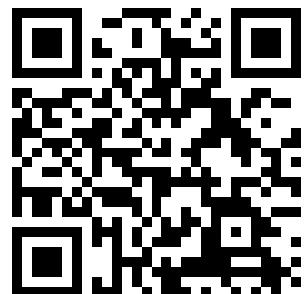


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United States  
Department of  
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Forest Service

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Region

Okanogan  
National Forest



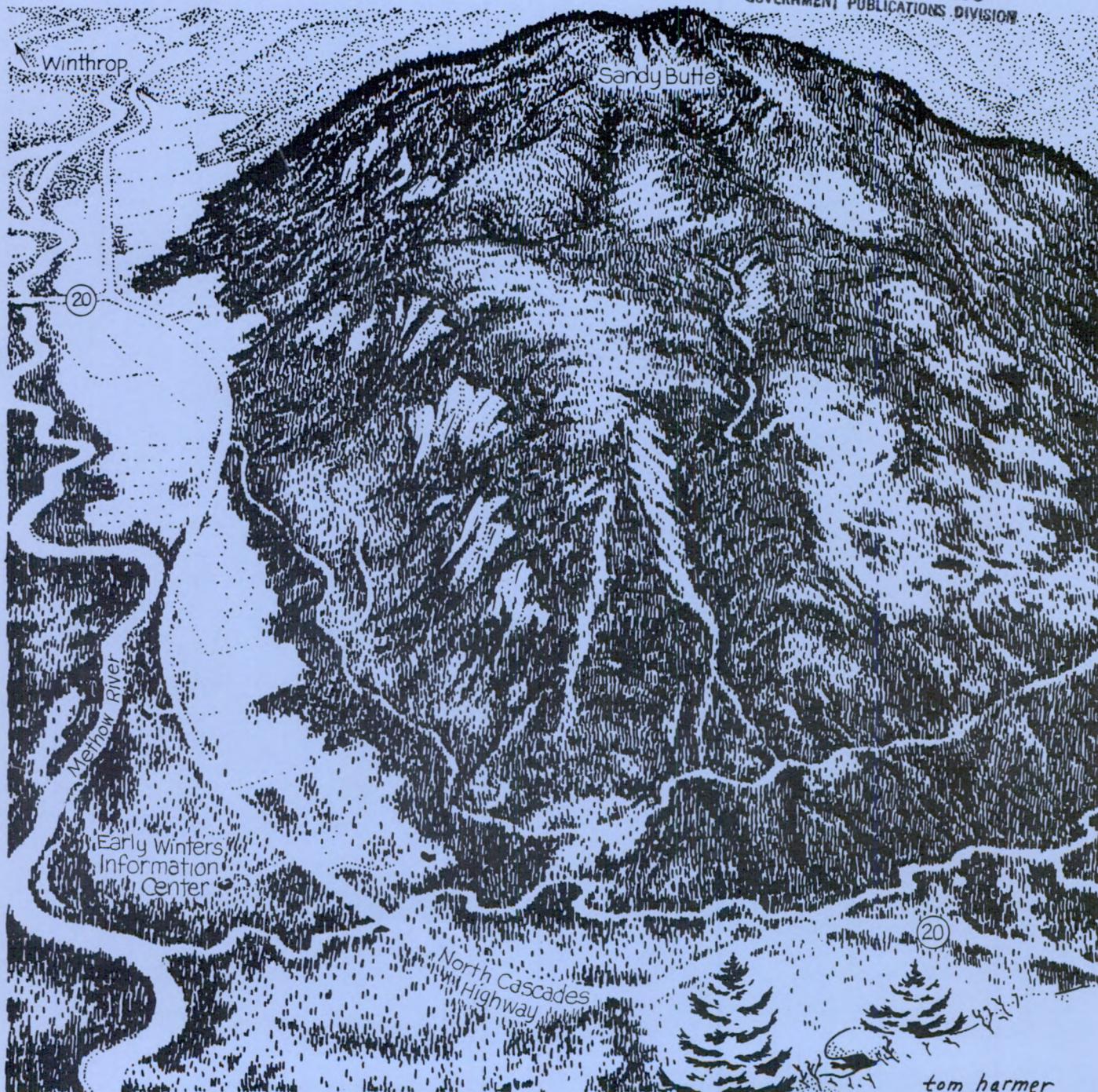
# Early Winters Alpine Winter Sports Study

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## Final Environmental Impact Statement





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RECORD OF DECISION

USDA Forest Service

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Final Environmental Impact Statement

It is my decision to select Alternative IV as the future management plan for the National Forest System lands considered in this study. Based on this decision, the Forest Service will issue a 30-year Special Use Permit authorizing use on approximately 3900 acres of land. Facilities would allow utilization by 8200 skiers at one time. If competitive interest exists, the permittee will be chosen through a prospectus (bid) process. Construction may not begin until a master development plan has been evaluated and approved.

This Environmental Impact Statement has been developed through cooperative studies conducted by the Forest Service and Okanogan County government. Studies began in 1968 following passage of the North Cascades National Park Act, P.L. 90-544. The Secretaries of Agriculture and Interior were directed to "agree on the designation of areas within the park or recreation areas or within national forests adjacent to the park and recreation areas needed for public use facilities and for administrative purposes by the Secretary of Agriculture or the Secretary of Interior, respectively. The areas so designated shall be administered in a manner that is mutually agreeable to the two Secretaries, and such public use facilities, including interpretive centers, visitor contact stations, lodges, campsites, and ski lifts, shall be constructed according to a plan agreed upon by the two Secretaries."

This decision authorizes developments on National Forest System lands only. Future decisions must be made by other federal, state, and local jurisdictions on plans related to this proposal. Potential impacts on lands and activities administered by these jurisdictions have been disclosed and considered by the Forest Service.

The five alternatives considered were:

Alternative I (No Action)- Under this proposal, the Forest Service would not issue a special use permit and no development of downhill skiing facilities would be permitted on the area commonly known as



Sandy Butte. The area would be managed with the continuation of present practices.

Alternative II (2,300 SAOT) - This alternative would permit development of 565 acres on Sandy Butte for a day use ski area serving 2,300 skiers at one time (SAOT).

Alternative III (5,200 SAOT) - This alternative would permit development of 1,200 acres on Sandy Butte for a mid-level development serving 5,200 SAOT. Base facilities in support of the public land development would be located on private land near Early Winters Visitor Information Station. The design and location of support facilities on private land would require approval by Okanogan County through its land development review process.

Alternative IV (8,200 SAOT, Preferred) - This is the selected alternative. It will permit development of a destination ski resort on 3900 acres of Sandy Butte, serving 8,200 SAOT. The design and location of support facilities on private land would require approval by Okanogan County through its land development review process.

Alternative V (10,500 SAOT) - This alternative would permit development of the same National Forest System land area as alternative IV, but more run capacity would be created. The design and location of support facilities on private land would require approval by Okanogan County through its land development review process.

When considering the physical and biological effects on the National Forest System lands to which the decision applies, Alternative I is identified as environmentally preferred. Alternative I would cause the least disruption to the natural environment.

Alternative V would provide maximum utilization of the recreation resource opportunities and increased economic benefit to the area. Alternative IV provides a balance of concerns for the physical and biological components of the human environment in addition to concerns for social and economic welfare. Those considerations which led to the selection of Alternative IV are:

The area of Sandy Butte which was studied has the necessary components to support a major development for skiing.

Studies indicate that a ski area of this size is economically feasible at this location.

The parcel of privately-owned land (1,165 acres) contiguous to the base of Sandy Butte and in single ownership will assist in the orderly and efficient development of facilities needed in support of skiing.

Alternative IV is of sufficient size to provide for a major destination ski resort in the State of Washington.



The National Forest System lands studied can be developed in an environmentally acceptable manner.

Ski development will provide added employment. Methow Valley unemployment is consistently higher than State and County average.

The Governor of Washington State has expressed support for development of a destination ski resort at Sandy Butte. The Okanogan Board of County Commissioners favors Alternative IV.

Okanogan County government had undertaken numerous measures to prepare for development of a major recreation resort in the Methow Valley. This includes the development of a joint land use planning agreement with the Okanogan National Forest; on-site review of existing ski developments in Colorado and Whistler, B.C.; establishment of a comprehensive zoning plan for the Methow Valley; hiring of a zoning inspector to emphasize compliance in the Methow Valley; conduct of analogous case studies of other developments; conduct of state-funded studies and requests for several additional studies; participation in public/agency consensus meetings in the Methow Valley relating to growth and change; and other related activities.

Okanogan County has adopted measures recommended in the Comprehensive Sewer Plan to protect water quality in development of wastewater treatment and facilities in the Mazama/Early Winters Study Area. These recommendations are being implemented.

An application to develop an 8,000 SAOT ski resort at this site has been received by the Forest Service.

A majority of respondents to the DEIS from outside Okanogan County (and total) favored development of a destination ski area. The majority of respondents from Okanogan County favored no development. The Washington State Governor has stated a majority of Washington residents favor a destination ski development.

Some adverse environmental effects will occur from the development of private land with any of the alternatives, including Alternative I (No Action). No major adverse effects will result directly from the Federal action. The secondary effects include: degradation of existing air quality; degradation of existing water quality; reduction of mule deer winter range; and need for increased funding to provide necessary public services. These effects generally increase with each successive alternative. Practical measures to reduce the adverse impacts have been, or are in the process of being, implemented by Okanogan County.

Based on concerns expressed as input to the Draft Environmental Impact Statement, and requests by the Okanogan Board of County Commissioners, I am directing the Forest Supervisor of the Okanogan National Forest to take the following actions in implementing this decision:



1. Require all prospective permittees to submit financial information on their ability to construct and operate ski facilities over the period of the permit.
2. Forest Service review of proposed master plans for ski development will include involvement by citizens of the Methow Valley.
3. Identify opportunities to mitigate loss of key mule deer winter range on private lands through future management of the Okanogan National Forest. Display these opportunities, and consequences, in the Land Management Plan and Environmental Impact Statement currently in preparation. The Final Environmental Impact Statement is scheduled for completion in September, 1986.
4. Require the permittee to provide for housing needed by employees. These housing needs shall be addressed and reviewed when application is made to Okanogan County for construction of planned unit developments.
5. Maintain close cooperation and consultation with the government of Okanogan County. The Board of County Commissioners has expressed a need for certain activities to occur prior to and/or during development. These are displayed in Appendix L of the Final Environmental Impact Statement, and also listed herein. The Forest Supervisor should be generally satisfied, based on the continuing consultation and County assurance, that the intent of the conditions is being met in a reasonable manner and timeframe. Conditions include:
  - A. Initiation of an effort that will result in the eventual adoption of an air quality management program designed to effectively minimize deterioration of ambient air quality from pollutants, particularly wood smoke as a result of population growth.

The effort will be undertaken to achieve the following objectives:

    - 1) Provide additional data analysis and develop more sophisticated modeling for the Methow Valley.
    - 2) Establish planning goals for air quality in the Methow Valley through citizen involvement.
    - 3) Identify preferred measures and strategy needed to minimize deterioration of air quality.
    - 4) Identify administrative and funding structures



necessary to implement the preferred management strategy.

- B. Participation in the development of a multiagency agreement for management of the Methow Valley mule deer population. Parties to the agreement should include as a minimum the Okanogan National Forest Supervisor, the Washington State Department of Game, and the government of Okanogan County. The purpose of the agreement will be to develop actions to minimize the effects of development on the Methow Valley mule deer population. The agreement shall include at least the following elements:
  - 1) Citizen involvement in developing goals for management of the Methow Valley deer herds.
  - 2) Continued refinement of information base needed to manage herds effectively.
  - 3) Identification of specific management strategies for herd management.
  - 4) Identification of funding mechanisms and sources to assure management strategies will be met.
- C. Development and implementation of a dog control ordinance to protect critical mule deer migratory routes, fawning areas and wintering areas.
- D. Development and institution of protective zoning of critical mule deer migratory routes, fawning areas and wintering areas identified by the Washington State Department of Game.
- E. Adoption of changes to current land use codes (zoning, platting, SEPA, Shorelines Management, etc.) bringing the codes into conformance with state enabling legislation.
- F. Enactment of an ordinance in accordance with Chapter 36.38.010 Revised Code of Washington (RCW) which places an admission tax of five percent on lift ticket sales. Alternatively, the government of Okanogan County may negotiate an agreement with the permittee whereby an amount not to exceed two and one-half percent is donated to a foundation established for the purpose of addressing community goals and needs and an additional two and one-half percent is enacted by ordinance in accordance with the aforementioned RCW.
- G. During the review of plans for, or related to, ski facilities and base area development, an agreement



shall be reached between the developer and the government of Okanogan County for the purpose of reimbursing Okanogan County agencies for current and projected costs relating to the examination of applications, plans and the conduct of public hearings up to and including the time of final action by the Okanogan County Board of Commissioners.

This decision will be implemented no sooner than 30 days after the notice of filing the Final Environmental Impact Statement appears in the Federal Register.

This decision is subject to administrative appeal in accordance with the provisions of 36 CFR 211.18.

Jeff M. Sirmon  
JEFF M. SIRMON  
Regional Forester  
P.O. Box 3623  
Portland, Oregon 97208

July 5, 1984  
Date



Final  
Environmental Impact Statement  
Early Winters Alpine Winter Sports Study  
Mazama, Okanogan County, Washington

**Lead Agency:** U.S. Department of Agriculture  
USDA - Forest Service  
Okanogan National Forest  
P.O. Box 950  
Okanogan, Washington 98840

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**Location of Action:** State of Washington  
Upper Methow Valley, Mazama  
Okanogan County

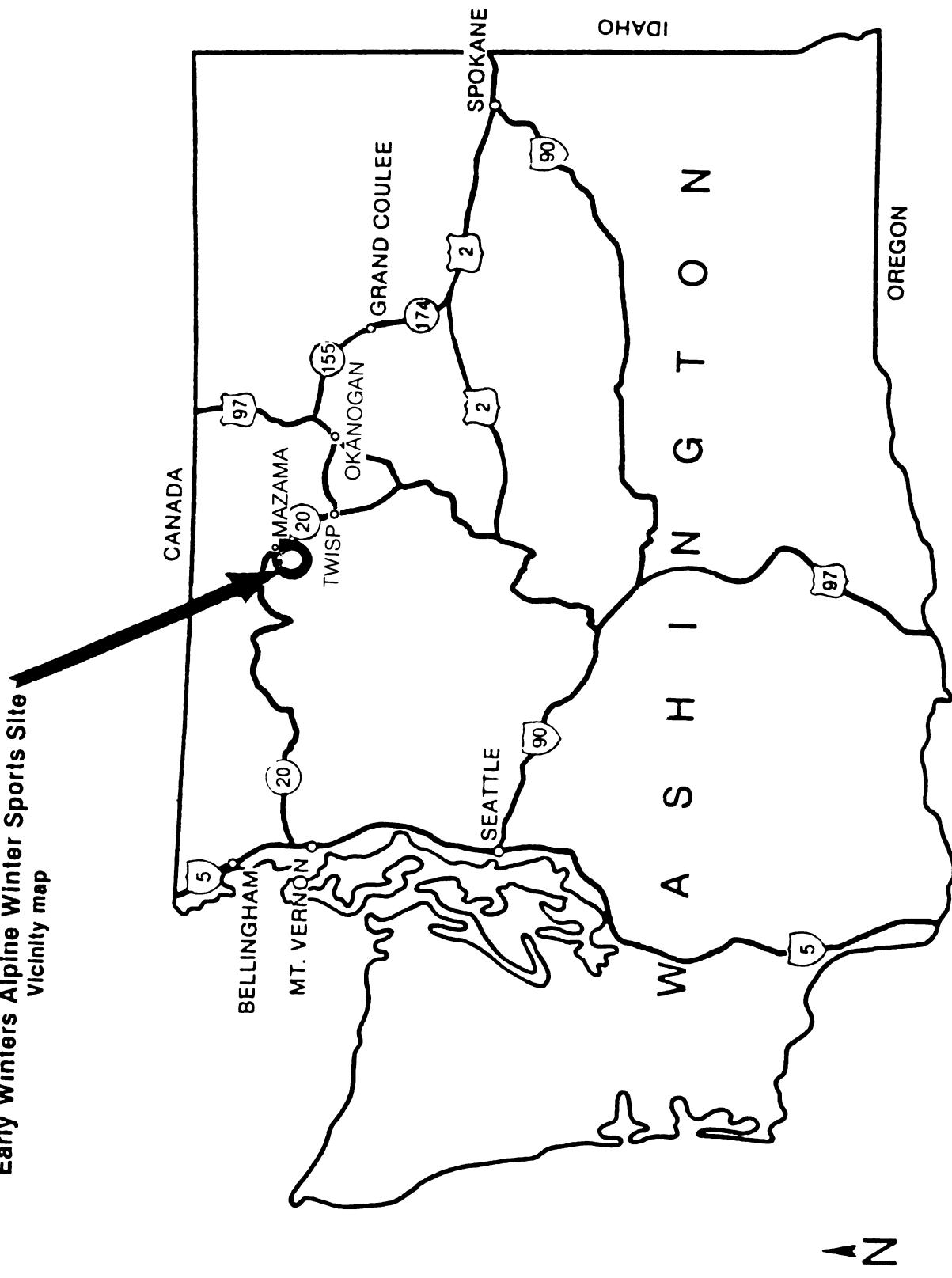
**Date of Transmission to EPA  
and the Public:** Draft, August 27, 1982

**ABSTRACT**

This Final Environmental Impact Statement is in response to an application in August 1978, by Methow Recreation, Incorporated (MRI) of Winthrop, Washington for a permit to build a ski development on Sandy Butte, a landform located in the upper Methow Valley in the Okanogan National Forest. Four alternative levels of development are presented and analyzed; 2300 skiers at one time (SAOT), 5200 SAOT, 8200 SAOT (preferred alternative), 10,500 SAOT, and a "no action" alternative continuing the current management activities on Sandy Butte without down-hill ski developments. This Statement meets the requirements of both the National and Washington State Environmental Policy Acts (NEPA and SEPA).

**Figure 1**

**Okanogan National Forest  
Early Winters Alpine Winter Sports Site  
Vicinity map**



## SUMMARY

### INTRODUCTION

As the result of a formal application to develop a winter sports site on the Okanogan National Forest, this Environmental Impact Statement has been completed to analyze whether to issue a Special Use Permit for downhill skiing on all or a portion of approximately 3900 acres of National Forest System land. The proposal is considered to be of major significance and is locally controversial.

The application by Methow Recreation, Inc., dated August 21, 1978, is for a permit to develop and operate a downhill ski area on approximately 3,900 acres of National Forest land on Sandy Butte. Their application includes plans for a multi-stage development that would eventually serve approximately 8,000 skiers at one time. Sandy Butte is located within the Winthrop Ranger District near Mazama, Washington (Figure 1). Four levels of development are analyzed in this Final Environmental Impact Statement: 565 acres to serve 2,300 skiers at one time (SAOT); 1200 acres to serve 5,200 SAOT; 3900 acres to serve 8,200 SAOT; 3900 acres that will serve 10,500 SAOT; and a "no action" alternative which continues current management activities without a ski development permit for Sandy Butte.

The ski area is proposed for lands managed under the Winthrop Ranger District Multiple-Use Plan, revised 1970. The proposed ski development is called Early Winters with a substantial portion of the development located on Sandy Butte with much smaller portions located on adjacent Driveway Butte and other lands at the base of these mountains. Sandy Butte is at the juncture of Early Winters Creek and the Methow River on the eastern slope of the Cascade Range in Okanogan County, Washington. The area is located at the upper end of the Methow Valley, approximately 17 miles west of Winthrop and is accessed by State Route 20 (Figure 2).

### MAJOR ISSUES TO BE RESOLVED

Listed below are the public issues identified as a result of public meetings. These issues are addressed in this EIS:

1. What will be the effects on water resources? This includes consideration of water quality and quantity, and sewage disposal.
2. What will be the effects on other natural resources? Specifically, what will be the effects on soil, wildlife, air quality, vegetation and visual quality?
3. What effect will existing land use controls have on the type, amount and pattern of land development? This includes zoning, private development and effects on agricultural lands.
4. What will be the effects on existing and proposed transportation systems in the Methow Valley? This includes the North Cascades Highway (SR-20) and other roads, traffic patterns and air transportation.

5. What demographic and sociological changes will occur in the Methow Valley? This issue includes population changes, effects on valley residents and other social changes.
6. Is there sufficient demand to support a ski facility at Sandy Butte? Besides considering the market for a ski area, this issue also includes the economic feasibility of the alternatives.
7. What will be the effects on existing summer and winter recreation opportunities? This issue includes developed and dispersed recreational activities; e.g., campgrounds, cross-country skiing, snowmobiling and hiking.
8. What will be the economic effects? Specifically, what will be the effects on taxes, cost of public services and cost of living?
9. What will be the effects on economic stability in the Methow Valley? Specifically, what will be the effects on business cycles, employment rates and opportunities?
10. What will be the energy requirements for a ski area and related development? This includes energy availability and consumption.

#### ALTERNATIVES CONSIDERED

The alternatives range from the existing situation (no action) to low, moderate and high levels of development for alpine skiing. They vary in the amount of skiing opportunities available and the amount of area involved. The alternatives, by level of development, address identified public issues and ski terrain opportunities.

#### Alternative I

Alternative I is the "no action" alternative. For evaluation purposes, no down-hill ski facilities are permitted in this alternative.

#### Alternative II

This is a low-level capacity, downhill ski facility on 565 acres serving 2,300 skiers at one time (SAOT). Development would be confined to the extreme western portion of the north slope of Sandy Butte.

#### Alternative III

This is a mid-level capacity, downhill ski facility on 1200 acres serving 5,200 SAOT. Development would occur on the western portion of the north slope of Sandy Butte.

#### Alternative IV (Preferred Alternative)

This is a high-level downhill ski facility on 3900 acres serving 8,200 SAOT. Development would take in virtually the entire north slope of Sandy Butte, in addition to Little Boulder Creek Bowl, located east of Sandy Butte summit.

#### Alternative V

This is a high-level downhill ski facility on 3900 acres serving 10,500 SAOT. Development on the northwest slope of Sandy Butte would be greater than that of Alternative IV.

### ENVIRONMENTAL CONSEQUENCES

#### Air Quality

Impacts from construction, maintenance, and operation of the proposed facility developed on Sandy Butte will not have a measurable effect on existing or future air quality. However, secondary impacts from development on private land will degrade existing air quality during severe meteorological inversion periods. Proposed mitigation will prevent degradation below established air quality standards.

#### Soils and Water

Surface erosion impacts on Sandy Butte would result from all alternatives. Water quality, as measured by turbidity, would be within Washington State water quality standards.

#### Estimated Maximum Sediment

Delivered Sediment (tons/year)	Alternative	I	II	III	IV	V
		540	2010	2010	2060	2060

There is some potential for mass erosion on Sandy Butte, as evidenced by the occurrence of western red cedar on some side slopes, slump scarps and slide debris in others. The potential for mass erosion will be reduced by identified mitigation measures.

The adoption of the Comprehensive Sewer Plan (Mazama-Early Winters) Update by Okanogan County will protect water quality from sewage effluents in the areas of most intensive new development.

### Wildlife

On National Forest land, vegetative types would permanently shift from older, mature conifers to grass, forb or shrub openings. Yearlong use by man would increase. Population numbers would decrease for 31 species of wildlife, increase for 24 species and remain constant for 20 species with Alternatives II-V. Pine martens would be eliminated from the developed area. Nesting goshawks, though not sighted, may also exist. If so, they also would be eliminated from the development area. Blue grouse could be severely reduced.

On private land, Alternatives II-V would cause substantial acceleration in housing starts and other human developments. Mule deer would be most effected by new development in deer winter range. Mitigation will reduce but not eliminate impacts to mule deer.

A pair of spotted owls, a sensitive species, will be adversely affected by Alternatives II-V. Development will alter their behavior and habitat, and could stress them out of existence.

Sedimentation is the greatest environmental risk to trout and salmon production. With mitigation measures, development would be compatible with the fisheries resources and habitats.

### Timber

The total acres covered by permit to develop skiing would be removed from long-term timber harvest and some of the acreage eliminated from the base used to calculate potential timber yield on the Okanogan National Forest. Alternatives I and II would not effect the annual potential yield. Alternative III would reduce the current Forest annual potential yield by 1,700 board feet and Alternatives IV and V would both reduce annual potential yield by 190,000 board feet.

### Economic and Social

Economic Effects - Baseline (Alternative I) employment is forecast to increase by over 70 percent in the Methow Valley over the next 20 years (1980 to 2000). Each development alternative would add jobs, beginning in each construction phase; the least being added by Alternative II beginning in 1983, the most being added over baseline by Alternative V beginning in 1998.

Average annual unemployment rates are forecast to decrease for each alternative. Each development alternative shows fewer unemployed than Alternative I with higher levels of winter employment for each development alternative. Alternatives III-V provide the opportunity of a year-round recreation facility and would add to the projected summer employment.

Total personal income is expected to increase during baseline years 1980 to 2000, by about 143 percent (in constant 1980 dollars). Because the larger number of jobs associated with Alternatives III - V are in the lower-paying service sector, the per capita income will be lower than baseline (Alternative I).

Demographic Effects - Baseline (Alternative I) population projections indicate significant increases during the next 20 years (1980-2000), with the greatest changes expected in seasonal population, projected to increase by about 176 percent. Forecasts for the other alternatives show significant additions to the permanent population, with smaller seasonal increments.

Few ethnic minorities are estimated to be present in the Methow Valley under Alternative I (baseline), but the construction and operation of a ski resort may attract some minority permanent population. These additions would be quite small, with the greatest number added under Alternative V.

Housing and Land Value Effects - Housing forecasts for 1980-2000 are included for permanent, seasonal and tourist accommodations. The baseline (Alternative I) projected the large increase for the seasonal units, with the smallest increase in tourist accommodations. Permanent housing units are projected to increase by about 72 percent, as the area population increases and the household size drops. The valley will experience significant build-out, even without the proposed ski development.

For the development alternatives, the large impact was forecast for tourist accommodations, with permanent and seasonal units increasing in direct relationship to the increased population projected for each alternative.

Assessed land values for residential property are projected to increase for the baseline (Alternative I) by about 109 percent between 1980 and 2000. These increases are due to population increases and decreases in family size, which increases the demand for housing. Each of the development alternatives shows additions to the area's land values in relationship to projected increases in housing units. The largest impact for each development alternative would occur in the initial operating years. Market land values, while more variable and difficult to predict, would be significantly higher than assessed residential land values.

Social Effects - The most significant changes in the existing groups would be an increase in numbers of Mainstream Newcomers, especially those in trade and service businesses. The expansion of the Seasonal Residents group to include both winter and summer would change dramatically. The Long-Time Residents would decrease in numbers for at least ten years until they began to acquire members through long-term residency of the early Mainstream Newcomers and Alternative Lifestyle Newcomers. They would be expected to continue actively in politics and the economy, especially through their land ownership. Interaction with various in-migrants and Newcomer groups would probably blur the distinctive character of the Long-Time Resident group.

The number of Alternative Lifestyle Newcomers would stabilize, and not grow much if the valley began to experience growth based on a ski development. Increases in non-ski related jobs and improved craft markets would offer some economic benefits to this group. In contrast to the larger numbers of both permanent and seasonal in-migrants, the Alternative Lifestyle Newcomers would come to be viewed as an integral part of the social structure.

The Seasonal Workers would be a new group which would change its members on a seasonal basis. Its social interaction patterns would be mostly intra-group, with contact with other groups mainly limited to jobs, purchases or housing.

#### Visual Resources

Visual quality objectives for the project area on Sandy Butte will be reduced with skiing alternatives. That area classified as Retention in Alternative I, 2731 acres, would be reduced to 2000 acres with Alternative V; area in Partial Retention would increase from 1144 acres in Alternative I to 1500 acres with Alternative V; and Modification acres would increase from none in Alternative I to 375 in alternative V.

#### Cultural Resources

Investigation of National Forest land on Sandy Butte has not located any historic or archaeological sites. The History Department of the Colville Confederated Tribes reported no historic or religious sites on or near Sandy Butte. Cultural resource information was provided as required to the Washington State Historic Preservation Office. They concurred that development on Sandy Butte would have no effect on any known cultural or historical sites.

#### Land Use

The land use trends in the upper Methow Valley for the baseline (Alternative I) condition show residential land use more than doubling between 1980 and 2000. While commercial land use is expected to more than double during this time, the greatest absolute change will occur in residential land use.

Under each successive development alternative, significant additions to the residential land use occurs in accordance with the increasing number of housing units projected. The larger impact was forecast for residential land use in the year 2000 under Alternative V. The largest impact on commercial land use would occur simultaneously with the largest impact on residential land use.

#### Recreation

The amount and kinds of recreational opportunities occurring on Sandy Butte would change, with development for downhill skiing. Skiing opportunities would increase with each successive level of development beyond Alternative I.

Activities on Sandy Butte, as defined by the Recreation Opportunity Spectrum (ROS), would be transformed from semi-primitive and roaded natural opportunities now present, to those activities associated with a rural experience.

#### Transportation

Traffic volumes on Highway 20 will increase with population growth and each level of ski development. Impacts of increased traffic will be more prominent in the Towns of Twisp and Winthrop, areas of limited capacities. Planning and proposed mitigation will alleviate impacts from increased traffic.

### Public Services

The need for public services and facilities are a function of population growth. The population would grow with all alternatives, and require increased services.

Public revenue, as a result of development, would initially lag behind the need for increased services and facilities. As a result, deficits could occur in funding of public services in the upper Methow Valley. An admissions tax has been identified as a major tool to be used to mitigate public service cost deficits. The tax will be imposed upon ski lift tickets.

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## PREFACE

An Environmental Impact Statement (EIS) is not a decision document in and of itself. It is a document disclosing the environmental consequences of implementing a proposed action and alternatives to the proposed action. It is an important document for federal, state, and local governments to use in arriving at their individual decisions regarding the proposed action and alternatives to it.

The environmental consequences on lands and activities administered by other federal, state, and local jurisdictions resulting from the proposed action have been disclosed in this EIS. Through cooperation, Okanogan County has assisted in developing alternatives to the proposed action and disclosing of environmental consequences.

The Forest Service decision applies only to National Forest System lands and is documented in a Record of Decision. Decisions by other jurisdictions to issue or not issue approvals related to this proposal can be assisted by the disclosure of impacts available in this document.

Preparation of an Environmental Impact Statement is one step in the planning process. The decision to be made by the Forest Service as a result of the environmental analysis in this EIS and other information is whether National Forest System lands should be used for the requested activity and, if so, at what level. If a decision is made to issue a special use permit for the area, other steps will be required before any action can be taken.

A detailed mountain and base development plan will be prepared showing how National Forest System lands will be developed and what the relationship will be between mountain and base development. It is at this stage of the planning process the detailed ski area design is developed. Also, it is here the site specific mitigation measures will be determined.

After approval of the detailed plans, the requirements established by the Forest Service will be monitored in annual operating plans which the developer will submit to the Forest Service for approval. Hence, not all issues or concerns will be resolved in a detailed manner in the impact statement. Many areas of concern can only be resolved at later stages of the planning process.

## I. PURPOSE OF AND NEED FOR ACTION

### PURPOSE AND NEED FOR ACTION

During 1969, an inventory was made of winter sports sites in the North Cascades of Washington State. The results were reported in the "North Cascades Winter Sports Study," USDA Forest Service, Pacific Northwest Region, 1970. Of six sites investigated on the Okanogan National Forest (two were rated as having good potential), only Sandy Butte was considered to have the necessary physical features for a site of major importance.

In August 1978, an application to build a downhill ski area on Sandy Butte, a 3,900 acre parcel of National Forest System land located in the upper Methow Valley, was submitted to the Okanogan National Forest by Methow Recreation, Incorporated (MRI) of Winthrop, Washington. The application for ski development is for construction of facilities that would provide for a skiing capacity of 8,000 skiers at one time (SAOT).

This Environmental Impact Statement (EIS) is prepared in response to the application by Methow Recreation, Incorporated. The decision to be made is which of five alternatives evaluated in this document will be implemented. This decision will be made in a Record of Decision attached to this document.

### CONTENTS OF ENVIRONMENTAL IMPACT STATEMENT

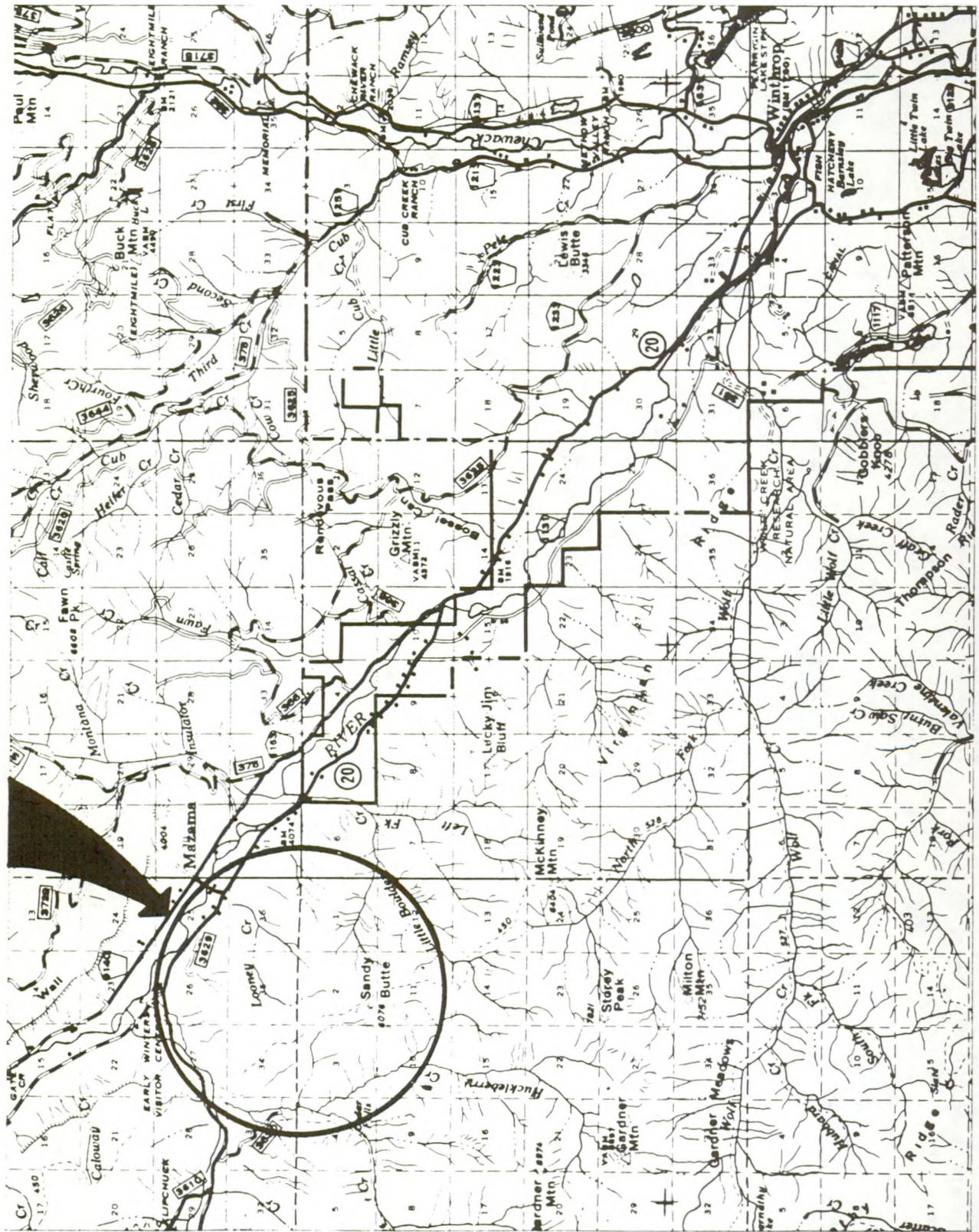
The purpose of this EIS is to provide the information required to evaluate the potential for skiing at Early Winters, to assist in making a decision whether to issue a Special Use Permit for downhill skiing on all or a portion of approximately 3900 acres of National Forest System land. A Forest Service decision to permit ski development at Early Winters does not authorize construction of a particular ski development, nor does it authorize development of any non-Forest Service lands (see discussion of permit process below). Further environmental analysis and review will be required prior to any decision by the Forest Service to allow a specific development at Early Winters, and by the responsible state and local government agencies, prior to any authorization to develop non-Forest Service lands.

This EIS describes the affected environment and the environmental consequences of implementing each of the alternatives. The environmental analysis for the comparison of impacts by alternative contained in this document was conducted by an interdisciplinary team and all physical, biological, economic and social factors pertinent to the decision have been considered in a systematic, interdisciplinary approach.

In addition to disclosing on-site impacts of the ski development at Early Winters, the EIS also discloses off-site impacts that each alternative might have on community facilities, socio-economic and other environmental conditions in the Upper Methow Valley. Since there are no pending proposals or plans to develop any off-site lands, the evaluation of off-site impacts is not site-specific. It is general in nature, acknowledging to the extent practicable the impacts associated

Scale  $\frac{1}{2}$  Inch = 1 Mile

**Figure 2** Early Winters Alpine Winter Sports Site



with the growth that is likely to be induced by development of Sandy Butte for skiing. The evaluation of off-site impacts are included to provide a more complete picture of the likely effects of ski development at Early Winters and alert other jurisdictions to decisions to made.

#### PUBLIC ISSUES AND CONCERNs TO BE ADDRESSED

In April 1981, Okanogan County and the Okanogan National Forest asked the public to identify important issues to be considered in the Early Winters Study. Over 500 people contributed their ideas at workshops held in Winthrop, Okanogan, Wenatchee and Seattle. Another 100 people sent written comments expressing their concerns regarding the Early Winters proposal.

The public comments and management concerns were organized by an interdisciplinary team under general topic headings. These ideas were aggregated into the following planning questions as issues and concerns to be addressed in this EIS.

1. What will be the effects on water resources? This includes consideration of water quality and quantity, and sewage disposal.
2. What will be the effects on other natural resources? Specifically, what will be the effects on soil, wildlife, air quality, vegetation and visual quality?
3. What effect will existing land use controls have on the type, amount and pattern of land development? This includes zoning, private development and effect on agricultural lands.
4. What will be the effects on existing and proposed transportation systems in the Methow Valley? This includes the North Cascades Highway (State Route 20) and other roads, traffic patterns and air transportation.
5. What demographic and sociological changes will occur in the Methow Valley? This issue includes population changes, effects on valley residents and other social changes.
6. Is there sufficient demand to support a ski facility at Sandy Butte? Besides considering the market for a ski area, this issue also includes the economic feasibility of the alternatives.
7. What will be the effects on existing summer and winter recreation opportunities? This issue includes developed and dispersed recreational activities; e.g., campgrounds, cross-country skiing, snowmobiling and hiking.
8. What will be the economic effects? Specifically, what will be the effects on taxes, cost of public services and cost of living?
9. What will be the effects on economic stability in the Methow Valley? Specifically, what will be the effect on business cycles, employment rates and opportunities?

10. What will be the energy requirements for a ski area and related development? This includes energy availability and consumption.

The Draft Environmental Impact Statement (DEIS) for this project was completed and sent out for public review in August of 1982. The results of that review can be found in Appendix D of this document.

#### PERMIT PROCESS

If an alternative is selected which permits downhill skiing the Forest Service would issue a Special-Use permit to the chosen developer/operator. Criteria used by the Forest Service in the selection of a developer/operator for the ski area include:

1. Kind and quality of services to be offered.
2. Financial capability.
3. Experience and qualifications in relation to the proposed use.
4. Ability to perform according to permit terms including Federal, State, and local laws.
5. Control of private lands necessary to develop the proposed use.

Once a special use permit is issued, it would require a master plan for development be provided by the permittee, and approved by the Forest Supervisor prior to commencement of any construction. The master plan would include a specific site development plan showing the location and other details of proposed facilities, including a development schedule. An environmental assessment will then be completed to evaluate the master plan. A sample special use permit for a downhill ski area is included in Appendix I.

In addition to the special use permit, various other permits and approvals would also be needed to develop the ski area at Early Winters. They include:

#### Okanogan County

- sewage disposal permit
- building permits
- zoning review (planned unit development) and shorelines management permit

#### State of Washington

##### Department of Ecology

- water right permit
- waste discharge permit
- water quality certification

##### Parks and Recreation Commission

- ski lift & equipment certification

##### Department of Transportation

- approach permit

##### Department of Game

- hydraulics project approval

#### COOPERATING AGENCIES

The USDA, Forest Service, Okanogan National Forest is the lead agency for development of this EIS. Okanogan County is a cooperating agency and its Planning Department assisted in this evaluation. A supplement to a cooperative agreement for Land Use Planning, dated September 18, 1979, between Okanogan County and the Okanogan National Forest, makes provision for joint review of the proposed project (Appendix A). The Environmental Impact Statement fulfills the requirements of both the State Environmental Policy Act (SEPA) and National Environmental Policy Act (NEPA) processes only in connection with the selection of a skiing development alternative on National Forest land.

Because private land is available for base area development, the joint process eliminates the need for duplicating environmental analysis of the ski area development. The specifics of a ski development and any proposal for development other than the ski area will require additional analysis in accordance with laws and regulations. Joint review of the proposal is accomplished by a steering committee with members from both Okanogan County and the Okanogan National Forest. After comparing the impacts of each alternative, a decision on the best course of action will be made jointly by Okanogan County and Forest Service officials.

## II. ALTERNATIVES

The Alternatives section is the core of the Environmental Impact Statement. This chapter consists of: (1) the development of alternatives, (2) a description of each of the five alternatives in detail, (3) a comparison of the alternatives and impacts, and (4) mitigation common to all of the development alternatives.

### DEVELOPMENT OF ALTERNATIVES

Process criteria were used to help form alternatives. These criteria for alternative formation were identified by the public, by management, and by law or regulation. These criteria included: compatibility with zoning regulations, economic feasibility, availability of electrical energy needed, and meeting state water quality standards.

The alternatives being considered in the FEIS range from the existing situation (no action) to low, moderate and high levels of development for downhill skiing. They vary in the amount of land area and the amount of skiing opportunities available.

The alternatives focus on addressing the identified public issues and ski terrain opportunities. Ski development alternatives were formed following USDA Forest Service, Pacific Northwest Region ski area planning guidelines.

### Options Within Alternatives

It is recognized that in considering the possible amenities and programs of a ski operation, the alternatives are limitless. Those alternatives, as listed, will provide a reasonable range of development for analysis purposes. The following are some of the actions left as options within the stated alternatives:

1. Snowmaking
2. Summer recreation program
3. Night skiing
4. Snowplay area
5. Cross-county skiing
6. Helicopter skiing on Sandy Butte

The impacts of these options within a given alternative are insignificant when compared to impacts of development. Impacts of these and other possible options in the operation of a ski development will be evaluated as part of the master plan, not in this EIS.

### Alternatives Considered But Eliminated From Detailed Study

This EIS is specific to an application for downhill skiing on Sandy Butte and will not evaluate the following alternatives:

1. Skiing at Okanogan National Forest sites other than Sandy Butte. An evaluation of potential ski sites on the Okanogan National Forest is contained in "North Cascades Winter Sports Study," USDA - Forest Service, 1970. This study reports on the potential of six inventoried sites located on the Okanogan National Forest. One area was unacceptable, three were rated marginal, and two were rated as having good potential for development.

Of the two with good development potential, Tiffany Mountain is considered as having limited potential and would serve only local interests. Sandy Butte was the only area having good potential as a major ski development.

2. Expansion of existing areas.

This Environmental Impact Statement is project specific, and does not, nor can it, attempt to develop or analyze a broad total skiing program for the State of Washington.

3. Winter sports use of Sandy Butte other than downhill skiing.

Winter sports use, other than downhill skiing, are considered as a part of the recreation use occurring within Alternative I - No Action.

#### ALTERNATIVES IN DETAIL

Each alternative considered in detail examines the amount of National Forest land for which a Special Use Permit could be issued and the level of activity in terms of skiers-at-one-time (SAOT) to occur on these lands. SAOT is determined through the use of a formula that considers acreage of ski trails, and degree of slope of trails (beginner slopes, for example, with lesser degrees of slope will generally accommodate more skiers per acre than the more difficult, advanced ski trails). It should be noted that the analysis of each alternative contained in the EIS is based upon the stated SAOT even though operation at capacity will occur only occasionally.

Included below are descriptions of mountain and base facilities that would comprise the ski area development at Early Winters for each alternative. The descriptions of commercial area listed for each alternative are estimates of commercial development in direct support of the ski hill and its visitors and do not reflect needs to serve general population growth of the area. (See "Affected Environment" - Land Uses.)

Management of National Forest System land covered by this proposal is directed by the Winthrop Ranger District Multiple-Use Plan (MUP), completed in 1968 and revised in 1970.

The discussion on potential development facilities must be considered conceptual at this time. Exact capacity, location, and design of ski facilities would be established later, provided a permit is issued, through an environmental analysis

and approval of a master plan. A large parcel (1,165 acres) of private land contiguous to Sandy Butte is considered available for base facilities developments for Alternatives III, IV, and V. To assist in a more thorough analysis of the alternatives, a scenario of likely development patterns of this "Base Area" (1,165 acre parcel) is included in descriptions of each alternative. The "Base Area" and other off-site lands would be developed within Okanogan County, State and Federal laws and regulations.

Development Schedule - If a Special Use Permit is granted for the use of Sandy Butte as a ski area, a master plan must be evaluated and approved. The master plan will include a development schedule for the site. For analysis purposes the following assumptions were used for development scheduling:

Alternative II would be constructed 1 year from permit issuance.

Alternative III would be constructed in two stages with completion projected over 10 years from permit issuance.

Alternative IV would be constructed in three stages with completion projected over 15 years from permit issuance.

Alternative V would be constructed in four stages with completion projected over 20 years from permit issuance.

#### Alternative I (No Action)

##### Management Action:

Alternative I is the "no action" alternative with current management of Sandy Butte described in the following paragraphs. Although a ski development is allowed under the current management direction, for analysis purposes no down-hill ski facilities are included in this alternative (Figure 3).

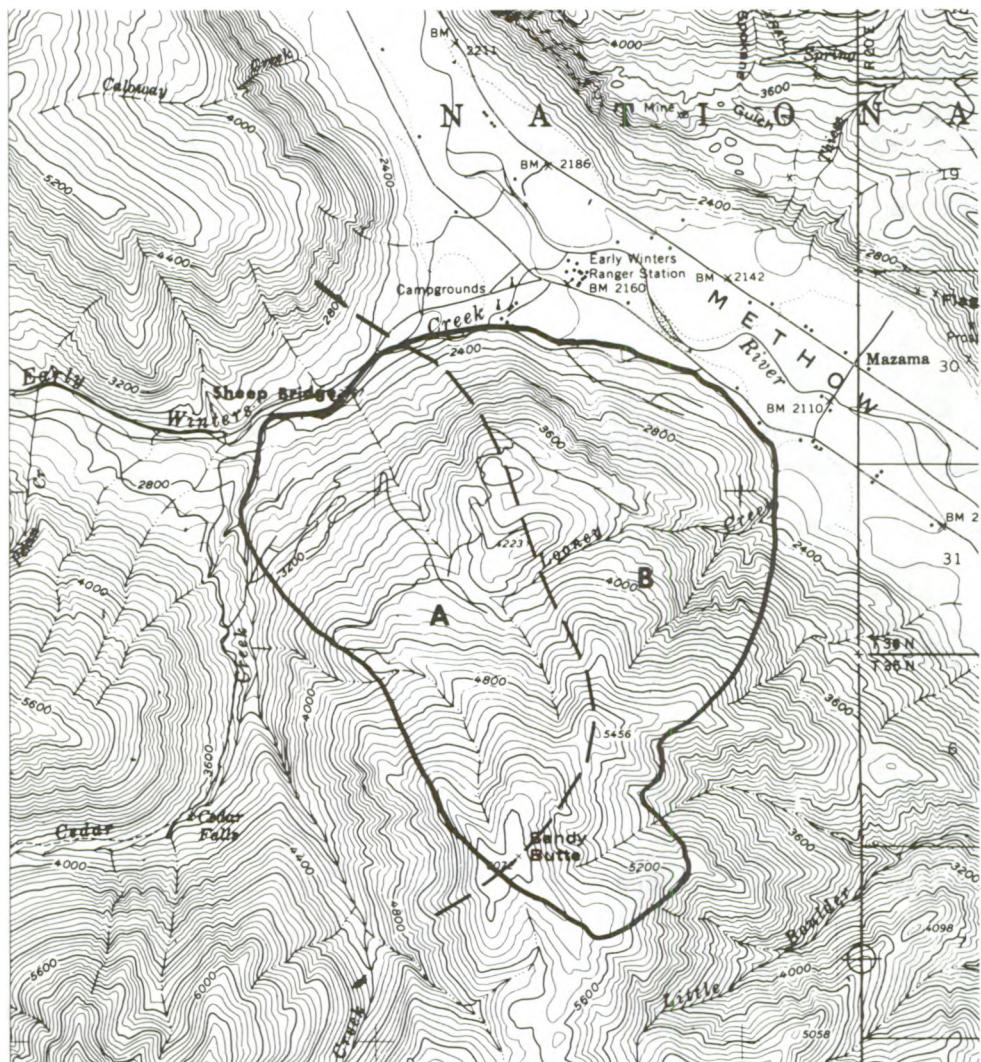
The eastern portion of Sandy Butte is located in a National Forest Landscape Management Unit with the following management direction:

1. Manage for multiple use while recognizing aesthetics and recreation as key uses.
2. Manage to maintain and enhance aesthetic qualities in the foreground.
3. Manage to maintain or develop a background forest that is thrifty, healthy, and attractive.

The western portion of Sandy Butte is located in the Liberty Bell Management Unit and currently managed to:

1. Retain a near natural landscape appearance.
2. Keep developed recreation sites unobtrusive.
3. Keep well screened developed sites designed to provide maximum capacity and convenience.
4. Restrict timber harvest methods to those necessary to enhance aesthetics, provide for public safety and control insects and disease.

**Figure 3 Alternative I (Existing Management)**



**LEGEND**

- A — Liberty Bell Management Unit  
B — Landscape Management Unit

Scale: 1 Inch = 1 Mile

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### "Base Area"

There would be no change in economic forces or scarcity of land to generate major change from existing patterns of development is occurring elsewhere in the Upper Methow Valley. Presently, use of this area is principally for pasture of livestock. If development occurred, it would most likely be in large parcel subdivisions for vacation homes rather than permanent residences.

### Alternative II

This alternative includes development of 565 acres for a low-level downhill ski facility on a western portion of Sandy Butte. Four ski lifts would stretch from the base of the mountain at Early Winters Creek near 2,365 feet elevation to Sandy Butte summit at 6,075 feet elevation (Figure 4).

Capacity:      4 lifts  
                      2,300 skiers at one time (SAOT)

#### Facilities:

1. Day lodge - includes cafeteria, restrooms, administrative offices, lockers and ski rental and repair
2. Skier parking
3. Maintenance yard and equipment storage and shop
4. Ski shop sales
5. Ski patrol and first aid
6. Utilities - water, power, and sewage treatment
7. Snack bar

Space for the above facilities would require an area near the base of the mountain. All of these facilities could be located on National Forest land.

### "Base Area"

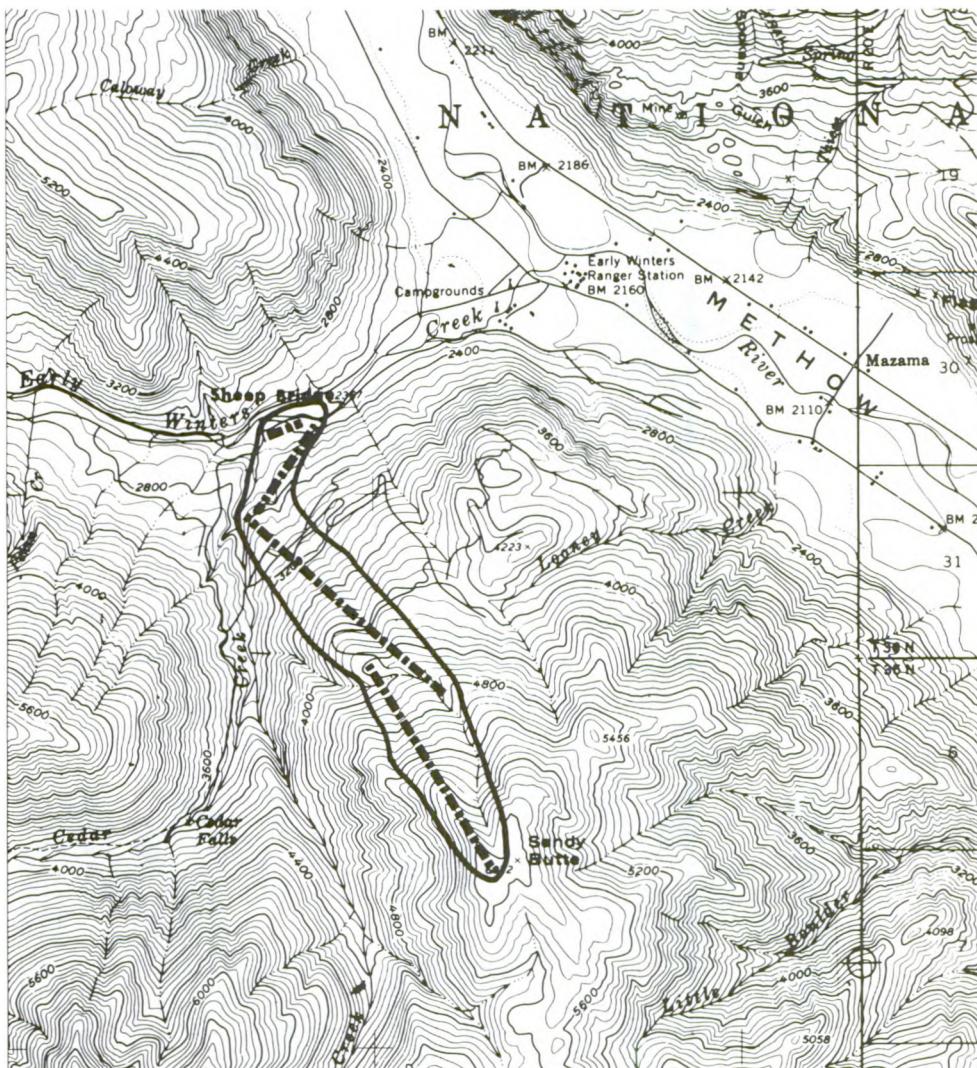
This area may include more intense development for vacation homes with a likely increase of development for some permanent residences. The residences would serve housing needs for ski operations employees. There also will be potential for limited tourist accommodations to serve mostly winter users. Commercial development most likely will be restricted to the Special Review Highway Commercial District at Mazama.

