAS  
SKELTON, MAX  
SKINNER, KLEE  
SKINNER, TERRI  
SLEAD, DAVID  
SLETTE, TERRY  
SLICKPOO, HARRY  
SLIND, MARVIN  
SMALL, ROBERT  
SMART, WILLIAM  
SMEAD, JACK  
SMITH, ANDREW  
SMITH, BOBBI  
SMITH, BRAD  
SMITH, BRYAN  
SMITH, BUD  
SMITH, CHARLES  
SMITH, COLLEEN  
SMITH, DAVID  
SMITH, DEAN

SMITH, ED  
SMITH, EDWIN  
SMITH, ELEANOR  
SMITH, GARY  
SMITH, GARY  
SMITH, HAROLD  
SMITH, JACK & LINDA  
SMITH, LEWIS  
SMITH, MICKEY  
SMITH, NAOMA  
SMITH, NEIL  
SMITH, PAUL  
SMITH, RAY  
SMITH, STEVEN  
SMITH, SUSAN  
SMITH, TERESA  
SMITH, WAYNE  
SMITH, WILLIAM  
SMITH, WILLIAM & JOLINE  
SMOLAR, JEWELL  
SMOLAR, JOHN  
SNAVELY, BROOKE  
SNOOK, WM  
SNOW, JERRY  
SNYDER, DOROTHY  
SNYDER, GERRY  
SNYDER, LOWIE  
SNYDER, MICHAEL  
SNYDER, R. KAY  
SOARES, KENNETH  
SOLOM, ROBERT  
SOLOMON, ANNE  
SONGER, BUCHER  
SONNECK, KENNETH  
SOUDERS, MELINDA  
SPARKMAN, DAVID  
SPARRON, JANICE  
SPEAKMAN, GORDON  
SPEARS, BARBARA  
SPEER, RAYMOND  
SPEIRS, JIM  
SPENCE, AL  
SPENCE, DIANNE  
SPENCE, MARILYN  
SPENCE, RICHARD  
SPENCE, VICTORIA  
SPENCE, WANDA  
SPENCER, CHESTER  
SPENCER, SHARRIE ET AL  
SPENCER, WILLIAM  
SPENO, LARRY

INDIVIDUALS (cont.)

SPERBER, K. J.  
SPICER, DORLA  
SPICER, LYLE  
SPIESMAN, JAMIE  
SPIESMAN, JOHN  
SPIESMAN, M. JAMES  
SPIESMAN, M. J.  
SPITZER, TERRY  
SPOONER, CLAUDIA  
SPOONER, DAVID  
SPOONER, ED  
SPOONER, LORI  
SPOONER, THOMAS  
SPRIKA, CRAIG  
STADLER, SUE  
STAFFORD, CRYSTAL  
STAMPER, TINA  
STANCIL, BETTY  
STANCIL, M. L.  
STANCIL, PAUL  
STANDLEY, ARMAND  
STANLEY, JOHN  
STANLEY, ROBERT  
STANTON, FRED  
STARK, RON  
STARKEY, CHARLES  
STARKEY, MARY  
STARKEY, HARRY  
STARR, DON  
STARR, WARREN  
STATLER, DAVID  
STEARNS, WALT  
STEED, MARLIN  
STEFFANSON, RICHARD  
STEIGER, MICHAEL  
STEIN, JOHN  
STEINBRUECKER, KINGSLEY  
STELLJES, ROY  
STEPHENS, EARL  
STEPHENS, EVA MAE  
STEPHENS, JOHN  
STEPHENS, WILLIAM  
STEPHENSON, TERRY  
STEURY, RICHARD  
STEVENS, BRAD  
STEVENS, CHERYL  
STEVENSON, CINDI  
STEVENSON, CRAIG

STEVENSON, RICK  
STEWARD, BILL  
STEWARD, BILL (MRS)  
STEWARD, RON  
STEWART, RICHARD  
STICKLER, JIM  
STIFTER, WILLIAM  
STILES, JOHN  
STIMMEL, MARVIN  
STOCKARD, KENNETH  
STOCKDALE, RON  
STOCKTON, BELINDA  
STOCKTON, DONALD  
STONE, BARBARA  
STONE, GLENN  
STONE, RICHARD  
STONE, TERRY  
STOWERS, DAVID  
STREEBY, LARRY  
STRICKFADEN, D. T.  
STRINGER, CLIFFORD  
STROBECK, JAN  
STRONG, DOUGLAS  
STROUG, ROBERT ET AL  
STUART, DALE  
STUART, ORETA  
STUBBLEFIELD, SYLVESTER  
STUCKY, CRAIG  
STUDER, J.  
STUDER, MICHAEL  
STURGILL, DELBERT  
STURGILL, DENNY  
STUTZMAN, JAMES  
SUDDRETH, CLARENCE  
SULLIVAN, BERNICE  
SULLIVAN, EDWARD  
SULLIVAN, JOSEPH  
SULLIVAN, RAY  
SUNDELL, GERALD  
SUNDELL, VICKIE  
SURMAN, HUGH  
SUTHERLAND, JOHN  
SUTLEY, RICHARD  
SUTTON, LARRY  
SWAGERTY, WILLIAM  
SWANSON, JOHN  
SWANSTRUM, JEFF  
SWARTZ, JOHN  
SWEARINGEN, BETTY  
SWEARINGEN, NICKKI  
SWEARINGEN, OWEN

SWEARINGEN, RONALD  
SWEDNBERG, KENNETH  
SWERINGER, JOHN  
SWIFT, WILLIAM  
SWORD, ERNIE  
SYLVESTER, STEVEN  
TABERT, TONY  
TAISEY, RICHARD  
TAJAN, JOE AND TYLER  
TALL BULL, MILWARD  
TALL, VERNON  
TANK, WILLIAM  
TAYLOR, BILLY  
TAYLOR, DONNA  
TAYLOR, HAROLD  
TAYLOR, KEITH  
TAYLOR, MARV  
TAYLOR, MICHAEL  
TAYLOR, SC  
TAYLOR, TAMI  
TAYLOR, TOM  
TEAL, HENRY  
TEAL, LAURA  
TEATS, HENRY  
TEATS, MELVIN  
TEATS, MURRAY  
TEDESCO, JOSEPH  
TEED, MARLA  
TEED, MONTY  
TEED, TRACY  
TEIPNER, CINDY  
TELECKY, BRENT  
TELECKY, TRACI  
TELFORD, MARCIE  
TELFORD, MICHAEL  
TESTER, ROBERT  
TEWALT, SANDRA  
THAUT, DARYL  
THAUT, HAROLD  
THAUT, JOANN  
THAUT, SHARI  
THAYER, JOHN  
THIEDE, ART  
THILMONY, RICHARD  
THODAL, DAVID  
THOMAS, CHRISTIE  
THOMAS, DAVID  
THOMAS, JUDY  
THOMAS, WENDELL  
THOMPSON, BOB  
THOMPSON, CHARLENE

INDIVIDUALS (cont.)