### Alternative III

#### Management Action:

Alternative III is a mid-level development for downhill skiing on 1,200 acres located on the western half of Sandy Butte. Nine lifts would provide 3,700 feet of vertical (Figure 5). This alternative includes a 25 acre novice area north of (across) Early Winters Creek and on the lower-most slopes of Driveway Butte.

**Figure 4 Alternative II**



**LEGEND**

Proposed Lifts



Proposed Permit Area

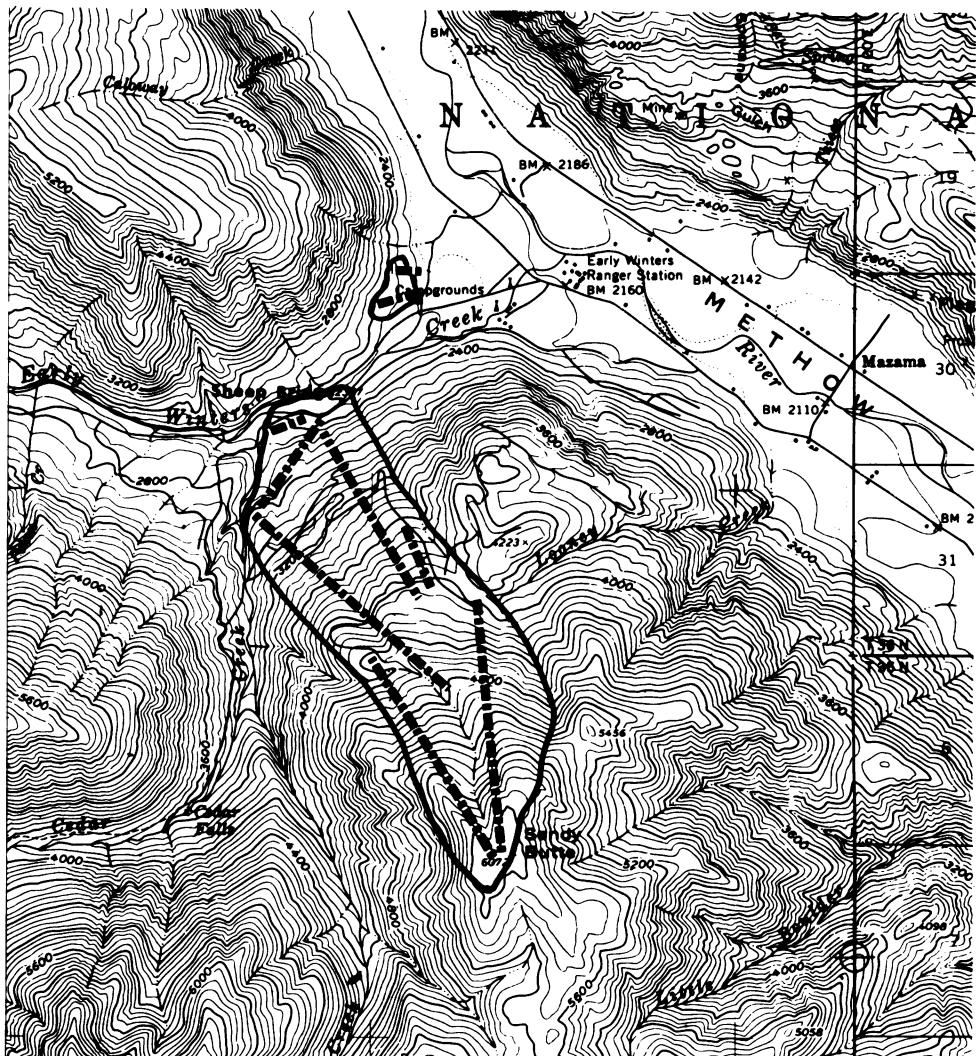


(565 Acres)

Scale 1 Inch = 1 Mile

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**Figure 5 Alternative III**



**LEGEND**

Proposed Lifts  
Proposed Permit Area

— (1,200 Acres)

Scale 1 Inch = 1 Mile

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Capacity:      9 lifts  
                      5,200 SAOT

Facilities:

Same as for Alternative II with increased capacities to serve the additional 2,900 SAOT. Additions include a full service restaurant in addition to the snack bar.

"Base Area"

Development would probably include higher levels of development than Alternative II for vacation homes, permanent residences and tourist accommodations, due to a larger ski area. The need for facilities to serve skiers (restaurants, shops, etc.) would lead to some commercial uses here. Development would likely include additional space required in direct support of the ski hill operation beyond what could be located on National Forest System land (parking, warehousing, and maintenance area). This alternative (III) would not be large enough to justify the up front initial investment required to develop a highly efficient resort community development pattern but represents enough development that some clustering would probably take place in incremental projects.

Alternative IV (Preferred)

Management Action:

Alternative IV is a major development for downhill skiing on 3,900 acres of Sandy Butte. Ski terrain would take in virtually the entire north slope of Sandy Butte in addition to Little Boulder Creek Bowl located east of the summit (Figure 6). This alternative includes a 25 acre novice area north of (across) Early Winters Creek and on the lower-most slopes of Driveway Butte.

Capacity:      16 lifts  
                      8,200 SAOT

Facilities:

1. Day lodge - cafeteria, restrooms, administration offices, lockers and ski rental and repairs
2. Skier parking
3. Maintenance yard, equipment storage and shop
4. Ski sales shop
5. Ski patrol and first aid
6. Utilities - water, power and sewage treatment
7. Restaurants (two)

"Base Area"

The same kinds of development are expected as with Alternative III with added recreation and cultural facilities that would promote a year-round use of the

area. Recreation attractions may include a golf course, horse stables, bicycle riding, a youth camp, sightseeing, and others. A ski development of this magnitude would allow for front end investment for a year-round destination resort being developed in an efficient development pattern.

#### Alternative V

##### Management Action:

Alternative V is a major development for downhill skiing on 3,900 acres with run development intensified over that of Alternative IV (Figure 6). This alternative includes a 25 acre novice area north of (across) Early Winters Creek and on the lower-most slopes of Driveway Butte.

Capacity:      16 lifts  
                      10,500 SAOT

##### Facilities:

Same as for Alternative IV with increased capacities to serve an additional 2,300 SAOT.

##### "Base Area"

Development projections are the same as in Alternative IV.

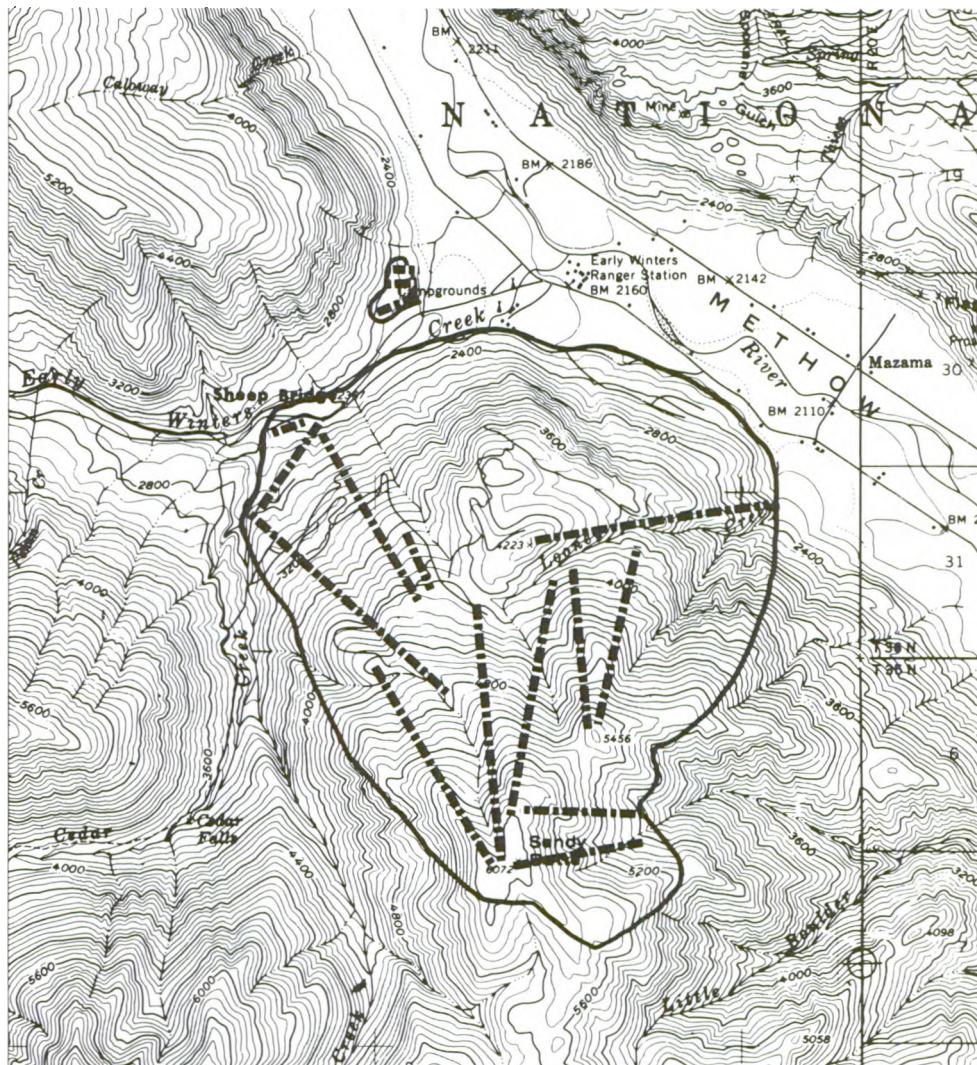
#### MITIGATION MEASURES

This section summarizes the mitigation measures the Forest Service will require as a condition of any special use permit issued for use of National Forest System lands. More detail on these measures is available in Chapter IV. Mitigation measures other agencies could use to deal with problems occurring on lands other than National Forest lands are also identified in Chapter IV. The measures are conceptual and will be made more specific as part of the design and implementation stages of the planning process. If later steps of the approved process identify other environmental problems associated with development on National Forest System lands, additional mitigations may be required. A sample special use permit for downhill skiing is in Appendix I.

##### 1. Construction and Operation

- a) A Master Plan must be approved and made a part of the permit prior to start of construction.
- b) Permittee shall comply with the regulations of the U.S. Department of Agriculture and all Federal, State, and local laws, regulations, and ordinances.

**Figure 6 Alternative IV (Preferred) and Alternative V**



## **LEGEND**

**Proposed Lifts  
Proposed Permit Area**

—

(3,875 Acres)

Scale 1 Inch = 1 Mile

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2. Water Quality and Soils

- a) The permittee will be required to maintain water quality on National Forest lands. After the extent and location of facilities have been determined, site specific water quality mitigations will be required.
- b) An annual summer work plan will be developed by the permittee and approved by the Forest Service. This plan will list the projects to be constructed during the work season that have previously been approved in the Master Plan.
- c) An annual erosion control plan will be required to address specific activities occurring on a seasonal basis such as construction and slope modification.
- d) Best management practices in accordance with Forest Service manual direction and which meet or exceed those guidelines contained in the State Forest Practices Act will be implemented.
- e) Initial timber removal will be completed under contract with erosion control provisions.
- f) Ski slope design will be included in the Master Plan and will include consideration of protecting unstable soil and potential mass erosion sites.
- g) Treatment of sewage on site will meet State and Okanogan County requirements.

3. Wildlife

Specific mitigation for wildlife at the ski development can only be determined in review of the Master Plan. However, some measures are listed here to protect those opportunities that may exist.

- a) Locate runs, lifts, roads, and other facilities to minimize disturbance of blue grouse wintering areas (primarily ridgetops).
- b) Leave dead and defective trees standing in timbered areas where skier safety can be protected.
- c) Restrict activities and travel on selected roads during the fawning season (June).
- d) Locate new service roads away from water sources and fawning cover.
- e) Evaluate impact to mule deer migration routes in review of Master Plan.
- f) Design and harvest nearby, off-site timber sales to retain adequate travel corridors, foraging, roosting, and nesting sites for spotted owls.

- g) Protect other likely migration routes between summer and winter habitats for spotted owls.
- h) Restrict other activities within the spotted owls home range.
- i) Springs and riparian areas in the permit area will be protected as water sources and wildlife habitat.
- j) Fisheries - see Water Quality and Soils, above.

#### 4. Cultural Resources

The special use permit will contain a requirement which would stop construction and require evaluation if cultural materials are discovered on National Forest lands.

#### 5. Visual Resources

Again, the Master Plan will identify the specific measures needed.

- a) Locate structures in areas of natural topographic and vegetative screening. Avoid locating structures in prominent locations, such as silhouetted ridge-tops and other areas of dominant public view.
- b) Use native appearing construction materials which blend with the natural earth colors, textures, forms, and lines of the environment.
- c) Vegetation clearing patterns should imitate natural forest openings, including grading, irregular ski trails edge shaping, tapered or feathered transitions along trail edges, tree islands and variations in trail width.
- d) Bury utilities in common corridors in existing roads and trails.
- e) Revegetation should be with native plant species and be completed in time specified by the erosion control plan.
- f) Those structures not screened naturally will include measures, (design, color, or artificial screening) to reduce their visibility.
- g) Locate service roads to lifts and slopes as near as possible to contours.
- h) Maintain low level and natural vegetation under lift lines and on slopes.

## **6. Air Quality**

- a) Meet State or County requirements for emissions from dust and slash burning during construction and fireplace or stoves during operation.
- b) Use weatherization and design of structures to reduce space heating needs.

## **COMPARISON OF ALTERNATIVES**

Table 1 lists the public issues, identified as planning questions, with a comparison of effects by alternative. The summary presented includes projections of cumulative effects taking into account mitigation as discussed above. Chapter IV, "Environmental Consequences," is the basis for this comparison and it describes the expected changes in much greater detail.

Table 1 - Comparison of Issue Resolution by Alternative (Year 2000)

Issue	Alternative I (No Action)	Alternative II (2,300 SAOT)	Alternative III (5,200 SAOT)	Alternative IV (8,200 SAOT) PREFERRED	Alternative V (10,500 SAOT)
1. What will be the effects on water resources?	No effect	If surface waters are utilized for high water uses (i.e., snowmaking and slope irrigation) flows may be reduced for use periods where there are no storage facilities.			
a) Quantity (On-site)					
(Off-site)	An adequate supply of ground water exists for domestic use for all alternatives.				
b) Quality (On-site)		Sedimentation will be within water quality standards for all alternatives.			
(Off-site)	Nitrate - nitrogen levels will be less than allowed for state water quality standards for all alternatives.				
2. What will be the effects on other natural resources?		See Water Quality - Sedimentation (above)			
a) Soil (On-site)					
b) Wildlife Deer Summer Range (On-site)	Deer summer range will remain in excess of needs for existing herds with all alternatives.	-5%	-7%		
Deer Winter Range (Off-site)	-8%	-9%	-11%	-14%	-10%
Spotted Owl (On-site)	No effect	Will alter the behavior of the known pair and habitat, and could stress them out of existence.			
c) Air Quality (Off-site)	All alternatives will meet established air quality standards. Existing air quality will be degraded with trend of population growth beginning in Alternative I.				
d) Vegetative Composition (Area) Grass & Forbes (On-site)	0%	+3.6%	+8.6%	+14.9%	+17.5%
Timber (On-site)	0%	-2.0%	-4.2%	-7.3%	-7.8%
e) Visual Quality Objective (On-site) (Acres)					
Preservation	0	0	0	0	0
Retention	2,610	2,297	2,275	2,230	2,000
Partial Retention	1,265	1,491	1,400	1,344	1,500
Modification	0	87	200	301	375
Max. Modification	0	0	0	0	0

Table 1 - Comparison of Issue Resolution by Alternative (Year 2000)

Issue	Alternative I (No Action)	Alternative II (2,300 SAOT)	Alternative III (5,200 SAOT)	Alternative IV (8,200 SAOT) PREFERRED	Alternative V (10,500 SAOT)
3. What effect will existing land use controls have on type, amount, and pattern of land development? (Off-site)					+211.4%
a) Residential Land Area (Existing-6,071 acres)	+108.5%	+123.6%	+154.0%	+187.0%	
b) Commercial Land Area (Existing - 6.42 acres)	+122.4%	+167.6%	+234.9%	+309.3%	+374.3%
c) Agriculture Land Area	Increasing population with each alternative will cause increased development and competition for land uses. The conversion of Ag lands to other uses will increase with each level of development.				
d) Pattern of Development	Impact areas in decreasing order of new developments are, Mazama; between Mazama and Winthrop; around Winthrop including Chewack and Wolf Creek drainages; and unincorporated areas south of Twisp.				
4. What will be the effects on existing and proposed transportation systems in the Methow Valley? (Off-site)	Traffic volumes will increase with population growth and each level of ski development. Construction of highway facilities at areas of restricted capacities could mitigate increased volumes. Airport use at Intercity will increase only slightly until improvements to facilities are provided.				
5. What demographic and sociological changes will occur in the Methow Valley? (Off-site)					
a) Permanent Population	5,194	5,389	6,231	7,221	8,239
b) Seasonal Population	2,903	3,229	3,496	3,718	4,099
c) Permanent Housing Units	2,641	2,740	3,168	3,672	4,059
d) Seasonal Housing Units	1,430	1,624	1,791	1,930	2,019
e) Social Groups	Same as Alt. I plus seasonal Workers group created; expansion of Seasonal Residents to decline in proportion of Long-time Residents; stability of Alt. Life-style Newcomers with some trend toward social integration.				
	Same as Alternatives I and II, plus: incremental increases in level of change forecast for Alternative II. Likely sense of isolation and less control by Long-time Residents as rate of change increases. Influence by Long-time Residents on the Population decreases.				

**Table 1 - Comparison of Issue Resolution by Alternative (Year 2000)**

Issue	Alternative I (No Action)	Alternative II (2,300 SAOT)	Alternative III (5,200 SAOT)	Alternative IV (8,200 SAOT) PREFERRED	Alternative V (10,500 SAOT)
6. Is there sufficient demand to support a ski facility at Sandy Butte? (On-site)					
a) Projected skier visitor day demand to the year 2000.	N/A	183,000(1985)	270,000(1990)	368,500(1995)	453,700(2000)
*b) Economic Break-even Point- (% capacity use needed)	N/A	46% or 138,000 skiers	42% or 284,000 skiers	46% or 490,000 skiers	43% or 587,000 skiers
7. What will be the effects on existing summer and winter recreation opportunities? (On-site)					
a) Winter (Max. potential Visitor Days of Skiing) (130 day season X capacity x .5 days)	N/A	150,000	340,000	535,000	683,000
b) Summer	No effect	Skiing facilities may detract from those summer users desiring a primitive or natural setting.			
			The operation of a summer recreation program at the ski area would enhance summer recreation opportunities with Alternatives III - V.		
8. What will be the economic effects? (Off-site)					
a) Assessed Land Value (Ave. Per Acre)	\$878	\$955	\$1,086	\$1,226	\$1,331
b) Cost of Living					
c) Cost of Public Services		Housing costs will have the most influence on the cost of living. Population growth will take place with all alternatives and result in increased housing demand. The rate of population growth increases with all alternatives and result in increased demand for housing, thus increasing costs.			
		There will be a need for increased public funded services with any of the alternatives. Ski development alternatives provide the opportunity to increase revenue for services through a "lift tax" that will cover increased costs.			
		* The volume of skiers per season required to meet all operating expenses including cash, annual and capital expenses.			

Table 1 - Comparison of Issue Resolution by Alternative (Year 2000)

Issue	Alternative I (No Action)	Alternative II (2,300 SAOT)	Alternative III (5,200 SAOT)	Alternative IV (8,200 SAOT) PREFERRED	Alternative V (10,500 SAOT)
9. What will be the effects on economic stability in the Methow Valley? (Off-site)					
a) Total Personal Income (000's)	\$65,168.4	\$70,301.1	\$77,939.4	\$86,182.5	\$94,196.0
b) Per Capita Income (Total Personal income ÷ population)	\$12,545	\$ 3,045	\$12,500	\$11,935	\$11,435
c) Employment (Total Full-time Equivalent)	\$ 2,162	\$ 2,508	\$ 2,996	\$ 3,508	3,950
d) Business Cycles	.				
	Peak employment will continue for the summer season with peak unemployment in winter.	With each level of ski development, the peak employment period would shift toward the winter season. Alternatives III, IV, and V provide the opportunity of a summer recreation program at the ski area and if established would reduce the seasonal differences in employment.			
10. What will be the energy requirements for a ski area and related development? (Off-site)					
a) Electricity		The Okanogan County Electric Co-operative, Inc., through contract with Bonneville Power Administration, can supply all power needs through 2001. At that time the current agreement expires and a new contract for supplying power will be negotiated.			
b) Gasoline		There will be substantial increases of gasoline consumption in the Methow Valley with all alternatives. Availability is dependent on national market conditions.			

### III. AFFECTED ENVIRONMENT

#### INTRODUCTION

This chapter describes the biophysical and socio-economic components, as they currently exist, that could be affected by implementing the alternatives.

The area of influence for primary biophysical effects is the National Forest lands proposed for development. The area of influence for secondary biophysical effects is the upper Methow Valley and coincides with School District #350 boundaries.

The area of influence for primary socio-economic effects is the upper Methow Valley (coincides with School District #350 boundaries). The area of influence for secondary socio-economic impacts is Okanogan County, except when considering transportation impacts which takes in North Central Washington.

#### Ski Characteristics of Sandy Butte

Land Base - The study area includes approximately 3,900 acres of National Forest land, and 1,165 acres of adjacent private lands ("Base Area") which are particularly important to development of Alternatives III, IV and V (Figure 7).

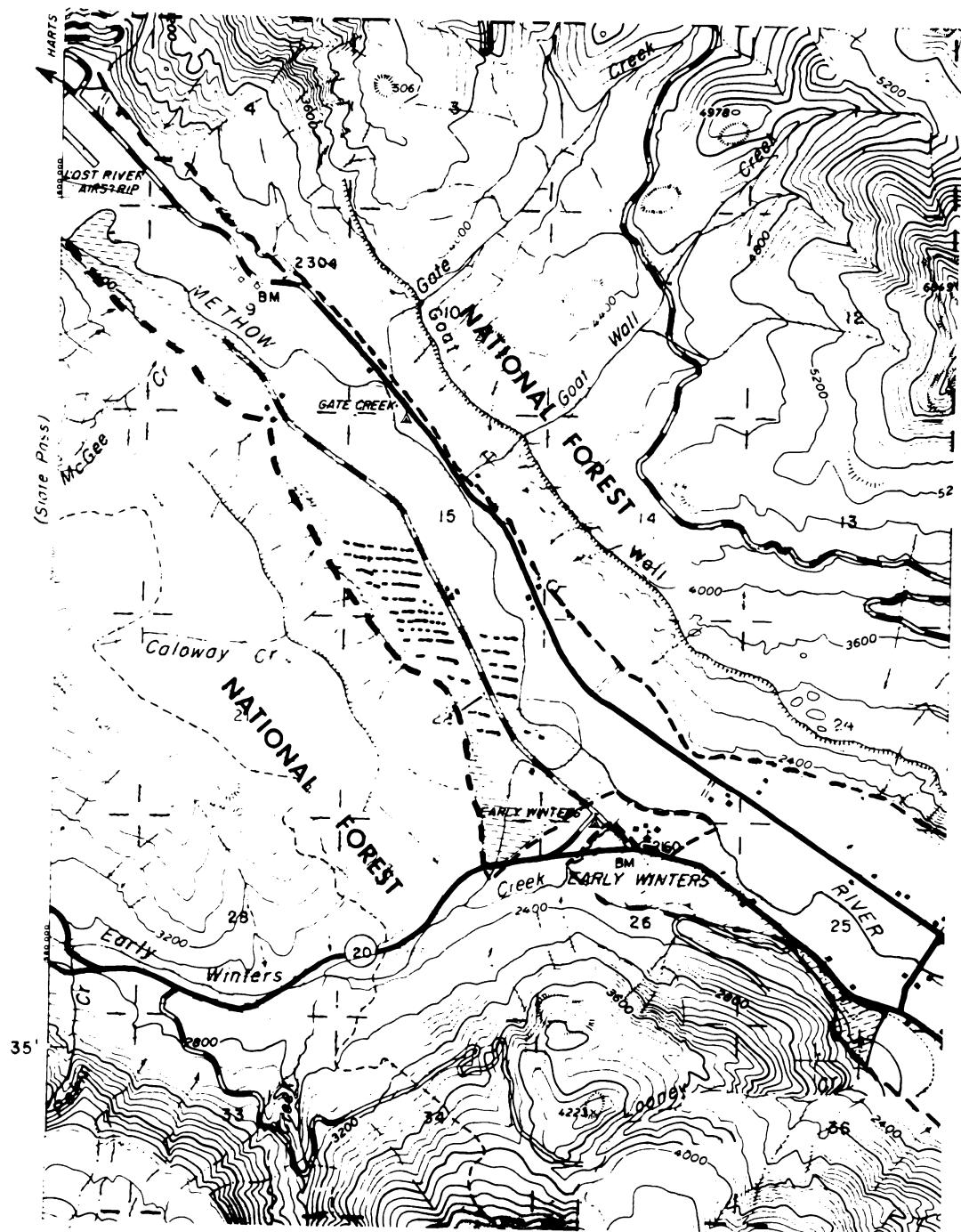
The National Forest land on Sandy Butte has many attributes for downhill ski development ("North Cascades Winter Sports Study," USFS, 1970 and "Early Winters Feasibility for Skiing," Aspen Skiing Corporation, 1975). Although there is limited terrain available for base operations, the adjacent private land is well suited for development in support of slope activities. This land is located in the valley bottom and is flat to gently sloping.

Mountain Terrain - The elevation of Sandy Butte ranges from approximately 2,100 feet along Early Winters Creek to a summit elevation of 6,072 feet. Skiing verticals generally range between 3,950 feet along the northeast face to 3,700 feet along the northwest face.

The majority of the skiable area on the mountain faces north, northeast and northwest. The upper portion of the mountain is divided into three large bowls. Two bowls face north and are separated by a broad ridge in the center. The western bowl drains west into Cedar Creek. The eastern bowl is located at the head of Looney Creek. The third bowl, which extends from the summit, faces east and drains into a tributary of Little Boulder Creek. All levels of skier ability are available on Sandy Butte.

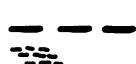
Snow Cover - Eleven snow depth recording stations were established on Sandy Butte in November, 1974. Measurements recorded for the 1974-75 and 1975-76 ski seasons indicated adequate snow accumulation to provide a 120 to 130 day ski season (Early Winters Master Plan for Skiing, Methow Recreation, Inc., 1979).

**Figure 7 Land Status**



**LEGEND**

National Forest Boundary  
Private lands with potential  
for base area facilities



Scale 1 Inch = 1 Mile

Snow records correlated with those taken at Early Winters Guard Station, at the base of the mountain, indicate that there was sufficient snow at the base to operate a ski area by Thanksgiving nine out of 16 years for the 1955-70 period. There was sufficient snow by December 15 to ski at the lowest elevations in all 16 years.

Weather and snow studies at Early Winters have produced some observations concerning the meteorological conditions affecting the site. Sandy Butte receives a reliable, dry, quality snow, compared to the west Cascades (Early Winters Master Plan for Skiing, Methow Recreation, Inc., 1979 and Early Winters Feasibility for Skiing, Aspen Skiing Corporation, 1974-75 and 1975-76).

Avalanche Potential - Avalanches can originate from two sources; seismic activity or climatic factors. The potential for avalanches generated by earthquakes is low, based on geologic data which indicates Sandy Butte is fairly stable (Cassidy, 1981).

Avalanche hazards related to climate are rated as medium (North Cascades Winter Sports Study, 1970). Avalanches do occasionally occur off of steep slopes, but are considered to present only slight hazards to life and property. The most dangerous slopes are those 60 - 100 percent (30 to 45 degrees), which occur primarily on the northeast side of Sandy Butte. Slopes above 100 percent tend to sluff frequently, thus preventing dangerous buildups of snow.

#### Skier Demand

According to the Washington Statewide Outdoor Recreation Plan (October, 1979), statewide, about 97 percent of the existing needs for downhill skiing are currently being satisfied by existing ski areas. However, it is estimated that between now and 1990, an additional lift capacity of almost 111,000 skiers will be needed. This represents a 26 percent increase. By the year 2000, an additional lift capacity of almost 181,000 skiers will be needed, or a 42 percent increase over existing capacity.

Among eight western states, Washington showed the slowest growth rate in downhill skiing between 1975 and 1980 and also from 1964 to 1975 (Hammer, Siler, George Assoc., September, 1980). The slow growth rate is partially attributed to the lack of new or expanded facilities.

### BIOPHYSICAL DESCRIPTIONS AND CURRENT RESOURCES

#### Topography

Overall elevation differences on Sandy Butte average approximately 4,000 feet, from 6,072 feet at the summit to around 2,100 feet at the base. Slopes are highly variable, ranging between 10 percent and 75 percent; often the steeper pitches are quite short. Aspects are mostly northerly, ranging between northwesterly to easterly exposures. The streams that drain the area are primarily first and second order streams and are moderately to deeply entrenched into the

terrain. Drainage density is low to moderate on the upper slopes and moderate to high on the lower slopes. These streams are mostly intermittent or ephemeral in nature. Looney and Clearcut Creeks generally run water all year. The established drainage pattern is dendritic; channels are mostly V-shaped and flood plains are minimal, except along Early Winters Creek and the Methow River. More detailed topographic information can be found in Early Winters Soils and Related Environmental Factors, by James R. Cassidy (1981).

Floodplains and Wetlands - Executive Orders (E.O.'s) 11988 and 11990 apply to floodplains and wetlands. The objectives of these E.O.'s are to avoid, to the extent possible, long and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands or floodplains.

There are no areas on Sandy Butte that are considered wetlands or floodplains. A portion of the "Base Area" at Early Winters includes floodplain areas along the Methow River. See Appendix J for a map of these areas. Kinds and amount of development on these floodplains is effectively controlled through County zoning regulations.

#### Climate

Precipitation - Precipitation is influenced by the Cascade Mountains. Moist air from the Pacific Ocean climbs over the Cascade Mountains, cooling as it rises. The cold air is not able to hold as much moisture as when it is near the ocean, so it drops a large part of it on the west side of the mountains and the Cascade Crest. Lands on the east side of the Cascades receive less precipitation as the distance from the Cascade Crest increases. Average precipitation at the Crest is 80 inches. For Sandy Butte, the average precipitation is about 20 to 40 inches, depending on the elevation.

Snow Data - Snow quality, quantity and seasonal availability for skiing was discussed above in Skiing Characteristics of Sandy Butte (page 22).

Temperature - Recorded low temperatures during the winter months average -19°F. Maximum low temperature recorded at Mazama is -48°F.

Collected temperature data during 1975-76 seasons recorded minimums of -16°F.

More detailed information on climate is available in Water Resource Inventory for Proposed Early Winters Recreation Project (Bennett, July 1981).

#### Air Quality

Air Stability - In 1976 a study was conducted in the Upper Methow Valley by Robinson (Stability Patterns and Air Pollutant Dispersion in the Upper Methow Valley - Robinson, 1977). This study measured wind, temperature and stability near the base of the proposed hill development in the winter months.

"The acoustic sounder data and valley wind data can be considered together to characterize the turbulent diffusion situations that are applicable to the Early Winters area of the Upper Methow Valley. Daytime conditions, between

about 9 AM and 3 PM during the winter months, should be considered as slightly unstable at the surface. Records show that a mixing depth of 200 meters would be applicable although this would be a generally conservative value. A wind speed of 2 mph would be generally appropriate for turbulence calculations although the winter daytime average, in contrast to the median, would be expected to be greater than that. During the day, winds generally flow up the valley from the southeast. During the evening, night, and early morning the air is slightly stable. The winds were typically from the northwest at about 1 mph and variable. The depth through which mixing occurred was indicated to be 150 meters or more.

Visual observations (including photographs) were taken the winter of 1982-1983 (personal communication - Knott, 1983). These observations show visible haze in the valley in mid-afternoon on several occasions. These conditions indicate that the 150 to 200 meter mixing height observed in the Robinson study is appropriate. However, the visible haze indicates that the atmosphere is stable, even during the day. These observations also indicated that there were generally two kinds of inversion conditions and that the temperatures were different for each.

The dates of the observed inversions were compared to the temperature data taken in Winthrop and Mazama. The dates when a haze layer is seen in the valley correspond to the days when the maximum temperature is below 32 degrees Farenheit and the minimum is less than 20. This also is true of the worst days reported in the Robinson study. Past temperature data indicates that in most years there are usually 3 to 4 times between late November and early February when there are episodes of poor dispersion and last 4 to 6 days each.

Air Quality Standards - The U.S. Environmental Protection Agency (EPA) established the Primary National Ambient Air Quality Standards (NAAQS) to protect human health. In most cases these standards were set to protect not only the general population, but also those with pulmonary disease. The EPA also adopted Secondary Standards to protect public welfare from any known or anticipated adverse effects. These standards are even stricter than the primary (health) standards. The State of Washington adopted these secondary standards as State Air Quality Standards. These applicable standards are shown in (Table 2).

Total Suspended Particulates (TSP) data was taken in both Mazama and Winthrop. While the years were dry and hence dusty, the data indicates the range of TSP values. For Mazama, the data was taken from February 1975 through June 1977. A high value of 156 ug/m<sup>3</sup> for a 24-hour period in October 1976 may have been due to local residue burning or mill operations at Twisp. The second highest reading of 96 in July 1975 is more representative of the dusty summer conditions. During the months of December and January when the inversions in the valley seem to be the most severe the concentrations are generally from a low of 2 to a high of 15 ug/m<sup>3</sup>.

Table 2  
Ambient Air Quality Standards

<u>POLLUTANT</u>	Primary	<u>NATIONAL</u>	<u>WASHINGTON</u> <u>STATE</u>
		Secondary	
TOTAL SUSPENDED PARTICULATES (ug/m <sup>3</sup> )			
Annual Geometric Mean	75	60 <sup>a</sup>	60
24-Hour Average	260 ug/m <sup>3</sup>	150	150
SULFUR OXIDES (SO <sub>2</sub> )			
Annual Average	80(0.03 ppm)		0.02 ppm
24-Hour Average	365(0.14 ppm)		0.10 ppm
3-Hour Average		1300(0.50 ppm)	
1-Hour Average			0.40 ppm <sup>b</sup>
CARBON MONOXIDE			
8-Hour Average	10 mg/m <sup>3</sup> (9 ppm)	10 mg/m <sup>3</sup> (9 ppm)	10 mg/m <sup>3</sup> (9 ppm)
1-Hour Average	40 mg/m <sup>3</sup> (35 ppm)	40 mg/m <sup>3</sup> (35 ppm)	40 mg/m <sup>3</sup> (35 ppm)
PHOTOCHEMICAL OXIDANTS			
1-Hour Average	160(0.08 ppm)	160(0.08 ppm)	160(0.08 ppm) <sup>c</sup>
NITROGEN DIOXIDES			
Annual Average	100(0.05 ppm)	100(0.05 ppm)	100(0.05 ppm)
HYDROCARBONS (Non-Methane) <sup>d</sup>			
3-Hour Average	160(0.24 ppm)	160(0.24 ppm)	160(0.24 ppm) <sup>e</sup>

NOTE:

Annual standards never to be exceeded; short-term standards not to be exceeded more than once per year unless noted.

ug/m<sup>3</sup> = micrograms per cubic meter

ppm = parts per million

mg/m<sup>3</sup> = milligrams per cubic meter

Footnotes:

- (a) - This is not a standard, rather it is to be used as a guide in assessing whether implementation plans will achieve the 24-Hour Standard.
- (b) - 0.25 ppm not to be exceeded more than two times in any 7 consecutive days.
- (c) - Applies only 10 a.m. - 4 p.m. PST from April 1 through October 31.
- (d) - This is not a standard, rather it is to be used as a guide in devising implementation plans to achieve the oxidant standard.
- (e) - Applies only 6 a.m. - 9 a.m. PST from April 1 through October 31.

Winthrop, being closer to more sources of TSP, recorded higher values. That station operated from April 1975 through June 1977. Winthrop's highest concentration was 113 ug/m<sup>3</sup> in October 1976. For the months of December and January the concentrations varied from a low of 7 to a high of 86 um/m<sup>3</sup>.

Mazama reported an annual average of 17 to 30 ug/m<sup>3</sup> and Winthrop reported 31 to 38 ug/m<sup>3</sup>.

Sources of pollutants in the Methow Valley are predominantly from agricultural practices, unpaved roads and wood stoves. Vehicle emissions during the winter months are inconsequential due to the local low population densities and the annual winter closure of the North Cascade Highway (State Highway 20). Some smoke from slash burning may occasionally contribute to the particulate loading.

#### Geology and Physiography

The main structural feature of the Methow Valley is a graben (elongated depression of the earth's surface between two faults) where sedimentary and volcanic rocks occur in the depression and metamorphic and igneous rocks occur above the depression. Within this graben, folding took place, creating the nearly vertical beds of shale which occur at Sandy Butte.

Much of Sandy Butte is covered by glacial tills, except at the higher elevations which were scoured by the deep sheets of glacial ice. As the glaciers receded, rivers swelled with melted water and ice disappeared from the lower elevations. Terraces were formed on the lower portions of the slopes. As the river and stream flows became lower, the water cut down through the original deposits of outwash, leaving terraces at a higher elevation than the current river or stream level. These are evident along Cedar Creek, Early Winters Creek and the Methow River. More information on geology is available in Early Winters Soils and Related Factors (Cassidy, 1981).

#### Minerals

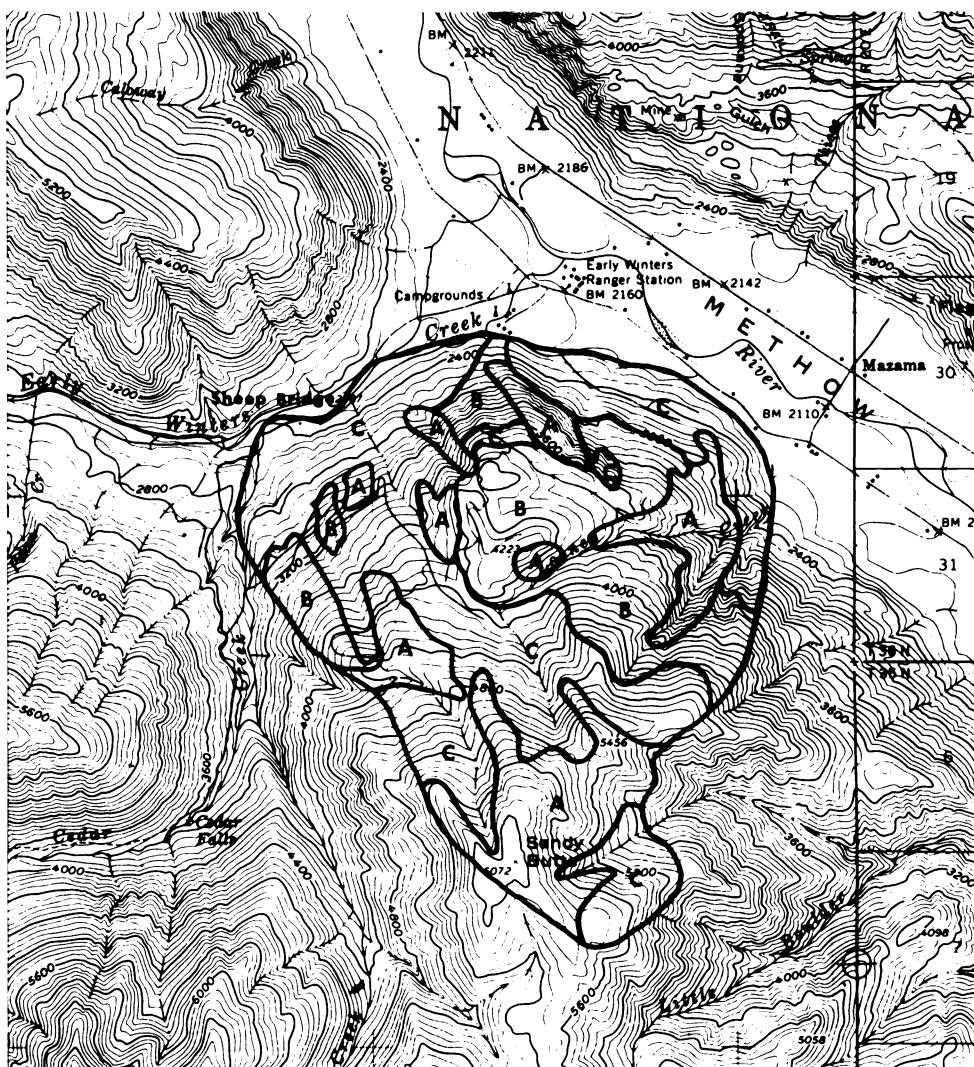
No recorded mineral production has occurred within the project area, except for a small, inactive basalt pit. Two mineral examinations have been completed (Archibald, September 1979). Both examinations conclude that Sandy Butte is non-mineral in character for locatable minerals.

Two oil and gas leases of approximately 1200 acres exist within the proposed ski development boundaries. The leases must be renewed annually and are in their second year. No on-the-ground activity has occurred to date. Current research points to a low probability of finding oil and/or gas under the Okanogan National Forest.

#### Soil and Water

Soils - Soils on Sandy Butte are coarse-textured with low inherent fertility. Water holding capacity is low. Shallow soils create revegetation problems. Figure 8 shows difficulty of revegetation, based on relative soil depth and water occurrence. Soil texture, depth to ground water, slope gradient and

**Figure 8    Revegetation Capacity**



**LEGEND**

- A — Areas Most Difficult to Revegetate
- B — Less Difficult, Considerable Shallow Soils and Harsh Exposure
- C — Easiest Areas to Revegetate

Scale 1 Inch = 1 Mile

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flooding hazard contribute to the suitability for septic tank absorption fields. The Soil Conservation Service's "Guide for Interpreting Engineering Use of Soils," 1971, lists limitations for septic tank absorption fields. Coarse-textured soils (loamy sand, sand) are poor filtering materials. These soils permit unfiltered sewage to travel long distances rapidly. Slope gradient can be a severe limiting factor. Besides moving unfiltered materials long distances down slope, steeper slopes (over eight percent) create problems with layout and construction. These problems increase with increasing slope gradient. Lateral seep or downslope flow is a problem, especially where bands of impermeable material or high water tables occur. Large rocks and boulders also make it difficult to maintain drainage tile grade. Suitability for septic tank absorption is severe for most of the area - slope gradients are more than 15 percent.

Shallow ground water, coupled with rock controlled slopes, creates some potential for mass failure (Figure 9). Mass erosion potentials also occur on lower slopes of Sandy Butte. Till deposits on steep slopes become very moist or saturated by ground water or surface runoff from above slopes. These slopes will fail, depending on moisture conditions. Activities which divert water to, or increase water content of the soils, will increase the likelihood of failure.

The soils in the upper Methow Valley, including the "Base Area," are generally very coarse textured with layers of homogeneous material through which ground water flows. Also, most of these soils are excessively well drained with surface soils having low water holding capacity. These soils support some farming activities such as hay, wheat, and cattle grazing and require large amounts of water for irrigation.

Water Quality - Water quality from National Forest System land for Cedar Creek and Early Winters Creek is high. There are no current water quality conditions that make the water unsuitable. Natural turbidity is low, even though suspended sediment may be high, especially compared to areas where soils are finer textured and have higher organic matter content. The high sediment and low turbidity relationship is caused by the light-colored sediment, coarse suspended material and low organic matter content of the soils. All surface waters emitting from the National Forest are designated Class AA by the State of Washington, Department of Ecology. Water quality standards for waters of Washington State are found in Appendix G.

Water quality is high for the Methow River throughout the study area. Table 3 shows water quality data for the Methow River at two locations above Winthrop (below Gate Creek and at Weeman Bridge).

Water Uses - The State of Washington, Department of Ecology, completed a water resources management program for the Methow River Basins (Kauffman, 1977). The main conclusions for this study are: 1) There is water available for further appropriation, but a firm water supply is not available without associated storage; 2) Water uses shall be based upon: Existing rights, Priority I; single domestic and stock use, Priority II; base flows, Priority III; and public water supply, irrigation and other uses, Priority IV; 3) Some streams are closed to further appropriation.

Watershed Characteristics - Cedar Creek is the major drainage coming from Sandy Butte. There are other small drainages that radiate from Sandy Butte, but are inconsequential in terms of potential impacts on Early Winters Creek and the Methow River.

The upper reaches of Cedar Creek are in youthful, cirque basins and glacial troughs. Stream entrenchment is shallow because of the relatively low volumes of surface water and abundance of rock. As the water concentrates and the tills become thicker, greater channel erosion occurs. The sideslopes immediately adjacent to the stream are over steepened and somewhat unstable. Forest Road #3630 crossed this oversteepened terrain with resulting cutbank sloughing and fill slope failure. Sideslopes in the lower reaches of Cedar Creek are steep, but old terraces do exist with low slope gradients.

Upper slopes have generally been stripped to bedrock by glaciers that once covered the area. Lower portions of the watershed have been covered with tills. Vegetation is more abundant because of the less restrictive climate and deeper soil profile. Current sedimentation rates for Cedar Creek are estimated to be 550 tons/year. This includes sediment from past road construction and timber harvest activities.

The Chewack, Twisp, and Methow rivers are the major drainage ways for private lands at the study area. These streams are small in comparison to the broad valley bottoms these rivers occupy which lends to stream meandering and frequent minor flooding. No estimate of sedimentation is made for the Methow River although sediment is deposited at the mouth as it empties into the Columbia River at Pateros. This dumping of sediment will continue as long as the Wells Dam pool exists.

Mass Erosion - Some of the steep, moist sites on Sandy Butte are unstable, with regard to mass erosion. Figure 9 shows relative stability. There is low potential for mass erosion on the "Base Area" and other private lands located in the Methow Valley bottom.

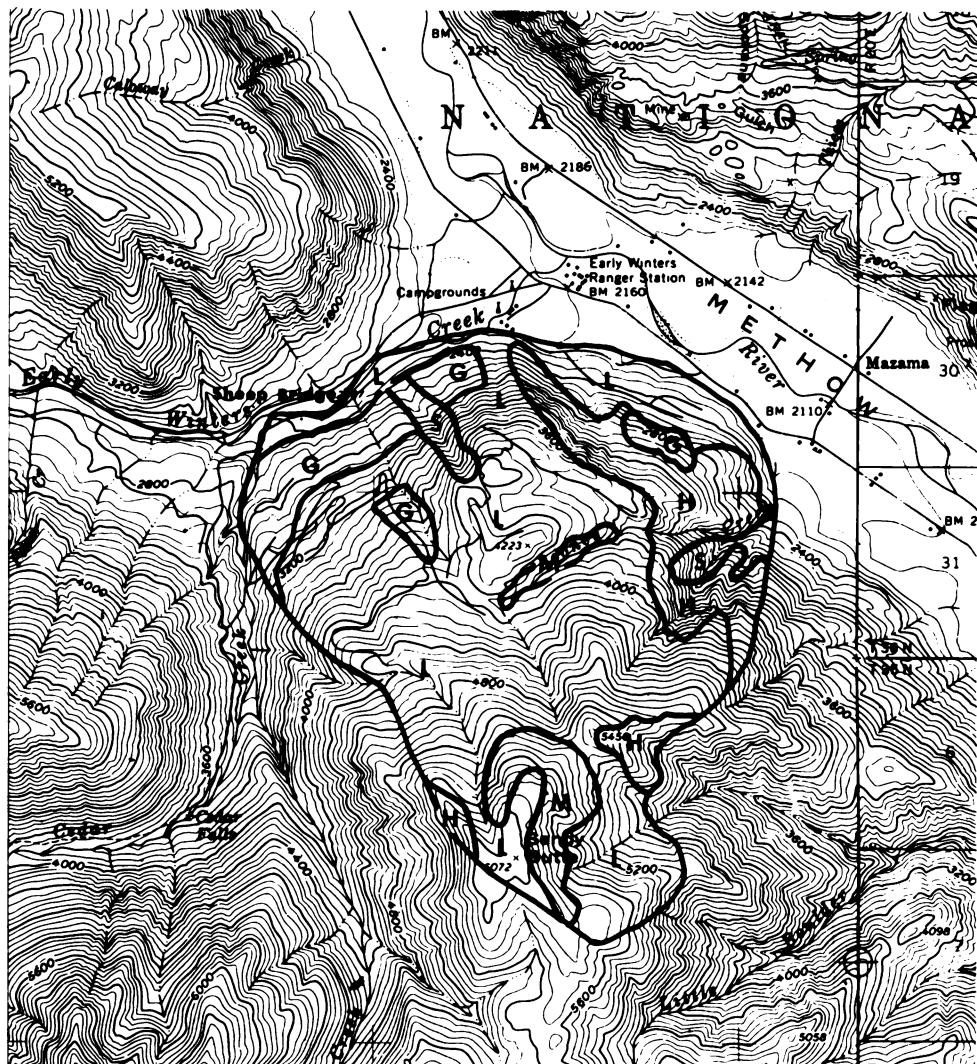
More detailed soil and water information can be found in Water Resource Inventory for Proposed Early Winters Recreation Project (Bennett, July, 1981) and Early Winters Soils and Related Factors (Cassidy, 1981).

#### Wildlife and Vegetation

A complete inventory of wildlife and vegetation was conducted by the Washington State Department of Game (Nelson and Fite, 1976). The report covers National Forest lands on Sandy Butte and the "Base Area."

Overstory vegetation on Sandy Butte varies from aspen and cottonwood along the streams at lower elevations to Douglas-fir with mixtures of other conifers at higher elevations. Size of trees range from seedlings to large sawtimber (greater than 21" diameter), with the majority being in the 9" to 21" diameter size class. An undetermined number of snags are interspersed throughout timber stands.

**Figure 9    Soil Stability for Landslides**



**LEGEND**

- G — Glacial Deposits, Moderate to High Failure Hazard
- S — Past Failure Areas
- H — High Hazard Areas
- M — Moderate Hazard Areas
- L — Low Hazard Areas

Scale 1 Inch = 1 Mile

Table 3

**SELECTED WATER QUALITY DATA  
METHOW RIVER NEAR MAZAMA  
(METHOW RIVER BELOW GATE CREEK)**

<u>Streamflow (cfs-avg)</u>	<u>Water Temp. (°C)</u>	<u>Dissolved Oxygen (mg/l)</u>	<u>Dissolved Oxygen (percent saturation)</u>	<u>pH</u>	<u>Conductivity at 25°C (micromhos)</u>	<u>Fecal Coliform (mf./100 ml)</u>	<u>Suspended Solids (mg/l)</u>	<u>Turbidity (NTU)</u>	<u>Color (units)</u>
<u>10/1/77 - 9/30/78</u>									
Number of samples . . . . .	6	6	6	6	6	6	6	6	6
Maximum value . . . . .	1,360	9.7	12.3	108	7.8	118	20.0	8	25
Minimum value . . . . .	45	3.4	8.5	79	7.4	59	1.0	1	4
Mean . . . . .	572	6.9	10.8	95	7.5	86	5.7	2	13
<u>10/1/78 - 9/30/79</u>									
Number of samples . . . . .	10	10	10	10	10	9	10	10	10
Maximum value . . . . .	2,010	10.7	13.0	103	7.7	110	4.0	5	25
Minimum value . . . . .	83	0.0	8.4	82	7.3	70	0.0	0	0
Mean . . . . .	5643	5.9	10.9	93	7.6	97	1.9	2.9	8
<u>10/1/79 - 9/30/79</u>									
Number of samples . . . . .	24	24	24	24	24	24	24	24	24
Maximum value . . . . .	4,460	9.9	14.0	8.0	140	4	7	7	17
Minimum value . . . . .	70	0.0	10.2	6.7	64	2	1	1	0
Mean . . . . .	735	5.0	12.0	7.5	99	2	2	2	7

Source: (Beck and Associates, November 1982)

Beneath stands of trees and where openings exist, numerous shrubs, forbs and grasses are found. A total of 72 plant species have been identified. There are also inclusions of rocky cliffs and bare ground.

Vegetation of the "Base Area" consists of riparian areas, along the Methow River, scattered stands of Douglas-fir, ponderosa pine, and fields or open areas originally cleared for agriculture use.

One hundred terrestrial wildlife species were found to inhabit Sandy Butte and the "Base Area." A total of 32 mammal species are present. Of these, the mule deer is the most common large mammal. Sandy Butte serves primarily as summer range and is outside of designated winter range (Zeigler, 1975 and 1978). Deer migrate through the area during spring and fall. Fawning habitat on the mountain is considered comparable to other high use areas in the Methow Valley by State Department of Game personnel.

Fifty-nine different species of birds are identified in the area of Sandy Butte and the "Base Area." Blue grouse is a popular species which is known to winter within two areas at higher elevations on the site. The goshawk, a species reactive to disturbance, was sighted, but no nests have been located. Spotted owls, which are classified as sensitive, occur in the area and are discussed in the following paragraphs. Nine reptiles are listed for the project area.

Endangered, Threatened and Sensitive Species - Review of available information and field reconnaissance was conducted. Federally listed wildlife species known to occur in the vicinity of Sandy Butte or the "Base Area" are the American peregrine falcon (endangered), bald eagle and grizzly bear (threatened). No other species listed by the State of Washington as endangered or threatened occur in the affected habitats.

Wildlife - Spotted owls are the only sensitive wildlife species found occurring in or near the proposed project site. Until recently, occurrence of spotted owls was not considered likely in or near the proposed ski hill. Most data indicate a preference to west-side forests by spotted owls. However, a pair has recently been verified in the vicinity of the proposed development by Forest Service biologists. Subsequent trapping, radio-equipping and radio-tracking of a spotted owl pair by Washington Department of Game has provided information on location and movement up until March 1983. Despite active monitoring and calling efforts, no responses from the known pair have been confirmed since then.

The proposed ski area is within the home range of the spotted owl pair, and may provide winter foraging and serve as a migration route between summer and winter habitat. Within the study area, the only documented occurrence is near Looney Creek during winter. It is not known if the pair of spotted owls ever nested.

Plants - There are no endangered or threatened plants known to occur on the Okanogan National Forest (Federally Listed T&E Plant Species in Region 6 - USFS, 5/81). A field survey by Washington Natural Heritage in 1979 did not reveal any endangered or threatened plants or suitable habitat in the project area. The Natural Heritage Data System (1981) shows no record of candidates for federal listing in the vicinity; however, there is potential for one candidate plant (*Valeriana columbiana*) to occur in or near the proposed site.

Importance to Wildlife - The area provides seasonal habitat to wide-ranging species such as the mule deer, black bear, mountain lion and numerous birds that are summer visitors. Yearlong habitat is provided for residents such as squirrels, chipmunks, marmots, marten and other small animals with small home ranges.

On-the-mountain features of greatest concern are those which are vitally necessary for one or more species and vulnerable to man's activities. Snags which provide nest sites for cavity nesters, solitude for secretive species like the goshawk and marten, winter areas for blue grouse, deer fawning areas and spawning beds for salmon are examples.

On private lands, the future condition of deer winter ranges which are vital to deer, and streamside habitats which harbor high numbers of many different wildlife, are of greatest concern. Approximately 35 percent of the total deer winter range throughout the Methow is on private land (Zeigler, 1978). During severe winters, deer use is usually heaviest on these lower elevation winter ranges. Likewise, large amounts of productive streamside vegetation occur on private lands adjacent to the Methow drainages.

#### Fisheries

Specifics of fisheries in and near the proposed area have also been summarized (Williams, 1981) and (Williams, 1984).

Thirteen species of fish occur either in the immediate vicinity (Early Winters and Cedar Creeks) or downstream in the Methow River. Early Winters Creek is used for spawning by spring salmon and the Methow River is used by four species of anadromous fish. Cedar Creek has primarily cutthroat trout and is considered one of the most productive fisheries on the Okanogan National Forest (Williams, 1981).

The Methow River system supports both spring and summer chinook with Coho, sockeye salmon and summer steelhead also present in small numbers. Self-sustaining populations of trout occur only in the headwaters above road access where excellent populations of small cutthroat are found. Nearly all of the major tributaries support dense populations of wild cutthroat and rainbow trout, but they are small and in inaccessible areas.

Early Winters Creek supports small, but self-sustaining populations of cutthroat, dolly varden, rainbow trout and spring chinook salmon. Low numbers of steelhead and whitefish also occur. Mediocre fishing success and relatively small fish contribute to low fishing interest. Non-game species include cottids and suckers.

Cedar Creek is one of the most productive trout streams in the Early Winters Creek system, supporting populations of rainbow and cutthroat trout, with cutthroat the most abundant. A few spring salmon probably utilize lower Cedar Creek. The heaviest fishing pressure occurs where Huckleberry Creek enters Early Winters Creek.

Looney, Little Boulder and Huckleberry tributaries do not have the capacity to support fish and flows are not great enough to impact downstream waters.

The estimated production of catchable trout is probably between 340 and 670 fish per year and could be as high as 2660 in the lower reaches of Cedar Creek and Early Winters Creek. Annual yield to human consumption is probably between 70 and 140 trout per year and possibly as high as 550. Accordingly, fishery values relating to angler days and consumptive yield are estimated between #850 and \$1670 annually, and could be as high as \$6700 (Williams, 1984).

#### Range

The Boulder Cattle and Horse Grazing Allotment takes in Sandy Butte. The range is mostly within timber types (transitory range) and the key plant species are pinegrass, Idaho fescue, green fescue and bluebunch wheatgrass. The allotment was not grazed between 1976 and 1983. It is managed under an alternate year rotation system. The grazing season is June 15 through September 30. A range analysis was completed in 1982 and a new management plan in 1983.

Based on the 1982 analysis, there were 2,771 acres of suitable range which could support 286 animal unit months. Condition class of the suitable range was 1,362 acres in fair, 1212 acres in poor and 197 acres in very poor condition. Current vegetative trend is 1,654 acres upward, 1,085 acres static, and 32 acres downward. The downward portion is an old clearcut timber harvest coming back into timber. Grazing is a compatible use of the area for downhill skiing.

#### Timber

There are 2,970 acres of the proposed permit area in Commercial Forest Land (CFL). Fifty-eight percent of these acres are in the Landscape Management Unit. These acres are part of the base on which the Forest annual potential yield is calculated. The other 42 percent of the CFL are in the Liberty Bell (scenic) classification and are not included in the base for potential yield calculation.

Assuming the continued use of the current management plans, the study area's share of timber production is about 190,000 board feet per year of the Forest's potential yield of 88.1 million (based on the 1969 Timber Management Plan).

#### SOCIAL AND ECONOMIC

The following information was abstracted from The Social and Economic Effects of the Proposed Ski Development at Early Winters; Social Impact Research, Inc., 1981.

## Zone of Influence

The greatest measurable impact will occur in the upper Methow Valley, north of Carlton. Wherever possible, data are presented for this subcounty area. The reference for economic and social information was prepared by Social Impact Research, Inc. (April, 1981).

### Economics

Overview - Economic Base - The valley was originally settled by ranchers, farmers and miners. Forest products, with logging and small mills and agriculture, were the important economic factors.

Recreation, retail trade, services and FIRE (finance, insurance, real estate) have been the rapidly expanding sectors in the valley during the last decade. Traditionally, Twisp has been the largest commercial center in the valley, although Winthrop has a long standing commercial center. Since the opening of the North Cascades Highway (State Highway 20) in 1972, tourist-oriented businesses in Winthrop and along the highway in Twisp have greatly increased in size and number. Since shop owners in Winthrop renovated their buildings in 1972 in accordance with a western theme, there has been an almost complete turnover of business ownership in Winthrop. Twisp, which had experienced its major growth in 1949-1950 when the Wagner Lumber operations were centered there, has received less direct economic stimulation from the opening of Highway 20.

Agriculture in the Methow Valley historically has been based upon ranches, some dairies, small farms and orchards. Currently orchards and dairies no longer hold the importance of the agriculture components once held. Ranching remains the major agricultural component in the Methow Valley.

Until recently, the output of forest products in the Methow Valley was confined to the Twisp mill, and a few much smaller (1 to 5 person) mills and logging. The Twisp mill, operated by Crown Zellerbach, was closed permanently in the spring of 1983. The Okanogan National Forest is a major economic force in the Methow Valley due to its direct employment and the supply of timber resources to the forest products industry.

Labor Force - The Methow Valley has recorded heavy in-migration since 1972. Unlike many other areas, the in-migration has been caused by reasons other than employment. Many people have chosen to live in the valley and then tried to adjust to the work opportunities (or lack of opportunities). For 1980, the labor force was estimated at 1776 or 48.0 percent of the population.

Employment - An analysis of the Methow Valley labor force is hampered by the lack of both historical and current site specific information, so estimates were made from a variety of sources. Seasonal worker numbers were adjusted to full-time-equivalent (FTE) employment and expressed along with other full-time employment.

The major economic sectors in the Methow Valley are forest products, recreation, government, retail trade, services, agriculture, construction and finance-insurance-real estate.

Agriculture is the only sector showing a steady decline in the number of full-time equivalent employees (331 FTE's in 1980). Between 1975-1980, the annual decrease was 2.08 percent. Between 1975 and 1980, average growth rates in forest products employment was only 0.88 percent (210 FTE's in 1980). Government employment in the Methow Valley increased at an annual average rate of 1.63 percent between 1975 and 1980 (232 FTE's in 1980). Between 1975 and 1980, retail trade grew annually by 11.78 percent (96 FTE's in 1980), services by 3.87 percent annually (86 FTE's in 1980) and recreation by 6.4 percent annually (321 FTE's in 1980). Another rapidly expanding sector has been finance-insurance-real estate, which grew annually by 11.8 percent between 1975 and 1978 (35 FTE's in 1980). Construction increased by 5.3 percent annually between 1975 and 1978 (35 FTE's in 1980). There has been a significant degree of seasonality in employment in the Methow Valley. In 1980, summer FTE employment was 18.6 percent greater than the average annual FTE employment of 1,040.

Winter FTE employment in 1980 was only 87.3 percent of the average annual wage and salary FTE employment.

Income and Cost of Living - The average annual wage in the Methow Valley was \$8,316 in 1980 and estimated per capita income was \$7,253. The per capita estimate is probably slightly low, due to the number of valley newcomers with substantial outside income sources. Per capita income in the Methow Valley is lower than the county average. Between 1975 and 1980, the average growth in per capita income in the valley actually increased at a faster rate than in the county (6.4 percent versus 3.9 percent).

The cost of living includes consideration of several elements (i.e., energy, food, housing, health care, etc.). Many of the components that influence the cost of living are established by national market conditions with differences at local levels accounting for delivery costs and demand. No survey data are available on the expenditure patterns of Methow Valley residents. Many residents feel the cost of living is lower than in many areas. The use of subsistence farming and the barter system reduce costs for some residents.

Unemployment - County unemployment data does not include separate information for areas like the Methow Valley so estimates were made by comparing the number of total employment to the estimated work force. For 1980, the estimates were 28.9 percent and 513 unemployed workers. These figures for 1980 were 17.9 percent for summer and 36.3 percent for winter. These rates undoubtedly overstate unemployment, especially when compared to the county data on covered employment which show unemployment at 12.9 percent in 1979. Unemployment in the Valley is probably overstated because county rates only apply to those eligible for unemployment insurance, high levels of seasonal work goes uncounted in the Methow Valley, self-employed people in the Methow often go uncounted and labor exchanges in the Valley go unrecorded. However, unemployment levels still remain high because

in-migration has occurred faster than jobs are created. Since publication of the DEIS the sawmill in Twisp, one of the largest single employers in the Valley, was closed, with no plans to reopen and give reason to support the estimated higher unemployment rates in the Methow Valley compared to County levels.

Opportunities for Women and Minorities - Personal communications indicate that the female participation rate in the Methow Valley has increased substantially over the past five or six years. Many of the new positions in retail trade, services and recreation have been filled by women. An increasing number of women are also engaging in small scale home occupations.

Males fill almost all of the positions in the forest products, construction and agriculture sectors. They also fill the majority of positions in finance-insurance-real estate and in some sectors of government, including the Forest Service.

Welfare Amounts and Characteristics - The county generally records relatively high levels of public assistance expenditures. A 1974 Washington Department of Health and Human Services survey reported that the Methow Valley had a proportionately lower share of public assistance than did the rest of the county. In 1974, the valley comprised 11 percent of total county population, but had only 5.7 percent of the public assistance cases.

#### Demographics

Permanent Population - Until recently, the Methow Valley was sparsely populated. The 1970 population was 2,629; 43 percent of whom lived in either Twisp (population 756) or Winthrop (population 371). The remaining population was scattered throughout the valley. With the opening of the North Cascades Highway in 1972, the Methow Valley attracted relatively large numbers of new residents. Between 1970 and 1980, according to 1980 Census information, the population of Twisp increased by 20.5 percent and that of Winthrop by 11.5 percent, to 921 and 413, respectively. The population of the unincorporated area was unavailable, but was estimated to be 2,663 people. The total 1980 population for the Methow Valley is 3,987. The 1980 population size is a 52 percent increase over 1970 and the average annual rate of increase during the decade was about 4.3 percent.

Seasonal Population - There were an estimated 541 seasonal residents in 1975. By 1978, the number of seasonal residents increased to 843, based on an estimated 2.5 persons per household. The increase in seasonal residents was 15.9 percent per year during this three-year period. In addition, visits were five times more likely in the summer than in the winter. In 1975, total owner use days on a monthly basis ranged from 680 in August to 144 in December.

Age and Sex Characteristics - In 1970, the median age in the valley was 32.7, slightly older than the county median of 31.7. Due to the influx of newcomers to the Methow Valley in the 1970's, the age structure of the area has changed. It is estimated that there are now proportionately fewer children and more young adult residents than there were in 1970 - males slightly outnumber females.

Family Characteristics - Consistent with national trends, the household size in the Methow Valley has been steadily decreasing from 2.98 in 1970 to an estimated 2.5 in 1980.

Minority Population - By 1980, there were 7 Blacks, 45 Native Americans, 8 Asians, 39 Hispanics and 27 other minorities living in the valley.

Population Density and Distribution - Most residents of the unincorporated areas live in the river valleys of the Methow, Chewack and Twisp Rivers and their tributaries. The density in the incorporated areas is about 2,507 per square mile. The population density in the unincorporated area (2,368 people on approximately 129 square miles) is slightly over 18 people per square mile. Population density in the State of Washington in 1978 was 189 people per square mile of private land.

Population Mobility - Since the influx of newcomers during the 1970's, there has been considerably more mobility, particularly among newcomer group members.

#### Housing and Land Values

Housing - The Okanogan County Electric Cooperative estimates 420 seasonal housing units in 1980. Added to year-round estimates yields an estimated total of 1,952 housing units in the Methow Valley in 1980. The proportion of mobile homes has been increasing with an estimated 288 in 1980, or 14.8 percent of the housing stock. Multi-family units numbered 46 in 1980, or 2.4 percent of the housing stock. The remaining 82.8 percent of the housing stock are assumed to be single-family houses. Single-family houses number an estimated 1,618 units. There are low vacancy rates on the year-round housing stock at an estimated 4.34 percent in the county and 3.37 percent in the valley in 1980. The total number of tourist beds in 1980 is estimated at 599. The average annual increase in tourist beds between 1976 and 1980 is 0.34 percent. Between 1970 and 1980, the average annual rate of change was over six percent per year. The effect of the North Cascades Highway on tourism is expected to diminish over time. Therefore, the average annual increase in tourist beds registered in the Methow Valley between 1976 and 1980 was assumed to better reflect the long-term average annual rate of change.

Land Values - Land values in the entire upper Methow Valley rose sharply in the 1970's.

Five-acre lots around Winthrop currently cost \$3,000 to \$4,000 per acre; near Twisp such lots cost \$3,000 per acre. Small lot prices in the Carlton area recently increased to where they were almost comparable to those of the Twisp area. River frontages in all areas are much more expensive.

Since 1974, the land around Mazama has increased in price even more sharply than in the rest of the valley. By 1980, five-acre plots cost between \$5,000 and \$7,000 per acre around Mazama. Recent transactions have included relatively undeveloped lots that sold for up to \$10,000 per acre.

Lot prices in recreational subdivisions range from \$7,000 to \$20,000. Most of these are located in the Winthrop-Mazama area, and have some improvements (roads, water, etc.).

### Social Factors

Based on primary field work by Social Impact Research (April, 1981) in the Methow Valley and analysis of the available secondary data, four main social groups were identified. Long-time Residents, Mainstream Newcomers, Alternative Lifestyle Newcomers and Seasonal Residents. The following sections profile these four groups, examine intra-group interactions and then examine inter-group interaction patterns.

### Long-Time Residents

Long-time residents are those residents who were either born in the valley or have lived there 25 years. There are two major sub-units to this group, the Methow Valley Natives and the Established In-migrants. Methow Valley Natives are closely inter-related by kinship ties. Established In-migrants are residents who have lived in the valley for at least 25 years. The two groups have very similar attitudes and values, and the social integration was accomplished rather easily.

Long-time Residents are the largest single group in the Methow Valley and are represented in all the economic sectors. The great majority of forest products workers are Long-time Residents, as are almost all of the larger ranch owners. Long-time Residents are represented in all age groups in the valley, including virtually all of the elderly population. They also make up the majority in the 40 to 65 year age groups. Proportions in the younger age groups are less due to the lack of employment opportunities and the need to go elsewhere to find jobs.

Members of this group tend to be relatively stable residentially, particularly during their child-raising years.

### Intra-Group Interactions

Social Interaction - Kinship and community ties are strong and enduring. Membership in service and civic organizations is also important. Other formal organizations with social functions are the churches and the schools; school sports events are always very well attended.

Much of the social interactions are informal. There is much visiting of friends and family, particularly during the winter. Much of the social interaction is inter-generational.

Political Interaction - Until very recently, the great majority of Long-time Residents were Democrats. Recently they have become more politically diverse.

Economic Interactions - Long-time Residents make an effort to purchase goods from local merchants whenever possible.

There is considerable economic cooperation among the group members. Helping neighbors and friends is important.

#### Mainstream Newcomers

The Mainstream Newcomers make up the bulk of the recent in-migration and they have attitudes and values generally similar to those of the Long-time Residents. They were attracted to the area by the rural atmosphere, the congenial social and political climate and the possibility of earning a sufficient livelihood.

The age distribution of these in-migrants is concentrated in the 40 to 60 year age group with some in their 30's and a small fraction of retirees in their 60's. Many of the younger Mainstream Newcomers share so many of the characteristics of the Alternative Lifestyle Newcomers that the two social groups merge somewhat. The majority have moved directly from western Washington, although frequently they were originally from other parts of the country, especially California. While some of these people live in towns, the great majority live in the unincorporated areas, usually on small acreages.

#### Intra-Group Interactions

Social Interaction - The Mainstream Newcomers group is the least cohesive of the three groups in the valley and includes numerous small social interaction sub-groups. Most of the social interaction is informal; shared leisure activities such as hunting and snowmobiling are important, particularly among the men. Visiting is also important, especially during the winter. A large proportion of the group maintains active social ties outside the valley.

Political Interaction - The majority of the Mainstream Newcomers hold fairly conservative political views, but most would not consider themselves as politically active. As in many rural areas, voting participation is relatively high.

Economic Interaction - Mainstream in-migrants earn their livelihood through a variety of means. Except for farming, Mainstream Newcomers are engaged in all economic sectors of the valley. Almost all of the merchants in Winthrop are Mainstream Newcomers. Positions in local government, the Forest Service, and at the mill have been taken by other members of this group. Some Mainstream Newcomers move to the valley without knowing how they would earn their livelihood. Some were eventually forced to leave for economic reasons.

#### Alternative Lifestyle Newcomers

Many well educated, generally urban young people moved to the valley during the 1970's seeking a simplified lifestyle. Almost all have had at least some college education; many hold advanced degrees. These group members have settled in most of the rural areas of the Methow Valley, and some have ventured to remote areas, particularly those pursuing "back to the land" living. Preservation of the environmental attributes and rural atmosphere of the valley are important considerations for group members.

### Intra-Group Interactions

Social Interaction - For the most part, Alternative Lifestyle Newcomers have the great majority of their social interactions within their own social group. Most group members are part of informal support systems which value work exchanges, recreational activities, mutual assistance or shared attitudes and values about issues. Most group members retain strong social ties outside the area, and some regard friends and kin in the Puget Sound area as part of their active social support system. Few of the group members have any kinship ties in the valley.

Political Interaction - Many Alternative Lifestyle Newcomer group members are politically sophisticated and were political activists in the 1960's and 1970's. Group members are generally not active in local politics, and are unlikely to become members of established political parties. A substantial proportion of group members are generally apolitical. Others become active in response to important environmental issues.

Economic Interaction - Labor exchanges and barter are common types of economic transactions. Many group members try to direct their economic activities toward other members of their group. They are also more likely to have economic interactions outside the valley than are other groups. Some derive their livelihood from agriculture, frequently at a subsistence level. Others have part-time or temporary jobs in construction work, carpentry and Forest Service crews; waitressing and other recreation industry jobs. Most group members have consciously reduced their standard of living and their work schedules. The average income level of most Alternative Lifestyle Newcomers is well below the average for the valley.

### Seasonal Residents

The number of Seasonal Residents has increased rapidly during the period 1970 to 1980. At the beginning of the decade, there were about 100 seasonal properties in the Methow Valley. By 1980, this had increased to about 400, or four times the earlier number. The total number of Seasonal Residents would include household members and at the current time this may be as much as 1,200 people or almost one-third as many people as the permanent population. The visits of the Seasonal Residents tend to be somewhat spread out however, so they never reach their full potential numbers at one given time.

### Intra-Group Interactions

Social Interactions - The Seasonal Residents are temporary visitors whose main social relationships are maintained at their permanent residential location.

Political and Economic Interactions - Seasonal Residents are seldom active in local politics or public issues.

### Current Group Interaction Patterns

The main bases for interaction among the four groups are: 1) economic (employment, trade and services), 2) political, 3) formal social organizations (traditional social forums such as churches, schools and clubs), and 4) informal social organizations (family and kin or personal relationships). These areas of group interaction are discussed below.

Economic - The great majority of businesses in Winthrop are owned by Mainstream Newcomers and are at least partly oriented to serve seasonal visitors, especially summer tourists.

Business ownership in Twisp is more diverse and includes both Long-time Residents and Mainstream Newcomers. Only a small number of Alternative Lifestyle Newcomers operate businesses in or near the two towns.

Most valley residents actively patronize local businesses. The major expansions of business in the last decade have been due to the tourist trade and the population increase (mainly in-migration). While there was some resentment of the Alternative Lifestyle Newcomers by local businessmen in the past, there is little current evidence of intergroup difficulties.

Employment of Mainstream Newcomers is most noticeable in the local retail businesses, although some are also employed in areas such as government, schools, industry and services. The Alternative Lifestyle Newcomers are often engaged in seasonal work for the government, in tourist-oriented businesses and temporary positions. Only a few have gone into operation of their own businesses. Therefore, the most common economic interactions of Alternative Lifestyle Newcomers with the other two groups are as customers or employees, rather than as peers. The economic position of the Mainstream Newcomers with the Long-time Residents is a more equal one in economic terms, and in several areas such as retail trade in Winthrop, the Mainstream Newcomers dominate.

The Seasonal Residents are important as customers for both the trade and service sectors of the local economy.

Political - Overall, the political interactions of the area are mainly left to the Long-time Residents and the Mainstream Newcomers who are concerned with local public affairs and national politics through the usual two-party system. Seasonal residents are hardly involved in the political interactions at all, and the Alternative Lifestyle Newcomers are primarily issue-oriented with their greatest concerns being environmental issues.

Formal Social Organizations - Long-time Residents and Mainstream Newcomers have tended to become more accepting of people with different social values and styles of life. The Alternative Lifestyle Newcomers have tended to become more involved in community affairs and appear as more "hard working" than was the case to begin with. They are generally more visibly engaged in their jobs, constructing their homes or earning a living. Since "hard work" is a primary standard of valuing people, this improved image of the Alternative Lifestyle

Newcomers has helped to improve their integration into the Methow Valley social structure. In spite of the signs that newcomers (both the Mainstream and Alternative Lifestyle groups) are beginning to achieve an acceptance within the social structure, there are important distinctions made. Old attitudes toward the people in other groups often remain. Intergroup differences are expressed, based upon different values in regard to family life, work habits, land use or religious affiliation. Local people feel that there is a significant amount of difference and dissent between groups.

Informal Social Organizations - The strong family, kinship and friendship ties of the Long-time Residents were very important elements in the traditional patterns of social interaction.

The Mainstream Newcomers did not have the family and kin ties that were common for the Long-time Residents. Some maintained relatively close contact with family members who were located in nearby urban areas, especially those located in the Puget Sound region. This tendency to develop additional informal social contacts appears to have had some role in the active participation of Mainstream Newcomers in community life.

The Alternative Lifestyle Newcomers tended to remain quite distinct from the established social structure at both the formal and informal levels. As was the case for the Mainstream Newcomers, members of this group often maintain long distance contact with friends and relatives in the areas of their former residences.

The Seasonal Residents maintain their most important informal social ties at their permanent residential locations. In most cases, they are much like tourists who spend a week or more in the area, the difference being that they may stay somewhat longer and return at regular times.

## OTHER RESOURCES

### Visuals

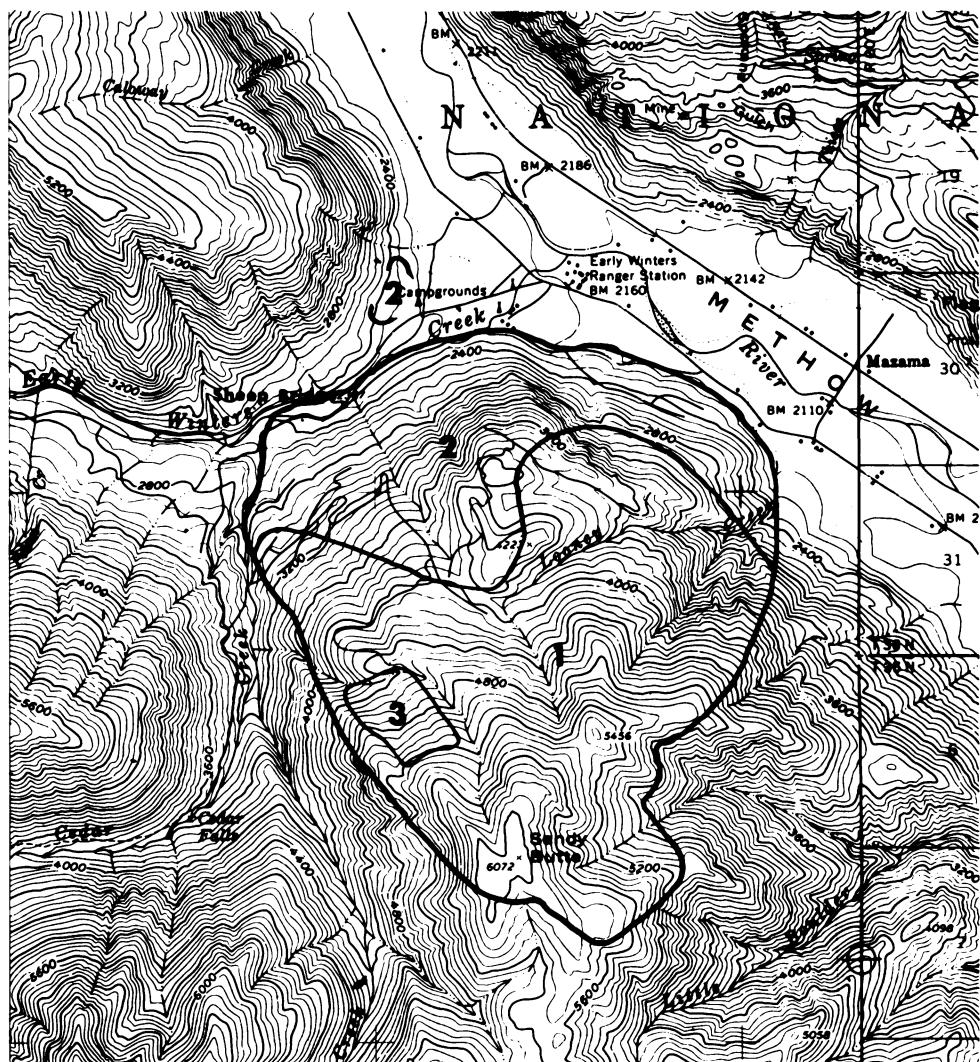
Current use on Sandy Butte is primarily dispersed recreation and timber management. A 1964 clearcut on the northwest facing slope does not match any of the natural openings as seen from the highway.

Past timber harvesting has reduced the visual texture of the timbered hillside. Some soil areas can be seen, but these areas are small, with the existing trees providing shadow patterns on the ground. Early fall and late spring snow outline these small created openings.

Some patterns (form) have been created by past harvesting. These add some variety to an otherwise even-textured hillside. These patterns would be expanded if harvest increases. Existing visual conditions are shown in Figure 10.

The Forest Service Visual Resource Management (VRM) System is used to map Sandy Butte by "Quality Objectives" (Figure 11).

**Figure 10 Visual Condition — Existing**

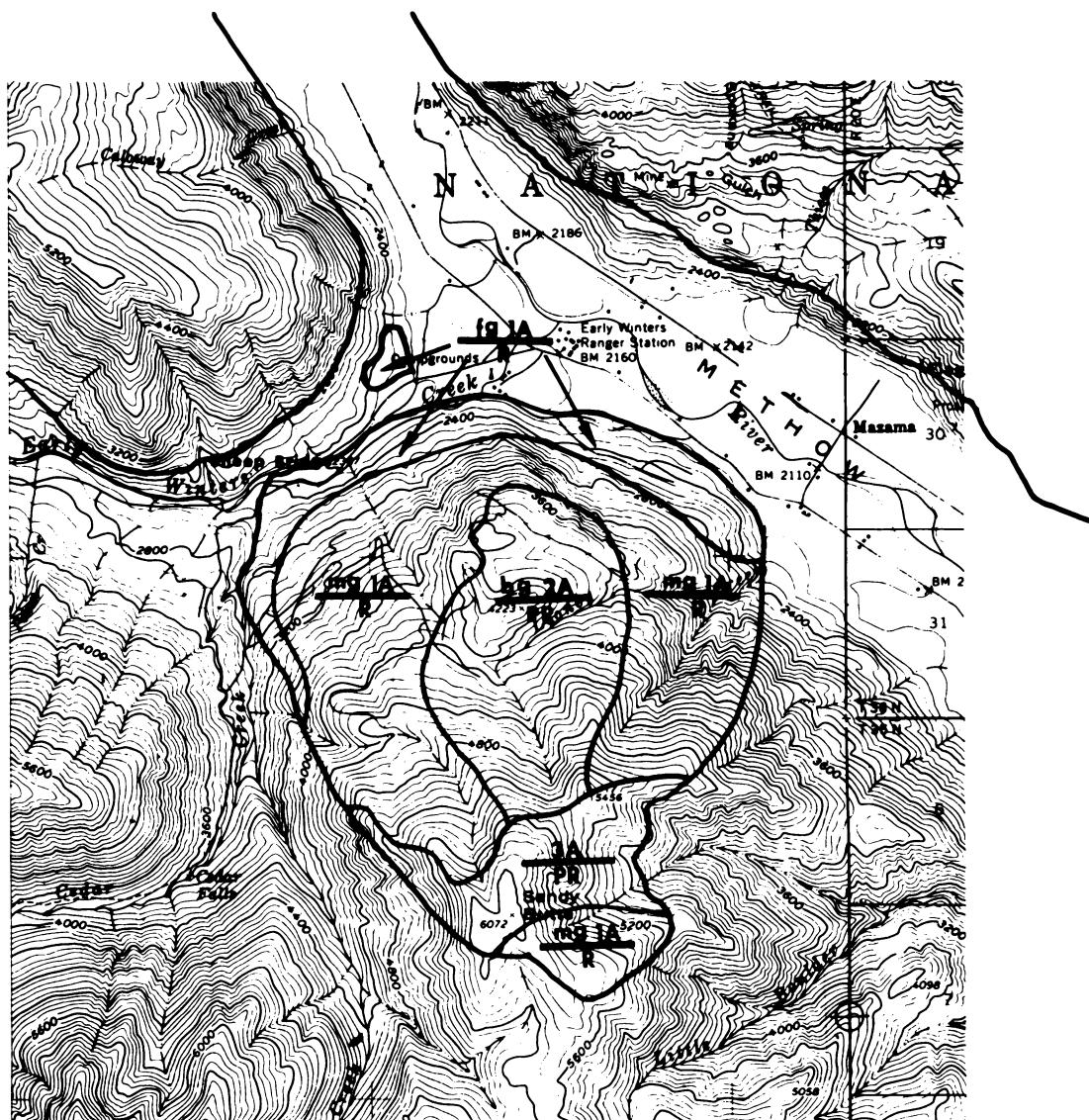


**LEGEND**

- 1 — Natural Appearing
- 2 — Visually Subordinate
- 3 — Modified

Scale 1 Inch = 1 Mile

**Figure 11 Visual Quality Objectives (Existing)**



#### LEGEND

##### Acres by class

3A	sensitivity level — 3, variety class — A	- 396
PR	visual quality objective — partial retention	
fg 1A	fore ground, sensitivity level — 1, variety class — A	- 581
R	visual quality objective — retention	
mg 1A	middle ground, sensitivity level — 1, variety class — A	- 2029
R	visual quality objective — retention	
bg 2A	background, sensitivity level — 2, variety class — A	- 869
PR	visual quality objective — partial retention	3875

Scale: 1 Inch = 1 Mile

The "Base Area" and surrounding lands are situated at a visual transition along the North Cascade Scenic Highway. This highway presents the traveler/visitor an ever-changing landscape. Traveling west, visitors leave a rural agricultural community and enter a U-shaped valley typical of the North Cascades. Valley walls to the north are steep and open, with mixtures of grass and timber patterns, interspersed with rock outcroppings. This mixture of rock with grass, trees and shrubs weaves an interesting visual pattern. On the south side of the highway, the slopes are timber covered, with areas of rock showing through. The overall background is rocky crags and snow capped peaks. Generally, a landscape high in scenic qualities is also high in scenic variety.

#### Cultural Resources

Investigation of Forest Service land inside the project boundary has not located any historic or archaeological sites on Sandy Butte.

A Cultural Resource Overview has been prepared by Bennett, 1979. Her work and literature review indicated that cultural sites were not present within the project boundary. Rice (July, 1976), in his investigation of Sandy Butte, did not locate any sites. Also, Fredin (March, 1980) did not indicate any historic or religious sites at the project. The Forest's Cultural Resource Technicians in their work on Sandy Butte, have not located any indications of historic or archaeological activity.

All cultural resource information was transmitted, as required, to the State Historic Preservation Officer for evaluation. They concurred with the Forest Service that there are no cultural resources on Sandy Butte.

The Colville Confederated Tribe (CCT) were contacted concerning information in conjunction with the American Indian Religious Freedom Act. Contact between the Forest Service and the CCT History Department indicated no Native American Indian religious sites on or near Sandy Butte.

#### Land Use and Regulation

Current Land Use Patterns - The Okanogan National Forest surrounds the Methow Valley for several miles to the east, north and west. The study area (which corresponds to School District #350 boundaries) includes approximately 130 square miles of privately owned land north of Carlton.

The Methow Valley is mostly rural, with Twisp (population 921) and Winthrop (population 411) the only incorporated towns. Carlton and Mazama are tiny unincorporated villages with few residents.

There are some agricultural land uses, ranches and a few acres of orchards.

Due to the generally sparse settlement patterns, a visitor's initial impression of the valley would be that of considerable open space. Closer examination reveals that much of the land is already subdivided. Most rural nonfarm houses are located along county roads and include small acreages (five to twenty

acres). Many homes near Twisp and Winthrop are on even smaller lots. As of 1977, the buildout rate was 7.6 percent of all platted lots in subdivisions. This is because most of the subdivisions are primarily recreational. The majority of owners of recreation property have not developed their land. Increasingly, subdivision lands are being held as financial speculations.

Commercial activity in the Methow Valley is largely confined to Twisp and Winthrop. Despite the heavy tourist usage of Highway 20, there is very little highway strip commercial development in the unincorporated areas.

The Methow Valley also has small commercial zoned areas at Carlton and Mazama.

Zoning and Regulation - Management of National Forest land is directed by the Winthrop Ranger District Multiple-Use Plan (MUP), completed in 1968 and revised in 1970. Specific management direction within the MUP is provided for the Sandy Butte project area by two "Management Units." The eastern portion of Sandy Butte is located in a "Landscape Management Unit" and the western portion is located in the "Liberty Bell Management Unit." (See "Alternatives in Detail," page 8.)

The basis for planning and zoning in the Methow Valley comes from two documents; the Comprehensive Plan for Okanogan County, 1964 and the Methow Valley Plan: An Addendum to Okanogan County's Comprehensive Plan, 1976. The Methow Valley Plan superceded the County Comprehensive Plan as the primary planning document for the Methow Valley.

The Methow Valley Plan is the result of extensive community involvement in the development of future planning and land use goals for the Valley.

Okanogan County's Zoning Ordinance 79-8 is the main zoning document for the County. Along with the Short Subdivision Platting Ordinance 74-3, Platting Ordinance 70-2 and the Master Program for Okanogan County Shorelines. These documents provide for nearly all land use concerns in the Methow Valley.

Zoning ordinance 79-8 defines several districts to facilitate planning efforts. The majority of the County lies in the "Minimum Requirement District" which allows for nearly any type of land use.

The Methow Valley (School District #350), due to its unique nature and potential for large scale recreational development, has been separated from the rest of the County and is in the "Methow Review District." The purpose of this district is to protect the sensitive environmental, aesthetic and economic qualities of the valley by allowing residential, commercial, industrial development and land subdivision only after thorough review and with the imposition of standards so comprehensive planning goals are met. Within this district there are three other districts; a Special Highway Commercial Review District near Mazama, a Commercial District for portions of the community of Carlton and an Industrial District adjacent to the southern boundary of Twisp.

Residential development is defined by four density classes: 1) 3.5 dwelling units per acre; 2) one dwelling unit per acre; 3) one unit per five acres; and 4) one unit per 20 acres. The higher density areas (3.5 units per acre and one unit per acre) are located adjacent or close to Twisp and Winthrop. The remainder of the land on the valley floor is designated for one unit per five acres. This density may be increased up to 100 percent if site evaluations indicate that a higher density will not create ground water pollution problems and may go higher if open space or green belt areas are provided within subdivisions. Where applicable, this would increase the density to one unit per 0.8 acres. Lands above the valley floor are zoned for one dwelling unit per 20 acres.

Within these residential classifications, tourist accommodations are generally prohibited. Tourist accommodations are divided into three types. Type A tourist accommodations (available to the public on a night-by-night basis, i.e., Motels), are prohibited. Type B accommodations, which provide on-site recreational or educational opportunities to guests (i.e., dude ranches), and Type C accommodations (vehicle and tent campgrounds) are allowed in conjunction with a planned unit development, which is described below.

The planning and zoning restrictions confine most commercial uses to the Twisp, Winthrop, Mazama and Carlton areas. Commercial development in the Mazama vicinity is allowed on a case-by-case basis under a Special Review Highway Commercial Zone. Type A tourist accommodations are prohibited within the Methow Review District. Type B and C accommodations are allowed by planned unit developments.

The Okanogan County Zoning Ordinance establishes a supplemental zoning category known as the Planned Unit Development (PUD). The ordinance states that the purpose of the PUD is "to encourage the total planning of development consistent with the comprehensive planning policies by achieving flexibility from customary platting and zoning standards. The intent is to avoid rigidity associated with traditional approaches to land use and permit the applicant and the zoning authority to tailor development designs to a particular tract of land." (Zoning Ordinance, Section 20.01.) Two types of PUD's are allowed by the zoning ordinance, single use and multi-use.

The single-use PUD is for development of uses allowed or conditionally allowed in the underlying zoning districts. Density bonuses are available for residential PUD's which provide open space or otherwise preserve natural features. Commercial or industrial single-use PUD's are eligible for development incentives relating to minimum lot sizes, height, bulk, set-back, and parking requirements.

The multi-use PUD category provides for "recreational, agricultural, commercial, industrial, cultural, and institutional developments which require a mixture of uses" and which encompass a level of population and range of services which "cannot be effectively managed by traditional single-use zoning categories and rural development regulations." (Zoning ordinance, Section 20.03). A multi-use PUD must include or be adjacent to an "economic generator" of "sufficient scale to support and justify a new population center in the county." A multi-use PUD may contain

"a full range of mixed uses required to allow the development to become economically and culturally self-sufficient," provided that the uses are approved by the Planning Commission, and are consistent with the County's comprehensive plan. The site for a multi-use PUD must consist of contiguous privately-held land under single ownership.

The zoning ordinance requires that PUD's meet certain development standards, including adequate water supply, on-site waste treatment systems, least possible impact on key or critical wildlife habitat, minimum visual damage to the natural terrain, streams, vegetation and natural characteristics of the landscape, compatible architectural and building clusters, minimum 30% open space (which would include environmentally sensitive areas, agricultural lands), minimum negative impacts on ambient air quality, non-degradation of existing water quality, and provisions to accommodate transportation and other public service demands created by the proposed development.

Finally, all subdivisions and PUD's should be consistent with the county comprehensive plan. Several policies in the plan for the Methow Valley would discourage sprawl and encourage orderly, planned, development. For example, Subdivision and Residential Development Policy 1 is to "encourage residential and second home development to locate in proximity of existing community facilities and services." Policy 5 is to "retain large amounts of open space." Policy 9 is to "insure that residential developments have minimal fiscal impacts in terms of providing community facilities and services."

The State Environmental Policy Act (SEPA) also furnishes the basis for the county to exercise control over development. SEPA requires the county to consider environmental impacts and alternatives before granting any land development approvals or permits, including rezoning, and to adopt mitigation measures which help avoid or minimize adverse impacts. Thus, for any particular development identified impacts may be avoided by adopting alternatives or conditioning permits to mitigate the adverse effects. In this respect, the requirements of SEPA may be used in conjunction with the county's land use policies to control off-site development impacts.

Prime and Unique Farmlands - Approximately 640 acres of prime and unique farmland (as defined by Department of Agriculture Regulation 9500-3) occurs in small parcels in the flood plains in the Upper Methow Valley. The parcel nearest Sandy Butte and the "Base Area" occurs about 2.5 miles south of Winthrop.

#### Recreation

The many attributes which attract recreationists to the upper Methow Valley and Sandy Butte areas include the scenic North Cascade Mountain Range with its many rivers and streams. Also, tourists are attracted to the North Cascades Highway, Pacific Crest National Scenic Trail, the Pasayten Wilderness, the newly established Lake Chelan-Sawtooth Wilderness, and the Methow Valley. Although the main recreation season is from May through September, significant wintertime use occurs in the more accessible areas.

Camping and driving for pleasure are popular activities, along with hunting and hiking on the numerous trails.

Within the Winthrop Ranger District (includes Sandy Butte area) there are over 25 various developed recreation sites, including campgrounds, picnic sites, observation sites, trailheads, a visitor center and a summer home site. These sites can accommodate approximately 1,275 people at one time (PAOT). These sites are generally located in the Highway 20-Harts Pass corridor and the Chewack River drainage. In 1980, approximately 175,000 visitor days use occurred at developed recreation sites on the Winthrop District.

Dispersed recreation, including such activities as driving for pleasure, hiking, hunting, fishing, etc., accounted for 360,000 visitor days use in 1980. Most of the dispersed recreation takes place either on roads and trails or adjacent to them.

A marked increase in recreation use occurred with the opening of the North Cascades Highway in 1973, 49.6 percent over that of 1972. A trend of increased recreation use has been established through 1980, but at a somewhat lesser pace than the 1972-73 comparison. Wintertime activities have been increasing at a faster rate than those that occur in the summer season.

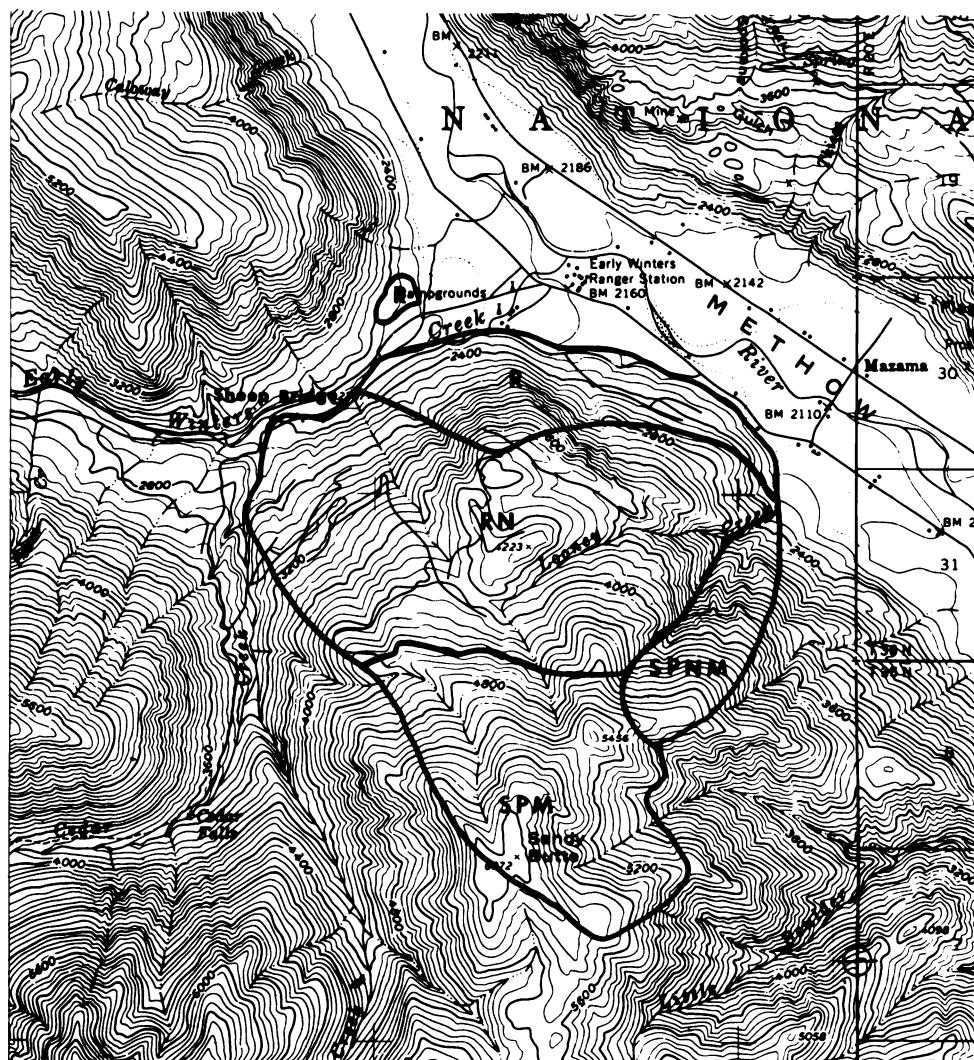
Recreation and tourism has become increasingly important to the economic base of the Methow Valley (Social Impact Research, Inc., 1981). This is demonstrated by increases of tourist-oriented businesses in Winthrop and increases in the recreation job sector. Private recreation businesses in the Methow Valley include campgrounds and outfitter-guide services for rock climbing, hunting, river rafting and horseback riding.

There are no developed recreation facilities located within the proposed project area on Sandy Butte. Although the amount of recreation use can not be isolated from District reports, use can be considered moderate for dispersed recreation activities. The area is used by one outfitter-guide permittee for horseback riding and hunting trips.

The potential recreation opportunities on Sandy Butte vary due to the setting, activity and experience opportunities. These characteristics have been inventoried through a system called the Recreation Opportunity Spectrum (ROS) (Figure 12). The range of recreation opportunities present indicates the type of experiences that can be expected in different areas. An explanation of categories are included in Appendix C.

The Methow and Chewack Rivers are listed on the Nationwide Inventory of Wild and Scenic Rivers. Of the total 121 miles inventoried; 45.5 miles are on National Forest and 75.5 miles off National Forest. Of the 45.5 miles on National Forest, 25.5 miles are classified as Wild and 20.0 miles are classified as Recreational. The entire length of the rivers off National Forest are classified as Recreational.

**Figure 12 Recreation Opportunity Spectrum (Existing)**



#### LEGEND

##### Acres by class

R	— Rural	— 520 acres
RN	— Roaded Natural	— 2005 acres
SPM	— Semi-primitive Motorized	— 1120 acres
SPNM	— Semi-primitive Non-motorized	— 230 acres

Scale 1 Inch = 1 Mile

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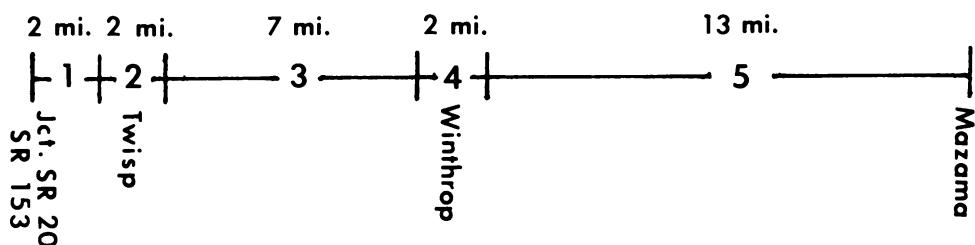
## Transportation

Highways (Methow Valley) - The main road into the Upper Methow Valley is the North Cascades State Highway (SR-20) which crosses the mountains west of Mazama (Figure 1). It connects Winthrop and Twisp in the valley and joins US-97 at Omak. South of Twisp, it connects with WA-153 which serves the lower Methow and, in turn, joins US-97 south of Pateros on the Columbia River.

During the winter months, the North Cascade section of SR-20 is closed at Early Winters. Access to the Methow Valley remains available from the south by WA-153, and from the east by SR-20. Travelers from Seattle normally use other passes further south and such trips take about six to seven hours, depending upon road conditions. Spokane visitors can take several routes to the Methow Valley. Such winter trips take five to six hours, depending upon road conditions. Travel to Winthrop from Wenatchee takes 2.5 to three hours with normal driving conditions.

Highway Capacities - Figure 13 schematically illustrates the SR-20 access links to Mazama from the south, followed by a description of some of the characteristics of each link (TDA, November 1982).

Figure 13 - LINK SCHEMATIC



Source: TDA

Link 1 This link between the junction and Twisp could accommodate approximately 6,600 vehicles per day (VPD) in both directions combined, based on an average running speed of approximately 35 to 40 miles per hour through rolling terrain.

Link 2 Passing through the Town of Twisp currently requires slowing to approximately 25 miles per hour. With no traffic control devices added in the future, this section of roadway could accommodate approximately 5,000 vehicles per day. There is some interference from roadside activities. Potentially, this section of roadway could be widened to four lanes; however, this would require widening of bridges if substantial capacity gains were to be made.

Link 3 The section between Twisp and Winthrop is generally rolling with some sight distance restrictions. Shoulders are poor, with several small concrete bridges. Typically, 6,000 VPD in both directions could be accommodated in this area. Average running speed would again be about 35 to 40 miles per hour.

Link 4 SR 20 is currently controlled by a "Yield" sign in the Town of Winthrop. Current summer volumes already overload this intersection which can handle approximately 4,000 VPD.

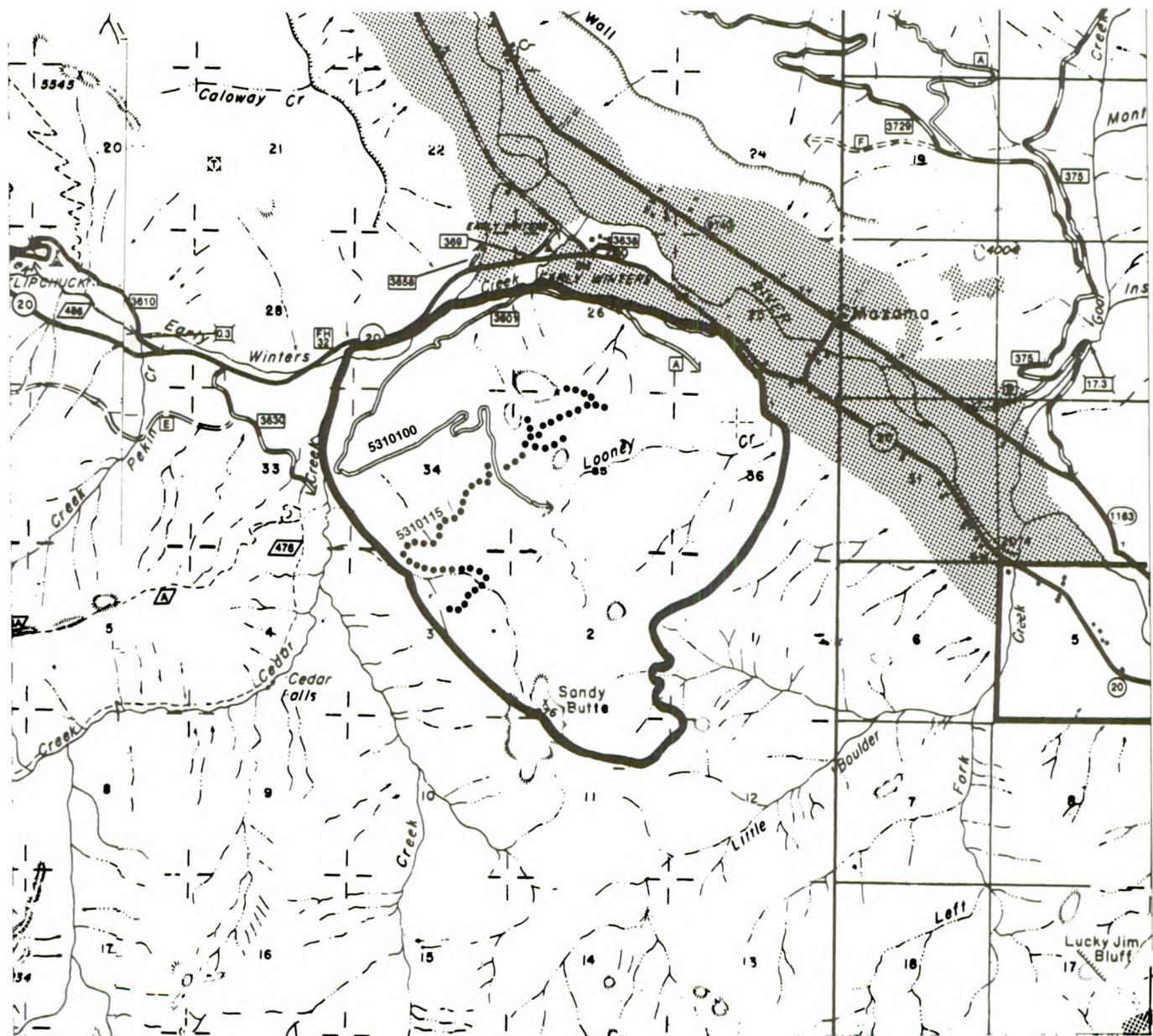
Link 5 The current roadway between Winthrop and Mazama is a low-speed road (posted 40 MPH speed limit) with considerable sight distance restrictions in some areas. Both shoulders and pavement conditions are poor. This section could accommodate approximately 6,000 VPD with average operating speeds of around 35 MPH. The Weeman Bridge, an old one-lane crossing over the Methow River, is presently being replaced with a new two-lane structure.

Table 4 summarizes hourly and daily capacity for these links and compares them to 1981 average daily traffic volumes (ADT).