THOMPSON, DAVID  
THOMPSON, DENNIS  
THOMPSON, FRED  
THOMSON, IRENE  
THOMSON, J. BRENT  
THOMSON, JOHN  
THORHAUG, HOWARD  
THORHAUG, HOWARD  
THORHAUG, JANETTE  
THORHAUG, KEITH  
THORMAHLEN, JUDY  
THORMAHLEN, KEITH  
THORMAHLEN, RODNEY  
THORMAHLEN, SCOTTIE  
THORNBRUGH, ED  
THORNBRUGH, JACKY  
THORNBRUGH, RUSSELL  
THORNTON, MARY  
THORNTON, SAM  
THORSON, DENNIS  
THOSTENSON, CHARLES  
THRALL, RODNEY  
THRALL, RONALD  
THRALL, TERESA  
THRALL, VERLA  
THRASHER, DEAN  
THRASHER, ROLAND  
THURBER, JOHN  
THURNHER, ERIK  
THURSTON, BARBARA  
THURSTON, W. O.  
TIDAGER, RUTH  
TIETSON, PETE  
TIFFANY, ERNEST  
TIFFANY, MARK  
TIFFANY, R. M.  
TILLER, WINNIE  
TILLERY, RONALD  
TILLMAN, DALE  
TIMME, ADOLPH  
TINDER, GLORIA  
TINSLEY, CONNIE  
TINSLEY, MICHAEL  
TITUS, ED  
TITUS, SHERRY  
TOBIAS, NELLE  
TOMLINSON, CURTIS  
TORKELSON, SHIRLEY  
TOWNSEND, MARK

TRAICOFF, RONALD  
TRAICOFF, TELLY  
TRAIL, CHRISTOPHER  
TRAIL, SHERRY  
TRAMMELL, MARLENE  
TRAMMELL, VERLON  
TRAUTMAN, LARRY  
TREIB, ADAM AND DARLINE  
TRESSLER, KEVIN  
TRESSLER, VICKIE  
TRIPPET, NORMAN  
TROST, JIM  
TROUMBLEY, BARBARA  
TROUTWINE, DEBORAH  
TROUTWINE, EDWARD  
TROYKE, DAVID  
TRUEBLOOD, ELLEN  
TRUEBLOOD, JACK  
TULL, MICHAEL  
TULLY, JERRY  
TURNER, ANN  
TURNER, DAVID  
TURNER, DOUG  
TURNER, FLOYD  
TURNER, LYLE  
TURNER, MARY  
TURNER, RICK  
TURNS, RICK  
TWEEDY, PATRICK  
UMPHENOUR, EDWARD  
UNKEL, MARGOT  
UPTAD, JUDY  
VALENTINE, JAMES  
VALLARD, BEVERLY  
VALLARD, R. F.  
VALLIANT, DAVE  
VAN BERKUM, ERIC  
VAN CORBACH, HENRY  
VAN HEUVELEN, GARY  
VANDENBURG, LEONARD  
VANDERPOOL, FLOYD  
VANDERPOOL, MARIE  
VANDEVOARDE, H. J.  
VANEK, DAVID  
VANHOOPER, TERRY  
VANNATTER, LAVERN  
VANNATTER, LESLIE  
VANTREASE, RICHARD  
VANTREASE, WAYNE  
VARGOVICH, ROCKY  
VARGOVICH, VIRGINIA

VATBRLAUS, BRET  
VAWTER, ELLES  
VAWTER, GLADYS  
VELTRI, JEAN  
VELTRI, LONNIE  
VELTRI, RAY  
VENNING, GRACE  
VENNING, SCOTT  
VIAL, MAURICE  
VINYARD, BOB  
VON STUBBE, WILLIAM  
VONK, KATHY  
WADLINGTON, CHARLES  
WADLINGTON, J. A.  
WAEVER, JOEY  
WAGNER, WILLIS  
WAGNER, WILLIS MRS.  
WAHL, R. W.  
WAIDE, BILLIE  
WAIT, PHIL  
WAITE, RICHARD  
WAITE, RICHARD S.  
WALCEL, STEPHEN  
WALDEMARSON, JACK  
WALDMAN, GAYLORD  
WALKER, DANNY  
WALKER, MICHAEL  
WALKER, MONTIE  
WALKER, ROSE  
WALKER, W. R.  
WALLACE, ROBERT  
WALLER, JERRY  
WALLS, WILDA  
WALRATH, HARRY  
WALSA, FREDERICK  
WALSH, BARRY  
WARD, ORMAL  
WARD, FREDERICK  
WARD, JACK  
WARD, JEANNA  
WARD, JOHN  
WARDEN, JOHN  
WARE, MARCUS  
WARL, CARL  
WARNER, RALPH  
WARNOCH, KEN  
WARREN, STEPHEN & ELIZ  
WATERS, RONALD  
WATKINS, GEORGIA  
WATSON, DAVID  
WATSON, DOLORES

INDIVIDUALS (cont.)

WATSON, ELLEN  
WATSON, GARY  
WATSON, LEANN  
WATSON, R. E.  
WATSON, RICHARD  
WATTS, DICK  
WEARDEN, JOE  
WEARE, LINDA  
WEATHERBY, H. GENE  
WEAVER, LARRY  
WEBER, LENARD  
WEBER, WILLIAM  
WEBSTER, NANCY  
WEBSTER, TONY  
WEEKS, BILL  
WEEKS, EMMA  
WEEKS, GALE  
WEEKS, GARY  
WEEKS, GLEN  
WEEKS, RALPH  
WEEKS, RICHARD  
WEEMS, TOM  
WEGMAN, JERRY  
WEIDNER, ARMINTA  
WEIMANN, JEFF  
WEINMANN, JAMES  
WEINMANN, JANICE  
WEINMANN, LINDA  
WELCH, BILL  
WELCH, BOBBY  
WELCH, DEBRA  
WELCH, MUN  
WELCH, ROBERT  
WELLER, KAYE  
WELLER, KEN  
WELLER, RANDY  
WELLOCK, N.  
WELTER, EVELYN  
WELTER, VERN  
WELZ, ROBERT  
WELZ, ROGER  
WERELEY, JAMES  
WERNER, FAMILY  
WEST, JOHN AND MELISSA  
WEST, MICHAEL  
WEST, ROB  
WESTFALL, F. M.  
WESTFALL, GARY  
WESTFALL, HELEN

WESTFALL, MARSHALL  
WESTFALL, PAMELA  
WESTFALL, SANDRA  
WESTPHAL, MERLIN  
WETMORE, RON  
WETZEL, PHILLIP  
WEYRAUCH, KARL  
WHALEY, JIM  
WHEELER, MARGARET  
WHEELER, CELIA  
WHEELER, DAVID  
WHEELER, MARGARET  
WHELAN, WARREN  
WHETSTONE, JAMES  
WHIPPLE, NORM  
WHIPPLE, ROBERT  
WHITAKER, LEE  
WHITE, BARBARA  
WHITE, BILL AND JEAN  
WHITE, DONALD  
WHITE, KEN  
WHITE, LYNN  
WHITE, S.  
WHITE, SCOTT  
WHITE, TED  
WHITE, TODD  
WHITECOTTON, JAMES  
WHITEHEAD, JESS  
WHITEHEAD, JOHM  
WHITNEY, BILL  
WHITNEY, THOMAS  
WHITTAKER, DONNA  
WHITTAKER, MARK  
WHITWORTH, TERRY  
WHYBARK, GARY  
WICKS, CAROLYN  
WICKS, CLARA  
WICKS, JERRY  
WICKS, JOHN  
WIDNER, JOHN  
WIEDERER, CHRIS  
WIESLER, RICHARD  
WIGERT, ROBERT  
WILDER, PHIL  
WILDMAN, STEVE  
WILHELM, JOHN  
WILKE, M. A.  
WILKERSON, WILLIAM  
WILKINS, GEORGE  
WILKS, MIKE  
WILKS, SUSIE

WILLARD, ORV.  
WILLIAMS, DAVID & EMILY  
WILLIAMS, JAMES  
WILLIAMS, KAREN ET AL  
WILLIAMS, KURT  
WILLIAMS, VARNEL  
WILLIAMS, VERNON  
WILLIS, LARRY  
WILLORGHLY, JIM  
WILSEY, WAYNE  
WILSON, BRUCE  
WILSON, FERN  
WILSON, KEITH  
WILSON, KELLY  
WILSON, MILTON  
WILSON, PETER  
WILSON, ROBERT  
WILSON, TERESA  
WILSON, WAYNE  
WINTER, ANNA  
WINTER, CHARLES  
WINTER, EUGENE  
WISE, HENRY  
WISE, RON AND MIMSI  
WISENBURGER, KATHLEEN  
WITT, ROBERT  
WITTMAN, BARTHEL  
WITTMAN, FREDA  
WITTMAN, MARTIN  
WIWATOWSKI, DIAN  
WIWATOWSKI, LAURENCE  
WILDERT, WAYNE  
WLLWORTH, FRANCIS  
WOINOWK, RUSSELL  
WOLFE, BARNEY  
WOLFE, CHARLES  
WOLFE, RODNEY  
WOLFE, WILLIAM  
WONDER, JACK  
WOOD, BETTE  
WOOD, RICHARD  
WOODBURY, CHERYL  
WOODIN, LYNN  
WOODIN, STEVEN  
WOODS, CALVIN  
WOODS, IRENE  
WOODS, NORMAN  
WOODWARD, JAMES & LAURA  
WOODWORTH, RUSS  
WOOLF, OWEN  
WOOLSTON, RAY

INDIVIDUALS (cont.)

WORLEY, JANET  
WRIGHT, LARRY  
WRIGHT, MALCOLM  
WUERTHNER, GEORGE  
WUNDERLICH, HOWARD  
WYKLE, PHIL  
WYMAN, PETE  
WYNN, BELINDA  
WYNN, HOWARD  
YARBER, DALE  
YARBER, JUDITH  
YARBER, NATALIE  
YARBER, NICOLE  
YARNELL, GENE  
YARROLL, DOUG  
YEAROUT, DALBERT  
YEAROUT, DOROTHY  
YEAROUT, KENNETH  
YEOMAN, DEBBIE  
YOCUM, MARVIN  
YORK, CLAUDIA  
YORK, GARY  
YORK, MICHAEL  
YORK, RAYMOND  
YOUNG, DIANA  
YOUNG, GERALD  
YOUNG, JEFF  
YOUNG, LISA  
YOUNG, LOREN  
YOUNG, PATRICK  
YOUNT, STUART  
YULICK, EVELYN  
ZEHNER, CARL  
ZERMUEHLEN, MRS.  
ZIELINSKI, RAY  
ZIER, JAMES  
ZIERLEIN, ALVIN  
ZIERLEIN, CLIFFORD  
ZIMMERMAN, BOB  
ZIMMERMANN, TODD  
ZIPSE, WAYNE  
ZMUDA, CARL  
ZUMWALT, TROY  
ZUZUETA, ELEANOR

E. LISTING OF AGENCIES, ORGANIZATIONS, GROUPS, AND INDIVIDUALS  
TO WHOM THE FINAL ENVIRONMENTAL IMPACT STATEMENT WAS SENT

4TH OF JULY CREEK OUTFITTERS  
-ADAMS, JOHN  
-AFFOLTER, QUINCE AND SUE STADLER  
-ALFREY, RAYMOND  
-ALLEN, CARY  
-ALLEN, JOHN AND EDWINA  
AMERICAN FISHERIES SOCIETY  
AMOCO PRODUCTION COMPANY  
- AMOS, JOHN  
-ANDERSON, BLAINE & ROSE  
-ANDERSON, ESKIL  
ANDERSON, KEVIN  
-ANDERSON, MARGARET AND HAROLD  
-ANDERSON, STEVE  
ANDRUS, GOVERNOR CECIL  
- ARNESON, DENNIS AND DEBBIE  
ASSOCIATED LOGGING CONTRACTORS  
-ATKINSON, WILLIAM  
BAILEY, DANA  
BAIRD, MICHAEL  
BALICE, RANDY  
BARNETT, CHESTER AND CINDY  
- BAUGH, TAMMY, NORMAN AND SHARON  
BAYMON, RICHARD  
BEARD, HAROLD  
- BEATTY, A. J.  
BECKER, LEW  
BECKNER, GORDON  
BENEDICT, CLINTON H.  
BENNETT LUMBER PRODUCTS INC.  
BERNATAS, SUSAN  
BETTAS, GEORGE A.  
BIA, NORTHERN IDAHO AGENCY  
BIERHAUS, KARL  
BIGHORN NATIONAL FOREST  
BITTERROOT NATIONAL FOREST  
BLACKFORD, MICHAEL  
BOLLER, RODNEY AND SHERYL  
BONINO, CAROL  
BONNER, CARL  
BONNEVILLE POWER ADMINISTRATION  
BOOKER, JAMES R.  
BOWERS, CHET AND MAIDA  
BOWLER, BRUCE  
BOYD, REPRESENTATIVE TOM  
- BOYER, MARK  
BRADEN, BYRON  
-BRADFORD, CAROL  
-BRAY, ROBERT L.  
BREDE, BECKY AND DOUGLAS  
BREHMER, STEVE  
BRIGGS, PHIL  
BRINGMAN, JACK  
BROOKS, L. J.  
- BROWN, CATHY  
BROWN, EDWARD  
BROWN, ROBERT  
BROWN, STEVEN L.  
-BRUMLEY, ANITA AND CHARLES  
BUELL, JACK & ELEANOR & LARRY BIGLER  
BUTTON, JULIE  
CAMUTO, CHRISTOPHER  
CAREY, RANDY  
CARNEGIE BRANCH LIBRARY  
CARRICO, FRED  
CARRON, REID  
CHAMPION TIMBERLANDS DIVISION  
CHAPMAN, JOHN  
CHAPMAN, MARY ANN  
CHENOWETH, JULIE  
CHINN, BRAD  
CHRISTENSEN, LOY E.  
CHRISTOPHERSON, TIM  
CIRCLE W OUTFITTERS  
CITIZENS - ENVIRONMENTAL QUALITY  
CLANIN, BETHEL A.  
CLEARWATER COUNTY COMMISSIONERS  
CLEARWATER ECONOMIC DEVELOP. ASSN.  
CLEARWATER OUTFITTERS  
CLEARWATER RC&D OFFICE  
CLEARWATER SOIL & WATER  
CLEARWATER TRIBUNE  
CLEEVES, JOHN  
COEUR D'ALENE PUBLIC LIBRARY  
COEUR D'ALENE WILDLIFE FEDERATION  
COFFEY, PATRICIA AND DONALD  
COLE, FLOYD  
COLPITTS, BERT  
COLUMB RIV INTER-TRIBAL FISH COMM  
COOK, JEANINE & DON  
COON, JO  
COPPOCK, DEL  
CORBIT, CARL  
COX, DALE  
CRAIG, CONGRESSMAN LARRY-LEWISTON, ID  
CRAIG, CONGRESSMAN LARRY-WASHINGTON