Table 4 HIGHWAY VOLUMES

LINK	DESCRIPTION	TYPICAL HOURLY CAPACITY	TYPICAL DAILY CAPACITY	1981 ADT
1	Jct. SR 20 and SR 153 to Twisp	1,100 VPH	6,600 VPD	2600
2	Twisp	800 VPH	5,000 VPD	3300-3400
3	Twisp to Winthrop	1,000 VPH	6,000 VPD	2300
4	Winthrop	500 VPH	4,000 VPD	3500
5	Winthrop to Mazama	1,000 VPH	6,000 VPD	1500

**Figure 14 Transportation System on Sandy Butte**



**LEGEND**

Permanent Logging Road —————  
Short-term Logging Road ..... .

Scale 1 Inch = 1 Mile

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One area of concern that exists in regards to traffic volumes is a constriction of traffic on Highway 20 through Winthrop.

Planned roadway changes to the SR 20 Corridor which may increase capacity are listed below, along with the current status of these proposed projects:

Highway 20 in the area between the proposed site and Twisp is scheduled for various improvements aimed at upgrading the quality and design of the highway. These improvements may result in an increase in speed limit for some sections of the highway, and in some cases may result in a slight capacity increase.

Construction of a new highway link to bypass the City of Winthrop has been discussed in the past by WSDOT. However, current information indicates funding has not been approved for this project and is not expected to be in the near future, resulting in either indefinite delay or cancellation of the project.

On-Site Transportation System - The approximately 10 miles of roads existing on Sandy Butte are shown in Figure 14. Forest Roads #5310100 and #5310115 make up 7 miles of permanent, single lane logging roads. Approximately three miles of short-term logging roads are located in sections 3 and 35.

There are no designated or maintained hiking trails within the proposed development area. A trail, formerly used as a sheep driveway and no longer maintained, runs from Sandy Butte Summit northwest to Highway 20.

Airport Facilities (Table 5) - Intercity Airport, previously owned by the Forest Service for use as a smokejumper base, has been recently acquired by the Washington State Department of Transportation (WSDOT). This airport, four miles southeast of Winthrop, in addition to its use as a smokejumper base, receives some use by the public. The paved runway is 5050 feet long. Ground facilities are limited; beacon and runway lights are operated only on request. No other navigation aids are available. The runway is not plowed during the winter months. The airport is located in a mountain valley with surrounding terrain limiting the directions of approach.

Other area airports include the Omak Airport, Anderson Field at Brewster, the Chelan Municipal Airport and Pangborn Field at Wenatchee. Although these airports generally serve small and large propeller driven airplanes, corporate-type jet traffic have used the facilities. Pangborn Field is currently the only airport with scheduled commuter service. Scheduled flights serve Seattle, Spokane, Yakima, and Portland. A very substantial increase in the number of enplaned passengers has occurred since 1973 when Cascade Airways initiated service at Wenatchee. From 1974 to 1979, enplanements have increased at an annual rate of approximately 18 percent.

Hills to the north and south of the Chelan Airport present obstructions to navigation which require special attention when in the runway area. Anderson Field and Omak Airport have resident managers and mechanics available.

Radio navigation aids in the Okanogan Valley are limited to a nondirectional beacon at the Omak Airport. There are no navigation aids at Intercity Airport in the Methow Valley.

The Washington State Department of Transportaion, Division of Aeronautics has asked for bids from consultants to complete a master plan for Intercity Airport. The master plan is scheduled for completion in 1984.

Bus Lines - At the present time, the Empire Lines bus company serves Okanogan County. Travelers from Seattle can take a Greyhound bus to Wenatchee and then transfer to the Empire Lines bus. The main bus route is from Wenatchee along US-97 through Chelan, Brewster, Okanogan, Omak and Tonasket. There is no bus service in the Methow Valley. Empire also provides service from Spokane to Brewster and on to Wenatchee.

Rail Service - The nearest AMTRAK passenger service is at Wenatchee. Trains between Seattle and Spokane provide regularly scheduled service. Due to the distance of nearest service, rail would not be expected to provide significant access to Early Winters. The nearest freight service provided by Burlington Northern is in Pateros, 60 miles from Mazama. Burlington Northern anticipates no planned changes to rail service.

TABLE 5  
Local Airport Locations and Services

	Paved Runway Length	Fuel	Based Aircraft (1981)	Driving Time to Early Winters	Air Miles from Seattle
Intercity (NCSB)	5050 ft.	None	6	$\frac{1}{2}$ - 1 hr	121
Omak	4650 ft.	F-80, 100 Jet	19	$1\frac{1}{2}$ - 2 hrs	138
Wenatchee (Pangborn)	5500 ft. 4460 ft.	F-80, 100 Jet 100	90	$2\frac{1}{2}$ - 3 hrs	98
Brewster (Anderson)	4000 ft.	F-80, 100	20	$1\frac{1}{2}$ hrs	127
Chelan	3650 ft.	None	20	$1\frac{1}{2}$ hrs	110

#### Public Services

More detailed information on "Public Services" was collected by Social Impact Research, Inc. (April 1981).

Water - About 60 percent of the Methow Valley population obtains water from private wells and springs. The other 40 percent are served by the two municipal systems within the town limits of Twisp and Winthrop. The current capacity and use of these systems is shown in Table 6.

These two water systems currently serve a permanent population of 921 people in Twisp and 411 in Winthrop. The peak seasonal populations have been estimated at about 1,188 for Twisp and 523 for Winthrop. At peak daily use, Winthrop requires about 96 percent of its source capacity, while Twisp uses only 91 percent of its source capacity. Twisp water use ranges from 163 gallons per day (gpd) for the average daily use figure (based upon permanent population) to 1700 gpd peak use (based upon peak seasonal population and irrigation). For Winthrop, these figures would be 558 gpd and 929 gpd. Both Twisp and Winthrop water systems use ground water wells as their water source.

Sewage Disposal - Several conditions exist which point towards a potential for ground water contamination from sub-surface sewage disposal. The Methow Valley is filled with a considerable thickness of very coarse gravel of glacial origin. Estimates of the thickness range up to 1,000 feet thick, with thinner deposits at the sides of the valley. These gravels are very porous and permeable, as shown by the fact that the Methow River is known to flow underground through the gravels of its bed during times of low water.

The ground water level in the gravels of the valley are controlled to a large degree by the water level in the Methow River. Wells along the valley bottom tend to fluctuate with the river, although local exceptions will occur because of variations in the valley fill and because of the variations created by tributary streams. This points up the fact that the ground water and surface water levels in the Methow Valley constitute a close knit system.

Except for the centralized treatment systems in the incorporated towns of Winthrop and Twisp, on-site septic tanks and drain fields are the primary methods of waste water disposal in the Methow Valley.

Winthrop utilizes a non-overflow lagoon treatment method, while Twisp is served by an oxidation ditch system. Capacity and use of these systems are shown in Table 7.

TABLE 6: Water Systems (Twisp and Winthrop), 1980

	<u>Average Daily Population</u>	<u>Average Daily Use (gals)</u>	<u>Peak Day Use (gals)</u>	<u>Source Capacity</u>	<u>Excess Capacity (for Peak Day)</u>
Twisp	921	600,000 <sup>a</sup>	2,000,000	2,200,000	200,000
Winthrop	411	229,140 <sup>a</sup>	486,000	504,000	18,000

<sup>a</sup> Yard irrigation usage in an area of extremely permeable soils accounts for higher usage per capita than the average western U.S. municipal use of 450 gpd.

TABLE 7: Wastewater Systems, Twisp and Winthrop, 1980  
(in gallons per day)

	<u>Town Population</u>	<u>Peak Day Use</u>	<u>Design Average Flow Capacity</u>	<u>Average Daily Use</u>	<u>System Reserve</u>
Twisp	921	150,000	170,000	90,000	20,000
Winthrop	411	84,000	121,000	60,000	37,000

A sewer study (Beck and Associates, November 1982) has been completed for the Mazama Area. The study identifies and recommends wastewater treatment and facilities to serve projected growth. By Resolution #31-83, June 1983, the Okanogan Board of County Commissioners adopted, with revision, the recommendations of this study.

Solid Waste - Okanogan County has three public sanitary landfill dumps; one near Twisp, one at Okanogan and one at Ellisford. The Twisp site serves the Methow Valley, but will be filled in the next two or three years. A draft updated solid waste management plan for Okanogan County has been completed (Dahl, June 1983). When approved, the plan will specify management of solid waste in the Methow Valley.

Presently solid waste services for the Methow Valley are contracted to a private firm, the Methow Valley Sanitation Service. The County leases the dump site to the firm, which in turn operates the facility on a regular schedule. The company also provides residents in Twisp and Winthrop with garbage collection services on a fee basis. Methow Valley Sanitation does have several garbage collection routes through the unincorporated portions of the Methow Valley; however, these routes do not serve the entire population. The sanitary landfill is available for a fee to residents who prefer to haul their own garbage.

Electricity - Natural gas is not available and as a result, most space heating is either by electricity or wood. Electrical power in the Methow Valley is provided by the Okanogan Electrical Cooperative #32 and Public Utility District #1. The Cooperative serves a 24-mile long stretch of the valley north of Twisp, including the town of Winthrop. The areas along Beaver Creek, east of Twisp and the Chewack River north of Winthrop, are also served by the Cooperative. The Okanogan County P.U.D. #1 serves customers in the valley from the town of Twisp, which forms the southern boundary of the cooperative's service area, to Carlton.

The most current data available for the Cooperative show that, as of December 1983, it served 1,481 accounts, 380 of which were classified as seasonal. Seasonal accounts are those which use electricity primarily during the summer months.

The major supplier of power to both the Cooperative and P.U.D. #1 is the Bonneville Power Administration. Additional supplies for P.U.D. #1 are also obtained from an 8 percent share in the Wells hydroelectric project. At the current time, peak demand for both the Cooperative and P.U.D. #1 occurs in the winter with the need for electric heat. P.U.D. #1 reported that the average annual kilowatt hour consumption during 1983 was 16,358 Kwh. This is close to the 16,000 Kwh estimate made by the Cooperative for its customers. The Cooperative reports that its seasonal accounts each used about 3,650 Kwh in 1983. The retail rates of electricity are dominated by the costs of power from Bonneville Power Administration.

Gasoline - Gasoline in the Methow Valley is generally delivered from Spokane or Seattle. Gas is allocated primarily on the basis of the previous year's sales. Allocation also depends on the availability of supplies. The allocation for some Methow stations was cut substantially between 1979 and 1980. Gas stations have occasionally run out of gas during the summer months.

Public Safety - Police protection in the Methow Valley is provided by the Washington State Patrol, the Okanogan County Sheriff's Office and the municipal police forces at Twisp and Winthrop.

Data on current crime rates have been provided by the Sheriff's Department for the county. Because of changes in record keeping, methods and procedures, only comparisons of the first half of 1980 and 1981 are available. Total complaints were down slightly (-2.5 percent), while felony complaints increased (24.5 percent). The courts have developed a backlog with the number of cases pending having increased.

Fire protection in the upper Methow Valley is provided by the Methow Valley Fire District #6 and the towns of Twisp and Winthrop. Fire District #6 covers the unincorporated areas within roughly the same boundaries as School District #350. It starts at Gold Creek and continues north to the Canadian border. District #6 and the fire departments of Twisp and Winthrop work closely together. District stations are located at Mazama and Carlton. There are no paid firefighters in the Methow Valley. District equipment is located at both the Twisp and Winthrop fire departments. The volunteers who staff these municipal fire departments also fight fires in the unincorporated areas of District #6 when the need arises. The town of Twisp has about 17 active volunteers, and the town of Winthrop has 12 to 15 volunteers. Response time, according to officials, is good considering the amount of area which needs to be covered. There are no plans to hire professionals at this time. Twisp and Winthrop's fire protection budgets have increased significantly between 1979 and 1980. Budget increases above the 106 percent a year limitation have to be approved by a majority of the voters.

Fire protection departments in the Valley have a central communication system located at the Okanogan County Sheriff's Office.

Health Facilities - Okanogan County has three full service hospitals; Mid-Valley Hospital in Omak, Okanogan-Douglas County Hospital in Brewster and North Valley Hospital in Tonasket. There are no hospitals in the Methow Valley. The former two facilities are about equidistant from the Methow Valley. There is also a one-doctor medical center located at Twisp.

The Central Washington Health Systems Agency listed 18 physicians in Okanogan County in 1980. The physician to population ratio was about 1/1703. The physician to population ratio for 1980 in the Valley was about 1/3700.

The County provides the primary mental health services through the Family Counseling and Mental Health Center. This service supervises one counselor, who is assigned to the Methow Valley area. Mental health officials feel that the current levels of services in the Valley are adequate.

Patients who need long-term mental health care are generally sent to Eastern State Hospital at Medical Lake, Washington. The local hospitals provide short-term care for voluntary patients, and the hospital at Chelan has recently opened a new psychiatric unit.

The Aero Methow Rescue Service is the primary operator in the Methow Valley, with three vehicles located at Twisp.

The hospitals provide emergency room care and the medical center at Twisp is designated as the North Cascades Trauma Center. They treat accident victims on an emergency basis and then transport the patients to the appropriate hospitals.

Emergency cases of drug and alcohol abuse are treated at the local hospitals. The County Family Counseling and Mental Health Center provides assistance through its counseling services. The Community Alcoholism Center at Omak is funded by the County to provide information and referral services. There are no long-term community care facilities for drug or alcohol users.

Schools - Most public education in the Methow Valley is provided by Okanogan County School District #350. The school district boundaries include all the Methow Valley as far south as a line about midway between Carlton and Methow. The total number of students in 1980 was 606; 257 in the elementary school, 145 in the junior high school and 204 in the high school. The annual operating budget has been in excess of \$1.5 million.

In addition to the public schools, the Methow Valley Christian Academy is located at Twisp. The school opened in 1979 and in November 1980 it had 107 students enrolled, about 15 percent of the total school enrollment in the Valley.

Detailed budget figures for 1978-1979 show that revenues to operate the school district came from a number of sources. State funds provided the greatest source of revenues, 59 percent of the total. This was followed by 18 percent from federal funds, ten percent from local taxes and seven percent from County administered funds. The remaining six percent was in miscellaneous reimbursement payments.

The student to teacher ratio was 17/1 in the elementary and high school, and 24/1 in the junior high school. The latter is at the State standard. In terms of facilities, there is a slight deficiency at the elementary level, about a ten percent deficiency at the junior high school level and a substantial surplus at the high school level. The additional square footage at the high school was added in 1978 and is used partly by the junior high school. With this additional use, the high school has space well above the recommended standard of 150 square feet per student.

#### IV. ENVIRONMENTAL CONSEQUENCES

This chapter is the scientific and analytic basis for the comparisons of alternatives contained in Chapter II. Chapter III, Affected Environment, describes the situation and conditions that exist within the study area, and provides the basis to understand the possible future environmental consequences of implementing any of the alternatives. Environmental consequences can be either beneficial or adverse and direct or indirect. Consequences also vary in importance from negligible to those which are significant.

The environmental consequences described in this chapter are grouped under the same elements used in Chapter III, Affected Environment. As applicable, each section includes discussion of on-site and off-site effects. Certain elements, such as topography, climate, geology and minerals would be affected negligibly, if at all, by implementation of any alternative and, therefore, are not discussed.

For the purposes of determining environmental consequences, the Draft Environmental Impact Statement assumed a starting date of 1983 for beginning construction of the development alternatives. Although the actual schedule will be later than projected, there is no significant change in the estimated effects as presented.

With any ski development alternative, it is recognized that effects will occur away from the ski hill (off-site) as the result of induced (secondary) development. This chapter includes the analysis of cumulative impacts, over time, resulting from actions on lands of other ownership as well as development on National Forest System lands.

#### BIOPHYSICAL RESOURCES

##### Air Quality

Impacts from construction, maintenance and operation of the proposed "hill" development on National Forest land will not have a measurable effect on existing or future air quality.

However, impacts from secondary development on private land with all alternatives (I-V) will have a significant effect on air quality during severe meteorological inversion periods. As population density increases, incremental degradation will take place with each successive level of development. The combustion of fuelwood for space heat is the primary contributor to the loss of existing air quality and will continue to increase with population growth in the Methow Valley. This indirect effect of ski development would contribute to an already established trend.

### Pollutants

Fugitive dust is created through clearing of vegetation, ground disturbance, vehicle movement on unpaved roads and agricultural tillage. The impact of these sources is small during the winter months because of very limited agricultural activity and because snow cover and precipitation considerably limit conditions for dust to occur. Some particulates will be produced during the construction phases but no long term effects are anticipated.

Total suspended particulates would become the primary long-term pollution source associated with each alternative. The anticipated sources of total suspended particulates are the combustion of fuelwood for space heat and internal combustion engines.

The study of air pollution consequences has been done (Air Pollution Considerations - Early Winters Ski Development - Robinson 1982). This study estimated the amount of wood that could be burned in the area near Mazama under adverse meteorological conditions without exceeding the National Primary Air Quality Standard.

An analysis of impacts to air quality in the Upper Methow Valley has been completed by the Forest Service. The analysis consisted of modeling the airshed with estimated housing units to project concentrations of total suspended particulates. Information on the spatial distribution of development was obtained from Analogous Ski Area Evaluation and Assessment of Off-Site Impact for Early Winters Project (Okanogan County, 1983). Appendix H contains a description of the model used in the analysis.

The modeled concentrations of total suspended particulates (TSP) in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) are given in Table 9. The values are given for the year 2000 by location and alternative.

Table 9

#### Modeled Concentrations of Particulates<sup>a</sup> (for year 2000)

Box <sup>b</sup>	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
A	186	232	282	341	375
B	270	325	386	458	498
C (Mazama)	299	434	584	764	854
D	351	469	601	762	846
E	419	539	675	839	928
F	396	505	635	786	868

Box <sup>b</sup>	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
G (Winthrop)	448	552	684	842	930
H	373	453	567	707	781
I	299	327	375	431	467
J (Twisp)	249	270	310	358	389
K	78	85	94	111	121
L	43	48	49	61	65
M	46	48	53	63	68
N	25	26	29	32	37

a Washington State standard for Total Suspended Particulate (24-Hour Average) - 150 ug/m<sup>3</sup>.

b Locations in Methow Valley (correspond to areas outlined in Appendix H - Airshed Model).

Without mitigation, modeled values for total suspended particulates (TSP) indicate nearly all areas of the Upper Methow Valley will experience concentrations in excess of the State standard, even with Alternative I. The highest levels of concentration for each alternative occurs between Winthrop and Mazama, an area of comparatively high projected population growth. The numerous mitigation measures discussed at the end of this section (Air Quality) will greatly reduce the impacts presented by the model.

Carbon monoxide (CO) levels would increase above current levels during the peak periods of ski area operation. In a Route Study of 3,500 vehicles (equivalent to traffic generated by Alternative IV) by the Washington Department of Transportation, modeled CO levels on State Route 20 at Mazama were well below National Ambient Air Quality Standards (Washington State Department of Transportation, October 1980). This is the level projected to the year 2000. No data exists to characterize Alternative V, but some assumptions can be made.

Alternative IV is projected to generate CO emission levels that are 25 and 8 percent of the State Standard for the eight-hour and one-hour allowable emission levels. The additional vehicle traffic between Alternatives IV and V, should not cause an increase above the National Ambient Air Quality Standard for carbon monoxide. It should be noted that data does not exist to identify carbon monoxide concentrations in the rural environment of the upper Methow Valley or any such rural setting.

### Class I Areas

The Clean Air Act (PL 88-206) as amended requires that existing air quality for Class I areas be protected. Class I areas in the vicinity of the Methow Valley are the Pasayten Wilderness Area and the North Cascades National Park. The specific Federal land manager has affirmative responsibility to protect the air quality of Class I areas.

The conditions that cause the high concentrations of total suspended particulates are those that trap the pollutants close to the Valley floor. For concentrations to reach Class I areas, conditions would require the movement of pollutants vertically over intervening topography well above the estimated height (2500 feet) for air mixing and dispersal of pollutants. Taking into consideration the topographic differences, mixing height of the airshed and the increased width of the Valley, air quality of Class I areas will not be impacted.

Neither the newly classified Lake Chalen - Sawtooth Wilderness Area or North Cascades Scenic Highway are classified as Class I. However, there will be no impacts to air quality of those areas because of conditions listed in considering Class I areas.

### Mitigating Measures

The majority of the air quality impacts generated by the ski development proposal concerns secondary off-site combustion of wood for space heat and motor vehicle use during the operating ski season. Short-term construction phase production of fugitive dust and particulates from slash burning will also be an impact. The following mitigating measures are identified by administrative responsibility and prioritized by required emphasis.

#### County Administrative Actions

1. The County will initiate the formation of an Air Quality Control Authority or similar administrative structure pursuant to Washington State statutes.
2. The County will develop an airshed management plan that incorporates strategies which will result in ambient air quality standards for the Methow Valley that are stricter than existing State standards. As part of the airshed management plan, the following mitigation measures will be considered:
  - Development of land use codes specifically addressing site development and project design directed at energy efficiency and air pollution control.
  - Requiring all new construction to be fully weatherized to reduce the need for supplemental heating sources (i.e., wood) beyond the central facilities heating needs.
  - Restricting the number of fireplaces and wood stoves. At a minimum, few fireplaces should be allowed in accommodations constructed for tourist use.

- Encouraging the use of alternative, non-polluting energy sources.
- Establishing a certification mechanism for wood stoves and fireplace inserts.
- Establishing an air pollution monitoring system specifically designed to alert local residents to impending pollution episodes and to record long term changes in air quality levels. Such long term data will be used to evaluate the success or failure of the mitigation and impose more stringent measures if standards are violated.
- Development of enforcement measures to assure that standards will be met.

#### Permit Actions (Forest Service)

All prescribed mitigation will be accomplished through the Ski Area Master Development Plan.

#### Facility Construction

1. The Master Plan will require prompt revegetation of all disturbed areas and the mandatory application of dust control measures (e.g., rockling and oiling) on unpaved construction roads.
2. The construction phase will follow established Forest Service/State of Washington smoke management practices identified in the Washington State Smoke Management Plan. The Master Plan will identify opportunities for utilization of waste wood, generated by the project, thereby minimizing open burning.

#### Soil and Water

Sewage Effluent - (Beck and Associates, November 1982). Sufficient information is not available to predict ground or surface water quality of the Methow Valley based upon the cumulative wastewater disposal of the area. Judgmental predictions can be made based on engineering observations of the effects of sewage disposal which has occurred in similar soil types elsewhere.

- Mazama and Base Area soils are generally not conducive, without modification, to wastewater treatment due to their free-draining characteristics.
- The existing Okanogan County wastewater disposal guidelines, which restrict lot sizes based on water supply source, do not address the possible problem of cumulative ground water contamination from all nitrate-nitrogen sources.
- Significant ground water quality deterioration could result from a continued use of conventional wastewater disposal techniques.
- Conventional wastewater collection and treatment with some tertiary treatment steps should be required for the Mazama area if a ski area is to be constructed.

- The discharge from a conventional wastewater treatment plant has significant pollution-causing potential in both surface and ground waters, and thus the use of various discharge alternatives should be maximized.
- If ski area development does not proceed, on-site (individual owner) wastewater disposal is a viable option for the Mazama area.

#### Mitigation

The local control of septic tank use and distribution in the upper Methow Valley and "Base Area" is through county ordinance. Since publication of the DEIS for this ski development, Okanogan County has received a completed "Comprehensive Sewer Plan (Mazama-Early Winters Update)" by the consulting firm of R.W. Beck and Associates. This study identifies and recommends wastewater treatment and disposal facilities for Methow Valley above Weeman Bridge, the target area of the most intensive growth resulting from ski development.

By Resolution #31-83, June 21, 1983 the Okanogan Board of County Commissioners adopted the recommendations of the Beck Study with some revisions. By adopting those recommendations and making them a part of the Okanogan County Comprehensive Plan, the pollution potential to the ground and surface waters of the area by sewage effluent will be greatly reduced. Listed below are provisions of the adopted Resolution that apply to protection of water quality.

- Okanogan County should revise their wastewater disposal regulations to control the possible accumulation of nitrate-nitrogen in the aquifer. These regulations should contain minimum lot sizes for various treatment methods as follows:
  - (1) Standard septic tanks with improved soil disposal field -3- acre minimum lot size.
  - (2) Standard septic tank with low pressure disposal field -2- acre minimum lot size.
  - (3) Standard septic tank with sand filter prior to disposal field -2- acre minimum lot size.
  - (4) Lots existing at the time of this action that cannot meet the above size restrictions should be handled on a case-by-case basis taking into account new on-site treatment technologies, lot sizes, development density, soil characteristics, depth to groundwater, and water supply source; and should as a minimum be required to install a septic tank with a pressurized sand filter.
  - (5) Mountain development requiring sewage facilities should follow all on-site disposal requirements or connect to a conventional wastewater treatment plant.

- (6) On newly created lots proposed at densities less than the two and three acre recommended sizes, the lot owners shall be required to meet effluent per acre equivalency to the recommended lot sizes. Using nitrate-nitrogen ( $\text{NO}_3$ ) as an indicator pollutant, assuming a standard septic tank  $\text{NO}_3$  effluent concentration of 30 mg/l (milligrams per liter), no lot may exceed the equivalency of 10 mg/l  $\text{NO}_3$  effluent concentration per acre.
- Okanogan County shall limit RV pumpout facilities to non-discharging types which are constructed in accordance with Health Department approval. Effluents are to be removed to an approved site outside of the study area.
- Okanogan County should seek and permanently establish aquifer reserve areas for the future development of domestic water supplies.
- Okanogan County or a sewer district should establish a ground water quality monitoring program to monitor trends as development progresses. The primary network should be located in the prime development areas and down-gradient from proposed wastewater disposal sites.

Total Delivered Sediment - The alternatives were compared for an increase in erosion on Sandy Butte and sediment delivered to Cedar Creek. The increase is compared to a sediment versus turbidity relationship (derived from collected data in Cedar Creek) to estimate what the turbidity change would be for each alternative (Table 10). The Universal Soil Loss Equation was used to evaluate on-site sediment production, using information supplied on road construction and ski run clearing.

The Universal Soil Loss Equation (USLE), developed by Wischmeier, 1976, estimates long-term average soil surface erosion on agricultural lands. This equation has been modified for use on forested lands to predict sheet and rill erosion resulting from vegetative manipulation and road construction activities (Curtis and others, 1977; Darrach and others, 1978). Mass erosion, to be discussed later, was not considered in this analysis of delivered sediment. Ninety percent or more of the surface erosion as the result of construction activities will generally occur during the first two years of development, except on those areas where slow vegetative recovery is expected. The erosion rate is reduced by the successful re-establishment of vegetation through seeding and fertilizing, formation of an erosion pavement, initial loss of fine-sized soil particles and entrenchment of water delivery system. Filling of draws, without any or improperly sized culverts, increases sediment impacts from surface erosion. Management practices such as annual slope shaping continually bares the soil and increases impacts over those estimated.

TABLE 10: Estimated Maximum Sediment and Turbidity Changes by Alternative  
(Cedar Creek)

<u>Alternative</u>	<u>I (No Change)</u>	<u>II (2300 SAOT)*</u>	<u>III (5000 SAOT)*</u>	<u>IV (8200 SAOT)*</u>	<u>V (10,500 SAOT)*</u>
Total delivered sediment	540 T/yr	2010 T/yr	2010 T/yr	2060 T/yr	2060 T/yr
Increased delivered sediment	0 T/yr	1470 T/yr	1470 T/yr	1520 T/yr	1520 T/yr
Magnitude of increased delivered sediment over current condition	---	2.7	2.7	2.8	2.8
Estimated increase (NTU's) in Turbidity Units	0	+3.4	+3.4	+3.5	+3.5
State water quality standard for turbidity (NTU's)	+5.0	+5.0	+5.0	+5.0	+5.0

\* - As result of construction activities, periods of greatest sediment yield.

NTU - Nephelometric turbidity units.

Analysis of surface erosion indicates that the impact of any of the alternatives on water turbidity in Cedar Creek would be within allowable Washington State water quality standards. Since the standards were acceptable for Cedar Creek, no further analysis was completed downstream for the upper Methow River because the sediment impacts would be further diluted. Best management practices in accordance with Forest Service manual direction and which meet or exceed those guidelines contained in the State Forest Practices Act will be implemented for timber removal prior to development of the ski hill. An approved erosion control plan will be required prior to site development. The erosion control plan will specify measures to be taken to reduce the potential impacts from the various construction activities.

Development on the "Base Area" and other lands throughout the upper Methow valley with all alternatives (I-V) will lead to potential impacts resulting from soil displacement and sedimentation. Soil displacement will lead to reductions in inherent fertility. The coarse textured soils present easily erode when water is allowed to run over unprotected slopes creating rills or gullies. The magnitude of these impacts are limited by the likelihood of development occurring on the Valley floor (low slope gradients) and mitigation measures the Okanogan County review procedures may require for development proposals.. Mitigation measures would likely include applying additional topsoil, building soil retaining structures and surfacing to prevent rutting and displacement.

Large water uses at the ski hill (i.e., snow making) may reduce surface flows for a short time. However, water use is regulated by the Washington State Department of Ecology, and a potential ski hill developer would have to secure water rights as needed.

Water is generally available for all foreseeable "Base Area" and other off-site development with all alternatives (I-V). A substantial portion of the water demand would continue to be met by individual wells. Water is available from the Methow River for appropriation by the State of Washington.

Mass Erosion - There are some areas on Sandy Butte where mass erosion has occurred. While these areas were not evaluated in the sediment impact and turbidity analysis, a possibility for increased sediment does exist. Such past occurrences are difficult to project because these occurrences are tied to a complex of climatological and internal forces that are difficult to estimate or interrelate. These areas are likely to contribute some additional sediment if new roads are located in unstable zones and/or timber is extensively clearcut (as in the clearing of ski runs) in these areas. The likelihood of larger mass movement increases because more ground water is present as vegetation is removed. The type of mass movements experienced at other ski areas where unstable areas are cut over or into, are mud flows or slabbing of two to four inch thick material. Additional rilling of the newly exposed surface then occurs (Personal communication; Al Martinson, Flathead National Forest, July, 1981). The effects can not be differentiated for the alternatives.

Mass erosion is not likely to be accelerated due to development on the "Base Area" and other private lands because of the low natural occurrence.

#### Mitigation

Specific mitigation measures to prevent soil movement is contained in the Chapter II (Alternatives) in the discussion of "Mitigation Measures," (Water Quality and Soils).

#### Wildlife and Vegetation

Vegetation (Sandy Butte) The major changes on Sandy Butte would be an increase of grasses and forbs, and a loss of mature conifer trees. Comparing action alternatives (Table 11), the estimated gain of grass-forbs will range from about 140 to 680 acres. The loss of all mature timber types will range from about 90 to 470 acres. This shift from older to younger seral stages will be permanent. However, the grass-forb stage which immediately results might be allowed to succeed into the shrub stage, and then be maintained as low vegetation on the steeper and higher elevation slopes where grooming is more difficult.

The changes in vegetation types on the "Base Area" and other private lands in the upper Methow Valley with any of the alternatives (I-V) are considered insignificant. The primary effect will be loss of existing vegetation at new building sites and access roads. Species of vegetation suited for landscaping purposes will become more prevalent around new building sites. As large parcels of land are subdivided, control measures of noxious weeds in the upper Methow Valley may become more difficult to administer.

TABLE II: Estimated Changes In Vegetation On Sandy Butte

Successional Stages	Acres	Percent	I (No Change)	II (2,300 SAOT)	III (5,200 SAOT)	IV (8,200 SAOT)	V (10,500 SAOT)	Acres	Percent	Acres	Percent	Range of Estimated Change from Existing Percent
			Alternatives	Acres	Percent	Acres	Percent					
Grass-Forb	178	4.6%	317	8.2%	512	13.2%	754	19.5%	856	22.1%	(+) 139 to (+) 3.6 to 678	17.5%
Shrub-Seedling	195	5.0%	195	5.0%	195	5.0%	195	5.0%	195	5.0%	-----	-----
Sapling-Pole	589	15.2%	563	14.5%	532	13.7%	500	12.9%	483	12.5%	(-) 26 to (-) 0.7 to 106	2.7%
Young	636	16.4%	611	15.8%	581	15.0%	548	14.1%	532	13.7%	(-) 25 to (-) 0.6 to 104	2.7%
Mature (single story)	1307	33.7%	1229	31.7%	1143	29.5%	1023	26.4%	1001	25.9%	(-) 78 to (-) 2.0 to 306	7.8%
Mature (understory of seedlings and saplings)	548	14.1%	538	13.9%	511	13.2%	475	12.3%	452	11.7%	(-) 10 to (-) 0.2 to 96	2.4%
Mature (understory of poles and young trees)	420	10.8%	420	10.8%	399	10.3%	378	9.7%	354	9.1%	(-) 0 to (-) 0 to 66	1.7%
											Loss of All Mature Types SUBTOTAL	(-) 88 to (-) 2.2 to 468
TOTALS	<u>3875</u>	<u>99.8%</u>	<u>3875</u>	<u>99.9%</u>	<u>3875</u>	<u>99.9%</u>	<u>3875</u>	<u>99.9%</u>	<u>3875</u>	<u>99.9%</u>	<u>3875</u>	<u>100.0%</u>

### Endangered, Threatened, and Sensitive Species

Based on field surveys, literature search and informal consultation with the U.S. Fish and Wildlife Service, it is concluded that endangered or threatened species will be unaffected by proposed development.

Spotted owls (a sensitive species) will probably be adversely affected by Alternatives II-V. Ski area development will further fragment the closed forest environment needed by spotted owls. This will lower potential production of prey species (rodents in a closed-canopy, multi-leveled forest) and increase the potential predation by great horned owls (probably the most frequent predator of spotted owls).

All action alternatives (II-V) will alter the behavior of the known pair of spotted owls and the capability of the habitat to support owls. Loss of this pair and exclusion of progeny may result with any of these alternatives. The risk is proportional to the size of development. Loss of owls is likely in a short time period in Alternatives IV and V. Loss is less likely, but could occur over time with Alternatives II and III.

Wildlife (-- Sandy Butte) - The combination of vegetational change and increased human activity resulting from development would affect wildlife numbers, species composition, and distribution. Ultimate population numbers of terrestrial and avian animals are expected to decrease for 31 species, increase for 24 species and hold constant for 20 species with each action alternative. (Specific species are listed in Appendix B).

Of those predicted to decrease, pine martens and nesting goshawks are expected to be eliminated or displaced and thereafter excluded from the area of operation. Based on reported home ranges, rates of loss could be four to five martens per square mile affected (as many as 30 for the project area) and two goshawks per entire area. Blue grouse numbers on site could be severely reduced with any of the action alternatives.

A direct loss of all existing and potential snags would occur where timbered stands are removed. This will decrease numbers of most woodpeckers and many other cavity dwellers (Appendix B). Based on habitat requirements and alteration as a result of development (Thomas, et. al., 1979), the following losses could occur: 25 pairs of woodpeckers with Alternative II; 64 pairs with Alternative III; 100 pairs with Alternative IV; and 120 pairs with Alternative V.

Those species eliminated from Sandy Butte would probably be displaced to adjacent areas. Then, depending on available habitat and densities of like species, will either perish or establish new home ranges.

With all development alternatives, resident mule deer would be disturbed during the summer and fall. The Forest Service estimated that summer habitat on the study area (3,875 acres) will be decreased by five percent (Alternative II), seven percent (Alternative III) or ten percent (Alternatives IV and V). Disturbance is probably most severe during the fawning season, and may then exceed these estimates. The decrease in habitat is due to use of existing roads, new

roads and other expected activity from humans and dogs. Fawning would not be adversely affected with implementation of mitigation measures. The amount of fawning habitat will increase following clearing of forested areas. Succulent forage and low cover which are important to fawning will result from the grasses, forbes, and shrubs which will become dominant in new openings.

The existing summer range capacity for deer is approximately 47 deer/square mile/year and, with maximum development, will drop to 39 deer/square mile/year. Summer range densities are 20 or less per square mile in the Methow Valley (Zeigler, 1975). This suggests that sufficient summer range would be available for the existing herd, even with maximum development. The effect development and operation of the ski hill would have on deer migration should be minor. The absence of physical barriers and the occurrence of migration outside of the ski season should allow uninterrupted movement of mule deer. Some negative effects could result from additional traffic as a result of ski development.

Wildlife ("Base Area" and upper Methow Valley) Off-site effects are more difficult to estimate due to the uncertainty of where other public and private lands may become developed. In general, wildlife habitats and populations would suffer with the increased habitat loss, human activity, game harvesting, predation harassment by dogs and cats, and other encroachment.

Based on the amount of residential land use projected to the year 2000, the Forest Service estimates that deer winter range on other land areas in the Methow Valley below Mazama would be reduced by 8 percent with Alternative I, 9 percent for Alternative II, 11 percent for Alternative III, 14 percent for Alternative IV and 15 percent for Alternative V.

The Washington State Department of Game predicts the resulting loss of available deer winter range will be substantially greater than 15 percent with Alternative V, perhaps higher than 50 percent. The Department of Game also feels that with full ski development, accelerated private land development, increased road kills, and increased human disturbance in the Valley, the ultimate impact on the Methow deer herd could exceed a 50 percent reduction in numbers.

In summary, expected winter range encroachment would noticeably reduce numbers of deer in the Methow with any alternative.

Of 92 species expected to be found on the "Base Area" near Early Winters, 83 use or depend on the riparian vegetation along the river and stream courses (Appendix B).

Here, vegetation removal, development of housing or roads, and increased human activities would affect the most numbers and species of wildlife.

#### Mitigation

Forest Service policy is to provide for wildlife needs throughout the Forest. Accordingly, deer winter range and other important habitats will be managed to

provide adequate qualities, knowing that Forest lands become increasingly important with loss of similar habitats on private lands. In addition to the existing policy, the commitment to wildlife management will be reaffirmed in future planning of Okanogan National Forest resources.

Listed below are specific mitigation measures which will alleviate adverse effects on wildlife. The master plan for on-site development and requirements for off-site development will be formulated in conjunction with the Washington Department of Game.

On-Site (Sandy Butte)

Mitigation measures used to lessen negative impacts to wildlife as the result of slope development is noted in Chapter II (Alternatives) "Mitigation Measures." More site specific information could be provided as a result; the review of a master plan could result in opportunities for additional mitigation needs.

Off Site

- (5) Limit development on deer winter range and along migration routes through rezoning options, tax incentives and other means.

Since loss of winter range and disruption of migration routes are primary concerns which will cause declines in deer numbers, protection of vital portions will be assured prior to a ski hill development. Rezoning is essential and will occur, to include County rezoning options such as:

- (a) The Methow Review District which is currently applied to obtain certain densities, open space, and design.
- (b) Other optional zone districts such as Conservation Districts which are available for amending existing zoning and protecting environmentally sensitive lands.

Other measures are probably needed, and which could occur, include:

- (c) Conservation Easements between private individuals and trust agencies (e.g., Washington Department of Game) should be encouraged. Benefits would occur to both the landowner in the form of tax breaks, and the wildlife resource in the form of undeveloped, status quo habitat.
- (d) Acquisition of certain land tracts essential to migrating deer may be needed to insure continued passage. These lands would be administered by a wildlife management agency (e.g., Washington Department of Game).

- (6) Minimize potential road kills of deer and other wildlife by use of warning signs, speed limits, and roadway design where wildlife crossings and high speed driving occur. Responsibility rests with the appropriate agency's road department (i.e., County, State, Federal) in the Methow Valley.
- (7) Protect wildlife from free-ranging dogs through County ordinances that are enforceable.
- (8) Through zoning, discourage development in riparian areas.

#### Fisheries

Several activities, such as road construction, brush and timber removal, and slope grooming, combine with such natural characteristics as steep gradients, unstable soils, runoff from snowpacks and cloudbursts to potentially severely impact the spawning and rearing habitat found in lower Cedar and Early Winters Creeks. Sedimentation is the greatest environmental risk to salmonid production. Other concerns, such as flow reductions, thermal and chemical alterations, pose less threat as they are easier to mitigate. If development is well planned, designed and constructed, then it would be compatible with the fisheries resources and habitats. However, without implementing appropriate mitigation measures, development has the capability of causing serious impacts to the fisheries resources.

The potential exists to reduce or eliminate the existing annual production of fish in lower Cedar and Early Winters Creeks (see Affected Environment). This in turn would reduce the consumptive yield to humans and associated fishery values. Alternative I (No Change) would not pose any threat. Alternative II (2,300 SAOT) is critically positioned in that the area lies further upstream and the steep gradient holds all the way to Cedar Creek. Alternative III (5,200 SAOT) is even more serious since it includes additional acreage lower on the mountain and closer to Cedar and Early Winters creeks. Alternative IV (8,200 SAOT) is not much more threatening than Alternative III because the additional acreage location has little potential for adverse impacts. Alternative V (10,500 SAOT) presents the greatest potential hazard of all since most of the additional runs are located in the area described for Alternative II.

The mitigation listed in Chapter II (Alternatives), "Mitigation Measures," will reduce the risk of negative impacts to fisheries resulting from development on Sandy Butte.

#### Timber

There are two types of effects on commercial timber production that may result from a ski development on Sandy Butte.

First, the total area covered by permit would be excluded from the Forest potential yield (Table 12). Acreages covered in Alternative II are currently not a part of the potential yield. Therefore, Alternatives I and II would have no effect on the current potential yield level.

The area covered by Alternatives III, IV and V that are classified as Landscape Management Unit in the current Multiple-Use Plan contribute approximately 190,000 board feet a year to the potential yield. Under ski development, these areas would no longer contribute to the annual potential yield.

The second effect is the timber salvage yield as a result of clearing for ski runs and lift lines. Clearing for lifts and runs should make logs available for sale and manufacture at the time of development. This will be a one time sale of log volume equal to one to seven percent of the current annual sales on the Okanogan National Forest.

TABLE 12: Summary of Impacts to Timber Yield

Alt.	Area in Runs and Lifts			Salvage Bd. Ft. 1/	Change in Forest Annual Potential Yield
	Total Acres	Forested Acres	Open Acres		
I	0	0	0	0	0
II	162	154	8	1.4 MM	0
III	369	351	18	3.2 MM	-.0017 MM
IV	663	630	33	5.7 MM	-0.19 MM
V	774	735	39	6.6 MM	-0.19 MM

(MM) = 1,000,000

- 1/ Assume openings large enough to not need clearing on five percent of the lift and run acres.
- 2/ Volumes based on mixed conifer type (page 8, 1969 Okanogan National Forest Timber Management Plan), nine M board feet/acre. This volume should be available for sale as a result of clearing for ski lifts and runs.

#### SOCIAL AND ECONOMIC

A major reference for this Draft Environmental Impact Statement was The Social and Economic Effects of the Proposed Ski Development at Early Winters (Social Impact Research, Inc., April, 1981). This reference projects estimates of a wide range of social and economic effects for Alternatives I-IV. Socio-economic effects for Alternative V were projected by the Forest Service using information and methodology as developed by Social Impact Research, Incorporated, for Alternatives I-IV. These effects are summarized throughout this chapter. For purpose of the socio-economic analysis, skier capacity for each development alternative (Alternatives II-V) were rounded to the nearest 500 skiers since effects are not discernible below this level of resolution.

Effects of alternatives are estimated in this statement based on the maximum potential skier capacity. Many of the socio-economic effects of the proposed project are based on peak use levels, since most facilities and services will have to handle peak capacity. Lower levels of use over a season will probably occur. Therefore, under these conditions, the effects would be reduced proportionately, but the relative magnitude of effects would remain proportional with one another. Overall utilization for all types of areas in the West was generally found to be greater than 50 percent (Goeldner and Standley, 1980).

#### Skier Market Potential and Economic Feasibility

Uniplan Associates prepared Skier Demand for Early Winters Ski Area, 1980-2000 (October 1980) which provides projections of skier visitations. Projected potential skiing visits were derived from population projections for a day use market area (four county area), plus a weekend market area (Washington and lower mainland British Columbia), plus a four-day (vacation) skiing market area (the weekend market area plus the Oregon Willamette Valley population). Then, projected ranges of recent skier participation rates at existing ski areas (skiers in the market and ski occasions per year) were multiplied by the population projections.

The following projections (Table 13) give estimates of skier days that could potentially occur at Early Winters over an estimated 130-day season. For comparability in data analysis and use of census projections, five-year intervals were used for subsequent market influence forecasts.

TABLE 13: Projected Number of Skier Visitor Days - Early Winters Ski Area

Low Estimate				
	1985	1990	1995	2000
Day Skier Days	16,000	21,500	26,700	29,800
Week End Skier Days	61,500	77,800	103,600	123,000
Vacation Skier Days	<u>91,200</u>	<u>146,400</u>	<u>208,000</u>	<u>274,000</u>
Total Skier Days	168,700	245,700	338,300	426,800

Mid Estimate				
	1985	1990	1995	2000
Day Skier Days	17,600	18,900	27,600	30,700
Week End Skier Days	65,100	85,500	111,900	127,000
Vacation Skier Days	<u>100,300</u>	<u>166,000</u>	<u>229,000</u>	<u>296,000</u>
Total Skier Days	183,000	270,400	368,500	453,700

High Estimate				
	1985	1990	1995	2000
Day Skier Days	20,000	25,800	28,500	32,600
Week End Skier Days	72,300	97,200	116,000	132,000
Vacation Skier Days	<u>109,400</u>	<u>195,200</u>	<u>260,000</u>	<u>329,000</u>
Total Skier Days	201,700	318,200	404,500	493,600

A report entitled Revised Economic Break-Even Analysis for Early Winters Ski Area (August, 1981) provides estimates of the probability of economic success of the proposed development program. The break-even point refers to those levels of utilization that would generate revenues adequate to meet costs and thus assure an economically viable operation (Table 14).

Farwell (July, 1979) originally developed the break-even methodology. His analysis was based on unit costs and revenues (or multipliers) obtained from the recent design, construction and operating expenses at ski areas throughout the United States. These cost and revenue multipliers were adjusted to represent tentative design, construction and operating parameters used to develop the alternatives.

These latter unit cost and unit revenue multipliers were expanded to arrive at estimates of total costs and total revenues based on the parameters associated with the proposed development. Total cost estimates were grouped as fixed, semi-variable, variable, depreciation and cost of capital expenses. Total potential revenues were estimated from lift ticket and support service sales. Then, total costs were compared with total revenues associated with the various levels of skier visits to determine what levels of skier visits would be required to break-even or cover the various costs. Three levels of utilization for break-even points were shown:

Cash Operating Break-Even - The volume of skier visits per season required to meet annual cash operating expenses.

Operating Break-Even - The volume of skier visits per season required to meet annual operating expenses.

Economic Break-Even - The volume of skier visits per season required to meet all operating and capital expenses, including the cost of capital.

In developing these break-even levels of utilization, higher (rather than lower) construction costs were usually applied. Similarly, revenue per skier visit was under-estimated. Therefore, the following levels of utilization needed for break-even are conservative:

TABLE 14: Break-Even (BE) Parameters

		Alt I	Alt II	Alt III	Alt IV	Alt V
Cash BE (skier visits needed) % of capacity	No Action	42,000 14%	88,000 13%	148,000 14%	181,000 13%	
Operating BE (skier visits needed) % of capacity	No Action	71,000 24%	146,000 22%	244,000 23%	300,000 22%	
Economic BE (skier visits needed) % of capacity	No Action	137,000 46%	284,000 42%	489,000 46%	584,000 43%	

Comparing these levels of skier visits with the projected numbers of skier visits (Table 13) shows Alternative II is projected to exceed economic break-even in its first year of operation (1985), even using the low estimates of projected skier visits (e.g., skier visits would exceed the 137,000 visits needed for economic break-even) by 1985 under the low estimate of 168,700 skier visits or the mid estimate of 183,000 skier visits.

Alternative III reaches economic break-even between 1990 and 1995 using the low projections of skier visits. Alternative IV would reach operating break-even before 1990 using the low projections of skier visits. Economic break-even occurs by 2000 using Uniplan's high projection of skier visits.

Alternative V would reach operating break-even by 1995 using the low or medium projections, or by 1990 using the high estimates. Economic break-even does not occur by 2000 using Uniplan's low, medium or high projections of skier visits. Demand estimates by Hammer, Siler and George Associates (September, 1980) indicate that economic break-even could occur by 2010, when their projected skier visits are estimated at 639,200.

If a decision is made for ski development, a statement of financial ability will be required as a part of the permit issuance. Information provided in the master plan; e.g., construction methods and schedule, efficiency of operation, design of facilities, etc., all would affect economic feasibility.

### Economics

Overview - Economic Base - Any of the ski development alternatives will add to the improvement of the economic climate at both the State and local levels. The construction and use of the ski development will result in additional employment and income from skier expenditures. The significance of the contribution to economic improvement increases with each level of development.

Employment - Total full-time equivalent (FTE) employment in the Methow Valley for all alternatives is presented in (Table 15). All development alternatives would increase employment opportunities over Alternative I.

Alternatives III, IV, and V would have increased employment over those projections in Table 15, with the establishment of a summer recreation program at the ski area. Specifics of a summer program are not available and projected employment for such a program can not be included here.

The number of proprietors in the year 2000 increases by 97 under Alternative II, 180.5 under Alternative III, 260 under Alternative IV and 383 under Alternative V over the baseline conditions.

TABLE 15: Comparison of Total FTE<sup>1</sup> Employment By Alternatives.

Methow Valley, 1980-2000

<u>Year</u>	<u>Alternative I (Baseline)</u>	<u>Alternative II (2,500 SAOT)</u>	<u>Alternative III (5,000 SAOT)</u>	<u>Alternative IV (8,000 SAOT)</u>	<u>Alternative V (10,500 SAOT)</u>
1980	1,263	1,263	1,263	1,263	1,263
1983	1,390	1,798 <sup>a</sup>	1,791	1,791	1,791
1984	1,437	1,729	1,729	1,729	1,729
1985	1,486	1,782	1,782	1,782	1,782
1988	1,651	1,917	2,362 <sup>a</sup>	2,353	2,353
1989	1,699	1,964	2,450	2,436	2,436
1990	1,707	2,012	2,483	2,483	2,483
1993	1,892	2,147	2,623	3,284 <sup>a</sup>	3,284
1994	1,940	2,194	2,672	3,169	3,169
1995	1,918	2,242	2,721	3,222	3,222
1998	2,064	2,401	2,886	3,394	4,147 <sup>a</sup>
1999	2,113	2,455	2,941	3,451	3,915
2000	2,162	2,508	2,996	3,508	3,950

<sup>1</sup> It takes two people employed full-time for a six-month period to make one full-time equivalent employee. One full-time equivalent employee represents 2,080 hours of work performed annually.

<sup>a</sup> Construction years

In Analogous Ski Area Evaluation and Assessment of Off-Site Impact for Early Winters Project (Okanogan County, 1983) an input-output model (Implan) was used to provide another estimate of employment (jobs) resulting from ski development. Assuming a 63 percent utilization rate for the ski development, the estimates for jobs provided over baseline (Alternative I) were: 494 for Alternative II, 988 for Alternative III, 1620 for Alternative IV, and 2073 jobs for Alternative V.

Several short comings do exist however with the Implan estimates. The most current data base available is for Okanogan County in 1977; the estimates are provided as a County-wide result; and the jobs projected may be one week, one month, or yearlong in duration.

Employment Structure - Table 16 contains employment by sector by alternative for the year 2000.

Unemployment - The projected average annual unemployment rates for all alternatives are presented in (Table 17). Unemployment in the Methow Valley remains quite high through much of the Alternative I period. All development Alternatives II-V would result in improvement over baseline conditions.

The projected unemployment figures should be viewed with caution considering the following conditions:

Compared with the county, these rates probably overstate unemployment primarily because they include part-time employment adjusted to full-time equivalents (FTE's), whereas the official county rates do not. If county rates were calculated in a similar fashion, they would also be much higher.

For analysis purposes, the unemployment rate was assumed never to fall below 10.0 percent for all project alternatives. This is based on the fact that during the 1970's County unemployment rates never fell below 10 percent. With the assumption that there would be no large and unexpected increases in basic employment in the County, and that the trend toward in-migration into Okanogan County will remain relatively unchanged between 1980 and 2000, it seems unlikely that unemployment rates will fall below 10 percent in the Valley.

Estimates for employment do not include the consideration of a year-round resort as could result with Alternatives III, IV, and V. The added summer jobs would lower the estimates of average annual unemployment for those alternatives.

Information from analogous areas suggest that the seasonal work force is highly mobile and would leave for areas of better employment opportunities in the off season. The absence of these workers in the off season would have a lessening effect on unemployment rates.

TABLE 16: Full-Time Equivalent Employment Structure (Methow Valley) - Alternatives I to V in the Year 2000

<u>Employment Sector</u>	Alt. I <u>Baseline</u>	Alt. II <u>2,500 SAOT</u>	Alt. III <u>5,000 SAOT</u>	Alt. IV <u>8,000 SAOT</u>	Alt. V <u>10,500 SAOT</u>
Agriculture	22	22	22	22	22
Forest Products	313	313	313	313	313
Recreation	685	814	1045	1309	1526
Government	322	336	357.5	380	402
Construction	67	72	80	89	97
Trade	240	307	395.7	482	563
Services	184	211	256.5	295.4	336
F.I.R.E.	87	94	104	116	126
TOTAL	1920	2169	2573.7	3006.4	3385

TABLE 17: Average Annual Unemployment Rates - Alternatives I to V

(Full-Time Equivalent - FTE) Methow Valley, 1980-2000

<u>Year</u>	Alternative I <u>Baseline</u>	Alternative II <u>2,500 SAOT</u>	Alternative III <u>5,000 SAOT</u>	Alternative IV <u>8,000 SAOT</u>	Alternative V <u>10,500 SAOT</u>
	<u>Unemployment</u>	<u>Rate</u>	<u>Unemployment</u>	<u>Rate</u>	<u>Unemployment</u>
1980	28.9	28.9	28.9	28.9	28.9
1983 <sup>a</sup>	25.8	10.4	10.4	10.4	10.4
1984	24.7	12.9	12.9	12.9	12.9
1985	23.4	11.5	11.5	11.5	11.5
1988 <sup>a</sup>	20.4	10.6	10.0	10.0	10.0
1989	19.4	10.3	10.0	10.0	10.0
1990	18.2	10.0	10.0	10.0	10.0
1993 <sup>a</sup>	18.0	10.0	10.0	10.0	10.0
1994	18.1	10.0	10.0	12.0	12.0
1995	18.0	10.0	10.0	11.9	11.9
1998 <sup>a</sup>	18.5	10.0	10.0	11.6	10.0
1999	18.2	10.0	10.0	11.5	12.8
2000	17.4	10.0	10.0	11.4	13.3

<sup>a</sup> Construction Years

### Seasonal Unemployment

Given the conditions previously highlighted in the discussion of "Unemployment," estimates for seasonal unemployment rates cannot be made with dependable accuracy. However, reasoning would allow that with each development alternative the winter unemployment peaks would lessen with a change in peak unemployment to the summer season. The operation of a summer program at the ski area could tend to balance seasonal unemployment rates.