CRANDALL, SHIRLEY AND ROBERT WHIPPLE  
CRAWFORD, HAROLD  
CROOK, JEFFREY  
CRUME, BOB  
CURRY, DEAN  
CUTHBERTSON, BOB  
DAHLKEY, LARRY  
DARTER, DON  
DAUM, JACK  
DAW FOREST PRODUCTS  
DAWSON, JIM  
DAY, MICHAEL  
DE LEONARD, JOHN  
DE NIRO, JIM AND ELIZABETH  
DEBREE, MARK  
DELANEY, HELEN R.  
DELANEY, JOHN  
DENISON, GILBERT AND MAXINE  
DEYO, ALAN  
DITTMAN, ROBERT  
DODGE, GARY  
DODSON, DOUGLAS  
DONLEY, JEANNE & BOBBI  
DOUPE, TERRY  
DOWD, MARTIN W.  
DOYLE, ROBIN  
DREDGE, RICHARD  
DRUKER, PHIL  
DUFFY, DEBBI  
DUNHAM, JOHN  
DURANT, X. E.  
DYGERT, RAYMOND  
DYKES, RANDY  
EASTMAN, EUGENE  
ECHO FILM PRODUCTIONS  
EDWARDS, GWEN  
EGENHOFF, TERRY  
EISSLER, FRED  
ELK RIVER SCHOOL/COMMUNITY LIBRARY  
ELLSWORTH, LANA  
ENVIRONMENTAL PROTECTION AGENCY  
ENVIRONMENTAL RESEARCH & TECH  
EPLER, CHARLENE AND PHILIP  
ESSIG, DON  
EVANS, CONNIE  
FARBO, TOM  
FARRELL, RANDY  
FARRELL, RICK AND DEBBIE  
FED. OF FLY FISHERS-HOQUIAM, WA  
FED. OF FLY FISHERS-W. YLWSTONE, MT  
FEDERAL POWER ADMINISTRATION

FELTON, JOHN  
FERGUSON, BURDETT  
FEUCHT, EUGENE  
FEYK, JOHN  
FINKE, JAMES  
FISHER, JOHN  
FITZGERALD, JIM  
FITZGERALD, KEN  
FIVE BEAR OUTFITTERS  
FLATHEAD CULTURE COMMITTEE  
FLORES, BILL  
FLYFISHER, THE  
FOREST WATCH  
FOSTER, BRENT  
FOSTER, FRED  
FRANK, E. WILLARD  
FRASER GRANGE  
FRAZIER, CHARLIE  
FRIENDS OF THE COLUMBIA  
FRIENDS OF THE EARTH  
FRIENDS OF WHITewater  
FROME, MICHAEL  
FRY, HARRY  
FULLER, RICHARD  
GABRIELSEN, STEVE  
GAROFANO, MIKE  
GARRETT, ROGER C.  
GEHRKE, DEL AND LOUISE  
GEHRKE, PAMELA  
GEM STATE LUMBER  
GEORGE, DONALD  
GIBBON, RANDY  
GIBSON, DOYLE  
GILL, STEVEN  
GOLD, TED  
GOODRICH, BERNIE  
GORDON, PAUL  
GOSPODNETICH, GERALD A.  
GOSSO, DON  
GRAMBO, ERNEST  
GRANGEVILLE CENTENNIAL LIBRARY  
GRANTHAM, STEVE  
GRAY, PETER  
GREAT BEAR FOUNDATION, THE  
GREAT BURN STUDY GROUP  
GREENE, BENJAMIN  
GREER, PHILIP AND MRS.  
GRESSARD, DAVE  
GRUBHAM, HARRY  
GRUNDER, SCOTT  
GUENTHER, MARTHA

~~HALL, E. EUGENE~~  
HALL, JOY  
HALLISY, DICK  
HAMMONS, ELIZABETH  
HAMMONS, ROBERT  
HANSEN, MARGIE  
HANSEN, RICHARD  
HANSON, GARFIELD  
HARNACK, BILL  
HARPER, RANDY  
HARRISON SPORTSMEN CLUB  
HARROUN, TED  
HARTIG, LEROY AND ANN  
HARTIG, RONALD AND JANICE  
HARVEY, GEORGE  
HATTERSLEY, DOUG  
HAVENS, IRA  
HAYES, RANDY AND SANDY  
HAYMAN, DUANE  
HAYS, SAMUEL P.  
HEINSOHN, ROCKY  
HELLMAN, HENRY  
HEMMINGER, ALBERT  
HENKELMAN, N. A.  
HENRIKSEN, RONALD  
HICKOK, JEFF  
HINMAN, GEORGE  
HIRSCH, EDWARD A.  
HODGES, JIM AND TAMMY  
HODGSON, DOROTHY  
HOLLIBAUGH, DAN  
HOLMES, HOWARD  
HOLMES, TIM  
HOMESTAKE MINING COMPANY -  
HONEYCHURCH, MAUREEN AND GARY  
HORSTMEIER, DUANE  
HUDSON, HELEN  
HUGHETT, HARVEY L.  
HUTCHINS, ELWIN  
HUTCHINS, LAWRENCE  
IDAHO CONSERVATION LEAGUE-BOISE, ID  
IDAHO CONSERVATION LEAGUE-KETCHUM, I  
IDAHO COUNTY COMMISSIONERS-  
IDAHO COUNTY FREE PRESS  
IDAHO DEPT. OF FISH & GAME (BOISE)  
IDAHO DEPT. OF FISH & GAME (CDA)  
IDAHO DEPT. OF FISH & GAME (LWSTN)  
IDAHO DEPT. OF HEALTH AND WELFARE  
IDAHO DEPARTMENT OF LANDS  
IDAHO DEPARTMENT OF PARKS AND REC  
IDAHO DEPARTMENT OF TRANSPORTATION

IDAHO DIVISION OF FINANCIAL MGMT.  
IDAHO ENVIRONMENTAL COUNCIL  
IDAHO FARM BUREAU  
IDAHO FOREST INDUSTRIES  
IDAHO GUIDE SERVICE  
IDAHO NATURAL AREAS COORD. COMM.  
IDAHO NATURAL RESOURCES LEGAL FND.  
IDAHO PANHANDLE NATIONAL FORESTS  
IDAHO STATE HISTORICAL SOCIETY  
IDAHO STATE JOURNAL  
IDAHO TRANSPORTATION DEPARTMENT  
IDAPINE MILLS  
INLAND EMPIRE BIG GAME COUNCIL  
INTERMOUNTAIN FOREST INDUSTRY ASSOC  
IRBY, JULIA, JULIE, AND ALEX  
~~IRVING, MICHAEL~~  
ISBELLE, GREGORY  
JAMES, NORMAN  
JANES, BENNIE  
JASINSKI, EDWARD  
JAVORKA, ED  
JENKINS, MIKE  
JENNI, DON  
JENNINGS, DON AND CINDY  
JENSEN, TERRY  
JOHNSON, CHRISTINE  
JOHNSON, DWAIN  
JOHNSON, JERRY  
JOHNSON, KIM  
JOHNSON, MICHAEL  
JOHNSTON, JOSEPH AND SHARLYN  
JUDD, REPRESENTATIVE CLAUD  
KAERLING, JERRY, MABLE, AND WILLIAM  
KARMAZINAS, JAMES  
KAUFMAN, DAVID  
KELLER, WARREN  
KELLY ENVIRONMENTAL ASSOCIATES  
KELLY, CHRIS  
KELLY, J. R.  
KENNEDY, VERNON L.  
KENT, JERALD W.  
KERN, RICHARD  
KIELE, DONALD  
KIENHOLZ, STEVE  
KILLMER, JOHN  
KIRCHER, DOUGLAS  
KIVLE, JOHN  
KLEIN, SHERRY AND KERRY  
KLEINHOF, A.  
KOHL, S. E.  
KONKOLVILLE LUMBER COMPANY

KOOTENAI CULTURAL COMMITTEE  
KRAKOWSKI, ED  
KRANCHES, RAY  
KRUEGER, PHYLLIS AND ELMER  
KURTZ, GENE  
KUSEL, JOHNATHAN  
LAMB, JOHN  
LAMBRECHT, KEITH  
LARSON, GORDON  
LATAH COUNTY PLANNING AND BUILDING  
LATTA, FRANCIS  
LAWRENCE, KEITH  
LAWS, KARL STEVEN  
LECOULTRE, DORIS  
LEWIS, JUDY AND JAMES  
LEWIS-CLARK WILDLIFE CLUB  
LEWISTON CHAMBER OF COMMERCE  
LEWISTON MORNING TRIBUNE  
LILLIS, BERT  
LINEBERRY, KELLY, LOIS AND MONTIE  
LOBUONO, JOHN  
LOCHSA RIVER RAFTERS  
LOE, ROBERT  
LOHMAN, CAROL  
LOHMAN, DAVID W.  
LOMAX, JUNE  
LOUGEE, LEE  
LUTZ, ROBERT  
LYNN, ED  
M & M OUTFITTERS  
MAEL, ROBERT  
MAKI, NANCY AND BILL  
MALHEUR NATIONAL FOREST  
MALINAK, LES AND SALLY  
MARTIN, F. L.  
MARTIN, G. R.  
MARTIN, MICHAEL  
MARTIN, R. JAMES  
MARTINSON, LLOYD  
MASON, ROBERT  
MATTSON, RUSTY  
MAUGHAN, RALPH  
MCCARTHY, PATRICK  
MCCLEURE, SENATOR JAMES  
MCCRAY, NADINE AND FAMILY  
MCGREGOR COMPANY  
MCINTOSH, CHARLES  
MCINTOSH, LORI  
MCLAUGHLIN LOGGING  
MEINERS, WILLIAM R.  
MELLEN, JOSEPH, MYRTLE, AND ED

MELTS, HARRY  
MENTEN, THOMAS  
MEREDITH, JOHN  
MEYER, GREG  
MICHAEL, MYRNA AND ALAN  
MILES, JOHN  
MILLARD, DON  
MILLER, BRIAN  
MILLER, CHARLES J.  
MILLIGAN, NANCY  
MINOR, BILL K.  
MINTER, ROBERT AND KITTY  
MOELLER, MARK  
MONTANA COMMERCE DEPARTMENT  
MOORE, BILL  
MORRIS, RANDALL  
MORRIS, THOMAS  
MOSCOW-LATAH COUNTY PUBLIC LIBRARY  
MULLIGAN, BILL  
MURPHY, JOHN  
MURRAY, L. P.  
MURRAY, LYNN AND VINCE  
MUSIAL, MARK  
MYKKANEN, TOIVO  
NANIK, N. F.  
NATIONAL FOREST PRODUCT ASSOCIATION  
NATIONAL WILDLIFE FEDERATION  
NATURE CONSERVANCY, THE  
NEILL PUBLIC LIBRARY  
NELSON, EARL  
NEWCOMB, J. KEITH  
NEZ PERCE NATIONAL FOREST  
NEZ PERCE NATIONAL HISTORIC PARK  
NEZ PERCE TRIBAL EXECUTIVE COMM.  
NEZ PERCE TRIBAL FISHERIES MGMT.  
NEZ PERCE TRIBAL FORESTER  
NEZPERCE COUNTY PLANNING  
NORTH IDAHO TRAIL RIDERS ORG.  
NORTH WEST POWER PLANNING COUNCIL  
NORTHROP, JERRY  
NYGAARD, JACEY  
NYGAARD, JACK  
O'BRIEN, KEVIN  
OLIVER, CHRISTOPHER  
OMOTO, CHARLOTTE K.  
OROFINO CHAMBER OF COMMERCE  
OSBORNE, ELMER AND JUNE  
OSBURN, WAYNE, W.B. & SONJA  
OTTO, STEVE  
OUDKIRK, FRANK P.  
OWEN, TOM