Income and Cost of Living - Estimated total personal income for the upper Methow Valley is presented for the years 1980 to 2000 (Table 18).

Per capita income has been projected for each alternative in the year 2000 (in constant 1980 dollars). Estimates are \$12,547 for Alternative I, \$13,045 for Alternative II, \$12,500 for Alternative III, \$11,935 for Alternative IV, and \$11,433 for Alternative V. These figures basically reflect a change in the employment structure of the Methow Valley rather than a true estimate of income generated as the result of ski development. The primary reason for lower per capita income for Alternatives III-V is that the service sector wages added would be lower and overall wages from this sector would be significantly expanded over baseline conditions.

Estimates for per capita income were based on wages and salary. Other income not included but that substantially increase the projections of per capita are added proprietor income and property income profits and dividends. In addition, most major household purchases are now made outside of the valley. With population growth and the establishment of new businesses, cash flow from the valley for major purchases would be reduced. Hence, personal income in the valley and per capita incomes will likely be higher than has been estimated.

Per capita income estimated above can also be misleading when it is used to identify changes in the standard of living. It does not take into account qualitative changes in the standard of living which improve one's welfare. One example is the effect of more diversity in the types of goods and services offered locally. Increases in product lines may stimulate competition and thus hold prices down to lower levels than expected where diversity is lacking. In addition, the substitution of some higher-priced product lines for some lower priced product lines may decrease the standard of living.

Income is only one component of cost of living. The second component is expenditures. Data on expenditure patterns of Methow Valley residents is not available for estimating effects due to ski development. Although many of the components that influence the cost of living are established by the national market, the cost of housing is perhaps the most critical factor of local concern. The demand for housing with population growth and land speculation will contribute to higher living costs. This trend will continue for the No Action Alternative (I), but will become more pronounced with each development Alternative (II-V).

TABLE 19: Total Personal Income  
 Alternatives I to V - Methow Valley, 1980-2000  
 (in 1000's of constant 1980 dollars)

<u>Year</u>	<u>Alternative I Baseline</u>	<u>Alternative II 2,500 SAOT</u>	<u>Alternative III 5,000 SAOT</u>	<u>Alternative IV 8,000 SAOT</u>	<u>Alternative V 10,500 SAOT</u>
1980	\$ 26,839.3	\$ 26,839.3	\$ 26,839.3	\$ 26,839.3	\$ 26,839.3
1983	31,153.9	42,346.2	42,346.2	42,346.2	42,346.2
1984	32,441.7	36,798.8	36,798.8	36,798.8	36,798.8
1985	33,486.1	37,791.4	37,791.4	37,791.4	37,791.4
1988	38,450.1	42,916.1	55,196.5	55,196.5	55,196.5
1989	40,331.6	44,744.4	51,547.8	51,547.8	51,547.8
1990	42,253.5	46,714.3	53,393.2	53,932.0	53,932.0
1993	48,046.9	52,759.7	59,986.2	78,715.0	78,715.0
1994	50,163.8	54,944.0	62,151.7	69,183.5	69,183.5
1995	52,388.5	57,217.4	64,405.6	72,164.5	72,164.5
1998	60,056.4	65,067.6	75,525.9	80,575.3	102,536.5
1999	62,612.4	67,684.4	75,232.6	83,378.9	91,390.2
2000	65,168.4	70,301.1	77,939.4	86,182.5	94,196.0

### Opportunities for Women and Minorities

Alternative I assumes that past opportunities will remain substantially unchanged for the projection period. Female participation rates have been increasing, with most new positions in the trade, services and recreation sectors being filled by women. Opportunities for minorities have been largely confined to seasonal work in the farm sector. Alternatives II-V assume that opportunities for these groups would increase over the baseline conditions because of the larger number of jobs available and lower unemployment rates due to the operation of the ski resort.

Welfare Amounts and Characteristics - Data on welfare amounts and characteristics were not projected. Information regarding changes in welfare amounts and characteristics are not known.

### Demographics

Permanent Population - Population estimates are based on the existing trend and additional jobs resulting from ski development. The in and out migration to the Methow Valley as the result of other influences are difficult to account for and can not be predicted. Variations in population estimates are expected due to different assumptions and other factors. These estimates should be considered to show a degree of change rather than a specific number. Permanent population for the upper Methow Valley under each alternative for the period 1980-2000 is shown in (Table 19).

The evaluation and assessment of analogous ski areas (Okanogan, 1983) includes the use of an input-output model (Implan) to give another estimate of population growth resulting from ski development. Estimates of permanent population added by development alternatives were: 988 for Alternative II; 1,976 for Alternative III; 3,241 for Alternative IV; and an increase of 4,149 people for Alternative V. This information is based on the most current data base of the year 1977 and includes impacts to an area County-wide.

Seasonal Population - Total seasonal population for each alternative has been estimated for the period 1980-2000. These projections are shown in (Table 20).

TABLE 19: Permanent Population Projections  
Methow Valley, Alternatives I to V, 1980-2000

<u>Year</u>	<u>Alternative I</u>	<u>Alternative II</u>	<u>Alternative III</u>	<u>Alternative IV</u>	<u>Alternative V</u>
1980	3700	3700	3700	3700	3700
1983	3892	3892 <sup>a</sup>	3892 <sup>a</sup>	3892 <sup>a</sup>	3892 <sup>a</sup>
1984	3963	3963	3963	3963	3963
1985	4028	4028	4028	4028	4028 <sup>a</sup>
1988	4237	4326	5013 <sup>a</sup>	5013 <sup>a</sup>	5013 <sup>a</sup>
1989	4310	4431	5296	5296	5296
1990	4381	4538	5387	5387	5387
1993	4609	4771	5616	6634 <sup>a</sup>	6634 <sup>a</sup>
1994	4688	4851	5696	6716	6716
1995	4769	4932	5776	6796	6796
1998	5024	5206	6049	7051	8069 <sup>a</sup>
1999	5109	5298	6140	7136	8154
2000	5194	5389	6231	7221	8239

<sup>a</sup> Construction years

TABLE 20: Seasonal Population Projections  
Methow Valley, Alternatives I to V, 1980-2000

<u>Year</u>	<u>Alternative I</u>	<u>Alternative II</u>	<u>Alternative III</u>	<u>Alternative IV</u>	<u>Alternative V</u>
1980	1050	1050	1050	1050	1050
1983	1404	1982 <sup>a</sup>	1982 <sup>a</sup>	1982 <sup>a</sup>	1982 <sup>a</sup>
1984	1447	1712	1712	1712	1712
1985	1577	1849	1849	1849	1849 <sup>a</sup>
1988	1885	2168	2829 <sup>a</sup>	2829 <sup>a</sup>	2829 <sup>a</sup>
1989	1920	2207	2459	2459	2459
1990	2016	2305	2560	2560	2560
1993	2245	2545	2801	3855 <sup>a</sup>	3855 <sup>a</sup>
1994	2326	2629	2888	3200	3200
1995	2410	2716	2976	3289	3289
1998	2706	3024	3288	3606	4729 <sup>a</sup>
1999	2804	3126	3392	3712	3993
2000	2903	3229	3496	3718	4099

<sup>a</sup> Construction years

### Age and Sex Characteristics

Alternative I - Compared to the age structure projected for Washington as a whole in the year 2000, it is likely that the Methow Valley will have a slightly higher proportion of older (65 years and above) residents. The median age will also be somewhat higher in the Methow Valley. School age children will comprise 17.1 percent of the Valley's population by 2000; about a two percent decline from 1980.

Alternatives II - V - The people who are added to the permanent population base in the Methow Valley are assumed to be younger than those who are already residing in the Valley. This assumption is based on information obtained at comparable sites, and implies lower median ages at each point in time for each successive project alternative. Although there is no information concerning the sex characteristics of in-migrants, it is assumed that the proportion of males to females will be the same as those for long-time residents.

Based on existing construction worker surveys, the median age of construction workers who move is 22.5.

For seasonal employees who are operations workers, assumptions regarding age and sex are based on information obtained at comparable sites. Generally, ski resort workers are much younger than long-time residents. Based on a survey conducted at Jackson Hole, 56.4 percent were male and 43.6 percent were female. These percentages are assumed to hold for Alternatives II through V.

The age characteristics of winter seasonal homeowners and their families are assumed to be similar to those for summer seasonal homeowners and their families. The age distribution of seasonal homeowners is the same for all alternatives. Most of the seasonal homeowners and their families are between the ages of 18 and 60 (70.4 percent) with 22.8 percent under 18 years of age and 7.1 percent over 60 years of age. Over half of all seasonal homeowners are between the ages of 41 and 60.

Family Characteristics - For the people who are in-migrating into the Methow Valley as year-round residents, the percentage married is estimated to be smaller than for those who are long-time residents. This is based on information gathered at comparable sites.

The proportion of newcomers other than construction workers who were married was found to be 80.2 percent as compared to 81.5 percent for long-time residents. This pattern of marital status is assumed to hold for all development Alternatives (II - VI). This implies that the proportion of married people in the Methow Valley will be lower and fall faster with each alternative.

Operations workers are assumed to be 100 percent single because of the limited duration of the ski season, the low pay scales and the transient nature of ski resort employment. Therefore, the total population influx is assumed to be equal to the number of seasonal employees for non-local operations workers, non-local workers whose employment is attributed to local purchases made by the ski development and non-local workers whose employment is attributed to tourist expenditures made in the Methow Valley outside the ski resort.

The family characteristics for winter seasonal homeowners and their families are assumed to be similar to those for long-time residents for Alternatives II through V.

Minority Population - Although the number of minority group members are not estimated in the Methow Valley under Alternative I, the construction and operation of a ski development may attract some minority permanent population. Although no information exists regarding racial characteristics of seasonal employees, some information regarding racial characteristics of seasonal homeowners is available. According to a survey of recreation subdivision homeowners in the Methow Valley, 96.9 percent of all seasonal homeowners are Caucasian, 0.5 percent are Black and 2.5 percent are Asian, Mexican-American or Native American. This translates into an estimated increase under Alternative II of one minority seasonal household in 1984, due to the operation of a 2,500 SAOT ski area.

Alternative III would mean an estimated increase of two minority seasonal households in 1989, or four people, due to the operation of a 5,000 SAOT ski area.

Under Alternative IV, it is estimated that there would be an increase of three minority seasonal households in 1994 (six people) due to the operation of an 8,000 SAOT ski area.

Under Alternative V, it is estimated there would be an increase of four minority seasonal households in 1999 (eight people) due to the operation of a 10,500 SAOT ski area.

#### Population Density and Distribution

Projected population densities are listed in (Table 21). Social Impact Research, Inc. projected that the unincorporated area will have about 64 percent of the population by the year 2000, with settlement patterns following current trends. It is assumed that newcomers will continue to prefer to settle in the unincorporated areas over incorporated areas under each alternative. The present split of 36/64 percent in the incorporated versus unincorporated areas may further increase in favor of the unincorporated areas because there is larger net immigration under each successive alternative than under the prior alternatives. However, there is no way to precisely quantify the changing incorporated/unincorporated split since extrapolating from past trends yields unrealistic population estimates for the Methow Valley and annexation policies add to the uncertainty surrounding the estimation process of the split.

TABLE 21: Projected Population Density<sup>a)</sup>  
For Methow Valley<sup>b)</sup> (Year 2000)

	<u>Permanent Population<sup>c)</sup></u>	<u>Seasonal Population<sup>d)</sup></u>	<u>Total</u>
Alternative I	40	22	62
Alternative II	41	25	66
Alternative III	48	27	75
Alternative IV	56	29	85
Alternative V	63	32	95

a) Per square mile.

b) Densities are estimated over the 130 square miles of private land in the upper Methow Valley, School District #350.

c) From Table 19.

d) From Table 20.

#### Population Mobility

Alternative I - Because of the high unemployment rates in existence under Alternative I and the large number of in-migrants, population turnover is estimated to be quite high. The mobility of the population is expected to decrease over time as economic opportunity increases and in-migration slows.

Alternatives II - V - Population mobility within the permanent population group is expected to be similar to that which occurred in Alternative I until construction begins under each alternative (1983, 1988, 1993 and 1998, respectively). Thereafter, because of the increasing job opportunities, declining unemployment rates and moderate in-migration until the year 2000, mobility of the permanent population will decrease substantially below that which is expected to occur under Alternative I.

The mobility of seasonal workers is expected to be quite high, especially with Alternatives III - V. Information from other ski areas suggests that many seasonal ski area workers leave the area in the off-season and move to areas with summer employment opportunities.

#### Housing and Land Values

Year-round Housing Stock - The total number of permanent housing units under each alternative have been estimated for the period 1980 to 2000. These projections are shown in (Table 22).

TABLE 22: Permanent Housing Demand  
 Methow Valley, Alternatives I to V, 1980-2000<sup>a</sup>

<u>Year</u>	<u>Alternative I</u>	<u>Alternative II</u>	<u>Alternative III</u>	<u>Alternative IV</u>	<u>Alternative V</u>
1980	1532	1532	1532	1532	1532
1983	1679	1679 <sup>b</sup>	1679	1679	1679
1984	1735	1735	1735	1735	1735
1985	1787	1787	1787	1787	1787
1988	1938	1978	2293	2293	2293
1989	1989	2044	2443	2443	2443
1990	2048	2122	2520	2520	2520
1993	2215	2292	2698	3188 <sup>b</sup>	3188
1994	2274	2352	2763	3257	3257
1995	2334	2413	2827	3327	3327 <sup>b</sup>
1998	2518	2609	3032	3534	3917
1999	2580	2675	3100	3603	3997
2000	2641	2740	3168	3672	4059

<sup>a</sup> Impacts are derived by subtracting Alternative I totals from each of the other alternatives during any given year.

<sup>b</sup> Construction years

Tourist Accommodations - Total tourist bed accommodations required under each alternative are shown in (Table 24).

TABLE 23: Seasonal Housing Demand  
Methow Valley, Alternatives I to V, 1980-2000<sup>a</sup>

<u>Year</u>	<u>Alternative I</u>	<u>Alternative II</u>	<u>Alternative III</u>	<u>Alternative IV</u>	<u>Alternative V</u>
1980	420	420	420	420	420
1983	585	755	755	755	755
1984	613	773	773	773	773
1985	674	837	837	837	837
1988	834	1003	1064	1064	1064
1989	857	1028	1187	1187	1187
1990	912	1085	1245	1245	1245
1993	1044	1223	1384	1417	1417
1994	1092	1273	1435	1568	1568
1995	1142	1325	1487	1621	1621
1998	1315	1504	1669	1806	2296
1999	1372	1564	1730	1868	1957
2000	1430	1624	1791	1930	2019

<sup>a</sup> Impacts can be derived by subtracting Alternative I totals from each alternative during any given year.

TABLE 24: Tourist Accommodations Demand (beds)  
Methow Valley, Alternatives I to V, 1980-2000<sup>a</sup>

<u>Year</u>	<u>Alternative I</u>	<u>Alternative II</u>	<u>Alternative III</u>	<u>Alternative IV</u>	<u>Alternative V</u>
1980	599	599	599	599	599
1983	605	608	608	608	608
1984	607	2563	2563	2563	2563
1985	609	2564	2564	2564	2564
1988	615	2560	2560	2560	2560
1989	617	2562	4754	4754	4754
1990	619	2564	4756	4756	4756
1993	625	2569	4763	4763	4763
1994	627	2571	4765	7401	7401
1995	629	2572	4767	7404	7404
1998	636	2577	4774	7412	7811
1999	638	2579	4776	7415	8639
2000	640	2581	4778	7418	8638

<sup>a</sup> Impacts can be derived by subtracting Alternative I totals from each alternative during any given year.

Land Values - Projected Average Land Values are presented in Table 25. This average value represents all lands.

### Social Factors

#### Alternative I (No Change)

##### Projected Changes in the Social Structure

Intra-group Change - In the absence of any major change or adjustment to the county economic base, there is no reason to expect that any new groups would be formed in the area. However, changes would be expected to take place within the current groups, and in the relationships between groups based upon the current trends and patterns of behavior.

Long-time Residents - Since much of the growth of the Methow Valley is expected to result from in-migration, the relative position of this group can be expected to decline. This will occur even though employment opportunities will have improved for the younger age in this group. By the 1990's, those newcomers who came to the area in the 1970's will become Long-time Residents. Due to the initial diversity of these newcomers (Alternative Lifestyle and Mainstream Newcomers), the Long-time Residents group will have several subgroups, which will be most obvious in informal social interactions. It is expected, however, that there would be a continuing convergence of these groups between now and the 1990's. The dominance of the group members as property owners in the Valley would continue, as is their long-term involvement in public affairs.

Mainstream Newcomers - Much of the growth and change that took place in the decade of the 1970's was due to the Mainstream Newcomers who were active in the trade and service sectors, especially businesses in Winthrop. This group will be expected to expand with the increasing population and income which are forecast for the area. In the 1990's, the first of the newcomers will become Long-time Residents, a process that will probably be formalized by intermarriage among the two groups as the children reach maturity. The experience of in-migration and social integration will allow the Mainstream Newcomers to serve as the major conduit by which additional in-migrants are integrated into the area. The group would remain large and viable as much of the area population growth is produced by in-migration.

Alternative Lifestyle Newcomers - The future development of the Alternative Lifestyle Newcomers is less clear than for the other groups since it is not apparent that the area will attract substantial additional new members. In addition, there is some evidence that current members are becoming more integrated into the local social structure and some are moving toward the status of Mainstream Newcomers. A reasonable expectation would be for this group to gradually decrease in size as a separate group and for its relative position in the social structure to also decline.

Seasonal Residents - All the trends for Seasonal Residents indicate that the group will grow rapidly as the number of vacation homes in the area increases, but its involvement in the local community is likely to remain marginal.

TABLE 25: Average Land Values

Methow Valley, Alternatives I - V, 1980-2000 (in constant 1980 dollars)

Year	Zoned Land a Units	Housing b Units	Total Assessed Value c Per Acre	Alternative I			Alternative II			Alternative III			Alternative IV			Alternative V			
				Avg.	Avg.	Total Land Value Per Acre	Avg.	Total Assessed Value Per Acre	Total Housing Units	Avg.	Total Assessed Value Per Acre	Total Housing Units	Avg.	Total Assessed Value Per Acre	Total Housing Units	Avg.	Total Assessed Value Per Acre	Total Housing Units	
1980	83,020	1952	\$421	\$	601	1952	\$421	\$	601	1952	\$	421	\$	601	1952	\$	421	\$	601
1985	81,820	2461	580	757	2625	575	821	2624	575	821	2624	575	821	2624	575	821	2624	575	821
1990	81,820	2960	640	914	3207	703	1,004	3765	824	1,177	3765	824	1,177	3765	824	1,177	3765	824	1,177
1995	81,820	---	---	---	3738	819	1,170	4314	944	1,349	4873	1,068	1,526	4873	1,068	1,526	4873	1,068	1,526
2000	81,820	4071	878	1,254	4364	955	1,364	4959	1,086	1,551	5596	1,226	1,751	6078	1,331	1,902	6078	1,331	1,902

a Represents total amount of private land (in acres) in Methow Valley minus the 180 acres which is zoned commercial and industrial and the 1,200 acres at the base development which is assumed to house 65 percent of all ski visitors and associated commercial establishments.

b Includes year-round and seasonal housing units.

c Average land value in 1980 was assumed to be \$421 per acre.

d Computed using an assessment/sales ratio of 70 percent.

### Intergroup Change

The position of the Long-time Residents would be expected to decline somewhat as they become a smaller proportion of the area population. They would still be prominent, of course, primarily due to their land holdings, family and kin ties, political position and connections with the established organizations, and their business interests. The Mainstream Newcomers would become more important as a group, especially that segment which is most active in local business and public affairs. The Alternative Lifestyle Newcomers would decline in both actual numbers and as a conspicuous local group. The Seasonal Residents may become more important by taking an increased interest in local affairs, especially land use questions and taxation. They may also serve as a means through which additions would be made to the Mainstream Newcomers group. This could happen when Seasonal Residents change to become permanent residents. The continuation of growth trends (even without the project) will have two contrary results. First, it will confirm the sense that many current residents have that their way of life is being overwhelmed by newcomers. Second, the social structure will continue to develop ways and means of incorporating in-migrants and mitigating their effects on the community.

### Alternatives II - V

The increased employment, income and population effects of Alternatives II through V would produce changes in the current groups. In addition, a new group, the Seasonal Workers, would result from the proposed development. At certain levels of development, significant changes in the social structure could result. The exact nature and timing of such change would be difficult to forecast, but some indications may be drawn from the experience of the comparable site studies.

### Intra-group Change

Long-time Residents - Alternatives II-V would produce increased in-migration and significant changes to the economic base of the Valley. Increased population would diminish the relative size of the Long-time Residents group and increase their sense that outside forces were controlling and changing their lives. In the cases of Jackson and Schweitzer, this sense of social change taking place which was "beyond local control," was an important complaint of Long-time Residents.

In the more extreme cases, these changes could produce a sense of isolation for older Long-time Residents.

Mainstream Newcomers - The attitude of this group toward significant development is already split, with some tourist-oriented businessmen and real estate developers favoring expansion projects and other group members being opposed or expressing reservations. The growth associated with Alternatives II through V would enlarge the recreation/tourist based segment of the group. It could also bring in serious competition, most likely in the form of franchised businesses.

Thus, it is possible that the Valley could develop another split in the business sector (in addition to the Winthrop/Twisp situation) that would be based on businesses established before or after the ski resort.

Other Mainstream Newcomers could be expected to see the influx of population and visitors as impinging upon the rural lifestyle they chose in moving to the area. At the same time, many people would welcome the increased service and shopping facilities, the additional social opportunities and the added employment and income for group members. Rising real estate costs and taxes would be seen as negative impacts by small owners, retired people or people trying to establish families or careers. For larger land owners who do not intend to live off the land, the increased values of property would be seen as a positive impact.

Alternative Lifestyle Newcomers - The employment and income generated by Alternatives II-V could assist the Alternative Lifestyle Newcomers. In addition to the employment opportunities, the markets for the sale of craft items would be expanded. It is unlikely that this group would obtain many of the basic jobs at the ski resort, but many would probably work at the nonbasic jobs in the local economy.

Seasonal Residents - The Seasonal Residents would increase by a noticeable amount for each development alternative, but the major effect would be on the timing of their visits to the area. While the current pattern is for almost exclusively summer visitation, with the addition of the ski resort, Seasonal Residents would be in the Methow Valley during the winter months. These visits would be shorter than the summer visits, given the experience of other areas, but for a certain number of people who would buy property, the recreational units would be used for both summer and winter vacations.

The type of Seasonal Residents will depend upon the level of skiing available; the type of Seasonal Residents could range from family groups, as is the case for Big Sky, Montana, to the chic jet-set, as is the case for Jackson Hole, Wyoming.

Seasonal Workers - The new group that would be created by Alternatives II through V would be the Seasonal Workers. In the comparison cases (Schweitzer, Big Sky and Jackson Hole), these workers were primarily young, single, white, devoted to skiing and highly mobile. They would be expected to come from many areas of the country, and a large proportion would be from middle-class families. Some would be taking some time off from school and they would view their jobs as a way of supporting a season of skiing. The workers would tend to obtain housing that was as cheap as possible, with any available dormitory space being filled. Groups of four to ten people would commonly rent houses or other larger seasonal accommodations. These people would show up for the opening of the facilities and depart when the snow was gone.

There would also be a number of local seasonal workers. These people would be expected to come from the unemployed and under-employed young people who would be relatively new to the work force, and people who had only summer seasonal work before.

### Intergroup Change

The position of the Long-time Residents would be much the same for development alternatives as for the baseline. They would become a smaller proportion of the population, although the economic and political position of those members with land holdings could very well be strengthened. The Mainstream Newcomers would become more dominant, both through additions of the permanent ski resort personnel and through their business and social positions. They would direct the major hubs of economic and social activities available to the new people and groups. They would also have more resources and influence to use in their interactions with the established groups. However, there could be differences between the post ski resort business people and the older area residents on development policies for the Valley, merchandising methods (such as franchised food service) and public services.

The Alternative Lifestyle Newcomers would have additional sources of short-term employment if they needed it. This might enable the more economically marginal people to stay in the Valley. The Seasonal Residents would expand to become both a winter and a summer group. They would remain, however, mostly a customer group with their primary social interactions among groups that exist outside the area.

The Seasonal Workers would be expected to form only short-term and temporary relationships, both within their own group and among the community residents. As a distinct, young group, the Seasonal Workers may be the main conduit by which the latest national styles in popular music, dress and attitudes would be introduced into the area. They would tend to interact with the Mainstream Newcomers in an employee-employer mode. They might also work with some of the younger members of the Long-time Residents group and the Alternative Lifestyle Newcomers as co-workers.

Several overall issues or concerns arise and provide for a variety of intergroup interaction. The in-migrants associated with the ski resort development would not be as closely tied to family and kin as the Long-Time Residents, and this could cause some concern that the quality of the area social life would be declining. The establishment of evening entertainment spots could be viewed as undesirable by local residents, especially those with strong fundamental Christian beliefs. The additional demands on land use may be expected to polarize land owners who favor development (Long-time Residents and Mainstream Newcomers) and those who favor less development (Alternative Lifestyle Newcomers and some Long-time Residents).

The overriding issue, however, would appear to be the question of changes in the rural lifestyle. For many of the residents, changes to the rural setting or the social interaction patterns are viewed as diminishing the current lifestyle. Social change is occurring and will continue even with Alternative I (No Action). The potential change resulting from development is dependent on the rate of development. The longer the period of build-out of a given ski alternative, the slower social changes will take place. While economic growth can be seen as having positive aspects, there is a substantial degree of concern that such benefits may entail serious trade-offs with social elements of community life. A positive aspect of social change will include a more diverse population with a broadening of cultures and values of the Methow Valley.

Possible Mitigation Measures - For the most part, social and economic effects of ski development are indirect and occur throughout the Methow Valley and Okanogan County. Mitigation must have the cooperation of the developer, government officials, and the local community in order to alleviate the adverse effects. Listed below are those mitigation measures identified as possible, given cooperation of responsible agencies and community support.

1. Approving agencies should allow the proponent to develop a ski area only at a rate that is both economically and socially least disruptive.
2. Resort operator provide housing for employees in construction and operation to reduce housing demand.
3. Establish an orientation program to integrate newcomers into the community by providing information about the community and the local environment.
4. The developer cooperate in the planning, funding, and implementation of resident preventive health services and programs.
5. Community utilize senior citizens and volunteers in consulting and educational roles.
6. Establishment of a citizens advisory committee to take part in the ski area Master Plan evaluation by the Forest Service and Okanogan County.
7. Developer consider the hiring of local residents and provide training to permit local residents to better compete for higher paying jobs.
8. Forest Service, Okanogan County and the developer continue support of programs that help residents to manage and cope with changes.

#### OTHER RESOURCE USES

##### Visuals

Ski developments usually place opposing visual elements of "form, line, color and texture" on a natural appearing landscape. The most noticeable items are lift corridors and runs. Ski lifts are, of necessity, straight lines. Ski runs normally follow the fall line and are wide enough (75-300 feet) to accommodate the planned number of skiers safely. Parking lots must be flat and kept free of snow and ice. All of these constraints can impact the visual elements.

Both permanent and temporary construction roads would add horizontal lines to a predominantly vertical setting. The zig-zag patterns could be harsh and out of place on open hillsides. Even temporary roads could remain visible for a time due to removing vegetation and disturbing the soil.

A comparison of the Visual Quality Objectives on Sandy Butte by alternative is shown in (Table 26).

The potential negative impacts to the visual quality on Sandy Butte will be greatly reduced through use of mitigation identified in Chapter II (Alternatives), "Mitigation Measures."

Table 26

Visual Quality Objectives by Alternatives<sup>a</sup>

Visual Quality Objective	Alt I	Alt II	Alt III	Alt IV	Alt V
Preservation <sup>b</sup>	0	0	0	0	0
Retention <sup>c</sup>	2610	2297	2275	2230	2000
Partial Retention <sup>d</sup>	1265	1491	1400	1344	1500
Modification <sup>e</sup>	0	87	200	301	375
Maximum Modification <sup>f</sup>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>3875</u>	<u>3875</u>	<u>3875</u>	<u>3875</u>	<u>3875</u>

<sup>a</sup> In acres.

<sup>b</sup> Allows only ecological changes to take place.

<sup>c</sup> Man's activities are not evident to the casual forest visitor.

<sup>d</sup> Man's activities may be evident but subordinate to the characteristic landscape.

<sup>e</sup> Man's activity may dominate the characteristic landscape but must, at the same time, utilize natural established form, line, color, and texture. It should appear as a natural occurrence when viewed in foreground or middle-ground.

<sup>f</sup> Man's activity may dominate the characteristic landscape but should appear as a natural occurrence when viewed as background.

Visual alterations will also occur on private land throughout the upper Methow Valley, including the "Base Area." Alterations will result from the addition of structures (residential and commercial), roads, and the conversion of agriculture lands to other uses. Population increase is the primary force of these changes. Visual changes are presently taking place and will continue even without ski development. However, visual changes will intensify with the increasing size of ski development. The County Zoning Ordinance is the most effective means of mitigating visual impacts to the Methow Valley.

The potential negative impacts to the visual quality on Sandy Butte will be greatly reduced through use of mitigation identified in Chapter II (alternatives), "Mitigation Measures."

#### Land Use and Regulation

Land Use - Projections of residential and commercial land use are shown in (Table 27) for all the alternatives.

The following descriptions of zones and impacts are a result of a 1983 study conducted by Okanogan County of analogous ski areas (Okanogan County Planning Department, 1983). This spatial summary is intended to serve as a guide for assessing off-site land use impacts posted by ski development.

In order to develop scenarios for spatial distribution of development, four assumptions were used. These are:

- that higher development alternatives for Early Winters will result in a destination type ski resort;
- that present zoning and land use policies will continue to promote the cluster concept for housing development and restrict commercial development to Winthrop, Twisp, Mazama, and multi-use planned unit developments at the "Base Area."
- that existing subdivision patterns will exert a major influence on future development patterns; and,
- that typical developmental trends found in analogous areas can be applied to the situation in the Methow Valley.

Land uses described here by zone (see Appendix K) represent scenarios likely to occur if Early Winters is developed to the level of Alternatives IV or V. Zones II through V will experience to a lesser degree the same type of land uses and impacts under Alternatives I through III. Zone I under Alternatives I through III will likely follow the development pattern described in the section on Alternatives In Detail. Under Alternatives I, II, and III the number of residences, tourist facilities, and commercial enterprises will grow proportionately with the use of the proposed ski area or as the demand arises.

Land values in the Methow Valley are not of immediate concern to the County due to the 106% limitation in revenue generated by assessed valuation. In addition, speculative activity in real estate has driven prices far above assessed valuations. The amount of new construction is more critical when determining impact on the County because of the potential for increased revenue resulting from development. Data on average land values can be found in Table 25, Land Values.

TABLE 27: Residential and Commercial Land Use (Acres)  
 Methow Valley, Alternatives I to V, 1980-2000

Year	Housing Units <sup>a</sup>	Alternative I		Alternative II		Alternative III		Alternative IV		Alternative V	
		Residential Land	Commercial Land	Total Residential Land	Commercial Land						
1980	1,952	6,071	6,42	1,952	6,071	6,42	1,952	6,071	6,42	1,952	6,071
1985	2,461	7,454	8,44	2,642	8,161	11,16	2,624	8,161	11,16	2,624	8,161
1990	2,960	9,206	10,34	3,207	9,974	13,05	3,765	11,709	17,34	3,765	11,709
1995	3,470	10,792	12,13	3,738	11,625	14,87	4,314	13,417	19,32	4,948	15,388
2000	4,071	12,661	14,28	4,364	13,572	17,18	4,959	15,422	21,50	5,602	17,422

<sup>a</sup> Includes year-round and seasonal housing units.

<sup>b</sup> Does not include commercial lands for ski area "base" development.

Zones and Impacts:

Zone I - Area of greatest commercial impact. Includes property at the base of Sandy Butte ("Base Area") and the Special Highway Review Commercial District centered at Mazama Junction and its immediate surrounding area.

Land Use Impacts: Land use in this Zone will reflect current county zoning regulations except as may be altered by changes in zoning regulations or by multi-use PUD.

Based on analogous case studies which revealed that the greatest concentration of tourist accommodations and services are located either at the ski area itself or at the nearest town, the assumption can be made that Zone I will be the location of the majority of tourist related businesses such as lodges, motels, condominiums, restaurants, and a small number of permanent and seasonal residences.

Land Values: Parcels in Zone I now have some of the highest prices in the entire Methow Valley due to existing speculative activity related to ski development.

Zone II - Area of greatest residential impact, seasonal and permanent. Includes all private lands north of the Weeman Bridge (less those areas described in Zone I).

Land Use Impacts: Land use in this Zone will be mainly residential type development for both seasonal and permanent dwellings. The large number of existing small lots in subdivisions will result in the spread of population both north and south of Mazama. Future subdivisions will likely occur in the residential PUD concept to maximize densities for that site. This Zone will also most likely include employee housing for ski area workers.

Values: Speculation and subdivision activity has driven land values in Zone II above the average for the valley.

Zone III - Area of secondary commercial, seasonal, and permanent residential impact. Includes Winthrop and private lands in the unincorporated area within an approximate four mile radius of the town of Winthrop. This zone will also include the unincorporated lands within a two to three mile radius of the town of Twisp, Twisp itself and a small commercial zone centered around the Intercity Airport south of Winthrop.

Land Use Impacts: Land use in this Zone will mainly be permanent residences with some seasonal development near existing resorts, lakes, parks, and other amenities. The exception will be some increased commercial activities by multi-use PUD in the unincorporated areas adjacent to the towns of Winthrop and Twisp.

Values: Land values in this Zone vary. Subdivided land prices are very similar to those experienced further up the valley while raw land and larger parcels are valued slightly above the average for the valley.

Zone IV - Area of tertiary seasonal and permanent residential impacts. This Zone lies north of Winthrop in the Chewack and Rendevous areas, south of the Weeman Bridge along the Methow River, west of Winthrop in the vicinity of Wolf Creek and the remaining areas outside of those described in Zone III north of Twisp and up the Twisp River.

**Land Use Impacts:** Land use in this zone will reflect the larger parcel size and as stated above will remain largely a permanent residential area. The existing subdivisions in the zone will contain seasonal dwellings. Future subdivisions may also be aimed at the seasonal or recreational market.

**Values:** Land values in this zone vary with the location of the property. Parcels in the Valley and along the various watercourses bring a higher price as do those closer to developed roads and commercial areas. Parcels in the uplands are priced lower and are more in line with other areas of the county due to access, utilities, and water.

Zone V - Area least affected by ski area development. This zone includes all unincorporated lands south of Twisp along the Methow River and its tributaries outside of the area described in Zone III.

**Land Use Impacts:** Land use in this zone will remain largely agricultural with the majority of the dwellings being for permanent residents. There may be some seasonal types of uses in the more scenic areas but the distance from the ski area will limit these uses.

**Values:** Land values in this zone are more stable and better represent valley averages than those further up the valley.

Prime and Unique Agricultural Lands - No direct encroachment will occur as a result of the development (Alternatives II-V). Okanogan County zoning regulations restrict development in flood plains, the site of those prime and unique agriculture lands of the upper Methow Valley, and secondary impact should not occur.

#### Planning and Zoning Considerations

The projections of residential land use (Table 27) are based on the zoning ordinance in effect at the present time. Future changes to zoning may alter present densities. It is likely, however, that the tendency will be to increase densities in some areas and decrease densities in other areas. The result would tend to decrease total acreage committed to residential use.

The maintenance of the rural character and conversions of farm lands of the Methow Valley would largely depend on how the existing zoning and development regulations are used to control the increase in residential land use. At present, the county relies on traditional land use measures, such as a platting and zoning ordinances, to control development. Except in Planned Unit Developments (PUD's), the lack of explicit criteria for land development permits County officials to exercise their discretion with regard to what degree comprehensive planning goals are met. Within the framework of the present ordinances, much can be done to discourage sprawl-type development.

Okanogan County officials are committed to further refinement of comprehensive planning goals and adjustments to land use regulations designed to result in more explicit development criteria, especially in the upper portion of the Methow Valley. At least three ordinances will need to be continually evaluated. They are the platting and zoning ordinances and sewage disposal regulations. The following sets forth considerations for each alternative.

Alternative I - A major concern regarding commercial development could be the possible proliferation of "Type A" tourist accommodations in areas outside the presently designated commercial zones. These accommodations are allowed in all commercially designated unincorporated areas of the Valley via their approval by Planned Unit Developments (PUD).

"Type B" tourist accommodations provide the visitor recreation amenities on-site, as well as lodging (e.g., guest ranches and youth camps). If the stipulation for on-site usage by guests are not stringently interpreted, the distinction between Type A and Type B accommodations could become blurred. In this way, Type A accommodations (e.g. motels and hotels) could be introduced outside the commercial zones.

A final land use issue concerns multi-use PUD's which could be sited regardless of the underlying zoning district. If no base support ski resort development were to be constructed, there might be considerable pressure to approve multi-use PUD's that would not include a sufficiently large economic generator.

Alternatives II to V - The same planning and zoning considerations outlined under Alternative I were applied to the projections made for Alternatives II through V. The effects of these considerations would tend to be more intense and of greater magnitude with each successive development alternative.

This is due to the greater increases in population, housing and land use demand projected under each successive alternative. In addition, land presently zoned commercial in the valley (180 acres) is considered adequate to handle the total amount of commercial land projected under each alternative.

It was assumed that most of the new condominiums built as a result of Alternatives II to V would be located in planned unit developments which would include a mix of both year-round and seasonal housing units. Limitation of sprawl-type developments could be met by offering density bonuses to developers, a common practice utilized by County officials under planned unit development ordinances. These practices could enhance the quality of the environment while preserving open space.

Mobile homes were assumed to be particularly attractive to construction and operations workers as housing units. There are no restrictions under current County ordinances regarding the placement of individually owned mobile homes. Mobile home parks (four or more spaces) would require review by planned unit development.

Mobile homes would become a more common and visible housing type under Alternatives II through V as compared to Alternative I.

## LAND USE MITIGATION

The key emphasis in land use mitigation will not be to restructure existing land use regulations but to build upon present concepts. Two general areas of change will be considered. The first deals with changes to wording in the ordinance. The second deals with more substantive changes designed to more adequately reflect the impacts of what is likely to occur at higher development alternatives. Specifics are presented below.

Many of the county's codes have not been brought into compliance with recent changes made to state enabling legislation and consequently tend to confuse those who must deal with them. These codes also contain some inconsistency and contradictions which create "loop holes" that tend to confound planning goals. These will be evaluated accordingly. Main considerations are:

Bringing subdivision codes, zoning regulations, and County's environmental impact statement legislation into compliances with recent changes to State law.

Reevaluating the Use Chart in County Zoning Ordinance 79-8.

Reevaluating the Density Exemption provision in Ord. 79-8.

More substantive changes needing attention deal primarily with the density designations. Case studies of analogous ski areas show typical building patterns that can be expected to occur should a major ski development occur (Okanogan County, 1983). The general thrust will be to provide areas of higher densities around existing communities and lower densities on environmentally and economically sensitive lands (e.g., deer winter range and agricultural lands). This will be accomplished by reevaluating standards within the Planned Unit Development section of Zoning Ordinance 79-8 and by considering appropriate changes to the Official Zoning Map for the "Methow Review District." It would also be desirable to require all new residential development occurring in the upper Methow Valley to be by Planned Unit Development.

In the review of any development of supporting base facilities, the developer shall show how employee housing needs will be met, providing the project involves a significantly large work force.

## Recreation

The amount and kinds of recreational opportunities occurring on Sandy Butte would be affected by development for downhill skiing. The development of down-hill ski terrain and facilities would be considered beneficial to those enjoying that activity. A ski area would provide the opportunity for a large number of recreation visits on a relatively small area. Those who prefer the more dispersed activities and near natural character of Sandy Butte would find the effects to be adverse. Both of these are long-term effects. Ski area development would be a permanent commitment of the area to high intensity use.

Winter Use - Existing on-site winter use and opportunities would be altered dramatically with ski development. Potential downhill skiing experiences would vary among the alternatives due to differences in terrain and facilities available and the number of users. (Table 28) lists theoretical maximum potential visitor days of alpine skiing provided by each alternative.

TABLE 28: Maximum Potential Skier Use (Downhill)

<u>Alternative</u>	Potential Skier Visitor Days*
I	0
II	150,000
III	340,000
IV	535,000
V	683,000

\*Based on a 130 day season, six hours/day

Although cross-country skiing is considered a compatible use and could increase with downhill ski development, the proximity to downhill skiers would lessen the feeling of solitude and accomplishment. Some users desiring a more remote experience may choose to go elsewhere while others may use a lift and enjoy the safer feeling of a more developed area. The surrounding area would remain open to cross-country skiing and has the capacity for much more use.

Dispersed snowmobile use would be eliminated from that area providing downhill skiing. Other sites on the National Forest will accommodate any displaced snowmobile use presently occurring on Sandy Butte.

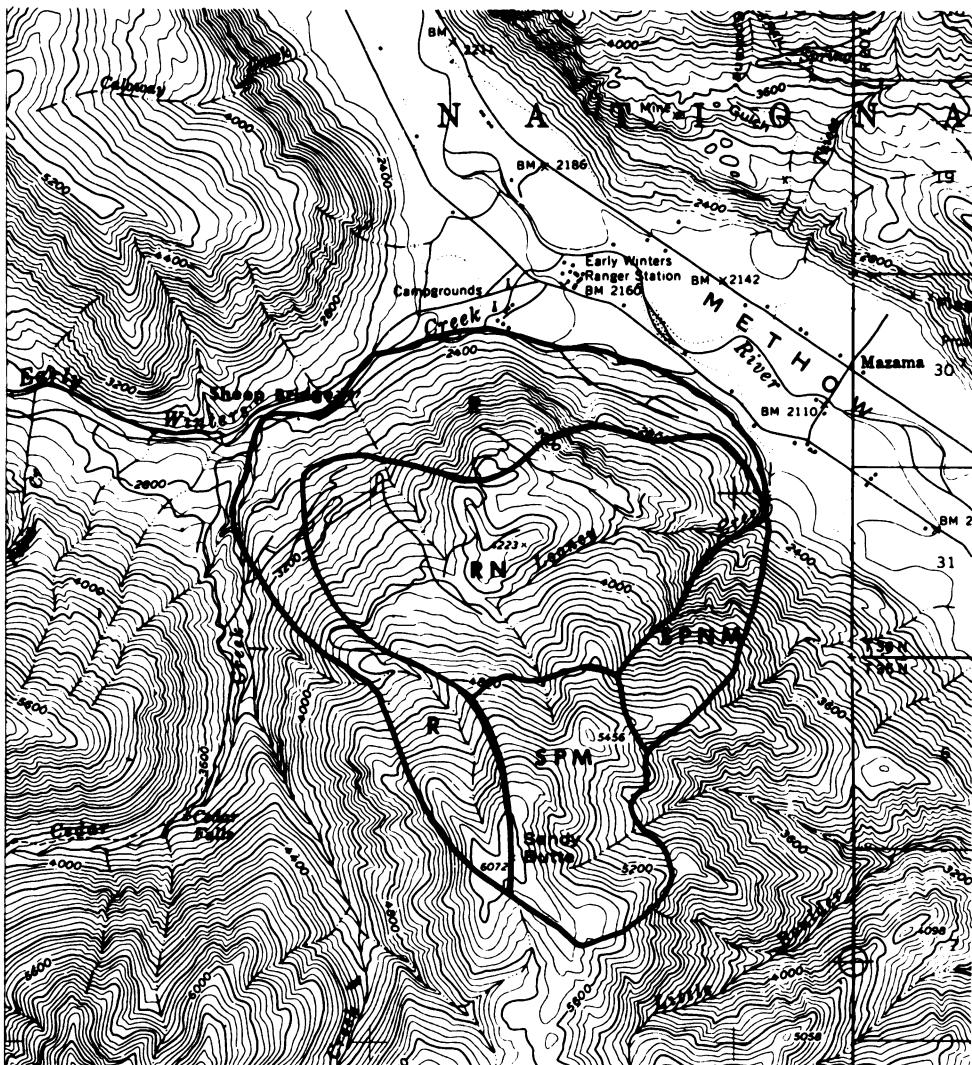
Summer Use - Existence of skiing facilities would detract from the experience desired by some recreation users (i.e., hunting and hiking). Alternatives IV and V would have the most effect, followed by Alternatives III and II.

However, the experience desired by other recreation users would be enhanced by Alternatives III, IV, and V. This would result from development of a year around resort which would include summer recreational facilities. This would not occur with Alternative II.

Figures 15, 16, and 17 show the recreation setting by alternative.

None of the alternatives would adversely effect the classification of either the Methow or Chewack Rivers in regards to their listing on the Nationwide Inventory of Wild and Scenic Rivers.

**Figure 15 Recreation Opportunity Spectrum Alternative II**



**LEGEND**

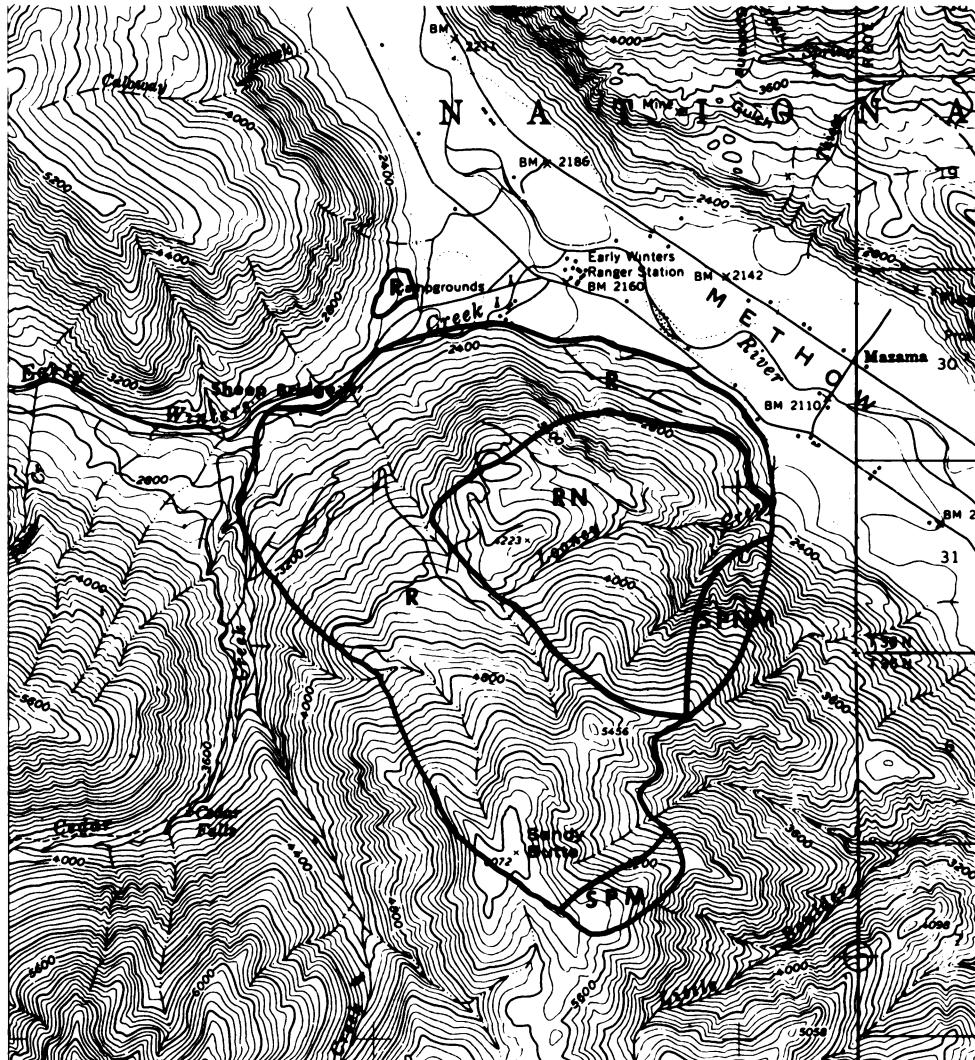
**Acres by class**

R	— Rural	— 1465 acres
RN	— Roaded Natural	— 1540 acres
SPM	— Semi-primitive Motorized	— 640 acres
SPNM	— Semi-primitive Non-motorized	— 230 acres

Scale 1 Inch = 1 Mile

Digitized by Google

**Figure 16 Recreation Opportunity Spectrum  
Alternative III**



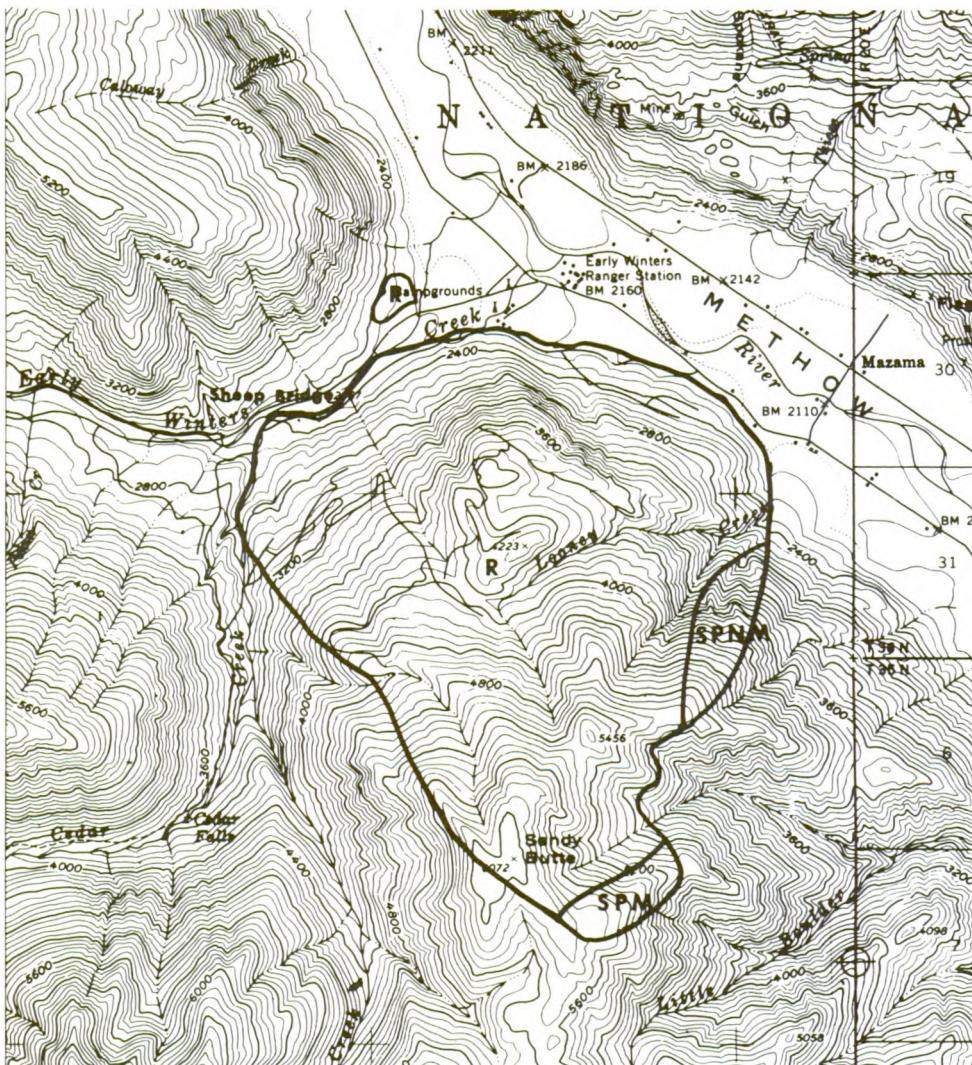
**LEGEND**

**Acres by class**

R — Rural	— .2615 acres
RN — Roaded Natural	— 1020 acres
SPM — Semi-primitive Motorized	— 110 acres
SPNM — Semi-primitive Non-motorized	— 130 acres

Scale 1 Inch = 1 Mile

**Figure 17 Recreation Opportunity Spectrum Alternative IV and V**



## **LEGEND**

## **Acres by class**

R — Rural — 3635 acres  
 SPM — Semi-primitive Motorized — 110 acres  
 SPNM — Semi-primitive Non-motorized — 130 acres

Scale 1 Inch = 1 Mile

Digitized by Google

### Transportation - On-Site Roads

To facilitate development of the Sandy Butte ski area, additional roads could serve the upper part of Sandy Butte. Transporting the ski lift machinery would require the use of a lowboy tractor-trailer. Forest Road #5310100 is of adequate standard. The road taking off of #5310100 in section 34 and running southwest into section three is also adequate for construction and maintenance needs. Additional roads would be built to serve development. The width would be a minimum of 12 feet with maximum grades of 18 percent. Switchback curve radii would be limited to 50 feet minimum with ample curve widening to allow safe passage. Turnouts could be expected at intervals of 1,500 feet, and drainage structures would be built as needed to control erosion. These roads could also be used for removal of timber during ski lift and ski run clearing.

The following road estimates are based on preliminary information and exact road locations and specifications would be determined in a Master Plan approval process.

Alternative I (No Change) - Forest Service Roads #5310200, #5310100 and #5310115 will be maintained at current standards.

Alternatives II and III - Approximately 1.8 miles of road would be built to facilitate ski development in Alternative II; Alternative III would require about 4.3 miles.

Alternative IV - The addition of short access roads off of the existing roads and those described in Alternatives II and III would be needed for the erection of additional ski lifts. The removal of waterbars on, and the reconstruction of the logging roads in the northwest corner of section 35 would also be needed. The total length of new road construction for Alternative IV is five miles; the reconstruction encompasses nearly 1.25 miles.