PACIFIC CROWN TIMBER PRODUCTS INC. ✓  
PACIFIC NW UTILITIES CONF. COMM. - -  
PARADIS, WAYNE  
PARKS, ROBERT S.  
PARRIS, KILE  
PATTILLO, JIM  
PECK BRANCH LIBRARY  
PEEK, JAMES  
PENDELL, PAT  
PERRINE, BILL  
PETERSON, OTTIS  
PHARNESS, BUTCH  
PIERCE COMMUNITY LIBRARY  
PLUMCREEK TIMBER CO.-COEUR D'ALENE,  
PLUMCREEK TIMBER CO.-MISSOULA, MT  
POMEROY BROTHERS CONSTRUCTION  
POMERY, JOHN AND MRS.  
PORT OF LEWISTON  
POST-REGISTER  
POSTON, ALBERT  
POTLATCH CORPORATION (LEWISTON)  
POTLATCH CORPORATION (ST. MARIES)  
POTLATCH CORPORATION (SAN FRANCISCO)  
POTTENGER, BETTY AND MATT  
POWELL, JOHN  
PRATER, DARLENE  
PRICKETT, TRACY  
PROFITT, DONALD AND YVONNE  
QUADE, SKIP  
RAEBER, HILDEGARD  
REDMAN, D. SCOTT  
REGER, ROBERT  
REID, SERENA & D. BRYAN  
REYNOLDS, JAMES  
RICE, BRADLEY  
RIDINGER, JENNY C.  
RINALDI, PETER  
RINGO, WILLIAM  
RIPLEY, RICHARD  
ROBINSON, DAVID  
ROBNETT, MR. & MRS. DAVE  
ROBY, RICHARD  
ROCHE, JOHN A.  
ROSEBERG, RALPH  
ROY, MARTIN L.  
RUSSELL, P. E.  
SACAVAGE, ROBERT  
SCHERR, EMANUEL  
SCHLEGEL, MIKE  
SCHMITT, MICHAEL  
SCHRETTENHOLZER, MARTIN

SCHROEDER, ALFERD  
SCHROEDER, DOUG  
SCHRUP, JOHN  
SCHUMACKER, LANA, CARRIE, & RICHARD  
SCOLES, LARRY  
SCOTT, JAMES AND PENNY  
SHABER, RANDY  
SHEA, JOHN T.  
SHINN, CHUCK  
SHINO, FUMIE  
SHUBERT, JAMES AND SUE  
SIERRA CLUB - N.W. OFFICE ✓  
SIERRA CLUB LEGAL DEFENSE-DENVER, CO - -  
SIERRA CLUB LEGAL DEFENSE-SEATTLE, W  
SIERRA CLUB-NORTHERN ROCKIES CHAPTR ✓  
SIMMONS, JOHN  
SKINNER, TERRI  
SLICKPOO, ALLEN  
SLIND, MARVIN AND ERICK LEE  
SMART, WILLIAM C.  
SMITH, BUD V.  
SMITH, MICKEY  
SNOOK, MELVIN  
SNOOK, WILLIAM  
SNYDER, GERRY  
SOIL CONSERVATION SERVICE-BOISE, ID  
SOIL CONSERVATION SERVICE-MOSCOW, ID -  
SONNECK, KENNETH  
SPACE, RALPH  
SPENCE, MARILYN  
SPENCE, WANDA AND AL  
SPENCER, WILLIAM W.  
SPIESMAN, JAMIE  
SPIESMAN, M. JAMES  
SPOKANE MOUNTAINEERS, INC ✓  
SPOKANE PUBLIC LIBRARY  
SPOONER, CLAUDIA AND ED  
ST. JOE VALLEY ASSOCIATION  
ST. MARIES RANGER DISTRICT  
STARKS, HARRY AND WADE FELDNER  
STATE GARDEN CLUBS-PACIFIC REGION ✓  
STEELE, W. K.  
STILES, JOHN  
STOCKTON, BELINDA  
STONE, BARBARA  
STONE, TERRY  
STOVER'S OUTFITTERS ✓  
STREETER, BILL  
STRICKFADEN, D  
STROM CONTRACTING ✓  
STUBBLEFIELD, SYLVESTER

STUCKY, CRAIG  
SUDDRETH, CLARENCE  
SULLIVAN, JOSEPH  
SULLIVAN, RAY  
SUTHERLAND, JOHN  
SWAGERTY, WILLIAM  
SWANSON, JOHN R.  
SWANSTRUM, JEFF  
SWAYNE, JOHN  
SWEARINGER, JOHN ELDON  
SWORD, ERNIE  
TAYLOR, S. C.  
TEED, MONTY AND MARLA  
THILMONY, RICHARD  
THOMPSON, J. KIRK  
THOMPSON, JOHN  
THORMÄHLEN, JUDY AND KEITH  
THORNTON, MARY AND SAM  
TODD, CLIFFORD  
TRESSLER, KEVIN AND VICKIE  
TRIPLE "O" OUTFITTERS  
TRUEBLOOD, JACK  
TURNER, ANN AND DOUG  
U.S. ARMY CORPS OF ENGINEERS-AHSAKA  
U.S. ARMY CORPS OF ENGINEERS-WALLA  
U.S. ATTORNEY, DISTRICT OF IDAHO  
U.S. BORAX AND CHEMICAL  
U.S. DEPARTMENT OF COMMERCE  
U.S. DEPT. OF TRANSPORTATION-FAA  
U.S. FISH & WILDLIFE SERVICE  
UMATILLA NATIONAL FOREST  
UNDERWOOD, JOHN  
UNIV. OF IDAHO LEGAL AID CLINIC  
UNIV. OF MINNESOTA (FOREST LIBRARY)  
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WAIDE, WILLIAM  
WALKER, DICK  
WARD, ORMAL  
WARE, MARCUS J.  
WASHINGTON NATIVE PLANT SOCIETY  
WATSON, GARY & ELLEN  
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WERNER FAMILY

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WESTERN WOOD PRODUCTS ASSOCIATION  
WESTFALL, SANDRA & MARSHALL  
WETZEL, PHILLIP  
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WHIPPLE, NORM  
WHITE, BILL AND JEAN  
WHITE, SCOTT AND S. A.  
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WICKS, JOHN AND CLARA  
MILDERNESS SOCIETY-BOISE, ID  
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WILDNER, JOHN  
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WILLIAMS, KAREN, BLAKE, JESSICA, MARVIN  
WILLIAMS, VARNEL  
WILSON, BRUCE  
WILSON, MILTON AND WAYNE  
WILSON, PETER  
WINTON, DOUGLAS  
WISENBURGER, KATHLEEN  
WOLFE, BARNEY  
WOLFE, C. RODNEY  
WOMEN IN TIMBER  
WOOD, RICHARD  
WOOLSTON, RAY  
WUDARCKI, LARRY  
WUERTHNER, GEORGE  
WUNDERLICH, HOWARD  
WYATT, BRUCE  
WYMAN, PETE  
YAMADA, GEORGE  
YANISHEVSKY, ROSALIND  
YOUNT, STUART  
ZABEL, D. F.  
ZEHNER, CARL  
ZWANEVELD, PETE





## **Chapter VII**

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## Chapter VIII

### Glossary

## VIII. GLOSSARY

### A

ACCESS	See public access.
ACTIVITY	A measure, course of action, or treatment that is undertaken to directly or indirectly produce, enhance, or maintain forest and range land outputs or achieve administrative or environmental quality objectives.
ACTIVITY FUELS	Debris generated by a Forest activity that increases fire potential such a firewood gathering, precommercial thinning, timber harvesting, and road construction.
ADFLUVIAL	Freshwater fish that migrate from freshwater lakes to freshwater streams to spawn.
ADMINISTRATIVE FACILITIES	Those facilities, such as Ranger Stations, work centers and cabins, which are used by the Forest Service in the management of the National Forest.
AFFECTED ENVIRONMENT	The biological and physical environment that will or may be changed by actions proposed and the relationship of people to that environment.
ALLOTMENT	See range allotment.
ALLOWABLE SALE QUANTITY	The quantity of timber that may be sold from the area of suitable land covered by the Forest Plan for a time period specified by the plan. This quantity is usually expressed on an annual basis as the "average annual allowable sale quantity".
ALTERNATIVE	A combination of management prescriptions applied in specific amounts and locations to achieve a desired management emphasis as expressed in goals and objectives. One of several policies, plans, or projects proposed for decisionmaking. An alternative need not substitute for another in all respects.
ALTERNATIVE, NO ACTION	An alternative that maintains established trends or management direction.
AMENITY VALUES	Resource use for which market values (or proxy values) are not or cannot be established.
ANADROMOUS FISH	Fish which spend much of their adult life in the ocean, returning to inland waters to spawn; e.g., salmon, steelhead.
ANALYSIS AREA	One or more capability areas combined for the purpose of analysis in formulating alternatives and estimating various impacts and effects.

ANALYSIS OF THE MANAGEMENT SITUATION	A determination of the ability of the planning area to supply goods and services in response to society's demand for those goods and services.
ANIMAL UNIT MONTH (AUM)	The quantity of forage required by the equivalent of a 1000 lb. mature cow for one month.
ANNUAL FOREST PROGRAM	The summary or aggregation of all projects for a given year that, for a given level of funding, make up an integrated (multi-functional) course of action on a Forest planning area.
AQUATIC ECOSYSTEM	A stream channel, lake or estuary bed, the water itself, and the biotic communities that occur therein.
ARTERIAL ROADS	Roads comprising the basic access network for National Forest System administrative and management activities. These roads serve all resources to a substantial extent, and maintenance is not normally determined by the activities of any one resource. They provide service to large land areas and usually connect with public highways or other Forest arterial roads to form an integrated network of primary travel routes. The location and standards are often determined by a demand for maximum mobility and travel efficiency rather than by a specific resource management service. Usually they are developed and operated for long term land and resource management purposes and constant service.
ASPECT	The compass direction toward which the slope of a land surface faces.
ASSESSMENT	The Renewable Resource Assessment required by the Resource Planning Act.
AUM	See animal unit month.
AVAILABLE FOREST LAND	Land that has not been legislatively or administratively withdrawn from timber production by the Secretary of Agriculture or Forest Service Chief.
AVERAGE ANNUAL CUT	The volume of timber harvested in a decade, divided by 10.
AVOIDANCE AREA	<p>Category 1. Areas where establishment and use of corridors conflict with land use/land management objectives. The test is whether a facility in that area would be "difficult or impossible to mitigate."</p> <p>Category 2. Areas with special or unique values that have been accorded specific and sometimes protected management status through "legislative" action and these values conflict with facility placement. The test is whether the values for which the areas were accorded special status conflict with the corridor facilities.</p>

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B

BASE SALE SCHEDULE	The quantity of timber planned for sale by time period from an area of suitable land covered by a Forest Plan. The first period, usually a decade, of the selected sale schedule provides the allowable sale quantity. Future periods are shown to establish that long-term sustained yield will be achieved and maintained.
BELOW COST SALES	A timber sale where timber receipts do not cover all sale related costs.
BENCHMARK	Reference points that define the bounds within which feasible management alternatives can be developed. Benchmarks may be defined by resource output or economic measures.
BENEFICIAL USES	Any use(s) that are provided by the water resource. This can include such things as hydro-power irrigation, domestic use, fish habitat, etc. Fish habitat is the key beneficial use on the Clearwater Forest. Anadromous and cold-water (resident) fish are the two groups of fish included in the use.
BENEFIT-COST RATIO	Measure of economic efficiency, computed by dividing total discounted primary benefits by total discounted economic costs.
BENEFIT (VALUE)	Inclusive terms to quantify the results of a proposed activity, project or program expressed in monetary or nonmonetary terms.
BEST MANAGEMENT PRACTICES (BMP)	The set of practices in the Forest Plan which, when applied during implementation of a project, ensures that water related beneficial uses are protected and that State water quality standards are met. BMP's can take several forms. Some are defined by State regulation or memoranda of understanding between the Forest Service and the States. Others are defined by the Forest interdisciplinary planning team for application Forest-wide. Both of these kinds of BMP's are included in the Forest Plan as Forest-wide Standards. A third kind are identified by the interdisciplinary team for application to specific management areas; these are included as Management Area Standards in the appropriate management areas. A fourth kind, project level BMP's, are based on site specific evaluation and represent the most effective and practicable means of accomplishing the water quality and other goals of the specific area involved in the project. These project level BMP's can either supplement or replace the Forest Plan standards for specific projects.
BIG GAME	Those species of large mammals normally managed as a sport hunting resource.
BIG-GAME SUMMER RANGE	Land used by big game during the summer months.

BIG-GAME WINTER RANGE	The area available to and used by big game through the winter season.
BIOLOGICAL POTENTIAL	The maximum possible output of a given resource limited only by its inherent physical and biological characteristics.
BIOLOGICAL GROWTH POTENTIAL	The average net growth attainable in a fully stocked natural forest stand.
BOUNDARY AREA	That area perpendicular to the established or proposed wilderness boundary that is defined by natural barriers.
BOARD FOOT	A unit of measurement represented by a board one foot square and one inch thick.
BROADCAST BURN	Allowing a controlled fire to burn over a designated area within well-defined boundaries, for reduction of fuel hazard, as a silvicultural treatment, or both.
BOARD FOOT/ CUBIC FOOT CONVERSION	The mathematical ratio of the board feet contained in one cubic foot of timber. This ratio varies with tree species, diameter, height and form factors.
BROWSE	Twigs, leaves, and young shoots of trees and shrubs on which animals feed; in particular, those shrubs which are utilized by big game animals for food.

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C

CANOPY	The more or less continuous cover of branches and foliage formed collectively by the crown of adjacent trees and other woody growth.
CAPABILITY	The potential of an area of land and or water to produce resources, supply goods and services, and allow resource uses under a specified set of management practices and at a given level of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils and geology, as well as the application of management practices, such as silviculture or protection from fires, insects, and disease.
CAPABILITY AREA	A geographic delineation used to describe characteristics of the land and resources in integrated Forest planning. Capability areas may be synonymous with ecological land units, ecosystems or land response units.
CAPITAL INVESTMENT	Investment in facilities such as roads and structures with specially-appropriated funds.