Alternative V - The road network described under Alternative IV would be sufficient for Alternative V.

### Off-Site Roads

The study area for the estimation of effects on roads will be limited to State Route 20. The effects described below include the assumption that the North Cross State Highway will remain closed west of Early Winters during the winter season.

Projections of winter and summer traffic volumes for the year 2000 are shown in Figure 18 and 19. The projections are expressed as ratio to capacity and are shown by those links of SR-20 identified in Chapter III. Projections for Alternatives III and IV are not shown as they fall between those made for Alternatives I, II, and V. No future road improvements were assumed for these figures; however, planned changes could increase capacity.

For purposes of analysis, background traffic was projected to the year 2000 at the rate of 2.5 percent per year. Seasonal variation in background traffic was estimated for each link based on 60 percent of ADT (average daily traffic) for winter conditions and 165 percent of ADT for summer conditions. Project-generated traffic was distributed along the road network and added into seasonally adjusted background traffic. Highway capacity analysis estimates the traffic carrying capability of a roadway section based on a variety of limiting parameters including: lane widths, roadside obstructions, terrain, grades, and traffic type. Volume/capacity ratios indicate the load on the highway section compared to the number of vehicles which could be accommodated during a specific period. Roadway sections operating at or over capacity generally result in long delays for users. Future roadway improvements were not included in the analysis because specific design characteristics are unknown.

For the larger alternatives, the manner in which off-site development takes place will be important. These facilities can either be dispersed throughout the Methow Valley or developed as an "integrated" community adjacent to the mountain. "Integration" of off-site facilities for housing, retail, and other services into a unified, relatively compact community adjacent to the mountain can be important in reducing negative impacts on transportation.

The section of SR 20 between Mazama and the SR 153 Junction represents the area most affected by the project. Upon reaching the junction of SR 153, project traffic would become more dispersed, reducing the concentration of impacts on any single link.

For winter conditions, Link 4 would be over capacity for all conditions except "no action." For Alternative V, all but Link 1 would be over capacity.

Congested conditions would occur during the summer when total projected traffic volumes would be highest (with North Cascades open). These high volume-to-capacity ratios suggest that either the assumed 2.5 percent per year growth in background traffic will not occur or significant improvements to SR 20 will be required.

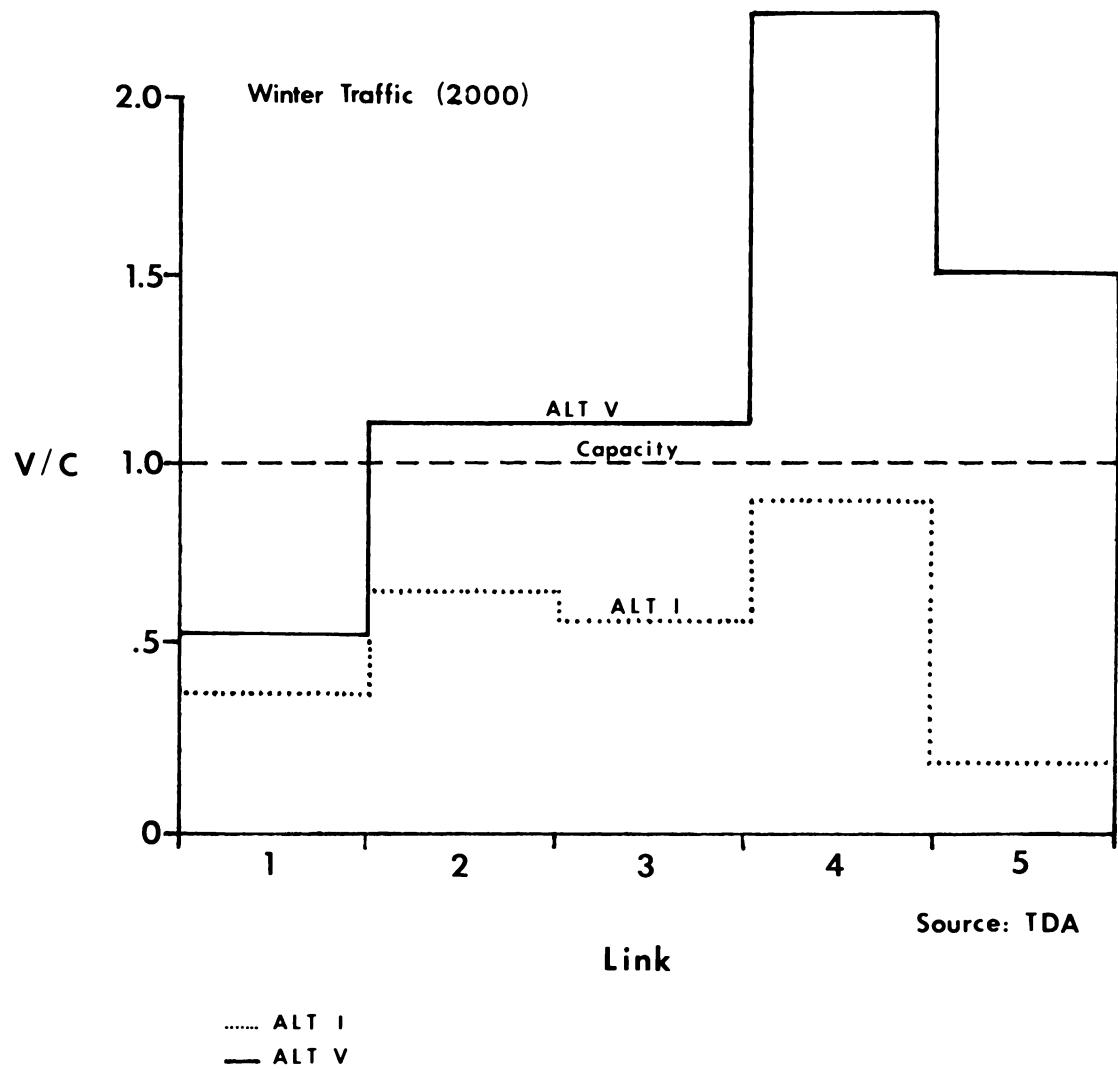
Also, with ski development it is expected that peak traffic volumes and congestion will result. This condition occurs with the opening and closure of ski hill facilities and will be effected by the number of ski hill users and their destination.

Links having severe capacity restrictions are as follows:

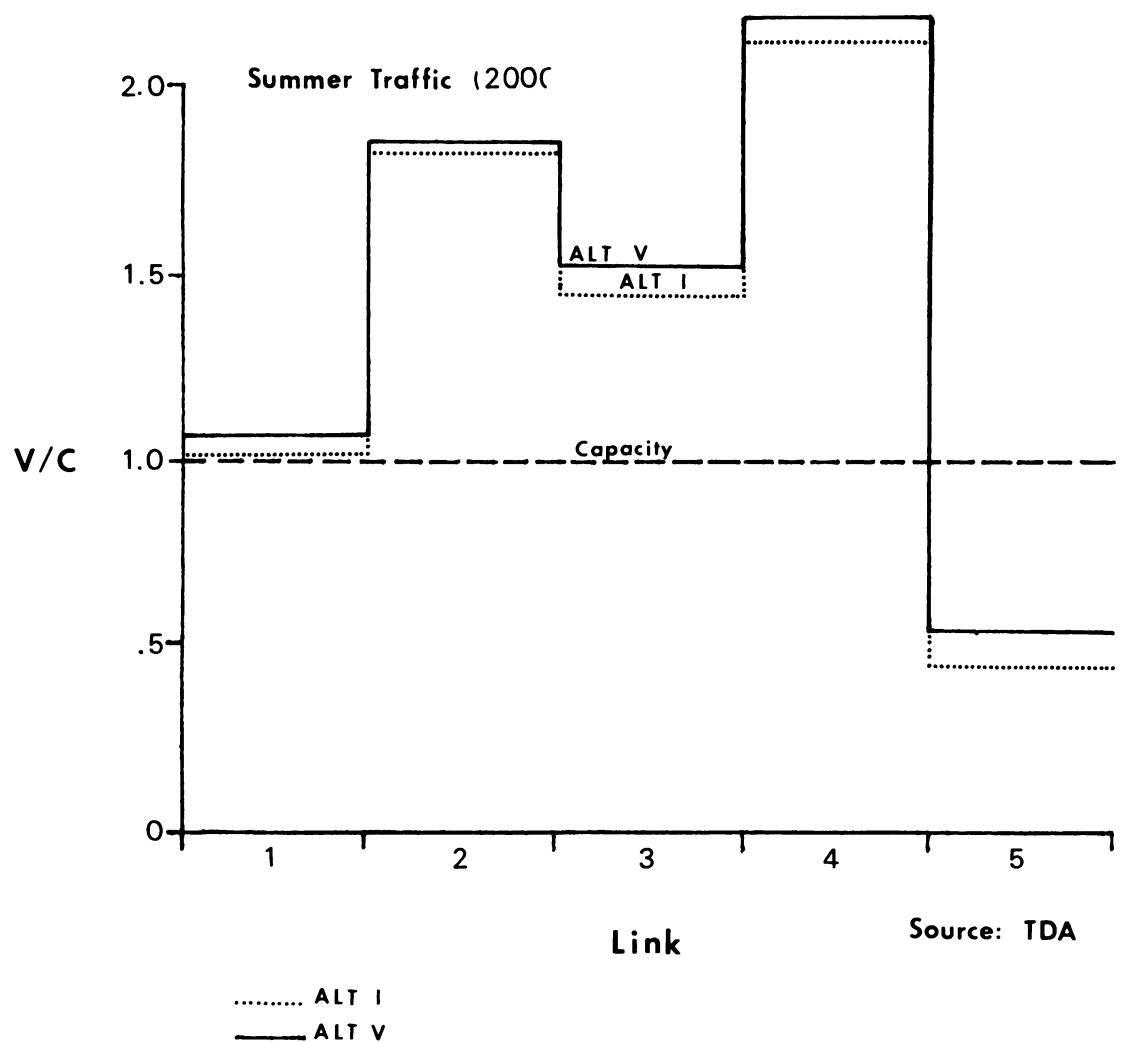
Link 2. Capacity on this section of SR 20 passing through Twisp is reduced due to interference from roadside activity, traffic entering from side streets, and narrow bridges.

Link 4. Capacity is restricted through the Town of Winthrop because of many roadside activities and interference from turning and entering vehicles. Construction of a bypass highway around the Town of Winthrop would eliminate the most severely restricted section of the study area.

**Figure 18 - Volume / Capacity Chart**



**Figure 19 - Volume/Capacity Chart**



Capacity of the new link is estimated at approximately 8,000 vehicles per day. However, particular design characteristics are currently unknown. Although construction of the link is currently unfunded, serious congestion will occur by the year 2000 if improvements are not made.

The ultimate responsibility for improvements of State Route 20 rests with the Washington State Department of Transportation. Possible revenue sources for such improvements include federal and state gas taxes, state bonds, Federal Highway Administration funds and the Forest Highway funds.

#### Air Travel

While some estimates of use can be projected for airports, it is beyond the scope of this EIS to address impacts of this use, i.e., noise, air quality, traffic, and adjacent land use. These impacts will be identified and resolved by the responsible agencies in the planning and administration of airports.

Alternative I - Aviation is a rapidly growing element of the total transportation system. This is reflected not only in the increasing numbers of general aviation aircraft, but also in their increased utilization. The number of operations (take-offs and landings) generated by aircraft at area airports will, on the average, increase by 50 percent from the year 1985 to the year 2000.

Commuter airline passenger traffic is also increasing. Passenger enplanements on Cascade Airways at Wenatchee's Pangborn Field are projected to increase at an average annual rate of 14 percent. (Table 29) indicates the number of scheduled departures, departures per week and the average number of enplanements per departure. As demand increases, Cascade Airways will gradually be shifting to larger aircraft, rather than increase the number of scheduled operations.

TABLE 29: FORECAST AIR COMMUTER ACTIVITY - Pangborn Field

<u>Year</u>	<u>Scheduled Departures</u>	<u>Departures/ Week</u>	<u>Enplanements/ Departures</u>	<u>Number of Enplanements</u>
1979 (actual)	2,860	55	4.8	13,714
1985	2,960	57	7.9	23,300
1990	3,110	60	10.5	32,900
2000	3,280	63	15.9	52,000

Plans have been developed at several airports (Pangborn, Chelan and Omak) to handle projected aviation demand. The implementation of these plans, however, is directly related to actual aircraft and passenger activity levels and the availability of funding.

Pangborn Field's major improvements planned for 1985 include an access road and new parking area for general aviation users, the rehabilitation of the primary runway, an extension to the primary taxiway to provide more rapid entrances and exits, and the installation of navigational aids which will allow more frequent use of the airport during periods of poor visibility.

Improvements for 1990 include the reconstruction of the second runway, the construction of a connecting taxiway to the airplane parking area and the expansion of the commuter air terminal and its auto parking area.

The year 2000 may see the construction of hangars for future increases of based aircraft. Ultimately, the primary runway will be lengthened to 6,550 feet to meet the expected future demand for corporate jet type traffic.

The 1985 improvements for the Chelan Municipal Airport include additional land acquisition, aircraft parking facilities and access taxiway, and the development of a year-round water system. The extension and resurfacing of the runway and the construction of a partial parallel taxiway are planned for 1990. A visual approach slope indicator (VASI) is planned for this period also. VASI is a landing aid which provides a pilot with visual approach slope guidance while on approach to landing. Ultimately, the parallel taxiway will be completed and more airplane parking space will be provided.

Possible improvements to the Omak Airport include the installation of instrument approach aids, the lengthening of the runway and the construction of a parallel taxiway (Hodges and Shutt, November 1981, Omak Municipal Airport Master Plan Report, Draft).

An Airport Master Plan for the Intercity Airport is now under development by the Washington State Department of Transportation, (WSDOT) Division of Aeronautics. The Master Plan will principally address three areas: (1) land uses on and adjacent to the airport, (2) a terminal area plan, and (3) the feasibility of a microwave landing system (MLS).

Because Intercity Airport has been taken over by the WSDOT with an expectation of significant improvements, it is reasonable to expect that private carriers would begin direct commuter service there as demand develops. Availability of Intercity Airport service will help reduce the impact of the proposed project by reducing visitors' reliance on the private automobile. These changes would have other impacts that will be addressed at the time improvements are proposed.

Alternative II - It is assumed that no skiers will use area airport facilities; therefore, the airports will not be affected by this level of development at Sandy Butte.

Alternatives III, IV and V - Based on travel information at other sites, it is assumed that 25 percent of the skiers will fly into area airports with Alternative III. For Alternatives IV and V, 35 to 50 percent of the skiers will arrive by air. Chartered flights and additional scheduled commercial flights could be expected to be initiated to meet the demand of skiers wishing to fly into the area. The typical commuter aircraft is a propeller driven airplane

capable of carrying up to 50 passengers. In addition to commuter and local air traffic, air traffic generated by non-local, private twin and single engine airplanes could be expected to increase. Pangborn Field and the Omak Airport are most likely to be used by the large commuter airplanes with Brewster, Chelan and Intercity handling a portion of the smaller aircraft. Good weather conditions and good visibility must exist at all these airports for the planes to currently land. Although Wenatchee's Pangborn Field has an instrument approach as an aid for landing during poor visibility, the approach minimums are too high to guarantee regular commuter service (Pangborn Field Airport Master Plan Update Report, May 1981).

Projected baseline (Alternative I) activity at area airports is presented in (Table 30).

These higher levels of development could generate significant volumes of air travel at Intercity Airport. Because of the uncertainty of the feasibility of navigation aids, estimates of use is not given for this airport. The master plan for Intercity, currently being developed, will provide a basis for determining use. From the standpoint of location, Intercity Airport would be ideal for Early Winters. With the addition of a navigational landing system and addition or improvements to other facilities, use at Intercity would increase and lessen the projected activities at other area airports.

In comparison with the baseline projections of winter daily activity in Table 24 for the year 2000, the increase in winter daily operations at the 25 percent activity level due to the development of Alternative III will equal that of the Chelan and Brewster airports and approach that of Omak. Peak hour commuter enplanements for Alternative III at the 25 percent level of activity approaches that projected for the year 2000 at Pangborn Field. The projected number of transient aircraft needing tiedowns could probably be accommodated assuming all five airports were utilized. The additional terminal area that may be needed for this level of development is also shown in (Table 31).

Projected air activity generated by the proposed levels of development for the year 2000 are presented in (Table 31). The two numbers in each column represent a range of 25 percent to 100 percent of the projected activity in any one day. This range is presented because the exact level of activity is unknown at this time. The winter operations per day include both commercial and private aircraft. The daily and peak hour operations are based on a six-hour day of airport operation with a 10 percent activity increase for a peak hour. The six-hour day and the 10 percent increase for peak hours are values recommended by the FAA in estimating an airport's winter activity (Personal communication: Donna Taylor, FAA, 1981).

The number of commuter enplanements during a peak hour is a measure used to estimate the size of a terminal needed to accommodate the passengers. Since many private airplanes are expected to be used by incoming skiers, ample aircraft parking spaces (tiedowns) must be considered.

TABLE 30: Projected Area Airport Activity Levels (Baseline)

Airport	Winter Operations per Day (6-hr day)		Operations per Hr Runway Can Handle		Peak Hour Commuter Enplanements		Transient Tiedowns		Terminal Building (ft <sup>2</sup> )	
	1979	2000	1979	2000	1979	2000	1979	2000	1979	2000
Pangborn	156	363	103	109	21	72	27	27	3600	9000
Omak	21	69	60	90*	0	0	6	12	2400	2400
Chelan	15	35	60	90*	0	0	3	5	0	0
Brewster	23	41	60	60	0	0			0	0
Intercity	Closed in Winter		60**	60**	0	0			0	0

\* With proposed parallel taxiway addition

\*\* if open in winter

TABLE 31: Projections for Air Activity and Facility Requirements Due to Early Winters Development (Year 2000)

Alt.	Operations per Day (Winter)		Peak Hour Operations		Peak Hour Commuter Enplanements		Transient Tiedowns		Terminal Area 4/ (ft <sup>2</sup> ) (additional) 25% 100%	
	25%	100%	25%	100%	25%	100%	25%	100%	25%	100%
I	2/	---	---	---	---	---	---	---	---	---
II	3/	---	---	---	---	---	---	---	---	---
III	40	160	8	30	50	200	65	65	6250	25000
IV	125	500	24	96	150	600	205	205	18500	75000
V	160	640	30	120	190	760	260	260	23000	95000

1/ No Action.

2/ Airports are assumed not to be affected by this level of development.

3/ Tiedowns needed at maximum ski area capacity.

4/ These square foot estimates are based on 125 ft<sup>2</sup> per peak hour enplaned passengers (Pangborn Field Airport Master Plan Update Report, May 1981).

The winter daily operations for Alternatives IV and V at the 25 percent activity level surpass those projected for the year 2000 at Omak, Brewster, Intercity and Chelan. The peak hour commuter enplanements for these two alternatives are large in number; the additional enplanements will at least triple that of Pangborn's projected commuter activity. The number of transient tiedowns needed will not be available unless the area airports provide additional space which may require land purchases. The additional terminal area that may be needed for these levels of development is also shown in Table 31.

The terminal areas listed in Table 31 may not need to be that large. Managers of airports serving a large number of skiers have stated that many skiers are able to transfer directly from the plane onto a shuttle bus which takes them to the ski area, and vice versa. However, if security screening of passengers boarding commuter aircraft is required, a terminal facility will be needed.

A scheduled shuttle system would be desirable to transport skiers from the airports to the Sandy Butte base area.

#### Mitigation

The following actions could help reduce the transportation related impacts:

1. The need for additional roads on Sandy Butte could at least partially be mitigated by the use of helicopters in construction and maintenance operations to inaccessible sites.
2. Development of a Master Plan for transit development by Washington State Department of Transportation and Okanogan County Department of Public Works could identify projects to reduce auto traffic demands and increase road capacities as well as needed programs of implementation.
3. Construction of a bypass highway around the Town of Winthrop (Link 4) would increase capacity for that link.
4. Providing most facilities and services in an integrated complex would decrease travel demand, reduce capacity deficiencies, and reduce parking requirements. This could be a requirement in the site Master Plan approval process.
5. Improvements to facilities and services at Intercity Airport would allow higher proportions of visitors to arrive by air with transfer to buses, thereby reducing auto traffic demands.

#### Public Services - Alternative I

Water - The peak seasonal increase in population for Twisp is estimated to be 836 persons for the 20-year period (1980 to 2000). This would create the need for about an additional 376.2 thousand gallons per day for the system. The currently available excess capacity is 200 thousand gallons, so this demand would be in excess of existing capabilities before the year 2000.

For Winthrop, the current peak use reserve is only 17,600 gallons, and this amount will be required before the year 1985, when use is expected to exceed the current capacity. By 2000, the new demand is forecast to be 29.3 percent over current capacity. The Winthrop water system will probably require upgrading before the current reserve is accounted for, even without the impact of any significant new development such as the proposed Early Winters ski development.

The unincorporated areas of the Methow Valley do not have any domestic water districts serving them, and there are no plans to establish any. The private ground water supplies appear to be adequate for current and future uses. Projected permanent population increases of 956 would create an estimated additional demand for 430,200 gallons of water per day by the year 2000.

Sewage Disposal - The sewage level of a peak seasonal population of Twisp by the year 2000 is expected to be within the current capacity of the system.

The Winthrop system was designed to serve a permanent population of 720 persons, a figure which will not be reached using baseline estimates by the year 2000. However, the peak use estimates show that capacity of the system will be inadequate by 1995 due to the rapid growth patterns of the seasonal population. Moreover, the use of lagoons is not entirely adequate for the current use due to limitations on the storage capacity and the methods used to dispose of waste residues which result from operation of the system itself. In order to modify and improve the present system, an engineer has already been consulted by the town and grant monies will be sought.

The permanent population in the unincorporated area is expected to increase from 2,368 in 1980 to 3,324 in 2000, given current trends, and will substantially increase the demand for private septic tanks.

Solid Waste - The commonly used estimate is that each individual generates about five pounds of solid waste daily. In estimating the future needs of solid waste disposal, the baseline population projections for the Methow Valley were used, along with a daily waste production of 2.5 to five pounds per person per day.

Options for future management of solid waste in the Methow Valley are currently being considered by Okanogan County (Dahl, June 1983). Alternatives include continuing the present operation with purchase of a new landfill site or establishment of a collection station with transfer (hauling) to one central landfill in the Okanogan Valley. The preferred measure is for a collection station with transfer to a landfill in Okanogan Valley.

Electricity - A power requirement study for the Okanogan County Electrical Cooperative was completed in August of 1979. The study predicted that the demand for power would continue to be greatest in rural, as opposed to incorporated, areas. A large percentage of the district's lines are now rural, and although rural and town customers use about the same amount of electricity, there has been a far greater annual increase in new hookups in the unincorporated rural areas than in the incorporated areas.

Seasonal power consumption had grown by 200 percent in the ten years preceding the 1978 study, a trend that is expected to continue at a somewhat lower rate in the future. Seasonal consumers in 1978 accounted for 2.6 percent of total annual consumption.

Irrigation accounted for 3.1 percent of the annual power consumption in 1978. The growth of small commercial accounts has also contributed to an increase in power demands. Growth in this area during the ten years preceding the study was sporadic, but amounted to an average of about four percent per year. The growth rate of larger commercial accounts has been slower and, projections indicate, is not likely to increase by more than one new connection per year. Three large commercial accounts in the area used 10.0 percent of total power consumption in 1978.

The study addresses, in general terms, the future energy needs of the Mazama area. A ten-year forecast (to the year 1988) provides for a 200 KW load in the Mazama area, taking into consideration new commercial zoning laws and plans for development. This forecast does not assume a ski development, since at the time of the study, there were no firm plans to build such a facility.

Future costs of electricity are somewhat uncertain. Wholesale rates were expected to be increased on about a two-year schedule to finance the cost of new generating facilities.

The Electrical Cooperative reported that through agreement with Bonneville Power Administration they would have adequate power to supply all needs through 2001. The main influence they can foresee on supply will be the final allocation plan developed by the Bonneville Power Administration.

The Okanogan County Electrical Cooperative's distribution line to the Mazama area is insulated to 12.5 KV and could be converted to 25 KV. The line is presently loaded to about 1 MV and has the potential capacity for 2MV. If new distribution lines are deemed necessary in the future, rights of ways or easements will need to be acquired.

Depending on rate of development, electrical demand for Alternative I could be served for several years with existing facilities. The projected loads for Alternatives II through V in the year 2000 are all beyond the existing capabilities to serve the Mazama area and would require an upgrading of equipment.

Gasoline - The baseline population projection shows a substantial increase in the number of summer seasonal residents. If the current gasoline allocation policies remain in effect, then there will continue to be shortfalls in the summer from time to time, as the previous year's usage will not be adequate for the current year.

Public Safety - In 2000, the estimated additional costs for police protection (over and above current costs) would be \$48,622, or a 35.3 percent increase over the 1980 expenditures by local agencies (Table 34). These figures included the use of CETA officers in both Twisp and Winthrop and the projections were made based upon current per capita funding practices. The elimination of the CETA

program would result in increased costs and/or decreased service levels. New federal, state or regional law enforcement assistance programs would also affect the quality of services, and the costs. No attempt has been made to speculate about future policy and program changes; rather, the current levels have been assumed for the projection period. The population growth forecast for the baseline condition would require additional manpower and funding.

Future crime rates cannot be projected for any of the five alternatives. Data from comparable ski sites suggest that there may be increased problems with: 1) burglaries and theft; 2) traffic violations, such as speeding and driving while intoxicated; 3) assault and disorderly conduct, and disturbing the peace (Social Impact Research, Inc., 1981). On the other hand, data gathered for Big Sky suggest no noticeable change in crime rates.

The majority of the permanent population growth is expected to occur in the unincorporated areas around Twisp and Winthrop, particularly along the drainages and tributary drainages of the Twisp, Methow and Chewack Rivers. Very little growth is expected to occur in the unincorporated area around Carlton. Presently, there seems to be sufficient interest to maintain the volunteer status of the firefighting personnel. Twisp and Winthrop both have active and efficient firefighting crews. There are fewer and less active volunteers in the unincorporated areas of Mazama and Carlton, but most of the growth is expected to occur in the areas around Twisp and Winthrop. If the towns' and the unincorporated area's fire departments continue to cooperate, and an adequate number of newcomers participate as volunteers in the fire department, personnel costs may not increase significantly.

Health Facilities - At the time of a Central Washington Health Systems Agency report in 1980, there were 116 hospital beds available in Okanogan County. The County hospital bed needs in 1985 were projected to be 115, a decrease of one bed. Although hospital bed needs were not projected beyond 1985, authorities say that they do not anticipate that there will be a significant difference in need from 1980 to 1995. Officials were not willing to speculate on bed needs past this date (Social Impact Research, Inc., 1981).

Projections have been completed only for future primary care physician need in Okanogan County and the Methow Valley. The standard used by Health Economist, Harry T. Paxton, to measure the population to primary care physician ratio is a maximum of 2000/1 (Paxton, 1973).

There is only one physician in the upper Methow Valley, making the ratio 1/3700, which is inadequate according to Paxton's standards. The population in the upper Methow Valley area is estimated to reach 5,194 by the year 2000, creating the need for 2.5 additional primary care physicians to meet the ideal of one physician for each 2,000 people. At the current time, some patients who live in the Valley seek medical care in Omak or Wenatchee.

The standards for in-patient psychiatric care vary so greatly that accurate estimates of future needs are difficult. The American Hospital Association recommends that a general community hospital have between three percent and 15 percent of its beds as a psychiatric unit. At the present time, neither Mid-

Valley Hospital, Okanogan-Douglas County Hospital nor North Valley Hospital have designated psychiatric units. As the population in the county grows, so may the need for such a unit.

At the present time, ambulance service in the upper Methow Valley is adequate.

Alcoholism is the Methow Valley's most serious drug abuse problem. Although there are no treatment facilities in the valley, an alcoholism center is available for use in Omak. The counselor assigned to the Methow Valley area is also trained to treat alcoholism. The county has no plans at present to increase the number of drug abuse facilities.

Schools - Baseline school age population projections were calculated using data from School District #350's actual enrollment figures from 1972 to 1980 and the Methow Valley population projections.

The baseline projections forecast an increase in school age population from 713 in 1980 to 888 in 2000. This would imply an increase in public school enrollment from 606 in 1980 to 755 in 2000, and an increase in private school enrollment from 107 in 1980 to 133 in 2000. The annual rate of increase for school age population is forecast to be about 1.3 percent, compared to 2 percent for the total population.

The required number of teachers was expected to increase also, by about seven, during the same period. Operating costs would be increased by over \$234 thousand per year, and there would be a clear need between the year 2000 and 2005 to provide additional square footage for school use.

#### Public Services - Alternatives II - V

Water - In order to assess the impacts of ski development on water systems, peak water demands were estimated. The estimates were made by assuming that the additional maximum population projected under each alternative requires a capacity of 450 gallons per capita for domestic use on a peak day.

A substantial portion of the water demand generated for Alternatives II through V outside of Twisp and Winthrop would continue to be met by individual wells. Investigations conducted indicated that local inflows from fracture and joint zones in the adjacent bedrock could potentially be used with negligible impact on the ground water level and continuous ground water availability. Small group water systems may be established, with increased development alternatives to minimize delivery costs. Forest Service estimates for daily water consumption at the ski development, based on skier capacity, is 50,000 gallons for Alternative II; 111,000 gallons for Alternative III; 175,000 gallons for Alternative IV and 225,000 gallons for Alternative V.

Table 32 shows the projected increased peak seasonal demand for the Twisp and Winthrop water systems. These forecasts show the difference between the summer peak demand (Alternative I) and the winter peak demand (Alternatives II through V).

The 1980 budget for Twisp allocated \$88,529 for the water system. This was \$96 per capita based upon the permanent population figure of 921. The budget for the Winthrop water system was \$34,365 or \$84 per person based upon a permanent population of 411. No attempt has been made to project future costs for these two water systems. In the case of Winthrop and Twisp, capital improvement costs will be called for and these expenditures could significantly affect future water system costs.

Sewage Disposal (Incorporated Areas) - The addition of seasonal peak demand to the two municipal systems, Twisp and Winthrop, would create significant short-term demands on the sewer treatment facilities. Peak demand for both systems would occur in 2000. The impact demand for Twisp would be within limits of the current system through 1995 with Alternative IV. For Winthrop, the impact demand would be equal to almost 33 percent of capacity. When the baseline projections are taken into account, Twisp would require a system over twice the current capacity by 2000. The situation for Winthrop is not as acute in terms of capacity; system demand by 2000 would be about 33 percent greater than current capacity. However, the treatment method at Winthrop already needs upgrading.

The increased winter seasonal demand at Early Winters would eventually be offset by rising summer seasonal demand after the year 2000. This implies that the current local concerns with sewage and waste water treatment are well founded since improvements will be required whether or not a ski resort is built.

(Unincorporated Areas) - Population growth impacts as a result of each development alternative will increase the number of private septic tanks in the unincorporated areas and the Base Area.

The Okanogan Board of County Commissioners through Resolution #31-83 on June 21, 1983, adopted provisions of the Comprehensive Sewer Plan (Mazama - Early Winters Update) (Beck, November 1982). The Resolution covers private lands above Weeman Bridge in the upper Methow Valley. Those provisions that apply to the establishment and funding of a sewage disposal facility are:

- a) "The County should opt for establishment of a Utility Local Improvement District (ULID) under the County Services Act as a means of providing and implementing framework for sewerage improvements;"
- b) "Provided, that if there are existing advanced wastewater treatment plants within the ULID service area whose effluents meet or exceed the treatment level of the community treatment system, then the landowners or his assignees of such plants may be required to participate in the ULID to the extent of initial construction cost but may not be required to participate in the maintenance and operation costs of such system;"
- c) "The County should, if necessary, instrument a ULID Bond to finance conventional wastewater treatment and collection in the Mazama area;"
- d) "The County should establish an onsite wastewater maintenance district for the unsewered portion of the study area."

TABLE 32: Water System Capacity Impacts Over Alternative I  
 (Baseline) Twisp and Winthrop (gallons per day), 1980-2000

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
<b><u>Twisp</u></b>					
Alternative II <sup>o</sup>	----	134,550	104,850	19,600	13,500
Alternative III					
Additional Impact	----	-----	178,650	134,100	79,650
Total (Alt II+III)	----	-----	283,500	153,700	93,150
Alternative IV					
Additional Impact	----	-----	-----	205,200	147,600
Total (Alt II+III+IV)	----	-----	-----	358,900	240,750
Alternative V					
Additional Impact	----	-----	-----	-----	112,050
Total (Alt II+III+IV+V)	----	-----	-----	-----	352,800
	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
<b><u>Winthrop</u></b>					
Alternative II	----	58,950	45,900	27,450	5,850
Alternative III					
Additional Impact	----	-----	78,300	58,950	34,650
Total (Alt II+III)	----	-----	124,200	86,400	40,500
Alternative IV					
Additional Impact	----	-----	-----	90,000	64,800
Total (Alt II+III+IV)	----	-----	-----	176,400	105,000
Alternative V					
Additional Impact	----	-----	-----	-----	49,500
Total (Alt II+III+IV+V)	----	-----	-----	-----	154,500

<sup>o</sup>Demand is calculated at 450 gallons per day per person.

Listed in (Table 33) are construction cost estimates for sewage treatment facilities in the area above Weeman Bridge (Beck and Associates, November, 1982). These estimates include design engineering and administration costs. They do not contain costs for land purchase or easements. The three phase listing covers the cost of a small facility (Phase 1) that would serve the projected growth of the area as in Alternative II, up to (Phase 3) that would serve maximum development of the area - Alternative V.

Table 33

**ESTIMATED CONSTRUCTION COSTS  
FOR WASTEWATER TREATMENT FACILITY  
AND SEWER SYSTEM**

<u>Phase</u>	<u>Previous Cost</u>	<u>Sewer System</u>	<u>Wastewater Treatment Facility</u>	<u>Total</u>
1		1,185,000	2,862,000	4,047,000
2	4,047,000	1,135,000	1,881,000	7,063,000
3	7,063,000	804,000	1,774,000	9,641,000

Solid Waste - A Draft Okanogan County Solid Waste Management Plan Update has been completed. This plan includes an evaluation of the current solid waste land fill limitations in the Methow Valley as well as projected needs with ski development. One of the recommendations for this County-wide plan, is for one central land fill located in the Okanogan Valley with a transfer facility in the Methow Valley. The centralized land fill will accommodate the disposal volumes resulting from ski development.

Electricity - An unofficial load estimate for the beginning of the ski hill operation is two to four megawatts. The existing 12.5 KV distribution feed line to the area could handle the load for the construction period. The line is insulated for 25 KV. It would need to be converted to this voltage sooner than anticipated in the Okanogan County Electric Cooperative's long range plans to provide power for ski hill operation. The Cooperative could potentially require, depending on the size of the ski operation, increased power supply, line construction, employees and equipment. A new headquarters building might also be required. Similar impacts due to an increased number of consumers would also be felt by the PUD, but the impacts would be less for the PUD, as the ski and base developments are not located in their service area. The Electric Cooperative will supply whatever additional power supply is needed (Personal Communication: Bud Pringle, Electric Cooperative, 1981).

Gasoline - Gasoline allocations during the winter in the Methow Valley would not be sufficient for skier transportation needs. Additional supplies would need to be provided. The availability of additional gasoline is dependent upon an accessible supply. Shortages of gasoline has occurred in the summertime. Similar shortages might also occur during the winter.

Based on projected market area locations and skier travel, daily gasoline consumption was estimated for skiers by alternative. Estimates for Alternative II were 3,000 gallons; Alternative III, 10,000 gallons; Alternative IV, 18,300 gallons and Alternative V, 23,400 gallons (Hutchins, 1981).

Public Safety - The projection in (Table 34) shows that the increased costs for police services would be an additional 37.3 percent of the baseline costs for Alternative II in 2000. For Alternative III, the additional increase would be 58.3 percent, for Alternative IV it would be 68.3 percent and for Alternative V it would be 65.8 percent.

Under Alternative II, total costs for fire protection are expected to increase by \$16,240 by 2000, as compared to the current expenditure (Table 35). Ski area-related population will require more than a third of the service provided. Even larger increases in total expenditures are projected for Alternatives III, IV and V. Alternative III expenditures would be an additional \$25,340 by 2000. By 2000, Alternative IV expenditures would be \$29,708 or 40.1 percent of the current total for fire protection, and Alternative V would be 38.6 percent of the current total, or an additional expenditure of \$28,604.

Health Facilities - Based on population increases alone, additional hospital facilities would probably not be required (County-wide), even under the highest level of development. Data from comparable sites indicate that the additional demand for hospital beds due to a ski resort is quite small; one to two extra persons per day during the ski season at the 2,500 SAOT level of development. Thus, ski development impacts would probably not generate sufficient demand to justify major hospital expansions. The medical center at Twisp might be expanded due to the increased demand for physicians and emergency care in the valley.

The future demand was compared to the standard of one physician per 2,000 population in order to show how many additional doctors would be needed in the upper Methow Valley. With each higher level of development, the difference between demand and current supply increases. By 2000, the projections for all development alternatives suggest that one to two additional physicians will be needed due to the population impacts of the proposed ski development. Ski resort areas are attractive to physicians and other professionals, so that the projected demand for physicians is likely to be filled.

The demand for mental health and drug abuse facilities varies considerably in different areas. As the population increases, the demand for such facilities will also increase. However, no quantitative estimates of the need can be made.

Emergency care and first aid on the ski hill itself will be provided by a ski patrol. Additional ambulance service, based on the ski hill, will probably be required. More serious injuries will probably require use of the private helicopter service for transportation to area hospitals.

Schools - Enrollment projections for each alternative are shown in Table 36. By 2000, the ski resort related enrollment is increased 4 percent over the baseline for Alternative II, 17 percent for Alternative III, nearly 30 percent for Alternative IV and 37 percent for Alternative V.

The additional enrollment results in additional costs (Table 37). For Alternative II, the cost of the increased enrollment due to the ski development increases from \$31,800 in 1990 to \$37,100 in 2000 (constant 1980 dollars). The increased cost for 2000 is about two percent of the total school budget for that year. Larger increased costs are projected for Alternatives III and IV. By 2000, Alternative V projects additional pupil expenditures of \$188,150 over the baseline projection, which is about 22 percent of the total 2000 school budget.

TABLE 34: Projected Increased Costs Over Baseline for Police Services  
in the Methow Valley, 1980-2000

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
Baseline Costs (Alternative I)	\$137,739	\$148,557	\$160,044	\$172,666	\$186,361
Alternative II					
Impact Population <sup>a</sup>	----	965	1,121	1,127	1,160
Cost <sup>b</sup>	----	\$ 57,900	\$ 67,260	\$ 67,620	\$ 69,600
Alternative III					
Impact Population <sup>a</sup>	----	----	1,818	1,813	1,810
Cost <sup>b</sup>	----	----	\$109,080	\$108,780	\$108,600
Alternative IV					
Impact Population <sup>a</sup>	----	----	----	2,151	2,122
Cost <sup>b</sup>	----	----	----	\$129,060	\$127,320
Alternative V					
Impact Population <sup>a</sup>	----	----	----	----	2,043
Cost <sup>b</sup>	----	----	----	----	\$122,580

<sup>a</sup> Average Annual (FTE) Population

<sup>b</sup> Costs @ \$60 per person per year. (Three police for each 1,000 population.  
Average annual cost per police officer = \$20,000)

TABLE 35: Projected Incremental Cost for Fire Protection in the Methow Valley,  
1980-2000

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
Baseline Costs (Alternative I)	\$52,826	\$57,879	\$62,799	\$68,207	\$74,119
Alternative II					
Impact Population <sup>a</sup>	----	965	1,121	1,127	1,160
Cost <sup>b</sup>	----	\$13,510	\$15,694	\$15,778	\$16,240
Alternative III					
Impact Population <sup>a</sup>	----	----	1,818	1,813	1,810
Cost <sup>b</sup>	----	----	\$25,452	\$25,382	\$25,340
Alternative IV					
Impact Population <sup>a</sup>	----	----	----	2,151	2,122
Cost <sup>b</sup>	----	----	----	\$30,114	\$29,708
Alternative V					
Impact Population <sup>a</sup>	----	----	----	----	2,043
Cost <sup>b</sup>	----	----	----	----	\$28,604

<sup>a</sup> Average Annual Population (FTE)

<sup>b</sup> @ \$14 per person per year, current level of funding.

TABLE 36: Projected School Enrollment Increases (School District #350), 1980-2000

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
Baseline Public School Enrollment (Alternative I)	606	640	674	713	755
<u>Alternative II</u>					
-Permanent Population Increase		157	163	195	
-Public School Enrollment <u>Increase</u> over Alt I		24	24	28	
-Total Public School Enrollment <sup>a</sup>		698	737	783	
Percent of Total		3%	3%	4%	
Total Increase Number of Students		24	24	28	
<u>Alternative III</u>					
-Permanent Population Increase		849	844	842	
-Public School Enrollment <u>Increase</u>		131	126	122	
-Total Public School Enrollment		829	863	905	
Percent of Total		19%	17%	17%	
Number of Students		155	150	150	
<u>Alternative IV</u>					
-Permanent Population Increase			1010	980	
-Public School Enrollment <u>Increase</u>			151	142	
-Total Public School Enrollment			1014	1047	
Percent of Total			30%	28%	
Number of Students			301	292	
<u>Alternative V</u>					
-Permanent Population Increase				1018	
-Public School Enrollment <u>Increase</u>				148	
-Total Public School Enrollment				1196	
Percent of Total				37%	
Number of Students				440	

<sup>a</sup> Public school enrollment is 85% of total

TABLE 37: Estimated Public School Costs, School District #350  
1980-2000, (constant 1980 dollars)

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
Baseline Costs (\$) (Alternative I)	1,547,205	1,592,255	1,637,305	1,688,980	1,744,630
<b><u>Alternative II</u></b>					
Increased Public School Enrollment		24	24	28	
Cost of Increased Enrollment <sup>a</sup> (\$)		31,800	31,800	37,100	
Total Costs (\$)		1,669,105	1,720,780	1,781,730	
Alternative II Percent of Baseline Costs		2%	2%	2%	
<b><u>Alternative III</u></b>					
Increased Public School Enrollment		131	126	122	
Cost of Increased Enrollment (\$)		173,575	166,950	161,650	
Total Costs (\$)		1,842,680	1,887,730	1,943,380	
Alternatives II & III Percent of Baseline Costs		11%	12%	11%	
<b><u>Alternative IV</u></b>					
Increased Public School Enrollment			151	142	
Cost of Increased Enrollment (\$)			200,075	188,150	
Total Costs (\$)			2,087,805	2,131,530	
Alternatives II, III & IV Percent of Baseline Costs			24%	22%	
<b><u>Alternative V</u></b>					
Increased Public School Enrollment				148	
Cost of Increased Enrollment (\$)				196,100	
Total Costs (\$)				2,327,630	
Alternatives II thru V Percent of Baseline Costs				33%	

<sup>a</sup> Cost per student in School District #350 is \$1,325

Similarly, there will be additional demand for teachers in the Methow Valley. The current supply is 33 teachers, though State standards require only 26 for current enrollment. By 2000, Alternatives II, III, IV and V will require an additional one, six, 12 and 17 teachers, respectively. These figures suggest a considerable expansion over the current need and the baseline projections, especially for Alternatives IV and V.

The projections in (Table 38) show a continuing surplus of space at the high school for all alternatives. The middle school is already too small (Table 39). By 2000, under Alternative V, 113 percent as much space as is currently available would be needed to meet State standards. Currently, some middle school pupils are housed at the high school; this solution to the middle school deficit could be used until the year 2000 under Alternatives II and III. The projected elementary school deficit is the most severe (Table 40). All alternatives project a need for increasing the current capacity by the year 2000.

#### Fiscal Analysis

The following estimates of expenditures for public services and projected revenues are based on peak use since most facilities and services will have to handle peak capacity.

Projected baseline expenditures for public services are found in (Table 41). The expenditure impacts for each development alternative are shown in (Table 42). Expenditure rates for new permanent population were assumed to be the same as for the baseline population; that is, \$574 per person per year, excluding the school costs. The required public services and facilities for the seasonal population and visitors are difficult to estimate. The public service programs are almost always designed for the permanent residence population, with only a few areas directly affected by seasonal visitors or tourists. Items that are financed through user fees such as water, sewer and solid waste are assumed to be paid for by visitors through their room rental fees and the overhead costs that businesses pay in providing goods and services to their customers. Thus, the costs of providing these services are paid for indirectly by the visitors and directly by the user fees paid by the owners of tourist accommodations. The exact distribution of tourist accommodations cannot be projected. An extensive base development would require its own sewer system in order to avoid ground water pollution problems, and probably a water system as well. Any effect of these systems on county expenditures would depend on the ownership of the systems. If the developer is required to install and operate the systems, there would be no effect on county expenditures. If the county installed and/or operated the systems, the total expenditures would be larger than estimated by that amount.

The projected revenues for Alternatives II, III, IV and V are shown in (Table 43). The estimates take account of three major categories of revenue: property taxes, sales taxes and intergovernmental transfer payments. Property tax increases based upon the increased value of land and improvements are shown in (Table 44). Sales tax applies to purchases for operation of the ski development and expenditures by visitors. Transfer payments increases are calculated only

for the increase in permanent population (excludes seasonal residents and visitors), as they are usually distributed on a per capita basis. It should be noted that the transfer payments were calculated using the national average, because there is considerable variation in the rates from year to year for localities. Continued receipt of such revenues depends on federal and state policies.

The differences between the projected expenditures and revenues for public services were identified as the fiscal impacts. These data are shown in (Table 45). For each development alternative, the expenditures were greater during the beginning periods than were the revenues. This occurs because increased property valuation of new development would lag behind the need for increased revenues for additional public services and facilities.

The projected maximum deficit at any one time is: \$16,200 for Alternative II and \$176,000 for Alternatives III, IV, and V. These deficits are equal to .4 and 4.4 percent, respectively, of the upper Methow Valley projected baseline budget. The projected maximum surplus at any one time is \$48,400 for Alternative II, none for Alternative III, \$93,000 for Alternative IV and \$248,000 for Alternative V.

The projected cumulative fiscal effects by alternative includes an assumed, on-going balance for Alternative I, a cumulative net surplus of \$150,000 for Alternative II, a cumulative net deficit of \$1,400,000 for Alternative III, a cumulative net deficit of \$950,000 for Alternative IV and a cumulative net deficit of \$490,000 for Alternative V.

#### Mitigation

Okanogan County will adopt an ordinance enacting an Admissions Tax as described in RCW 36.38.010 on ski areas within its boundaries. This law authorizes counties to enact an ordinance that would fix a tax of not more than one cent on twenty or a fraction thereof to be paid for County purposes by persons who pay an admission charge to ski areas. This tax will more than offset projected deficits resulting from costs of increased services.

The distribution of these funds to affected public service providers can be done through budgeting procedures within County government. Unfortunately, direct community needs are not always under County budgetary control, therefore, an alternative is proposed.

The alternative calls for a three fold approach to providing funds for public purposes. These approaches are outlined below:

- Enact an admissions tax at a rate of 2½ percent on ski related charges for the purpose of funding general County government.
- Negotiate a like amount to be contributed by the eventual "Base Area" developer(s) to a Foundation established for the purpose of furthering community goals and meeting community needs. Additional contributions shall be solicited from other area developers.

- Charge back, in accordance with State law, to developer(s), those direct public service and facilities costs as identified by evaluation of future projects.

TABLE 38: Estimated High School Facilities, School District #350, 1980-2000

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
<u>Baseline Projection (Alternative I)</u>					
Required Square Footage, Public School	30,600	27,900	29,250	31,050	32,850
<u>Alternative II</u>					
Additional Enrollment <sup>a</sup>		7	7	8	
Additional Square Footage Needs		1,050	1,050	1,200	
Total Required Square Footage	30,300	32,100	34,050		
Surplus or Deficit	+24,121	+22,321	+20,371		
<u>Alternative III</u>					
Additional Enrollment <sup>a</sup>	38	37	35		
Additional Square Footage Needs	5,700	5,550	5,250		
Total Required Square Footage	36,000	37,650	39,300		
Surplus or Deficit	+18,421	+16,771	+15,121		
<u>Alternative IV</u>					
Additional Enrollment <sup>a</sup>		44	41		
Additional Square Footage Needs		6,600	6,150		
Total Required Square Footage	44,250	45,450			
Surplus or Deficit	+10,171	+ 8,971			
<u>Alternative V</u>					
Additional Enrollment <sup>a</sup>				43	
Additional Square Footage Needs				6,450	
Total Required Square Footage				51,900	
Surplus or Deficit				+ 2,521	

<sup>a</sup> Rounded to nearest whole number

Existing square footage = 54,421

Standard = 150 square feet per pupil

TABLE 39: Estimated Middle School Facilities, School District #350, 1980-2000

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
<u>Baseline Projection</u>					
Required Square Footage	21,750	22,050	23,250	24,600	26,100
<u>Alternative II</u>					
Additional Enrollment <sup>a</sup>		6	6	6	
Additional Square Footage Needs		900	900	900	
Total Required Square Footage		24,150	25,500	27,000	
Surplus or Deficit		- 4,828	- 6,178	- 7,678	
<u>Alternative III</u>					
Additional Enrollment <sup>a</sup>		30	29	28	
Additional Square Footage Needs		4,500	4,350	4,200	
Total Required Square Footage		28,650	29,850	31,200	
Surplus or Deficit		- 9,328	- 10,528	- 11,878	
<u>Alternative IV</u>					
Additional Enrollment <sup>a</sup>		35	33		
Additional Square Footage Needs		5,250	4,950		
Total Required Square Footage		35,100	36,150		
Surplus or Deficit		- 15,778	- 16,828		
<u>Alternative V</u>					
Additional Enrollment <sup>a</sup>					34
Additional Square Footage Needs					5,100
Total Required Square Footage					41,250
Surplus or Deficit					-21,928

a Rounded to nearest whole number

Existing square footage = 19,322 square feet

Standard = 150 square feet per pupil

TABLE 40: Estimated Elementary School Vacilities, School District #350, 1980-2000

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
<b><u>Baseline Projection</u></b>					
Required Square Footage	23,130	27,630	29,160	30,780	32,580
<b><u>Alternative II</u></b>					
Additional Enrollment <sup>a</sup>		12	12	13	
Additional Square Footage Needs		1,080	1,080	1,170	
Total Required Square Footage		30,210	31,860	33,750	
Surplus or Deficit		- 7,962	- 9,582	-11,472	
<b><u>Alternative III</u></b>					
Additional Enrollment <sup>a</sup>		63	60	59	
Additional Square Footage Needs		5,670	5,400	5,310	
Total Required Square Footage		35,910	37,260	39,060	
Surplus or Deficit		-13,632	-14,982	-16,782	
<b><u>Alternative IV</u></b>					
Additional Enrollment <sup>a</sup>		72	68		
Additional Square Footage Needs		6,480	6,120		
Total Required Square Footage		43,740	45,180		
Surplus or Deficit		-21,462	-22,902		
<b><u>Alternative V</u></b>					
Additional Enrollment <sup>a</sup>			71		
Additional Square Footage Needs			6,390		
Total Required Square Footage			51,570		
Surplus or Deficit			-29,292		

<sup>a</sup> Rounded to nearest whole number

Existing square footage = 22,278

Standard = 90 square feet per pupil

TABLE 41: Projected Expenditures for Public Services  
 Upper Methow Valley, Alternative I, 1980-2000

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
Twisp <sup>a</sup>	\$ 465,543	\$ 507,625	\$ 553,000	\$ 602,560	\$ 656,875
Winthrop <sup>b</sup>	248,453	271,205	295,380	321,893	350,948
Okanogan County <sup>c</sup>	1,350,500	1,473,493	1,604,841	1,748,889	1,906,724
School District #350 <sup>d</sup>	1,187,351	1,292,988	1,406,301	1,537,628	1,676,398
Fire District #6 <sup>e</sup>	43,931	47,920	52,191	56,876	62,009
Other <sup>f</sup>	29,600	32,285	35,163	38,319	41,777
TOTAL	\$3,325,378	\$3,625,516	\$3,946,876	\$4,306,165	\$4,694,726

<sup>a</sup> Based upon 1980 FTE population of 931.

<sup>b</sup> Based upon 1980 FTE population of 423.

<sup>c</sup> Based upon 1980 FTE population of 3,722 for Methow Valley. County population 30,654; budget \$11,203,944.

<sup>d</sup> School expenditure data based upon information from Education Service District #171, and enrollment data from School District #350.

<sup>e</sup> Budget information supplied by Fire Chief, Twisp, Washington.

<sup>f</sup> Includes contributions to such items as the hospital and library districts.

TABLE 42: Projected Incremental Fiscal Expenditure Impacts over Baseline  
(Alternative I) for the Upper Methow Valley

Alternatives II through V, 1980 to 2000

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
<b>Alternative II</b>					
Seasonal Population & Visitors	----	2,772	2,789 <sup>c</sup>	2,806 <sup>c</sup>	2,826 <sup>c</sup>
Permanent Population	----	-----	157 <sup>c</sup>	168 <sup>c</sup>	195 <sup>c</sup>
Expenditures (except schools) <sup>a</sup>	----	187,387	278,654	283,248	302,968
School Expenditures <sup>b</sup>	----	-----	31,800	31,800	37,100
Total Expenditures' Impact	----	187,387	310,454	315,048	340,068
<b>Alternative III</b>					
Seasonal Population & Visitors	----	-----	5,389	5,403 <sup>c</sup>	5,398 <sup>c</sup>
Permanent Population	----	-----	1,006 <sup>c</sup>	1,007 <sup>c</sup>	1,037 <sup>c</sup>
Expenditures (except schools) <sup>a</sup>	----	-----	941,740	943,261	960,143
School Expenditures <sup>b</sup>	----	-----	205,375	198,750	198,750
Total Expenditures	----	-----	1,147,115	1,142,011	1,158,893
<b>Alternative IV</b>					
Seasonal Population & Visitors	----	-----	-----	7,609	7,583 <sup>c</sup>
Permanent Population	----	-----	-----	2,027 <sup>c</sup>	2,027 <sup>c</sup>
Expenditures (except schools) <sup>a</sup>	----	-----	-----	1,677,866	1,676,109
School Expenditures <sup>b</sup>	----	-----	-----	398,825	386,900
Total Expenditures	----	-----	-----	2,076,691	2,063,009
<b>Alternative V</b>					
Seasonal Population & Visitors	----	-----	-----	-----	8,437 <sup>c</sup>
Permanent Population	----	-----	-----	-----	3,045 <sup>c</sup>
Expenditures (except schools) <sup>a</sup>	----	-----	-----	-----	2,318,171
School Expenditures <sup>b</sup>	----	-----	-----	-----	503,000
Total Expenditures	----	-----	-----	-----	2,901,171

<sup>a</sup> @ \$574 per capita (annually) or \$1.57 per day

<sup>b</sup> School expenditures apply only to permanent population @ #1,325

<sup>c</sup> Difference between baseline and total projected by Alt.