CARRYING CAPACITY	1 (recreation): the amount of recreation use an area can sustain without deterioration of site quality; 2 (wildlife): the maximum number of animals an area can support during a given period of the year; 3 (range): the maximum stocking rate possible without damaging the vegetation or related resources. Carrying capacity may vary from year to year on the same area due to fluctuating forage production.
CAVITY	A hollow in a tree that is used by birds or mammals for roosting and reproduction.
CEQ	See Council of Environmental Quality.
CFR	Code of Federal Regulations.
CHANNEL TYPE	A broad class of stream reach defined by physical characteristics that generally describe how sediment will pass through or collect in the channel.  Type A: A relatively straight and steep (generally greater than 4 percent) reach that is usually structurally controlled with frequent low falls or cascades. This is a "high energy" segment.  Type B: A moderate gradient (2 to 5 percent) reach that usually has developed into depositional material to some degree. The reach is partially confined by the adjacent slopes, but some degree of meandering may have developed. This is a "moderate energy" segment.  Type C: A low gradient (usually less than 3 percent) reach that is usually incised into alluvium. The reach is rarely confined and has well developed meanders and floodplains. This type channel is typical in meadows. This is a "low energy" segment.
CLEARCUTTING	Harvesting of all trees in one cut. It prepares the area for a new, even-aged stand. The area harvested may be a patch, stand, or strip large enough to be mapped or recorded as separate age class in planning. Regeneration is obtained through natural seeding, or through planting or direct seeding.
CLOSURE	The administrative order that does not allow specified uses in designated areas or on Forest development roads or trails.
CMAI	See culmination of mean annual increment.
COEFFICIENT (COST, VALUE, YIELD)	The numeric units used to include costs, values, and outputs in the analysis model used in the formulation of the Forest Plan.

COLLECTOR ROADS Roads constructed to serve two or more elements but which do not fit into the other two road categories (arterial or local). Construction costs of these facilities are prorated to the respective element served. These roads serve smaller land areas and are usually connected to a Forest arterial or public highway. They collect traffic from local Forest roads or terminal facilities. The location and standard are influenced by both long term multi-resource service needs and travel efficiency. Forest collector roads are operated for constant or intermittent service, depending on land use and resource management objectives for the area served by the facility.

COMMERCIAL FOREST LAND (SUITABLE TIMBER LAND) Land that is producing, or is capable of producing, crops of industrial wood and (1) has not been withdrawn by Congress, the Secretary of Agriculture or the Chief of the Forest Service; (2) where existing technology and knowledge is available to ensure timber production without irreversible damage to soils productivity or watershed conditions; and (3) where existing technology and knowledge, as reflected in current research and experience, provides reasonable assurance that adequate restocking can be obtained within years after final harvesting.

COMMERCIAL TIMBER SALES The selling of timber from National Forest lands for the economic gain of the party removing and marketing the trees.

COMMODITIES Resources with commercial value; all resource products which are articles of commerce, such as timber, range forage and minerals.

COMMON MATERIALS See minerals, common variety.

COMMUNITY COHESION The degree of unity and cooperation within a community in working toward shared goals and solutions to problems.

COMMUNITY STABILITY The capacity of a community to absorb and cope with change without major hardship to institutions or groups within the community.

CONCERN See management concern.

CONDITION CLASS A descriptive category of the existing tree vegetation as it relates to size, stocking and age.

CONFINE To restrict a fire within determined boundaries established either prior to the fire, during the fire, or in an escaped fire situation analysis. Surveillance may be appropriate when the fire will be self-confined with a defined perimeter.

CONGRESSIONALLY DESIGNATED AREAS Areas established by Congressional legislation, such as National Wildernesses, National Wild and Scenic Rivers, and National Recreation Areas.

CONSTRAINT A confinement or restriction on the range of permissible choices.

CONSUMPTIVE USES Uses of a resource that reduce the supply. Examples of some consumptive uses of water are irrigation, domestic and industrial water use, grazing, and timber harvest.

CONTAIN To surround a fire and any spot fires with control line, as needed, which can reasonably be expected to check the fire's spread under prevailing and predictable conditions.

CONTINENTAL DIVIDE The drainage divide between waters flowing to the Atlantic Ocean and the Pacific Ocean.

CONTROL To complete the control line around a fire, any spot fires, and any interior islands to be saved; burn out any unburned areas adjacent to the fire side of the control line; and cool down all hot spots that are immediate threats to the control line, until the line can reasonably be expected to hold under foreseeable conditions.

CORD A unit of gross volume measurement for stacked roundwood based on external dimensions, generally implies a stack of four feet by four feet vertical cross section and eight feet long, contains 128 stacked cubic feet.

CORRIDOR (UTILITY CORRIDOR) A linear strip of land identified for the present or future location of transportation or utility rights-of-way within its boundaries.

COST The negative or adverse effects or expenditures resulting from an action. Costs may be monetary, social, physical or environmental in nature.

COST EFFICIENCY The usefulness of specified inputs (costs) to produce specified outputs (benefits). In measuring cost efficiency, some outputs, including environmental, economic, or social impacts, are not assigned monetary values but are achieved at specific levels in the least cost manner. Cost efficiency is usually measured using present net value, although use of benefit-cost ratios and rates of return may be appropriate.

COST-SHARE Refers to the process of cooperating in the joint development of a road system. The document executed through this process, called "Road Right-of-Way Construction and Use Agreement," specifies the terms of developing the transportation system for a specified land area.

COUNCIL ON ENVIRONMENTAL QUALITY An advisory council to the President established by the National Environmental Policy Act of 1969. It reviews Federal programs for their effect on the environment, conducts environmental studies, and advises the President on environmental matters.

COVER/FORAGE RATIO The ratio of tree cover (usually conifer types) to foraging areas (natural openings, clearcuts, etc.)

CUBIC FOOT The amount of wood volume equivalent to a cube 1 foot by 1 foot by 1 foot.

CULMINATION OF MEAN ANNUAL INCREMENT (CMAI) The point at which the volume increment for a tree or stand of trees has achieved it's highest mean value. Mean annual increment is based on expected growth according to the management intensities and utilization standards assumed in the Forest Plan. The CMAI is calculated by dividing the attained growth (volume) by it's corresponding age.

CULTURAL RESOURCES The physical remains of human activity (artifacts, ruins, burial mounds, petroglyphs, etc.) and conceptual content or context (as a setting for legendary, historic, or prehistoric events, as a sacred area of native peoples, etc.) of an area of prehistoric or historic occupation.

D

DEFICIT TIMBER SALES A timber sale that has an appraised value that would produce less than a standard profit and risk margin for an average operator as estimated by the Forest Service appraisal system.

DEIS Draft environmental impact statements.

DEMAND The amount of output that users are willing to take at a specific price, time period, and conditions of sale.

DEPARTURE A schedule which deviates from the principle of nondeclining flow by exhibiting a planned decrease in the timber sale and harvest schedule at any time in the future.

DEPENDENT COMMUNITIES Communities whose social, economic, or political life would become discernably different in important respects if market or non-market outputs from the National Forests were cut off.

DEVELOPED RECREATION Recreation that occurs where improvements enhance recreation opportunities and accommodate intensive recreation activities in a defined area.

DEVELOPED RECREATION SITES Relatively small, distinctly defined area where facilities are provided for concentrated public use, i.e., campgrounds, picnic areas and swimming areas.

DIAMETER BREAST HEIGHT (DBH) The diameter of a tree measured 4 1/2 feet above the ground.

DISCOUNT RATE An interest rate that reflects the cost or time value of money. It is used in discounting future costs and benefits.