TABLE 43: Projected Revenues, Upper Methow Valley  
Alternatives II through V, 1980 to 2000

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
<b>Property Taxes</b>					
Alternative II	----	145,663	197,976	233,920	277,001
Alternative III	----	-----	498,529	570,840	660,000
Alternative IV	----	-----	-----	949,800	1,095,379
Alternative V	----	-----	-----	-----	1,493,252
<b>Sales Tax<sup>a</sup></b>					
Alternative II	----	40,246	40,405	41,329	42,038
Alternative III	----	-----	83,115	85,370	86,991
Alternative IV	----	-----	-----	137,378	140,202
Alternative V	----	-----	-----	-----	185,125
<b>Transfer Payments<sup>b</sup></b>					
Alternative II	----	-----	55,892	58,028	69,420
Alternative III	----	-----	358,136	358,492	369,172
Alternative IV	----	-----	-----	721,612	721,612
Alternative V	----	-----	-----	-----	1,081,020
<b>Total Revenues</b>					
Alternative II	----	185,909 <sup>c</sup>	294,273	333,277	388,459
Alternative III	----	-----	939,780	1,014,702	1,116,163
Alternative IV	----	-----	-----	1,808,790	1,957,193
Alternative V	----	-----	-----	-----	2,762,397

<sup>a</sup> Sales tax applied to operating purchases and to local taxable spending by visitors (@ \$33 per day) based upon data from the Idaho Ski Study, 1979. The local counties and cities receive 0.5 percent of the taxable purchase price. Sales Tax = I x .79 x MS x .005, where I = Total wage and salary income from project; .79 = Expendable income; MS = Market Share of Methow Valley (derived from income multipliers); .005 = County/local share of sales tax.

<sup>b</sup> Transfer payments are payments made by federal and state agencies to local government. These payments are based upon the permanent population impacts. Payments are estimated to be 62 percent of per capita expenditures (excluding schools) or \$356. Sixty-two percent is the average for the United States.

<sup>c</sup> Does not include increased transfer payments for 1985; no net in-migration was forecast for that year.

TABLE 44: Projected Revenues - Alternatives I-V

Baseline Property Tax and Impacts on Baseline Property Tax from Increased Land Values, Commercial Improvements, Residential Improvements and Base Development and Comparison with 106 Percent Lid Levy Maximum, Alternatives II through V, Upper Methow Valley, 1980 - 2000 (in constant 1980 dollars)<sup>a</sup>

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
<b>Alternative I</b>					
Property Tax	664,512	837,493	1,010,474	1,182,510	1,386,684
106% Lid	0	889,267	1,120,755	1,352,242	1,582,465
<b>Alternative II</b>					
Impact of Base Development	0	77,120	87,977	98,361	110,294
Impact of Increased Land Values	0	41,821	58,549	65,054	71,560
Impact from Increase in Comm. Building Space	0	3,883	9,708	17,474	27,182
Impact from Add. Residential Impr. <sup>c</sup>	0	22,839	41,742	53,031	67,965
Alternative II Impacts	0	145,663	197,976	233,920	277,001
Baseline Property Tax Plus Impacts	664,512	983,156 <sup>d</sup>	1,208,450	1,416,430	1,663,685
106% Lid Maximum <sup>b</sup>	0	975,428 <sup>d</sup>	1,305,343	1,617,179	1,895,503
<b>Alternative III</b>					
Impact of Base Development	0	0	175,953	196,721	220,588
Impact of Increased Land Values	0	0	171,000	181,222	193,304
Impact from Increase in Comm. Building Space	0	0	13,533	25,888	40,126
Impact from Add. Residential Impr. <sup>c</sup>	0	0	136,043	167,009	205,982
Alternative III Impacts	0	0	498,529	570,840	660,000
Baseline Property Tax Plus Impacts	664,512	983,156	1,509,003	1,753,350	2,046,684
106% Lid Maximum <sup>b,d</sup>	0	975,428	1,482,824 <sup>e</sup>	1,985,691	2,346,378
<b>Alternative IV</b>					
Impact of Base Development	0	0	0	327,868	367,647
Impact of Increased Land Values	0	0	0	296,461	323,412
Impact from Increase in Comm. Building Space	0	0	0	33,007	49,187
Impact from Add. Residential Impr. <sup>c</sup>	0	0	0	292,464	355,133
Alternative IV Impacts	0	0	0	949,800	1,095,379
Baseline Property Tax Plus Impacts	664,512	983,156	1,509,003	2,132,310 <sup>f</sup>	2,482,063
106% Lid Maximum <sup>b,d</sup>	0	975,428	1,463,824	2,295,154 <sup>f</sup>	2,853,512
<b>Alternative V</b>					
Impact of Base Development	0	0	0	0	441,176
Impact of Increased Land Values	0	0	0	0	481,401
Impact from Increase in Comm. Building Space	0	0	0	0	56,306
Impact from Add. Residential Impr. <sup>c</sup>	0	0	0	0	514,369
Alternative V Impacts	0	0	0	0	1,493,252
Baseline Property Tax Plus Impacts	664,512	983,156	1,509,003	2,132,310	2,879,936
106% Lid Maximum <sup>b,d</sup>	0	975,428	1,463,824	2,295,154	3,009,535

<sup>a</sup> Derived from County Assessor's Real Estate Values by Tax Code Area, Computer Printout, 1981.

<sup>b</sup> Lid levy maximums were calculated based on preceding five-year period times (1.06).

<sup>c</sup> Calculated by projecting total assessed value per acre using increases in density. Average residential improvements were assessed in constant average values for 1980 and 2000.

<sup>d</sup> Calculated using 1983 as year with highest tax base and exempting new construction for that year.

<sup>e</sup> Calculated using 1988 as year with highest tax base and exempting new construction for that year.

<sup>f</sup> Calculated using 1993 as year with highest tax base and exempting new construction for that year.

TABLE 45:

**Comparison of Tax Expenditures and Revenues Upper  
Methow Valley, Alternatives II through V, 1980-2000 (1980 Dollars)**

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
<b>Alternative II</b>					
Expenditures	----	187,387	310,454	315,048	340,068
Revenues	----	185,909	294,273	333,277	388,459
Difference	----	-1,478	-16,181	18,229	48,391
Cumulative Balance					+123,048
<b>Alternative III</b>					
Expenditures	----	-----	1,147,115	1,142,011	1,158,893
Revenues	----	-----	939,780	1,014,702	1,116,163
Difference	----	-----	-207,335	-127,309	-42,730
Cumulative Balance					-1,788,179
<b>Alternative IV</b>					
Expenditures	----	-----	-----	2,076,691	2,063,009
Revenues	----	-----	-----	1,808,790	1,957,193
Difference	----	-----	-----	-267,901	-105,816
Cumulative Balance					-2,578,854
<b>Alternative V</b>					
Expenditures	----	-----	-----	-----	2,901,171
Revenues	----	-----	-----	-----	2,762,397
Difference	----	-----	-----	-----	-138,774
Cumulative Balance					-2,661,249

## SUMMARY OF PROBABLE ADVERSE EFFECTS WHICH CANNOT BE AVOIDED

Implementation of any of the development alternatives (Alternative II through V) will result in some adverse impacts which cannot be avoided. Mitigation will lessen but not totally eliminate the effects and therefore must be considered "trade offs" in considering the benefits of ski development. The environmental effects are presented earlier in this chapter with a summary of the more significant adverse effects which cannot be avoided listed here:

1. Air Quality - Induced development of residences and visitor accommodations with wood heating facilities will result in the lowering of air quality in the Methow Valley. Though State air quality standards can be met with mitigation, some air degradation would be unavoidable.
2. Soil and Water - Construction activities requiring vegetation removal and surface disturbance will result in soil movements until stabilization occurs. Periods of increased erosion and potential debris flows can be expected.
3. Wildlife - Loss of key deer winter range in amounts up to 15% will result from residential land development. Development will alter the behavior and habitat of a known pair of spotted owls and could stress them out of existence. Wildlife species which are intolerant of human activity and physical disturbance will perish or be displaced.
4. Social-Economic - The rate of social change will increase and there will be a loss of community stability and cohesiveness due to the higher population growth rate. The rate of growth may be so rapid as to be socially disruptive. There will be an increase in the cost of living resulting from pressures associated with housing demand. The capacity of community services will have to be increased.
5. Agricultural Lands - The increased need for residential developments will result in an increased rate of conversion of agricultural lands to other uses.
6. Transportation - Increased levels of ski development will result in increased levels of traffic and congestion on highways and roads in the Methow Valley. Peak volume levels will be especially prominent in the vicinity of the ski development at times of opening and closing of facilities.
7. Visuals - There will be some degradation of visual quality on Sandy Butte. The area currently classified as Retention will be reduced by 24% (Alternative V) with areas classed as Partial Retention and Modification increasing in size. The rural character of the Methow Valley will give way to a more urban setting where new housing developments occur.
8. Recreation - Opportunities to participate in recreation activities in a relatively unmodified and uncrowded setting on Sandy Butte will be lost. The level of recreation activities will increase throughout the area.

## RELATIONSHIP BETWEEN SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Alternative I would not change existing uses or long-term productivity of lands proposed for development.

Alternatives II-V would produce concentrated developed recreation use. The effects on productivity for the various resources on National Forest land are discussed in this chapter. Mitigation measures, to ensure that long-term productivity of the affected resources is maintained to the largest extent possible, are included in Chapters II and IV. Environmental safeguards would be included in any special use permit issued for construction and operation.

For lands outside the National Forest, long term agriculture productivity would be reduced in the development of a more urbanized setting. This would occur particularly from Weeman Bridge to the ski hill base, and to a lesser extent from Weeman Bridge to Twisp. This transformation of private land from a rural setting to a more urbanized setting has already started and is likely to continue regardless of ski area development. Environmental safeguards on private land would be enforced by Okanogan County through their master planning and zoning processes and by the State of Washington through application of environmental control legislation.

### IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Irreversible commitment of resources refers to non-renewable resources, such as minerals or cultural resources, or to those factors which are renewable only over long time spans, such as soil productivity. Irreversible also includes loss of future options.

Irretrievable commitment of resources refers to losses of production, harvest, or use of renewable natural resources.

Alternative I would not cause any significant irreversible or irretrievable commitment of resources.

Alternatives II-V would cause some commitment of resources on public and private land. These commitments have been discussed in previous sections of this chapter and major items are summarized here:

#### Irreversible

- 1) Land would be committed to permanent type improvements such as roads, buildings, and ski lifts.
- 2) Land capable of providing semi-primitive recreation would be committed to concentrated developed recreation use.

- 3) Current rural setting would convert to a more urbanized setting, particularly from Weeman Bridge to the base of the ski hill.
- 4) Energy would be committed during the construction and operation of the ski facility and for transporting visitors to and from the site.

#### Irretrievable

- 1) The loss of timber production on those acres cleared for ski runs and facilities of 1700 to 190,000 board feet per year.
- 2) Reduction of visual quality from retention and partial retention to partial retention and modification.
- 3) Loss of 9-15 percent of the deer winter range using Forest Service estimates.

#### POSSIBLE CONFLICTS WITH OTHER GOVERNMENT PLANS

Various permits will be required of Federal, State, and local agencies for ski development. Permit application and approval will provide specific information of agency requirements.

The Washington State Department of Game has established state-wide goals for wildlife populations for the next 12-15 years. The goal for mule deer is to maintain deer herds at current (1970-1979) mean levels. Due to the reductions in amounts of winter range projected to occur on private land in all Alternatives, conflict with the Game Department's Strategies for Washington's Wildlife, 1982, would likely occur.

Private land use in the unincorporated area in the vicinity of the proposed ski development is regulated by Okanogan County Comprehensive Zoning Ordinance No. 79-8. The two zoning districts that apply to this area are: the Methow Review District and the Special Review Highway Commercial District.

The purpose of the Methow Review District is to protect the sensitive environmental, aesthetic and economic qualities of the valley by allowing residential, commercial, industrial development and land subdivision only after thorough review. The review permits County officials to exercise their discretion with regard to what is in conformance with land use and to impose standards.

Recreational developments are allowed in the Methow Review District through supplemental zoning for a planned unit development. The intent of the supplemental zoning requirement is to permit the applicant and County to tailor specific desirable development design to a particular tract of land.

The Special Review Highway Commercial District was established to provide a means of concentrating commercial development in an area of high growth potential. Commercial developments are allowed through a review process.

## V. LIST OF PREPARERS

### PREPARERS

1. Steering Committee - A steering committee directed the evaluation process by the Interdisciplinary Team and reviewed recommendations of that team. The steering committee is made up of:

Bill McLaughlin - Forest Supervisor

Archie Eiffert - Designated County Commissioner

Irv Smith - Forest Recreation and Land Management Planning Staff

Jim King - County Planner

Elton Thomas - District Ranger (Winthrop)

2. Interdisciplinary Team - The Environmental Impact Statement was prepared by an Interdisciplinary Team of the following:

#### Name

Rollin Whited      Discipline: Forester

Coordination Responsibilities: Team Leader - Recreation,  
Visual, Cultural and Mineral

Education: B.S. Major, Forestry - So. Illinois U. - 1963

#### Work Experience:

1. Land Management Planner, - 11/78 to Present  
Okanogan NF
2. District Recreation Staff, - 04/75 to 11/78  
Tahoe NF
3. District Fire Mgmt Officer, - 06/72 to 04/75  
Los Padres NF
4. Acting District Ranger, - 01/72 to 06/72  
Los Padres NF
5. District Resource Forester, - 11/68 to 01/72  
Los Padres NF

Mark Morris      Discipline: Administrative Officer

Coordination Responsibilities: Economics and Skier Demand

Education: Bachelors Degree, Public Administration -  
Chico State University - 1972

Master of Public Administration - Chico State University -  
1974

Work Experience:

1. Administrative Officer, Okanogan NF - 1978 to Present
2. Program Analysis Ofcr, Okanogan NF - 1976 to 1978
3. Administrative Officer, Waldport District, Siuslaw NF - 1975 to 1976
4. Forestry Tech, Lake Tahoe Basin M.U. - 1974 to 1975

Name

Jim King

Discipline: County Planner

Coordination Responsibilities: County & State Governments

Education: M.S. Microbiology (Environmental Health) -  
Montana State University - 03/73

B.S. Bacteriology (Public Health) - Washington State  
University - 06/69

Work Experience:

1. Planning Director, Okanogan County Planning Department - 1979 to Present
2. Staff Planner - 1973 to 1979
3. Sanitarian, Okanogan County Health Department - 1969 to 1972

Elton Thomas

Discipline: District Ranger

Coordination Responsibilities: Public Involvement

Education: B.S. Forest Management (Recreation Option) -  
Oregon State University - 1967

Work Experience:

1. Winthrop District Ranger, Okanogan N.F. - 03/77 to Present
2. Head of Recreation and Wilderness Admin Section, R-6 Recreation - 01/76 to 03/77

Jim Hutchins

Discipline: Forester

Coordination Responsibilities: Socio-Economic

Education: M.S. Forestry - Yale University - 05/74  
B.S. Forestry - Ohio State University - 06/71

Work Experience:

1. Forester/Socio-Economic Analyst,  
Okanogan N.F. - 06/80 to Present
2. Environmental Specialist,  
Bonneville Power Administration - 02/77 to 11/78
3. Recreation Forester, Mt. Hood N.F. - 05/75 to 01/77
4. Park Mgmt Instructor, Butler Comm  
College, Pennsylvania - 08/74 to 04/75
5. Technical Forestry Asst, Conn. Dept.  
of Environmental Protection - 06/73 to 08/73

Dave Yenko

Discipline: Forester

Coordination Responsibilities: Recreation, Public  
input and EIS document

Education: B.S. Forestry - Washington State University -  
06/66

Work Experience

1. Assist. Recreation Staff,  
Okanogan N.F. - 11/78 to Present
2. Resource Assist., Palisades  
R. D., Targhee N.F. - 10/76 to 11/78
3. Forester, Palisades R.D.,  
Targhee N.F. - 06/73 to 10/76
4. Forester, Soda Springs R.D.,  
Caribou N.F. - 01/73 to 06/73
5. Forester, Freedom R.D.,  
Caribou N.F. - 09/67 to 01/73

VI. LIST OF AGENCIES, ORGANIZATIONS AND PERSONS TO WHOM COPIES OF STATEMENT ARE SENT

Federal Agencies

Agriculture Stabilization and Conservation Service  
Army Corps of Engineers  
Bonneville Power Administration  
Bureau of Land Management  
Colville National Forest  
Department of Commerce  
Department of Health, Education and Welfare  
Department of Housing and Urban Development  
Department of Interior  
Deschutes National Forest  
Environmental Protection Agency  
Fish and Wildlife Service  
Isle Royale National Park  
Mt. Baker - Snoqualmie National Forest  
North Cascades National Park  
Office of Economic Opportunity  
Office of Equal Opportunities  
Office of General Council  
PACFORNET  
Pacific Northwest River Basins Commission  
Plumas National Forest  
Sawtooth National Recreation Area  
Sequoia National Forest  
Shasta Trinity National Forest  
Soil Conservation Service  
U.S. Postal Service  
Water Resources Council  
Wenatchee National Forest  
Willamette National Forest  
Winema National Forest

Washington State Agencies

Commissioner of Public Lands  
Department of Commerce and Economic Development  
Department of Ecology  
Department of Employment Security  
Department of Fisheries  
Department of Game  
Department of Natural Resources  
Department of Parks and Recreation  
Department of Social and Health Services  
Department of Transportation  
Division of Aeronautics  
Eastern Washington University  
Economic Development Administration

Office of Archaeology and Historic Preservation  
Office of Community Development  
Office of The Governor  
State Winter Recreation Commission  
University of Washington  
Washington State University

Local Agencies

Okanogan County

Assessor  
Auditor  
Board of Commissioners  
Planning Director  
Director of Public Works  
Road Engineer  
Sheriff

Towns

Okanogan  
Omak  
Pateros  
Twisp  
Winthrop

Elected Officials

State

Representative Clyde Ballard  
Senator Scott Barr  
Senator Alan Bluechel  
Representative Louis Eggers  
Representative Steve Furhman  
Senator George Sellars  
Governor John Spellman  
Representative Earl Tilley

Federal

Representative Don Bonker  
Representative Norm Dicks  
Senator Dan Evans  
Representative Tom Foley  
Senator Slade Gorton  
Representative Mike Lowry  
Representative Sid Morrison  
Representative Joel Pritchard  
Representative Al Swift

Organizations

Alaska Northwest Publishing  
Alpine Llama Adventures  
Alyeska Resort  
Amax Exploration, Inc.  
Antahkanrana Circle  
Architects of Travel  
Argus  
Aspen Skiing Corporation  
Asplund Mountaineering Shop  
Associated Press  
Atchison Logging & Lumber Company  
Audubon Society  
Automobile Club of Washington  
Bellingham Herald  
Birr Wilson & Company  
Boyd Lumber Corporation  
Boyne Falls Log Homes  
Brewster School District #111  
Burchim Chiropractic Clinic  
Cascade Holistic Economic Consultants  
Century West Engineering  
Chamber of Commerce - Brewster, Washington  
Chamber of Commerce - Okanogan, Washington  
Chamber of Commerce - Omak, Washington  
Chamber of Commerce - Oroville, Washington  
Chamber of Commerce - Pateros, Washington  
Chamber of Commerce - Tonasket, Washington  
Chamber of Commerce - Twisp, Washington  
Chamber of Commerce - Winthrop, Washington  
Chelan Valley Mirror  
CH2M Hill  
Colorado State University  
Columbia Basin Herald  
Columbia Inter-Tribal Comm.  
Columbia Materials Co.  
Colville Confederated Tribes  
Colville Statesman - Examiner  
Colville Tribal Tribune  
Community Action Council  
Community Resources Assn.  
Concrete Herald  
Coulee City News Standard  
Courier-Times  
Crown Zellerbach Corporation  
Daily Journal of Commerce  
Dames & Moore  
Delaney, Wiles, Hayes, Reitman & Brubaker, Inc.  
Denison Mines (U.S.), Inc.  
Desautel & Long  
Dodge Reports  
Eastern Washington University

Organizations (continued)

Ecology & Environment  
Economic Planning Group  
Ecosystems, Inc.  
Everett Ski-Shop  
Federation of Western Outdoor Clubs  
Fishing & Hunting News  
Forest Planning  
Forest Property Consulting Service  
Frank Orth Assoc., Inc.  
Friends of the Earth  
Frontier Lands, Inc. - Pateros, Washington  
Gazette-Tribune  
Grange News  
Hawthorne School  
HDR - Sciences  
Houghton, Cluck, Coughlin and Riley  
Idaho Pine Timber Associates  
Industrial Forestry Association  
Inst. for Environmental Studies  
Interagency Committee for Outdoor Recreation  
Interdevelopment, Inc.  
Intermountain Logging News  
Intertec Engineering Corporation  
J. J. Johnson & Associates  
James M. Montgomery Consulting Engineers, Inc.  
James Normant Company  
Joint Information Office  
Journal American  
KCTS - TV  
KGA  
KHQ - AM  
KHQ - FM  
KHQ - TV  
Kidder, Peabody & Company  
KING - AM  
KING - FM  
KING - TV  
KIRO - TV  
KIRO Radio  
KMWX Radio  
KOMO - TV  
KOMO Radio  
KOMW - AM/FM  
KOZI Radio  
KPQ - AM/FM  
KREM - AM  
KREM - FM  
KREM - TV  
KREM - TV2

Organizations (continued)

KSEM Radio  
KSTW - TV  
KUEN Radio  
KWNC Radio  
KWW Radio  
KXLY - AM  
KXLY - FM  
KXLY - TV  
Lion Mine, Ltd (N.P.L.)  
Lloyd Logging, Inc.  
Lost River Resort  
Loup Loup Ski Bowl Association  
Mayo Foundation  
Mazama Country Store  
Mazama Investors  
Mazama Neighbors  
Mazama Trading Post  
Mazamas  
McCue and Associates  
McGraw-Hill  
Mel Borgersen & Allociates, Ltd  
Methow Valley Citizens Council  
Methow Valley Irrigation Dist.  
Methow Valley News - Twisp, Washington  
Methow Valley School District #350  
Mountaineers  
National Nordic Consultants  
National Resources Defence Council  
Native American Designs  
News-Tribune  
Nordic Mt. Ski School  
North Cascade Realty, Inc.  
North Cascades Conservation Council  
North Cascades Highway Association  
Northwest Mining Association  
Northwest Pine Association  
Northwest Ski School, Inc.  
Northwest Skier & Northwest Sports  
NSAA News - National Ski Areas Association  
OFR-REA  
Okanogan City Library  
Okanogan County Electric Co-op #32  
Okanogan County Fire District #7  
Okanogan County PUD #1  
Okanogan Public Library  
Okanogan River Co-op  
Omak Chronicle - Omak, Washington  
Omak High School  
Omak City Library  
Oregon State University  
Outdoors Northwest  
Pacific Marine Technology  
Pacific Northwest Magazine

Organizations (continued)

Pacific Northwest Ski Area Association  
Pacific Northwest Ski Association  
Pacific Northwest Ski Instructors Association  
Preston L. Stephen Association, Inc.  
Public Interest Research Group  
Quad-City Herald  
Quintana Minerals Corporation  
Rainier National Bank  
Rainier Sport n' Ski  
Reeder & Karro  
Reid, Middleton & Assoc, Inc.  
Republic News-Miner  
Richland Rod & Gun Club  
Rocky Mountain FRES  
Seattle Audubon Society  
Seattle Business Journal  
Seattle-First National Bank  
Seattle Post-Intelligencer  
Seattle Public Library  
Seattle Times  
Seattle Weekly  
Shipley Associates  
Shorewood High School  
Sierra Club  
Signpost Newsletter  
Simpson Timber Company  
Skagit Valley Herald  
Ski Acres, Inc.  
Ski-Pak  
Snow Engineering  
Social Impact Research, Inc.  
Spokane Chronicle  
Spokesman-Review  
Sportsman Supply Company  
Stevens Pass Ski Area  
Sun Mountain Lodge  
Sunny M Ranch  
Sunset Magazine  
Tagus, Inc.  
Telephone Utilities of Washington  
The Gaskills  
The Good Sport  
The Herald  
The Oregon Journal  
The Outdoor Press  
The Richmond Clinic  
The Wenatchee World  
The Wilderness Society  
Trans-West Companies  
Tri-City Herald  
Tri-Power  
Twisp Library  
Tyee Trading Corporation

Organizations (continued)

United Press International  
United States Ski Association  
University of Washington  
Upper Columbia Economic Development District  
Vancouver Columbian  
Verbeck Brothers, Inc.  
W-I Forest Products, Inc.  
Washington Environmental Council  
Washington Forest Protection Association  
Washington Land Development Registration  
Washington Natural Heritage Program  
Washington State Horsemen, Inc.  
Washington State Snowmobile Association  
Washington State Sports Council  
Washington State Sportsmen's Council  
Washington State University  
Washington Wilderness Coalition  
Water & Power Resources Service  
Waterville Empire-Press  
Wellspring  
Wenatchee Public Library  
Wenatchee Valley College North  
West Coast Paper Company  
Western Environmental Trade  
Western Forestry and Conservation Association  
Western Wood Products Association  
Westours  
Weyerhaeuser Company  
Whatcom County Sheriff's Posse  
Wickwire, Lewis, Goldmark & Schorr  
Wilderness Research Institute  
Wildlife Management Institute  
Willard Smith, Inc.  
Winthrop Lockers  
Winthrop Public Library  
Winthrop Realty, Inc.  
Yakima Herald Republic  
Yale University

Individuals

Aberg, Chris  
Abrams, Jack & Dolores  
Abrams, John  
Adams, J. J. & Lucille  
Adams, Lorne & Laura  
Adelman, Ellie  
Agen, J. R.  
Agen, John  
Albrecht, Robert & Margie  
Alkire, John  
Allen, Mary Jo  
Allen, Thomas & Barbara  
Almquist, Frank  
Almquist, John  
Alves, Bill  
Amster, Glenn  
Anacker, Ken & Karen  
Anderson, A. W.  
Anderson, Art & Kathi  
Anderson, Graham S.  
Anderson, Richard  
Anderson, Russ & Marilyn  
Antich, John H.  
Archambeau, David & Ginny  
Archambeault, Jim  
Armstrong, Jane E.  
Armstrong, Thomas & Susan  
Arnold, Pete & Leora  
Arntson, Jim  
Arntson, Paul  
Asia, David & Debbie  
Asplund, Bill & Janice  
Atherton, Robert H.  
Austin, Earnest E.  
Avey, Chuck  
Bahr, Jr., Joe  
Baker, Tom  
Bakke, Sig  
Balthazor, Keith  
Bannick, Cloud & Ellen  
Barkley, Jo  
Barnert, Steve  
Barnes, Gerald  
Barnett, Barney & Dorothy  
Barnett, Pat  
Barnett, Steve  
Bartelson, Bob  
Barton, Wayne A.  
Bates, Carl L.  
Bath, Chris  
Baum, Dr. Lawrence F.  
Bean, Jack  
Beitz, Rudy A.  
Belgard, Bob  
Bell, Earl  
Belton, Dick  
Bennett, Greg & Marlene  
Bensinger, M.D., William  
Berger, Gregory H.  
Berger, Mr. & Mrs. Thomas  
Berkey, David  
Bernheisel, Lee & Ann  
Berquist, Peter  
Berry, Robert  
Berschauer, Tom  
Betcone, Mrs. L. L.  
Betsch, Wainyne  
Bickerstaff, Jeff  
Biddle, W. W.  
Bird, Gordon & Margaret  
Bird, Roger L.  
Black, Jerry F.  
Black, Lydia  
Black, W. M. & Mary  
Blanchard, Martin  
Blaney, William  
Bloomer, Ila Rae  
Boesel, Floyd  
Bomba, Ronald  
Bongi, John  
Bonica, John & Laura  
Borg, Ted & Katherine  
Borgersen, Rolf  
Bosco, Al & Judy  
Bowers, Harold L.  
Bowman, Gregg  
Boyce, Douglas  
Bratt, Steve  
Brauner, Kalman G.  
Bremner, Ralph G.  
Breniman, Bruce  
Brewster, Frances  
Brock, Edward G.  
Brooke, Steve  
Brooks, John R.  
Brown, Dick & Joan  
Brown, Ian & Joan  
Brown, Jeff  
Brown, Jeff & Alicia  
Brown, Jovana

Individuals (continued)

Brown, Ph.D., Jovana  
Brzoska, Paul & Shannon  
Bucharts, The  
Burdo, Mike  
Burke, Paul T.  
Burkhart, Aaron & Donna  
Burkholder, Harry C.  
Burns, Myra T.  
Burr, Eric  
Burton, Henry  
Butterfield, Alan  
Buzzard, Baynard  
Byrnes, Thomas J.  
Callahan, John  
Callison, Candace  
Campbell, Bill  
Campbell, Elmer & Minnie  
Campbell, Phil  
Carline, Jan & Carol  
Carlson, Janet L.  
Carnahan, Patrick  
Carney, Edward & Eileen  
Carotti, Carlo  
Carpenter, Jim  
Carter, Bob  
Carter, Fred L.  
Carter, Patsy  
Carter, Stan  
Carver, John  
Cassell, Bill  
Cecil, David  
Chambers, Charles M.  
Chantler, Dave  
Chatfield, Douglas E.  
Cherico, Ruth  
Chrabot, Jr., Jack  
Christen, Paul & Paula  
Christensen, Bob  
Christianson, Chris & Pat  
Christoforo, L. S.  
Clements, Glenn  
Coats, David & Peggy  
Cochrane, John  
Coe, Sheila  
Cole, Calvin  
Cole, Sharlene  
Colony, Stephanie  
Combe, Emile H.  
Connell, Bill  
Cook, J.  
Cooley, Lewis M.  
Cooley, William & June  
Coon, Margaret B.  
Coppock, W. J.  
Corfman, Barry & JoAnn  
Corley, Janet  
Coughlin, Joan  
Cowen, Bruce  
Craig, Glen & Jean  
Cram, Robert & Martha  
Craven, S. E.  
Creveling, Dewane  
Creveling, Donna  
Creveling, Foss  
Crockett, Anita  
Cropp, Burt & Beverly  
Cross, H. J. & Phyllis  
Crowell, Jr., Bob  
Cubb, Jamie  
Culp, Chris  
Curran, Bob  
Curran, R. W.  
Curtis, Bob  
Cushman, Leslie  
Cyr, Jim  
Dabritz, John  
Dade, Mr. & Mrs. D.  
Dalton, Bill  
Dammann, H. K.  
Darvill, Jr., Fred T.  
Davidson, Eric  
Davis, Mr. & Mrs. Ruben  
Day, Evan & Ann  
De Bruyn, David B.  
de Rubertis, Kim  
Dederer, Michael E.  
Deeley, Debbi  
Deem, Mike  
DeLisi, Larry  
DeLisi, Salvatore  
Demco, John  
Denson, Gloria  
DeTro, Scott  
Dettner, Mark  
Devin, Doug W.  
Devin, Mrs. D. W.  
Devin, William F.  
Devlin, James A.  
DeWeert, Daniel & Candice  
Dickson, Mr. & Mrs. Warren

Individuals (continued)

Diehl, Dave  
Dieter, Paul  
Dike, R. J.  
Dils, Lynn  
Diseth, Kenneth  
DiToro, Leonard  
Doering, Tom  
Dolfay, Mike  
Dollar, Frances  
Domergue, Christine  
Domergue, Scott  
Donaldson, James W.  
Dorland, Norm  
Dorow, Alvin W.  
Duffy, Bob  
Duffy, Paul W.  
Dunham, Scott  
Dunlap, Phil  
Durtschi, Werner & Shirley  
Dutton, Michael  
Dyer, Polly  
Dynn, Denny  
Eades, Glenn B.  
Easley, Mr. & Mrs. John H.  
Ebenger, Dave  
Echelbarger, M. D.  
Edris, James C.  
Edson, Scott A.  
Edwards, Thomas & Noreen  
Eguchi, Michael S.  
Ehlers, Paula  
Eide, Lee  
Eiffert, Archie & Billie  
Eisenhauer, John  
Eliassen, Helen  
Elk & Mona Rains, Bob  
Elkins, Peggy  
Ellis, Roy  
Engler, Stan  
Erlandsen, Roger  
Evans, Cliff & Bessie  
Evans, John M.  
Evans, Shirlee  
Everest, Don  
Ewing, Mike  
Fallon, Robert F.  
Fancher, Helen  
Farquhar, Mary L.  
Farrell, M.D., Roy G.  
Fasse, Dale & Lucinda  
Felsing, Jr., William A.  
Felts, Nancy L.  
Ferrero, Ernie  
Filer, Marie  
Fine, Laura  
Fiorini, "Buzz"  
Fischer, Mike  
Fischer, Nancy  
Fish, Laurie  
Fisher, Jim & Sandi  
Fisher, Thomas B.  
Fisher, Wayne  
Fisk, Bud  
Fite, Bill & Jane  
Flagg, Bill  
Fleckenstein, John R.  
Fletcher, Mr. & Mrs. Robert  
Flick, Edward  
Flynn, James  
Foldenauer, Edward  
Forbes, E. D.  
Ford, Darrell D.  
Fortier, Warren D.  
Fortman, Mike & Sophie  
Foster, Walt & Nella  
Frank, Francis X.  
Frank, Martin J.  
Freestone, Morris  
Friedenberg, Dave & Georgie  
Fuller, Gary S.  
Gadbout, Terry  
Galbreath, Donald S.  
Garvik, Don  
Gaston, Jerry & Norman  
Gatewood, Herb & June  
Gavin, Richard L.  
Geestman, Margaret A.  
Gehring, David  
Geitner, Mr. & Mrs. Neil  
Gerber, Leonard  
Gerber, Marlys  
Gerhard, Ed  
Gerlach, Jim  
Gerth, Neil F.  
Getz, Bill  
Giberson, Nancy  
Gidley, Gary  
Gilje, Bjorn & Linda  
Gillespie, Mike  
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## VIII. APPENDICES

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## APPENDIX A

### SUPPLEMENT NO. 2

#### TO THE AGREEMENT FOR LAND USE PLANNING

Dated April 23, 1975

#### FOR PROPOSED EARLY WINTERS PROJECT

The agreement for Land Use Planning, approved April 23, 1975 between the U.S. Forest Service and the Okanogan County Board of County Commissioners is hereby amended to provide for coordinated review and action on proposals for development in the Early Winters area. This supplement supersedes and replaces Supplement No. 1, dated February 22, 1977.

It is anticipated that one or more proposals will be received for development in the Early Winters vicinity. These proposals will include development on Sandy Butte, and possibly other areas on National Forest land or on private land in the vicinity of Early Winters. Approval of any proposal involving Sandy Butte is contingent upon joint Forest Service and County review.

The County is responsible for land use planning, County ordinances and zoning regulations on the private land. The County would be the lead agency for actions on private land according to the State Environmental Policy Act of 1971 (SEPA) (Chapter 43.21C, Revised Code of Washington).

The Forest Service is responsible for the management, utilization and protection of the National Forest land. The Forest Service would be the lead agency for Federal actions according to the National Environmental Policy Act of 1969 (NEPA) (PL 91-190).

#### Purpose (Goals)

To provide for a coordinated review process for review of proposed actions at Early Winters and development of one draft Environmental Impact Statement that meets both SEPA and NEPA requirements and guidelines.

To achieve State agency input and review as part of the coordinated EIS process.

To provide for a coordinated review process of the proposed Master Plan for Sandy Butte and any adjacent base property.

To insure that the public has an active and meaningful role in the review process.

#### Procedures

Both the County and the Forest Service agree to:

1. Participate in an interagency review team which will:
  - a. receive project proposal(s) for the Early Winters area;
  - b. determine scope and content of impact statement;
  - c. determine adequacy of impact data provided;
  - d. request, develop or otherwise secure additional information as needed to fully evaluate the proposal(s). Explore opportunities for mutual funding of studies where these are needed;
  - e. develop a draft Environmental Impact Statement to meet SEPA and NEPA requirements.
2. Provide staff assistance in the review and collection and analysis of data to the degree that available manpower and funding will allow.
3. Develop an agreement with the State to accomplish their input and review with a process similar to the Master Application Procedure [Environmental Coordination Procedures Act of 1973 (ECPA) WAC 173-08].
4. Incorporate public input into the review process and solicit response to the draft EIS.
5. Recognize the respective responsibilities and authorities of the other party.
6. Review impacts, benefits and consequences and public comments and reach agreement on proposed action for final EIS.
7. Continue to cooperate to resolve problems encountered during the development phases of any approved projects at Early Winters.
8. Continue this review and approval procedure for future revisions and additions to the original proposals.

The County further agrees to:

1. Incorporate the guidelines and decisions of the Addendum to the Comprehensive Plan for Okanogan County for the Upper Methow Valley, 1976, County ordinances and zoning regulations and other appropriate laws and regulations into the review process.
2. Develop final EIS according to SEPA guidelines.
3. Issue appropriate permits following approval of the final EIS.

The Forest Service further agrees to:

1. Incorporate the guidelines and decisions of existing Multiple Use, land management and resource plans; national, regional and local direction; and appropriate laws, regulations and policy guidelines into the review process.
2. Develop final EIS according to NEPA guidelines.
3. Issue appropriate special use permits, agreements and management guidelines following approval of the final EIS.

The duration of this agreement shall be from the date of final signing by both parties until completion of review and construction or abandonment of Early Winters projects or until terminated by written notice from either party to the other.

The parties hereto have executed this Supplement as of the date shown below.

U.S. FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE

By /s/ W. D. McLaughlin  
Forest Supervisor, Okanogan National Forest

9/18/79  
Date

BOARD OF COUNTY COMMISSIONERS OF OKANOGAN COUNTY, WASHINGTON

By /s/ Howard H. Pryor  
Chairman

9/17/79  
Date

APPENDIX B

Terrestrial Wildlife of Sandy Butte

Occurrence and Predicted Change in Wild-life Numbers Following Development 1/ National Forest (Sandy Butte)	1st Decade	10+ Years	Life Form 2/	Common Name	Occurrence 3/ Riparian Areas ("Base Area" & National Forest)	
					"Base Area"	X
0	0	0	3	Western Jumping Mouse	X	X
				Harlequin Duck	X	X
				Spotted Sandpiper	X	X
				Dipper	X	X
				Western Skink	X	X
			4	Mountain Lion	X	X
		0		Bobcat	X	X
		0		Yellowbelly Marmot	X	X
		0		Pika	X	X
		0		Bushytail Woodrat	X	X
		0		Common Raven	X	X
		+		Barn Swallow	X	X
		+		Cliff Swallow	X	X
		-	5	Mule Deer	X	X
	0	0		Lynx	X	X
	0	0		Snowshoe Hare	X	X
	-	-		Blue Grouse	X	X
	0	-		Ruffed Grouse	X	X
	+	+		Oregon Junco	X	X
				Northern Pacific Rattlesnake	X	X
				Western Terrestrial Garter Snake	X	X
				Gopher Snake	X	X
				Racer	X	X
				Northern Alligator Lizard	X	X
				Desert Horned Lizard	X	X
				Western Fence Lizard	X	X
		0	0			
		+	0			
		+	+			
			6	Porcupine	X	X
				Townsend's Solitaire	X	X
			7	Black-billed Magpie	X	X
				Brewer's Blackbird	X	X
				Brown-headed Cowbird	X	X
				Robin	X	X
				Rufous-sided Towhee	X	X
				Swainson's Thrush	X	X
				Eastern Kingbird	X	X

Terrestrial Wildlife of Sandy Butte (continued)

				Occurrence and Predicted Change in Wildlife Numbers Following Development 1/ National Forest (Sandy Butte) 1st Decade		Life Form 2/		Common Name		Occurrence 3/ Riparian Areas ("Base Area" & National Forest)	
								MacGillivray's Warbler	"Base Area"	X	X
								Chipping Sparrow		X	X
								Calliope Hummingbird		X	X
								Cedar Waxwing		X	X
								Red Squirrel		X	X
								Clark's Nutcracker		X	X
								Ruby-crowned Kinglet		X	X
								Townsend's Warbler		X	X
								Western Tanager		X	X
								Goshawk		X	X
								Mourning Dove		X	X
								Steller's Jay		X	X
								Gray Jay		X	X
								Common Crow		X	X
								Western Kingbird		X	X
								Black-headed Grosbeak		X	X
								Evening Grosbeak		X	X
								Pine Grosbeak		X	X
								Cassin's Finch		X	X
								Purple Finch		X	X
								Pine Siskin		X	X
								Rufous Hummingbird		X	X
								Red-tailed Hawk		X	X
								Great Horned Owl		X	X
										X	X
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Terrestrial Wildlife of Sandy Butte (continued)

Occurrence and Predicted Change in Wild-life Numbers Following Development <u>1/</u> National Forest (Sandy Butte)			Occurrence 3/ Riparian Areas ("Base Area & National Forest")		
1st Decade	-	10+ Years	Life Form 2/ Common Name	"Base Area"	
-	-	-	Northern Spotted Owl	X	X
o	o	o	Black-capped Chickadee	X	X
o	o	o	Tree Swallow	X	X
-	-	-	Violet-green Swallow	X	X
-	-	-	Mountain Bluebird	X	X
o	o	o	Brown Creeper	X	X
			Starling	X	X
o	o	o	Black Bear	X	X
o	o	o	Coyote	X	X
o	o	o	Red Fox	X	X
+	+	+	Long-tailed Weasel	X	X
+	+	+	Striped Skunk	X	X
-	-	+	Western Cottontail	X	X
+	+	+	Gold-mantled Ground Squirrel	X	X
+	+	+	Yellow Pine Chipmunk	X	X
			Deer Mouse	X	X
			Dusky Shrew	X	X
			Masked Shrew	X	X
			Vagrant Shrew	X	X
			Shrew-mole	X	X
			Gapper's Red-backed Vole	X	X
			Heather Vole	-	-
			Richardson's Vole	X	X
+	+	o	Rocky Mountain Rubber Boa	X	X
			16		
			Beaver	X	X
			Water Shrew	X	X
			Belted Kingfisher	X	X
(24)+	(24)+	(100)		(92)	(83)
(21)o	(20)o				
(30)-	(31)-				

1/ - = decrease; + = increase; o = remain constant; blank = absent

2/ Life Form = a group of wildlife species that exhibit similar habitat requirements for both feeding and reproduction.

3/ X = present; blank = absent

APPENDIX C

THE ASSOCIATED ACTIVITY, SETTING AND EXPERIENCE OPPORTUNITIES FOR EACH RECREATION OPPORTUNITY SPECTRUM CLASS  
 (USE THE SIX RECREATION OPPORTUNITY SPECTRUM CLASS DELINEATION CRITERIA TO IDENTIFY ACTUAL AREAS)

Activity Opportunities*					
Primitive (P)	Semi-Primitive Non-Motorized (SPNM)	Semi-Primitive Motorized (SPM)	Roaded Natural (RN)	Rural (R)	Urban (U)
Viewing Scenery	Viewing Scenery	Viewing Scenery	Viewing Scenery	Viewing Scenery	Viewing Scenery
Hiking	Hiking	Hiking	Hiking	Hiking	Hiking
Cross-Country Ski Touring and Snowshoeing	Cross-Country Ski Touring and Snowshoeing	Cross-Country Ski Touring and Snowshoeing	Cross-Country Ski Touring and Snowshoeing	Cross-Country Ski Touring and Snowshoeing	Cross-Country Ski Touring and Snowshoeing
Horseback Riding			Horseback Riding	Horseback Riding	Horseback Riding
Canoeing				Canoeing	
Sailing				Sailing	
Other Non-motorized Watercraft Use				Other Non-motorized Watercraft Use	
Swimming				Swimming	
Diving (skin or scuba)			Diving (skin or scuba)	Diving (skin or scuba)	Diving (skin or scuba)
Fishing			Fishing	Fishing	Fishing
Photography			Photography	Photography	Photography
Camping (tent, general day)			Camping (tent, general day)	Camping (tent, general day)	Camping (tent, general day)
Snowplay			Snowplay	Snowplay	Snowplay
Hunting (big, small game; upland birds and waterfowl)			Hunting (big, small game; upland birds and waterfowl)	Hunting (big, small game; upland birds and waterfowl)	Hunting (big, small game; upland birds and waterfowl)
Nature Study			Nature Study	Nature Study	Nature Study
Unguided Walking			Unguided Walking	Unguided Walking	Unguided Walking
General Information			General Information	General Information	General Information
			Motor-driven Ice and Snowcraft	Motor-driven Ice and Snowcraft	Motor-driven Ice and Snowcraft
			ORV Touring	ORV Touring	ORV Touring
			Power Boating	Power Boating	Power Boating
				Picknicking	Picknicking
				Gathering Forest Products	Gathering Forest Products
				Downhill Skiing	Downhill Skiing
				Water Skiing and Other Water Sports	Water Skiing and Other Water Sports
					Water Sports
					Ice Skating
					Scooter-Motorcycle Use
					Bicycling
					Resort Lodging
					Resort and Commercial Public Services
					Resort Lodging
					Competition Games
					Ice Skating
					Scooter-Motorcycle Use
					Bicycling

\*These activity opportunities are illustrative only. Specific additions or exceptions may occur depending upon local forest conditions.

Source: Draft FSH 1909.12, Recreation Input to Land and Resource Management Planning, 11/80.

Setting Opportunities				
Primitive (P)	Semi-Primitive Non-Motorized (SPNM)	Semi-Primitive Motorized (SPM)	Roaded Natural (RN)	Rural (R)
Area is characterized by essentially unmodified natural environment of natural environment of fairly large size. Interaction between users is very low and evidence of other users is minimal. The area is managed to be essentially free from evidence of human-induced restrictions and controls. Motorized use within the area is not permitted.	Area is characterized by a predominately natural or natural-appearing environment of moderate-to-large size. Concentration of users is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle. Motorized use is not permitted.	Area is characterized by a predominately natural or natural-appearing environment of moderate-to-large size. Interaction between users is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle. Motorized use is permitted.	Area is characterized by a predominately natural or natural-appearing environment of moderate-to-large size. Such evidences usually harmonize with the natural environment. Interaction between users may be low to moderate, but with evidence of other users prevalent.	Area is characterized by a predominately natural or natural-appearing environment of moderate-to-large size. Such evidences usually harmonize with the natural environment. Interaction between users to maintain vegetative cover and soil. Sights and sounds of humans specific recreation activities. Vegetative cover is often exotic and manured to high. A considerable number of conventional motorized use is provided for in construction standards and design of facilities.
Area is characterized by a substantially modified natural environment, although the background may have natural-appearing elements. Renewable resource modification and utilization practices are to enhance specific recreation activities and utilization practices are to enhance specific recreation activities. Vegetative cover is often exotic and manured to high. A considerable number of conventional motorized use is provided for in construction standards and design of facilities.	Area is characterized by a substantially modified natural environment, although the background may have natural-appearing elements. Renewable resource modification and utilization practices are to enhance specific recreation activities and utilization practices are to enhance specific recreation activities. Vegetative cover is often exotic and manured to high. A considerable number of conventional motorized use is provided for in construction standards and design of facilities.	Area is characterized by a substantially modified natural environment, although the background may have natural-appearing elements. Renewable resource modification and utilization practices are to enhance specific recreation activities and utilization practices are to enhance specific recreation activities. Vegetative cover is often exotic and manured to high. A considerable number of conventional motorized use is provided for in construction standards and design of facilities.	Area is characterized by a substantially modified natural environment, although the background may have natural-appearing elements. Renewable resource modification and utilization practices are to enhance specific recreation activities and utilization practices are to enhance specific recreation activities. Vegetative cover is often exotic and manured to high. A considerable number of conventional motorized use is provided for in construction standards and design of facilities.	Area is characterized by a substantially modified natural environment, although the background may have natural-appearing elements. Renewable resource modification and utilization practices are to enhance specific recreation activities and utilization practices are to enhance specific recreation activities. Vegetative cover is often exotic and manured to high. A considerable number of conventional motorized use is provided for in construction standards and design of facilities.

Experience Opportunities

Primitive (P)	Semi-Primitive Non-Motorized (SPNM)	Semi-Primitive Motorized (SPM)	Roaded Natural (RN)	Rural (R)	Urban (U)
Extremely high probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility and self-reliance through the application of woodsman and outdoor skills in an environment that offers challenge and risk.	Moderate probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility and self-reliance through the application of woodsman and outdoor skills in an environment that offers challenge and risk.	Moderate probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility and self-reliance through the application of woodsman and outdoor skills in an environment that offers challenge and risk.	About equal probability to experience affiliation with other user groups and for isolation from sights and sound of humans. Opportunity to have a high degree of interaction with the natural environment.	Probability for experiencing affiliation with individuals and groups is prevalent, as is the convenience of sites and opportunities. These factors are generally more important than the setting of the physical risks afforded by the natural environment, opportunities for wildland challenges, risk-taking and testing of outdoor skills might be important.	Probability for experiencing affiliation with individuals and groups is prevalent, as is the convenience of sites and opportunities. These factors are generally more important than the setting of the physical risks afforded by the natural environment, opportunities for wildland challenges, risk-taking and testing of outdoor skills are generally unimportant except for specific activities like downhill skiing, for which motorized and non-motorized forms of recreation are possible.

Source: Draft FSH 1909.12, Recreation Input to Land and Resource Management Planning, 11/80.

## APPENDIX D

### PUBLIC INVOLVEMENT AND COMMENTS

This appendix is divided into the following sections: I) Introduction; II) Public Involvement Process; III) Nature and Extent of Public Response; IV) Substantive Comments and Responses and V) List of Respondents to DEIS.

#### I. INTRODUCTION

The Forest Service is directed to respond to public comments by the Council on Environmental Quality Regulations (Section 1503.4) for implementing the provisions of the National Environmental Policy Act. The ways to respond are:

- A. Modify alternatives, including the proposed action.
- B. Develop and evaluate alternatives not previously given serious consideration by the agency.
- C. Supplement, improve or modify its analyses.
- D. Make factual corrections.
- E. Explain why comments do not warrant further agency response.

The Okanogan National Forest used all but B above in preparation of this Final Environmental Impact Statement in response to public comments. There were no suggestions to modify alternatives.

#### II. PUBLIC INVOLVEMENT PROCESS

The Early Winters DEIS was released for public review on August 27, 1982. A 95-day public review period followed. The bulk of public comment was received on or just after November 30, 1982. Open house meetings were held in September and October at Okanogan, Tonasket, Winthrop and Seattle to answer questions about the DEIS. More than 300 people attended these meetings. A final public meeting, co-sponsored by the Okanogan National Forest and the Okanogan County Board of Commissioners, was held in Winthrop on November 17, 1982 to receive comments on the DEIS. The meeting was conducted in accordance with the Washington State Environmental Policy Act (SEPA). Fifty individuals spoke for the record before nearly 300 people.

#### III. NATURE AND EXTENT OF PUBLIC RESPONSE

Responses were received from 1,927 individuals in the form of 1,041 personal letters, form letters, petitions and recorded statements. Where people responded more than one time, their responses were grouped as a single entry.

The greatest number of responses came from individuals and represented the highest number of signatures. The second largest number of signatures came from special interest groups. This included many multi-signature letters and petitions. A total of 18 federal, state and local agencies provided comments.

Geographically, the 1,041 responses were distributed as follows: 619 from eastern Washington, 346 from western Washington and 76 from other states. Of the eastern Washington response, 576 came from Okanogan County, with over 85 percent of this total coming from the Methow Valley.

The 1,041 responses resulted in 3,601 individual comments. There were 270 respondents who made no comment, except to choose an alternative. The following table ranks the order in which comments were received on various subjects.

Comment Subjects

<u>Ranking</u>		<u>Number of Comments</u>	<u>% of Total Comments Made</u>	<u>Cumulative %</u>
1	Social	494	13.72	
2	Land Use	443	12.30	
3	Water & Soil	341	9.47	
4	Economics	335	9.30	
5	Wildlife	333	9.25	54.04
6	Public Services	322	8.94	
7	Transportation	260	7.22	
8	Air Quality	226	6.28	76.48
9	Ski Demand	208	5.78	
10	EIS Process	186	5.17	
11	Environment	149	4.14	
12	Evaluation of Alternatives	98	2.72	
13	Recreation	57	1.58	
14	Site Design	45	1.25	
15	Permittee	29	0.81	
16	Visual Quality	25	0.69	
17	Timber & Vegetation	15	0.42	
18	Energy	14	0.39	
19	EIS Issues	13	0.36	
20	Minerals	7	0.19	99.98
	TOTAL	3601		

A more detailed analysis of the Nature and Extent of Public Response is available in the publication, "Analysis of Public Response to Early Winters DEIS." This publication along with individual letters received in response to the DEIS is available at the Okanogan National Forest Supervisor's Office in Okanogan, Washington.

#### IV. SUBSTANTIVE COMMENTS AND RESPONSES

A substantive comment is "a comment which provides factual information, professional opinion or informed judgment which is pertinent to the decision being considered." Substantive comments indicate whether the analysis is incomplete or otherwise incorrect.

For the responses received on the Early Winters DEIS, comments were considered substantive if they met any of the following criteria:

- A. Respondent criticized methodology and indicated why it was weak.
- B. Respondent stated DEIS was inadequate and was specific and had supporting rationale.
- C. Respondent specifically questioned the alternatives, or did not understand the meaning of an alternative.
- D. Respondent requested specific additional information, not contained or referenced in the DEIS, to adequately understand and be able to respond.
- E. A federal, state or local agency, with jurisdiction by law, disagreed with the proposal because of environmental impacts, and specified mitigation measures necessary to implement or suggested another alternative.
- F. Respondent identified specific mitigation measures.

Based on the above criteria, approximately 308 substantive comments were identified. Many comments received were worded similarly. In these situations, only one substantive comment was identified. Following are the substantive comments by subject and the response to these comments.

Index to substantive comments that follow:

<u>Subject</u>	<u>Page</u>
Environmental Impact Statement Process - - - - -	D- 5
Site Design - - - - -	D-14
Ski Demand and Feasibility - - - - -	D-16
Transportation - - - - -	D-19
Energy - - - - -	D-22
Minerals - - - - -	D-23

<u>Subject</u>	<u>Page</u>
Social - - - - -	D-24
Recreation - - - - -	D-28
Wildlife - - - - -	D-32
Air Quality - - - - -	D-43
Public Services and Taxes - - - - -	D-48
Economics - - - - -	D-54
Water and Soil - - - - -	D-59
Land Uses - - - - -	D-66
Visuals - - - - -	D-71

## Environmental Impact Statement Process

<u>LETTER NO.</u>	<u>AUTHOR</u>	
32	Washington State Winter Recreation Commission, Early Winters Subcommittee	
Comment #1 -	There was no consideration of an accelerated development schedule in the DEIS.	
	The master plan will define the development schedule. The development schedule used in the EIS is a more likely occurrence. Positive and/or negative effects could be magnified with a shortened development schedule.	
36	Burt Jellison	
Comment #2 -	No consideration was given to expanding existing sites rather than developing a new site.	
	Consideration was given to expansion of other sites, but was not evaluated. In order to evaluate other area expansion, the ski area operator must be willing to expand and a request made. Evaluation of expanding other sites is beyond the scope of this EIS as it is in response to an application to develop Sandy Butte as a particular site.	
56	David Asia	
Comment #3 -	The interrelationship of effects on such factors as per capita income, change in population, and changes in land use, are not considered as required by SEPA.	
	These factors were used in considering effects on the identified social groups of the Methow Valley (Environmental Consequences Social Factors).	
119	Laura Mendelsohn	
Comment #4 -	The process by which the preferred alternative was chosen was not well documented.	
	It is not required that the process by which the preferred alternative was chosen be printed in the DEIS, as this does not constitute a decision and was a tool used by the ID Team for selection of a <u>recommended preferred alternative</u> . This process is contained in the project files at the Supervisor's Office of the Okanogan National Forest.	
119	Laura Mendelsohn	
Comment #5 -	The origins of facts and figures used by SIR are difficult to trace and thus hinders a logical and rational interpretation of information.	
	The origins, methodologies and assumptions are included in the 700-page, two volume report by Social Impact Research, Inc. It was necessary to condense much of the report information for inclusion in the EIS. "The Social and Economic Effects of the Proposed Ski Development at Early Winters," Volumes 1 and 2 by Social Impact Research, Inc., are available in local libraries and Forest Service offices.	

<u>LETTER NO.</u>	<u>AUTHOR</u>
119	Laura Mendelsohn
Comment #6 -	The description of comparison of effects by each alternative are written such that individual points are hard to follow comparatively through alternatives.
	The format, as illustrated in the Table of Contents, follows established NEPA guidelines. Beginning on page 18, "Comparison of Impacts," a direct comparison of the alternatives is given.
127	Gretchen Stuart Lawson Thomas J. Lawson
Comment #7 -	The EIS does not consider the cumulative effects of the various impacts.
	The cumulative effects are considered in Comparison of Alternatives, pages 18-22.
186	Frances Dollar
Comment #8 -	Requirements for permittees attention to environmental considerations are not considered in the Special Use Permit to as great a detail as are financial considerations.
	The financial consideration is a criterion in the selection of a permittee as well as "ability to perform according to permit terms." The permit will contain requirements to protect the environment.
189	Bruce Morrison
Comment #9 -	The description of Alternative I as "no action" is inappropriate, as it does not recognize the important challenge and opportunities afforded to local investment and development.
	It is beyond the scope of this EIS to evaluate alternatives for economic growth in the Methow Valley. Instead, this EIS is in response to an application for development of a ski area with the economic effects identified for the alternatives.
244	Don Portman
Comment #10 -	The range of alternatives is incomplete as there is no control on base development by the current alternatives.
	Control of base development on private lands is through jurisdiction of Okanogan County. This EIS was prepared in cooperation with Okanogan County and includes discussion for development of private lands. Mitigation will be applied by Okanogan County, Washington State and other federal agencies with permit authorization.

LETTER NO.      AUTHOR

274 Seattle Audubon Society

Comment #11 - Protection of water quality and land use should be decision criteria because they were significant public issues.

The Record of Decision by the responsible official contains decision rationale in the selection of an alternative. The evaluation criteria in the draft EIS was used for the selection of a preferred alternative by the preparers of the Draft EIS and does not constitute a decision.

415 Methow Valley Citizens Council

Comment #12 - Because the RARE II DEIS has been declared inadequate, and a portion of Sandy Butte is in a RARE II area, the Early Winters DEIS is premature and invalid.

The Early Winters DEIS was valid as it did not provide a decision. RARE II lands have been resolved by Congress for Washington State and are beyond consideration for the decision made on the FEIS. (Washington State Wilderness Act of 1984.)

415 Methow Valley Citizens Council

Comment #13 - The Early Winters DEIS is inconsistent with the Forest Plan DEIS in that the "no action" alternative for the Early Winters DEIS does not provide for ski development while the "no action" alternative for the Forest Plan DEIS does provide for ski development.

The Forest Plan DEIS is being revised and will be re-issued.

415 Methow Valley Citizens Council

Comment #14 - There is no way of evaluating the decision-making process because no decisional chart was included, no explanation is given of why only six criteria were selected for evaluation, no explanation is given on how each subject matter was given a point value, and no description is given on how each alternative received a grade.

The DEIS contained a preferred alternative, but did not make a decision. The method for identifying the preferred alternative is contained in the process files. (See comment #4.) The decision in the final EIS is contained in the Record of Decision and explains what the considerations were in making the decision.

415 Methow Valley Citizens Council

Comment #15 - The DEIS provides no basis for distinguishing differences in scores that are within a range of normal statistical error from those which indicate the favorability of one alternative over another, thus making a fair evaluation of results impossible.

See comments #4 and #14.

415 Methow Valley Citizens Council

Comment #16 - Because an informal and inaccurate method was used, the averaging of scores shows the need to identify a range of statistical error.

See comments #4 and #14.

415            Methow Valley Citizens Council

Comment #17 - The DEIS is invalid because essential aspects of the SIR study were not included. (The SIR study of comparable sites, Volume II, is virtually ignored in the DEIS and the DEIS fails to explain how the SIR study arrived at various calculations such as population growth and lift capacity). Also, SIR's study was not made sufficiently available to the public for comment.

Volume II of SIR's report contained information about the social and economic setting of four ski area locations. This information was developed to provide a basis for predicting occurrences in the Methow Valley. A full explanation of methodology and calculations are contained in the Volume I report.

Copies of both volumes of this report were made available for public review and distributed in May 1981 to local libraries and Forest Service offices.

415            Methow Valley Citizens Council

Comment #18 - The range of alternatives did not consider alternatives short of downhill ski development (e.g., cross-country ski touring center) and therefore are not sufficient.

The range of alternatives considered were "no action" up through maximum feasible downhill ski development. The "no action" alternative included management of the site for other uses than downhill skiing. The master plan review will include consideration of other compatible recreation activities for the site, including cross-country ski touring.

415            Methow Valley Citizens Council

Comment #19 - The choice of Alternative V as the Preferred Alternative is arbitrary and capricious based on the close rating of alternatives.

See comments #4 and #14.

415            Methow Valley Citizens Council

Comment #20 - The social and economic effects are incorrectly predicted because SAOT rather than actual lift capacity was used.

SAOT represents capacity in terms of the sum of the acreage of each class of run (beginner, intermediate and expert) times the optimum slope density (number) of skiers for that class of run. Capacity of a site is limited by those facilities needed to serve skiers (parking, da lodge, slopes, lifts, etc.). Slope capacity is used here, as lift capacity can vary by kind, length and speed of the lift and are less definitive at this stage of planning.

415            Methow Valley Citizens Council

Comment #22 - The conclusion that 60% of the comments on the project favored development is misleading because at public meetings, people were asked to identify issues and concerns but not to state preference.

The consideration of opinions expressed at the April 1981 scoping meetings was removed in the final EIS.

LETTER NO.      AUTHOR

416      Methow Recreation, Inc.

Comment #22 - Reference to the pending Forest Plan would assist the reader to understand current management direction.

The Forest Plan was not completed or approved at time of release of the Early Winters DEIS. The Winthrop District Multiple Use Plan of 1968 (revised 1970) provides the current management direction for Sandy Butte.

416      Methow Recreation, Inc.

Comment #23 - The document would be easier to understand if the major conclusions were written in direct response to "Major Issues to be Resolved," were separated by direct on-site and indirect off-site impacts and would address "must meet" criteria.

Revisions have been made in the Final EIS.

416      Methow Recreation, Inc.

Comment #24 - To improve clarity, the "Purpose and Nature of Action" and "Contents of DEIS" sections should be revised.

Some revisions have been made for the FEIS.

416      Methow Recreation, Inc.

Comment #25 - In order to clarify how issues will be addressed in the FEIS, the statement regarding addressing of issues should be modified to all for discussions in general terms of issues relating to off-site developments.

The cooperating agency (Okanogan County) in preparation of this EIS is keenly interested in off-site developments. The discussion of issues relating to these effects is discussed to the detail that information is available.

416      Methow Recreation, Inc.

Comment #26 - The section described as "Permit Process" should be revised to better describe the status of the permit applicant and the nature and extent of the Forest Service process.

"Permit Process" section is revised for Final EIS.

416      Methow Recreation, Inc.

Comment #27 - The "Cooperating Agencies" section should be modified to clarify that fulfillment of SEPA requirements relates only to development of the ski area.

"Cooperating Agencies" section is revised for Final EIS.

<u>LETTER NO.</u>	<u>AUTHOR</u>
416	Methow Recreation, Inc. Comment #28 - The fact that alternatives vary in the extent of potential off-site impacts should be discussed under Development of Alternatives to clarify this section.  <u>Potential impacts</u> for both on-site and off-site are included in the "Environmental Consequences" section. The "Development of Alternatives" section is reserved for describing the specific ski development alternatives.
416	Methow Recreation, Inc. Comment #29 - To clarify and distinguish ski area development from potential off-site development and related activities that will occur, the "Alternatives in Detail" section should be revised.  <u>Potential off-site development resulting from</u> ski area development are discussed in "Environmental Consequences."
416	Methow Recreation, Inc. Comment #30 - The definition of commercial activities as used in the context of alternatives is unclear and leads to confusion when projections are made for commercial and residential accommodations.  Commercial area as described for each ski development alternative has been defined in FEIS.
416	Methow Recreation, Inc. Comment #31 - Under Comparison of Alternatives, the effects would be easier to understand if each element of the environment was broken into on-site and off-site impacts.  Revisions made in FEIS.
416	Methow Recreation, Inc. Comment #32 - In order to clarify the evaluation of alternatives, the effect of implementing various mitigation measures should be quantified or acknowledgement given that the conclusions are in terms of absolute impacts for purposes of evaluating and understanding the worst case situation.  The "Comparison of Impacts" section discusses impacts with mitigation considered.
416	Methow Recreation, Inc. Comment #33 - The environmental consequences should be separated into direct on-site effects and indirect off-site effects to clarify that if a ski area is developed, these do not authorize development of any off-site private lands.  It has been pointed out in the FEIS that development of private land is not authorized with this EIS nor with issuance of a special-use permit by the Forest Service. See "Purpose and Need for Action."

LETTER NO.AUTHOR

462 Michael A. Deem

Comment #34 - The procedure used for prioritizing criteria is not consistent or logical (i.e., for social structure, you rate on a different basis than for other criteria. On physical environment, you separate for prioritizing but combine for comparison of alternatives).

See comment #14.

501 Curtis Edwards

Comment #35 - The DEIS is inadequate because it relies heavily on the findings of a research group (SIR) without explaining the qualifications, reliability or methodology of group.

Information on personnel that the contractor used in making this report is on file and available at the Okanogan National Forest's office in Okanogan, Washington.

502 James Donaldson

Comment #36 - The DEIS did not consider an alternative based on the principals of self-reliance, sustainability and regenerative agriculture.

See comment #9.

661 Richard Rutz

Comment #37 - The Forest Service and Aspen ski feasibility studies are referenced in the DEIS, but work of the Methow Valley Citizen's Group is omitted. Restricting information-to-be-considered to supportive in-house documents biases the EIS and is contrary to NEPA requirements.

We are unaware of any studies completed by Methow Valley Citizen's Council in regards to this project.

702 Geraldine Payton

Comment #38 - The alternatives developed did not take into account the recent growth in the popularity of cross-country skiing.

See discussion of "Environmental Consequences" - Recreation. Cross-country skiing could be accommodated on the downhill ski site and will be evaluated on approval of the site development plan.

842 Friends of the Earth

Comment #39 - The description of alternatives does not adequately describe who owns the private land adjacent to Sandy Butte.

The private land spoken of here is owned by the Aspen Ski Company.

LETTER NO.      AUTHOR

842           Friends of the Earth  
Comment #40 - The rationale for considering an alternative that exceeds the capacity applied for by applicant is unclear.

Sandy Butte can serve a ski development somewhat larger than the size applied for. NEPA requires the evaluation of all feasible alternatives; hence, the inclusion of an alternative describing maximum development.

842           Friends of the Earth  
Comment #41 - Alternatives to a major ski resort which might provide year around jobs with lesser impact should be analyzed.

See comment #9.

870           Washington Environmental Council  
Comment #42 - The alternatives do not focus on public issues as claimed, but follow ski area planning guidelines.

The alternatives focus on the issues in that the several sizes of developments reflect in different magnitudes of effects. Ski area planning guidelines define and incorporate the technical requirements of downhill ski terrain opportunities.

870           Washington Environmental Council  
Comment #43 - The DEIS did not elaborate on management concerns.

Management concerns have been included with the public issues.

870           Washington Environmental Council  
Comment #44 - The summary of alternatives does not mention "effects on taxes, cost of public services, and cost of living," even though this was the public issue first mentioned.

The DEIS did contain discussions on items mentioned, except cost of living. A discussion on cost of living, to the extent possible, has been added to the Final EIS.

870           Washington Environmental Council  
Comment #45 - The DEIS does not mention consultation with other agencies, which is a requirement.

Section VI, page 146 of the DEIS listed those agencies receiving copies of the DEIS. Input by other agencies to the DEIS is on file at the Okanogan National Forest, Supervisor's Office.

871           U.S. Environmental Protection Agency, Region X  
Comment #46 - In order to have a complete evaluation of alternatives, a summary of the location study should be included in the document.

Additional information has been added to page 7 (FEIS) to summarize the referenced "North Cascades Winter Sports Study," U.S. Forest Service, 1970.

LETTER NO.

AUTHOR

878            Sierra Club (Cascade Chapter)

Comment #47 - The range of alternatives is inadequate because no consideration was given to developing another site, or considering other ways of expanding recreational opportunities or the economic base.

See comments #2 and #9.         \*

## Site Design

LETTER NO.      AUTHOR

1            Eric Burr

Comment #1 - Snow cover records show that primary lifts should be higher up mountain.

Primary lifts are important as they serve the major access to ski slopes. Exact placement of lifts and types to be used will be determined when evaluation of a site development plan is completed.

186            Frances Dollar

Comment #2 - Use of natural clearings for ski lifts and runs was not considered. Instead, clearcutting was the only method considered.

Use of natural openings will be considered in the evaluation of the site development plan. The "Visuals" section notes use of natural openings to reduce visual impacts of ski development.

261            Bill Gaines

Comment #3 - Use of SAOT does not give people an accurate estimate of the number of people which will actually utilize facilities. It would be more meaningful to use total capacity estimates.

SAOT represents capacity in terms of the sum of the acreage of each class of run (beginner, intermediate and expert) times the optimum slope density (number) of skiers for that class of run. Capacity of a site is limited by those facilities needed to serve skiers (parking, day lodge, slopes, lifts, etc.). Slope capacity is used here, as lift capacity can vary by kind, length and speed of the lift and are less definitive at this stage of planning. Most ski areas are used at a rate somewhat less than capacity; 60 to 70 percent utilization is generally accepted as full utilization

268            Shirlee Evans

Comment #4 - The water and electricity requirements for snowmaking have not been considered.

There has been no proposal or application for snowmaking at this time. This will be evaluated as part of the master plan approval.

274            Seattle Audubon Society

Comment #5 - In order to mitigate the effects of too rapid development, consideration should be given to limiting ski lift capacity or ticket sales.

Limiting of lift tickets is a tool used, at times, to maintain an established capacity that site facilities can serve. The rate of site development or expansion is dependent on demand for skiing, the capacity of off-site or community facilities to serve skiers and the Forest Service approval.

LETTER NO.      AUTHOR

415            Methow Valley Citizens Council  
Comment #6 -    The DEIS does not discuss the location and amount of employee housing.

Housing, and its location for ski area employees, will be considered and evaluated in the site development plan.

416            Methow Recreation, Inc.  
Comment #7 -    The DEIS statement that maximum buildout is planned by the year 2000 is incorrect as timing of phases would respond to economic climate, skier demand, and other factors.

Yes, the development schedule will be dependent on these several factors. The development schedule (to the year 2000) is used in the EIS to establish definable data for purposes of analysis.

461            Leah Swayze and Greg Knott  
Comment #8 -    There is no discussion of what SAOT is based on and the maximum, comfortable, and hourly lift capacities are not identified. This information is important to determine the maximum number of people which could be on site at any one time.

See comment #3.

800            Beverly LaVech  
Comment #9 -    In order to better understand magnitude of development, it would be desirable for the SAOT figures to relate to existing sites.

Although some sites are comparable in serving a similar SAOT, the magnitude of development could vary by the kind of skiers served; i.e., day skiers versus vacation or destination resort users. Some comparisons are:

<u>Site</u>	<u>SAOT</u>
Heavenly Valley (Calif.)	7500
Crystal Mtn. (Wash.)	6000
Mt. Baker (Wash.)	5000
49 Degrees North (Wash.)	2700

## Ski Demand and Feasibility

### LETTER NO.      AUTHOR

1            Eric Burr

Comment #1 - The discussion on skier market potential is shakey based on other areas not currently operating at capacity.

It is correct that many ski areas do not operate at full capacity over an entire season. Overall, utilization for areas in the west was generally found to be greater than 50 percent. This included weekday and weekend use, and day use ski areas as well as destination ski areas.

For day use areas, weekday use is usually somewhat less than weekend use when many areas approach or exceed capacity. Destination type areas exhibit a higher weekday utilization rate because of the length of stay and marketing techniques available to them.

The skier market potential and utilization is not directly related. Many factors such as snow conditions, services provided and crowding will influence the use of an area.

Also see comment #3.

82            Rick Jali

Comment #2 - The discussion on current and future demand on page 31 (DEIS) is unclear and from current indications is not increasing.

During the period 1975-1980, the average annual skier day growth rate ranged from -.8 percent in Washington to +11.8 percent in Wyoming. There is less consistency in growth rates over the short-term, due to the influence of non-ski industry factors such as the energy crisis and weather-related variations. ("Market Analysis, Early Winters Ski Area;" Hammer, Siler, George Associates and "Skier Demand for Early Winters Ski Area, 1980-2000" by Uniplan Associates).

220            Bob Elk & Mona Raines

Comment #3 - The statement that 40% capacity needs to be realized for the development to make a profit is inconsistent since the national average is 35%.

The utilization rate or number of skiers required to secure a profit is not the same for all ski areas. Individual area factors include cost of development, efficiency of operation and lift ticket prices. Hence, the precent capacity rate required to make a profit is different for different ski areas.

Also see comment #1.

LETTER NO.      AUTHOR

303            Jeff Brown

Comment #4 - No consideration has been given to the possibility of a large development failing, thus leaving local residents unable to financially support an already-improved infrastructure.

Several of the criteria for selection of a permittee are concerned with the ability of the permittee to adequately finance the operation. These include financial capability and ability to perform according to permit terms, including adherence to mitigation measures.

415            Methow Valley Citizens Council

Comment #5 - Demand for development is questionable based on recent trends which indicate a flattening of demand and a depressed downhill ski economy.

See comment #2.

416            Methow Recreation, Inc.

Comment #6 - A more thorough discussion of the favorable ski conditions for the site would help the reader better understand the proposal.

The attributes of Sandy Butte as a ski development are adequately covered in the EIS. The "proposal" will be more specifically addressed in the master plan.

416            Methow Recreation, Inc.

Comment #7 - The document does not accurately portray how much skiing demand is currently being met by Washington State because it does not consider the high number of skiers who leave the State to ski at destination resorts.

In 1975, Washington skiers generated 145,000 destination skier days to ski areas outside the state. Although the absolute numbers have changed since 1975, the general pattern has not, since there has been no major supply change in the state ("Market Analysis, Early Winters Ski Area;" Hammer, Siler, George Associates).

461            Leah Swayze & Greg Knott

Comment #8 - Consideration should be given to the possibility that the slow growth rate cited for Washington State is attributed to a saturated market rather than to capacity conditions.

The slow growth rate for Washington State is not necessarily due to a saturated market. The 1975/76 Outdoor Recreation Survey by the Interagency Committee for Outdoor Recreation showed that on a statewide basis, snow activities, including downhill skiing, were the fifth most mentioned activity in which respondents wanted to participate more often (Washington Statewide Outdoor Recreation Plan, 1979).

LETTER NO.

AUTHOR

691            Interagency Committee for Outdoor Recreation  
Comment #9 - Where the skier market is located is not discussed.

Where the skier market is located is adequately discussed in "Market Analysis, Early Winters Ski Area" by Hammer, Siler, George Associates and in "Skier Demand for Early Winters Ski Area, 1980-2000" by Uniplan Associates.

800            Beverly LaVech

Comment #10 - Consideration should be given to the slow growth rate of skiing being attributed to economic and competing recreational facilities, not just lack of facilities.

Other regions have experienced a considerably higher rate of growth than Washington State, given similar economic and energy-related conditions. In addition, many areas where the growth rate of skiing is highest have experienced an expansion of ski facilities prior to the growth in skiing.

Transportation

LETTER NO.      AUTHOR

28            Washington State Department of Transportation

Comment #1 - The DEIS does not discuss development plans for Intercity Airport which will be addressed by an Airport Master Plan now being processed.

The Final EIS now makes reference to the Airport Master Plan now in the process of development for Intercity Airport.

81            Washington State Department of Transportation

Comment #2 - Based on WSDOT records, several average daily traffic figures on page 22 and Table 1 are incorrect.

These have been corrected in the FEIS.

81            Washington State Department of Transportation

Comment #3 - Based on the capacity of level of Service E roads, the capacity figures for State Route 20 shown on page 54 are much too low for non-winter road conditions and should be calculated in hourly, not daily, volumes.

Revisions have been made in the Final EIS.

81            Washington State Department of Transportation

Comment # - Based on current priorities, the discussion on timing of the replacement of Weeman Bridge is incorrect.

The discussion on the timing of the replacement of Weeman Bridge has been corrected in the FEIS.

81            Washington State Department of Transportation

Comment #5 - Based on 1979 winter counts, the ADT's and percent increase rates on page 115 are incorrect.

Revisions have been made in the FEIS.

100           Jerry Gaines

Comment #6 - Mitigation measures for increased use of Intercity Airport should be considered.

Mitigation measures for increased use of Intercity Airport can best be addressed in the Intercity Airport Master Plan now being developed by the Washington State Department of Transportation, Division of Aeronautics.

111           Patricia Petersen

Comment #7 - Discussion of effects of increased usage of Intercity Airport is inadequate.

Effects of increased use of Intercity Airport will be covered in the Airport Master Plan now being developed.

LETTER NO.      AUTHOR

161            David McComb

Comment #8 - The EIS has not considered who will provide land required for off-highway parking of winter sports users who are not guests at resort, where such parking will be located, who will construct and sign such areas, and who will maintain and remove snow from these areas.

Generally, commercial establishments will provide parking for their users or customers. Dispersed winter recreationists (snowmobilers, nordic skiers and snowshoers) may use designated "Sno Parks." These parking areas are funded by the State of Washington through sticker sales and snowmobile registration. Snow removal is either by State or County road crews.

261            Bill Gaines

Comment #9 - There is no discussion of the type of improvements necessary to make the projected 2440 ADT of Alternative V safe.

Along with the replacement of Weeman Bridge and the reconstruction of SR 20 from Mazama to Weeman Bridge, the WSDOT proposes a study of improvement needs from Weeman Bridge to Winthrop. Additional information on intersection improvements is also provided in the FEIS.

264            Marianne LeSage

Comment # - There is no consideration given to the fact that the approach to the Chelan Airport can be difficult because of its location and that Anderson Field at Brewster has a resident caretaker and mechanic.

The FEIS has been revised to include these facts.

363            Polly Feehan

Comment #11 - As mitigation for increased use of Intercity Airport, night flights should be banned. Only non-jet type planes should be allowed, and the number of daily flights should be limited.

See comments #6 and #7.

415            Methow Valley Citizens Council

Comment #12 - Adverse transportation effects cannot be mitigated by provision of shuttle services since no such services are currently in place nor does the County have plans for such a service.

Although the initiation of a shuttle service would itself be an effect of the proposed development, it would provide a reasonable mitigation to increased auto traffic demands.

555            Keith Stennes

Comment #13 - Will the tenfold increase in traffic (256 ADT to 2440 ADT) on WA 153 necessitate road work, road widening and right-of-way acquisition of productive orchard land?

The widening of WA 153 is not anticipated. The effects of widening will be determined with any specific proposal.

LETTER NO.      AUTHOR

565 EWT      Vicky Welch

Comment #14 - The document does not adequately describe the expected increased use of Intercity Airport or the effects of increased use.

See comments #6 and #7.

803            Michael Loeffler

Comment #15 - The potential for increased use of Lost River Airport was inadequately discussed.

Lost River Airport is a small, unpaved strip with many limitations and is privately owned.

691            Interagency Committee for Outdoor Recreation

Comment #15 - Based on studies of mass transit which shows significant resistance to travel by bus and aircraft, the discussion of the reliance on these sources of transportation seem overstated.

Many major ski areas today embrace the use of mass transit systems while discouraging individual use of the automobile. This scheme supplies a large number of skiers while eliminating costly parking space. Reduced rates on ski lift tickets for those using mass transit systems could encourage its future use.

## Energy

<u>LETTER NO.</u>	<u>AUTHOR</u>
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56            David Asia

Comment #1 - There is no mention of energy conservation measures as required by SEPA.

The Pacific Northwest Electric Power and Planning Act, with the sale of power agreement between BPA and the Okanogan County Electrical Cooperative, provides for a local conservation program to be funded by BPA. A formal conservation program for consumers' has not yet been activated, but provides potential for conserving electricity.

Energy conservation measures will be identified and considered when evaluating the site development plan for the ski facility.

Potentials for conserving electrical energy also exist in the adherence to building codes dealing with insulation and construction standards and the promotion of solar designs.

87            Okanogan County Electric Co-op

Comment #2 - The DEIS does not address the needs for ROW's for transmission and distribution powerlines on Sandy Butte and from Winthrop.

The EIS points out potential ROW needs by the Okanogan County Electrical Cooperative. The management of Okanogan National Forest includes provisions for rights-of-way and easements when needed. It is beyond the scope of this EIS to address specific ROW applications.

188            Department of Energy  
BPA

Comment #3 - The ability of local PUD's to meet future power requirements has not been adequately considered.

The local electrical utility, through agreement with BPA, will serve all future needs until the year 2001. At that time, a new agreement will determine electric supply to be provided.

416            Methow Recreation, Inc.  
Comment #4 - The analysis of current electricity conditions and impacts of development did not use current available data.

Additional information has been included in the FEIS.

Minerals

LETTER NO.      AUTHOR

16                Quintana Minerals Corporation

Comment #1 - The DEIS does not consider mineral resources or the role of mineral resource development in the future of the Methow Valley.

We recognize the mineral potential of the Methow Valley, and in particular, the large low-grade copper deposit near Goat Peak. Because of the tentative status of this project, a detailed assessment of ski development-related impacts to mining is not possible.

99                Bob Pattie

Comment #2 - There is no discussion on possible rockhounding sites in the project area.

There are no known mineral or rock varieties in the project area which might be of interest to collectors.

Social

LETTER NO.      AUTHOR

56            David Asia

Comment #1 - There are no mitigation measures in the EIS regarding changes in social structure, family characteristics and demographic transformations as required by SEPA.

The rate of growth (development) will affect the magnitude of change. The phasing of a ski development over 20 years, rather than immediate full development, will mitigate impacts on social changes. Additional mitigation has been added to the FEIS.

62            Lee Bernheisel

Comment #2 - The process used to project permanent population trends is not based on comparative site data and thus underestimate effects.

In preparation of the FEIS, population data from other counties with ski areas, as well as an economic impact model (IMPLAN) (Griffin and Danison, 1983), was compared. The comparison confirmed the population trends projected for the Methow Valley. Population numbers are difficult to project over time and deserve caution when being evaluated.

127            Gretchen Stuart Lawson

Thomas J. Lawson

Comment #3 - EIS does not meet SEPA requirements because no population density map or map of sensitive areas is provided.

Population density map is not included because of the uncertainty of location of off-site developments. Density estimates for the Methow Valley are discussed under "Population Density and Distribution" of the Social and Economic section.

Maps of sensitive areas are available for review at the Okanogan County Planning Office.

148            Arlo VanderWoude

Comment #4 - In order to determine the effects of a ski area development, an adequate assessment of the value of lifestyle as it is in the Methow now must be part of the EIS.

The value of a particular lifestyle is an individual assessment. Life-styles and social values are discussed for existing social groups beginning on page 42.

261            Bill Gaines

Comment #5 - The statement that housing demands, land values and rate of social group change level off is inconsistent with actual population projections which show no leveling off.

Agree; the statement has been removed.

LETTER NO.      AUTHOR

304            Frank & Patricia Nicholson

Comment #6 - The EIS does not discuss the effect of increased construction activities, ski traffic, snowmobiles and helicopter traffic on noise levels.

Ski development would result in a temporary increase of noise. Noise impacts near the development would occur with construction and again during operation and use. The most pronounced increase would result from construction with equipment powered by internal combustion engines. During operation, noise levels at the base area would be similar to an urban setting.

Noise levels for all alternatives would increase with increases in highway travel throughout the Methow Valley.

415            Methow Valley Citizens Council

Comment #7 - The assumption that negative socio-economic influences level off after Alternative III has no statistical support and does not agree with SIR's competitive study.

See comment #5.

415            Methow Valley Citizens Council

Comment #8 - The DEIS does not adequately consider the increase in crime that would result from development, even though strong statistical support shows that increased crime would be a natural consequence of development.

Future crime rates are discussed to the extent possible under Public Safety, page 124.

416            Methow Recreation, Inc.

Comment #9 - Several of the assumptions under the Social Evaluation Criteria are unclear as they are not based on the social characteristics of the population expected in the valley in the next twenty years regardless of whether or not a ski area is developed.

The current social characteristics were used as baseline for comparison of the development alternatives. The change to existing social characteristics with Alternative I would be insignificant as they are affected by change over time rather than impacts due to any kind of new development.

416            Methow Recreation, Inc.

Comment #10 - The discussion of population levels and densities under Summary of Conclusions does not reflect information provided in off-site development scenarios for comparable sites.

Additional information has been added.

LETTER NO.      AUTHOR

416            Methow Recreation, Inc.

Comment #11 - Because buildout was incorrectly assumed to be completed by the year 2000, population growth occurring over a longer period of time under higher levels of development was not considered.

Year 2000 is used throughout the document to establish a development schedule for purposes of analysis. By assuming buildout of the alternatives by the year 2000, a conservative (worse) estimate of effects was made.

416            Methow Recreation, Inc.

Comment #12 - Consideration was not given to higher levels of development causing fewer impacts on rural resident population due to better planning and clustering of accommodations.

Considerations included in discussions on "Land Use."

416            Methow Recreation, Inc.

Comment #13 - The document does not recognize that many children of older long-time residents have been forced to leave the valley due to lack of employment opportunities.

Information has been added to FEIS.

416            Methow Recreation, Inc.

Comment #14 - The analysis of the effects of development on population density and distribution did not consider the mitigation measures available in the County's zoning regulations.

County zoning considerations have been incorporated into discussion on "Population Density and Distribution."

491            Debbie Asia

Comment #15 - The DEIS is unsatisfactory because it ignores research regarding the value of the quality of life by not dealing with lifestyle changes, increased crime, pollution, psychic stress and resulting increases in health care cases.

Quality of life is composed of a combination of components (physical, social and cultural environments) with varying degrees of values of components by individuals or groups. Quality of life is essentially a subjective concept with no widely accepted method for determining an economic value. Lifestyle changes, crime, pollution and health care, as with the other components, have been discussed to the extent possible.

LETTER NO.      AUTHOR

491            Debbia Asia

Comment #16 - The DEIS does not comply with FSM 1970, in regards to selection of social variables and relevancy and significance of these variables.

Discussion of the social variables of lifestyles, attitudes and social values, and social organization (social groups) are incorporated in "Social Factors" section.

Additional information is available in "Social Values and Lifestyles in Okanogan County, Washington," by Hutchins, February 1981. This work describes the underlying values and lifestyles of the several social reference groups in Okanogan County and the Methow Valley. Process of identification of values and lifestyles involved informal, open-ended interviews with participants' own perceptions of lifestyles and values.

516            William Freudenburg  
                Professor of Rural Sociology  
                Washington State University

Comment #17 - The DEIS is deficient and does not comply with CEQ regulations and FS guidelines in its assessments of social impacts at community and individual levels, thus failing to consider all relevant and reasonable alternatives and mitigation measures.

Community impacts are discussed in the EIS in terms of employment, income, social groups, land use, utilities, education and safety.

An individual will experience a combination of environmental effects. It is virtually impossible to predict how a specific person will experience the estimated environmental changes. Thus, the discussion of effects on groups and communities is the most appropriate way to describe the effects.

549            Frank Almquist

Comment #18 - The DEIS did not address the question of how many people will be forced to leave, even though studies are available for similar developments.

We are unable to determine how many individuals or precisely why they may leave the Methow Valley.

679            The Mountaineers

Comment #19 - The statement that "people unable to adapt to change will move" needs to be re-examined since other studies show that people will remain and use more public services.

This statement has been removed from the FEIS. Population estimates relating to public service needs include present and future residents.

870            Washington Environmental Council

Comment #20 - Because all alternatives were not compared to baseline, the discussion of social impacts of Alternatives IV and V leveling off is uninformative.

All alternatives are compared to a baseline.

## Recreation

### LETTER NO.      AUTHOR

2              Office of Archaeology & Historic Preservation

Comment #1 - Mitigation measures to protect cultural materials inadvertently discovered during construction need to be included.

The special use permit will contain a requirement which would stop construction and require evaluation if cultural materials are discovered on National Forest lands.

6              Dean E. Wilson

Comment #2 - There is no discussion of the trail which goes over Sandy Butte.

The trail which goes over Sandy Butte is a stock driveway which was abandoned in the early 1950's.

32              Washington State Winter Recreation Commission, Early Winters Subcommittee

Comment #3 - The DEIS does not consider the year-round recreation potential of the area or off-hours recreation during the ski season.

Alternatives IV and V are of a sufficient scale to generate interest in the development of a year-round resort. Discussion of a year-round operation has been added to the FEIS. Off-hours recreation will occur at those facilities available for those type activities.

36              Burt Jellison

Comment #4 - The DEIS does not consider the effects on other ski areas or the effects of other ski areas on this venture.

Alternative II would have the most significant effect on other local ski areas and be most affected by other ski areas. This level of development would, in part, draw from the same confined market area as other local ski areas.

Alternatives III, IV and V would have less effect on local ski areas and be less affected by other ski areas, because these levels of development would draw from an expanded market area.

68              National Nordic Consultants

Comment #5 - No consideration was given to a cross-country ski center in association with an alpine operation.

The purpose of the DEIS was to discuss various alpine skiing alternatives. Consideration of a cross-country ski center in conjunction with an alpine operation is more appropriately discussed during the site planning phase. A separate evaluation will be required of facilities and operations at that time.

LETTER NO.      AUTHOR

267            Department of Army

Comment #6 - The primary impact area was not thoroughly assessed for cultural resource effects; therefore the Executive Order 11593 process is not complete.

The primary impact area was inventoried by Mr. Harvey S. Rice of National Heritage, Inc. in 1976. No sites within the project area were located or found.

268            Shirlee Evans

Comment #7 - The information on page 31 regarding the avalanche potential on slopes 60%-100% is incorrect as these slopes do not usually hold snow long enough past a storm to present a hazard.

The 60%-100% refers to slopes of 30 to 45 degrees. Natural sluffing of snow cover normally does not occur on such moderate slopes.

299            David Jay

Comment #8 - The avalanche hazard for the area has been understated as the dry, continental climate can cause severe winter long avalanche problems in years with early snowfall.

It is correct that the North Cascades area can experience severe avalanche problems. However, the avalanche hazard rating of medium for Sandy Butte is correct and is based on factors in addition to climate such as slope, vegetation, snow deposition patterns, absence of high - intermittent avalanche slide paths and the effects of slope grooming.

415            Methow Valley Citizens Council

Comment #9 - Because cross-country skiing was not discussed in the DEIS under recreation, recreation was devalued under Alternative I.

It is recognized that a small amount of cross-country skiing takes place on Sandy Butte. However, the evaluation specifically rated the amount of downhill skiing visitor days which would be provided by the various alternatives. Including the cross-country skiing aspects would not significantly increase the value of recreation under Alternative I.

415            Methow Valley Citizens Council

Comment #10 - The DEIS did not consider the effect of development on the wilderness characteristics of the area or on the Pasayten Wilderness.

It is beyond the scope of this EIS to consider lands for wilderness. All lands within the proposed ski development have been designated for multiple use by the Congress in consideration of the Washington State Wilderness Act of 1984.

Ski development would have only indirect impacts on the Pasayten Wilderness or the newly classified Lake Chelan-Sawtooth Wilderness. These impacts would result from increased summer use as ski visitors become aware of the Pasayten, the same as any other visitor to the Okanogan. Air quality impacts to Class I areas (Pasayten Wilderness) are discussed in "Environmental Consequences."

<u>LETTER NO.</u>	<u>AUTHOR</u>
416	Methow Recreation, Inc. Comment #11 - It is unclear under the summary of the recreation evaluation criteria what effect increased skier days would have on existing winter recreation activities.  This section, summary of the recreation evaluation criteria, has been deleted in the FEIS. Impacts to winter recreation activities are discussed in Recreation, "Environmental Consequences."
416	Methow Recreation, Inc. Comment #12 - There is no discussion under the summary of the recreation evaluation criteria of the enhanced recreation opportunities that would be provided by a year-round resort or how this will affect current summer recreational opportunities.  The effects on current summer recreational opportunities by a year-round resort at the ski area have been noted in the "Recreation" section.
416	Methow Recreation, Inc. Comment #13 - The document does not explain the reason for omitting summer activities.  See comments #3 and #12.
585	Washington State Parks & Recreation Comment #14 - The potential for increased use at Pearrygin State Park due to development has not been discussed.  Pearrygin State Park would be affected due to the increased number of people who would return to the area during the summer, after being exposed to the area during winter visits. No projection of increased use is available.
691	Interagency Committee for Outdoor Recreation Comment #15 - Clarification of "tourist" and "ski visitor" is needed, as intermixing terms complicates the understanding of tourist accommodation needs.  "Tourist" is a term used for a recreation visitor. Text has been clarified by using the terms "summer tourists" or "winter tourists" where appropriate.
692	Jim Archambeault Comment #16 - The effects of development on Early Winters Campground was not discussed.  As the population and summer recreationists in the Methow Valley increase, the use of recreation facilities will also increase. The rate of increased use or occupancy is unpredictable.

LETTER NO.      AUTHOR

708            U.S. Department of Interior, Pacific Northwest Region  
Comment #17 - The indirect impacts to the North Cascades National Park Service Complex as the result of SR 20 being open year-round were not discussed.

The opening of State Route 20 to winter travel is beyond the scope of this EIS.

842            Friends of the Earth  
Comment #18 - It is inclear what is meant by RVD's and ADT on page 22.

The definitions for RVD's and ADT are in the Glossary.

851            Louis Lancaster  
Comment #19 - The DEIS does not discuss the impacts on the Pasayten Wilderness based on having a larger town at its southern border.

See comment #10.

870            Washington Environmental Council  
Comment #20 - The effects on the recreation opportunity at Loup Loup Ski Area and Sun Mountain is not discussed.

Alternative II would have the most significant effect on Loup Loup Ski Area, as this level of development would draw users from the same skier market area (day use). Alternatives III - V would have less effect as users would be drawn from a wider skier market area (beyond day use).

Sun Mountain would be indirectly effected by increased use as people learned of the opportunities which are provided by Sun Mountain. Increased use at Sun Mountain Resort may result in the need for expanding facilities.

## Wildlife

<u>LETTER NO.</u>	<u>AUTHOR</u>
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76 Leonard Steiner

Comment #1 - The DEIS should list the acreages of habitat represented at Sandy Butte for the entire Methow Valley. This would help in estimation of effects on wildlife.

Habitats within the project area (e.g., plant communities, successional stages and snags) are not unique, and are common elsewhere in the Methow. Acreage changes of the various habitats for the entire Methow Valley would be negligible as a result of any alternative.

100 Jerry Gaines

Comment #2 - There is no discussion on the projects effect on spotted owl.

When the DEIS was prepared, no spotted owls were known to exist in the Methow Valley. Their presence has since been verified in the vicinity of the ski hill. Discussion of spotted owls has been included in the FEIS, pages 35 and 75.

111 Patricia Petersen

Comment #3 - The proposed mitigation measures for loss of critical deer winter range and other important wildlife habitats are inadequate.

Mitigation measures have been added to in the FEIS.

186 Frances Dollar

Comment #4 - The discussion of T&E species is inadequate, particularly in regards to marmots, marten and goshawks.

Marmot, marten and goshawk are not endangered or threatened species.

Based on field surveys, literature search and informal consultation with the U.S. Fish and Wildlife Service, it is concluded that these species will be unaffected by proposed development.

No additional species are listed by the State of Washington as endangered or threatened which occur in the affected habitats. However, the spotted owl, a State listed sensitive species, is discussed. See comment #2.

261 Bill Gaines

Comment #5 - There is no discussion on what effect the decrease in prey, wildlife species will do to predator populations.

Estimated trends in numbers of wildlife, including prey and predator species, are included in Appendix B of the FEIS.

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261           Bill Gaines

Comment #6 - The effects of mass erosion on water quality and subsequent effects on anadromous fish is not discussed.

Mass erosion is discussed on page 73. Past occurrences of mass erosion have been random and mitigation measures are designed to avoid increasing mass erosion. Effects cannot be differentiated for the alternatives because of this randomness.

274           Seattle Audubon Society

Comment #7 - The information regarding the small home range of pine marten is incorrect (page 39 DEIS), as current research shows this species to have a large home range mostly in mature or old growth forests with connecting forested corridors.

The comparison was being made between animals which are yearlong residents to the site (those with relatively small home ranges), and animals which are not yearlong residents (those with relatively large home ranges). This has been corrected in the FEIS.

Hawley and Newby (1957) reported home range sizes for marten in Montana to range from 0.03 to 2 square miles, with a mean of 0.2 to 1.5 square miles.

Hawley, V. D. and F. E. Newby. 1957. Marten Home Ranges and Population Fluctuations. J. Mammal. 38:174-184.

274           Seattle Audubon Society

Comment #8 - In order to mitigate displacement of old growth dependent wildlife species, particularly spotted owls, from development on Sandy Butte, consideration should be given to preservation of larger areas of old growth (30%-35%) in the adjoining lands of this drainage.

See comments #2 and #36.

294           North Central Washington Audubon Society

Comment #10 - The off-site loss of snags was not discussed. A firewood management plan should be developed to minimize impacts to snags.

The loss of snags on private lands (off-site) can not be dealt with in this EIS. Firewood supplies (snags and down logs) will decrease as population increases. The Forest Service has a firewood policy which is flexible and can deal with localized as well as Forest-wide problems such as low snag levels.

LETTER NO.      AUTHOR

304            Frank & Patricia Nicholson

Comment #11 - The EIS does not mention whitetail deer, a number of which we have seen at the foot of Sandy Butte.

Only species which were verified by existing records, studies or surveys were listed as occurring in the area. It is likely that infrequently seen wildlife species may also occur, including the white-tailed deer.

359            Washington Wilderness Coalition

Comment #12 - The fact that sediment loads could be 6-7 times greater than background will have a significant effect on water quality and fisheries is inadequately discussed.

Sediment loads are estimated to increase about 3 times over the existing situation with Alternatives II - V (Table 10, page 72 FEIS). Turbidity will change only slightly and for short duration, and remain within State water quality standards. These changes will have no significant effect on water quality or fisheries.

363            Polly Feehan

Comment #13 - The loss of deer as an economic loss which would affect tourist revenue was not discussed.

Using Forest Service estimates of deer winter range loss with Alternative V, Washington Department of Game (WDG) has extrapolated expected loss of deer numbers and economic value (State of Washington's response to Draft EIS, 11/30/82).

"With the predicted 15 percent reduction in winter range from full development by the year 2000, harvest is expected to decline by a similar proportion. This would result in a loss of nearly \$1 million annually to the State's economy."

Using their estimates of deer winter range loss with Alternative V, WDG has predicted the following:

"...we feel that with full site development, accelerated private development in the valley, increased road kills and increased human disturbance, the ultimate impact on the Methow deer herd could exceed a 50 percent reduction in numbers.

"...with a potential reduction in harvest of 50 percent, Washington businesses can expect to lose over \$3 million annually from reduced recreational opportunity. These figures do not take into account increases due to inflation over the life of the project. Actual economic loss will likely be much higher.

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"If the ski resort and associated growth in the valley does occur, it will likely be necessary to impose more restrictive hunting seasons to protect the herd. Shorter seasons or permit-only hunting are likely outcomes. This would result in direct impacts on Okanogan County and the State in the form of lost revenues."

Based on this information, economic losses are expected within the range of \$1 to \$3 million annually to Washington using 1980 dollar values. This economic trade-off would be more than offset by skier expenditures.

416           Methow Recreation, Inc.

Comment #14 - Since there have been no confirmed sightings of goshawks on site, the reference to them under major conclusions should be modified.

The references to nesting goshawks in the DEIS are corrected in the FEIS.

416           Methow Recreation, Inc.

Comment #15 - The reference to many streamside wildlife species decreasing is inappropriate as state and local shoreline and floodplain laws provide a mechanism to mitigate effects.

Even with mitigation to leave most riparian habitats intact, other factors will adversely affect wildlife. Partitioning of contiguous riparian habitats, loss or development of cover corridors leading from riparian zones, development of nearby lands, increased human activity, traffic and noise in the vicinity will cause decreases in wildlife. Species most easily disturbed and least adaptable to man's activities will be affected most.

Mitigation measures will alleviate the problem. However the trade-off of lost wildlife and habitat for development will still occur with proposed development.

416           Methow Recreation, Inc.

Comment #16 - The statement that Alternatives II and V pose a serious threat to fisheries is not consistent with the statement on environmental consequences.

Corrections have been made in the FEIS.

416           Methow Recreation, Inc.

Comment #17 - The significance of the percent reductions in deer habitat is unclear.

On-site, the expected reduction in summer range capacity for deer is not significant. This is based on information that existing average summer range densities of deer are approximately half of expected habitat capacities for deer with maximum development.

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Off-site, the expected reductions in deer winter range habitat are significant in all alternatives. This is because winter range is the most critical habitat in determining the size of the deer population. The amount of loss is considerably different between alternatives. For example, losses in Alternative V are nearly twice those in Alternative I.

416            Methow Recreation, Inc.

Comment #18 - Percentage reductions of mule deer habitat were not based on clustered off-site development. Since there is a greater likelihood of a planned resort community under Alternatives IV and V and because of the PUD mechanism, the percentage figures for these alternatives are too high.

The FEIS includes consideration of the Planned Unit Development concept as a zoning tool to control sprawl development. If the Planned Unit Development concept was used and development is largely outside of deer winter range, estimates would be reduced.

416            Methow Recreation, Inc.

Comment #19 - The discussion on the adverse effects on wildlife does not consider that off-site development would be concentrated.

See comment #18.

416            Methow Recreation, Inc.

Comment #20 - As mitigation for fishery impacts, it should be recognized that State and local agencies can condition or deny development permits which could damage the fisheries resource.

This concern has been addressed in the mitigation discussions.

530            Paula Mackrow

Comment #21 - The DEIS did not consider revenue loss from fishing due to loss of fish habitat.

The FEIS has been revised to include additional information on fish values. (See Chapter IV - Environmental Consequences, - Wildlife.)

554            Bruce Odom

Comment #22 - The DEIS states no sensitive species would be adversely affected, yet you list 30 species of wildlife which will decrease, including mule deer, marten, grouse, Northern flying squirrel, mountain bluebird, goshawk, and many species of woodpeckers. These, along with the spotted owl, are sensitive species.

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Sensitive species are those species which (1) have appeared in the Federal Register as proposals for classification and are under consideration for official listing as endangered or threatened species, (2) are on an official State list, or (3) are recognized by the Regional Forester to need special management in order to prevent the need for their placement on Federal or State lists. The spotted owl is the only sensitive species involved. Also see comment #2 and page 75 of FEIS.

556            Janet Thompson

Comment #23 - The DEIS does not discuss the effects of development on fishers.

Occurrence of fisher is rare on the Okanogan National Forest and fisher are not known to occur in the vicinity of proposed development.

605            Inland Empire Big Game Council

Comment #24 - As mitigation for effects on wildlife, consideration should be given to including the following as permit provisions:

- a) not holding Washington Game Department responsible for wildlife damage as a result of man's intrusion in development area;
- b) require developer to compensate Game Department annually for loss of wildlife harvest and lost recreation opportunity.
- c) enact a solution to address wildlife damage to private and public lands.

Item a, b and c (private land) are beyond the authority of a Special Use Permit issued by the Forest Service. Item c (public lands), the Forest Service Special Use Permit will provide for protection from wildlife damage on National Forest lands.

618            Dianna Mitzner

Comment #25 - As mitigation for wildlife effects, developer should be required to be financially responsible for (1) relocation of wildlife and continued monitoring of their adaption to new habitat, and (2) cleanup of river and streams as a result of changes caused by development.

Item (1) is not considered to be practical as a mitigation for wildlife. Item (2) will be a requirement of the permit.

661            Richard Rutz

Comment #26 - The DEIS does not consider fish and wildlife needs for water.

Effects to fisheries are discussed (page 78, FEIS). Except for potential sediment production, effects on fish and other wildlife due to changes in water quality or quantity are not considered significant. Potential adverse sedimentation can be avoided through project design and mitigation measures.

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661            Richard Rutz

Comment #27 - The DEIS did not discuss the effects of development on several species of bats.

Based on habitat relationship data (Wischnofske, 1977 and Thomas et. al., 1979), it is possible that other wildlife, including bats, may also occur in addition to those listed. However, for this study, specific effects were evaluated on only the wildlife documented to exist in the vicinity.

692            Jim Archambeault

Comment #28 - Wildlife mitigation measures #1 and #3 will be impossible to implement because skiing is done and is best on blue grouse wintering areas and permittee needs June to do work during short summer season.

As stated in the FEIS (page 75), "Blue grouse numbers on site could be severely reduced with any of the action alternatives." This is a likely trade-off with development of the ski hill. Wildlife mitigation number 3(a) (page 16, FEIS) can alleviate the problem, but probably not eliminate the trade-off.

Mitigation number 3(c) (page 16, FEIS) is a requirement consistent with management of other key fawning areas, regardless of the activity involved.

692            Jim Archambeault

Comment #29 - Fisheries mitigation measure #1 of the DEIS will be impossible to implement because these buffer strips will be needed for crossing of runs.

Ski runs are generally designed on the fall line to eliminate skiers having to cross drainages or climb out of draws. Number and size of breaks in buffer strips for ski runs will be minimized and controlled through design approval process. However, where water courses are crossed, other mitigation measures such as those listed to protect water quality and soils (page 16, FEIS) will be implemented to prevent sedimentation. Covering streams (e.g., laying pipe) to prevent entry of sediment, and installing structures to trap upslope sediment before it enters streams are other possible measures.

781            Washington State Department of Ecology

Comment #30 - Because the information used for winter range was based on mild winters, the percent of available winter range on private land is greater than stated in the DEIS.

While its true that approximately 35 percent of the entire deer winter range is on private land, deer use is generally heaviest on low elevation private lands during deep snow winters.

781            Washington State Department of Ecology

Comment #31 - Due to accelerated private land development, increased road kills and increased human disturbance, the impacts on the Methow deer herd is greater than stated in the DEIS.

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For Alternative V, the Forest Service estimates that loss of deer winter range on private land will be 15 percent. Washington Department of Game predicts that habitat losses will be 50 percent or more.

Quantifiable data for predicting impacts that result from road kills and human disturbance are not available, although losses are expected to increase with increased human population.

781            Washington State Department of Ecology

Comment #32 - Because of habitat loss, impacts to fawning areas, and increased human disturbance, we disagree that sufficient summer range will be available for the existing herd.

Estimates of deer per square mile on-site (FEIS, page 76) provide the basis for stating that summer range will remain adequate. This is further supported by findings from other ski hill developments. Effects to mule deer summer range resulting from construction, maintenance, operation and associated activities are generally not considered significant (Dr. Lynn Carpenter, Colorado Division of Wildlife - personal communication).

781            Washington State Department of Ecology

Comment #33 - The impacts to the deer herd because of blockage of migration routes is inadequately discussed.

Design and location of off-site developments will determine the impact to deer migration. The opportunity exists to minimize potential problems through coordinated planning by agencies and publics involved.

781            Washington State Department of Ecology

Comment #34 - Because adjacent habitats will not support increased populations based on current accepted wildlife management theory, the reference to wildlife being displaced should be deleted.

It is acknowledged that the likelihood of perishing is greater than surviving. However, data does not exist to ascertain which habitats are full, which are not full, or that all habitats are either. Because of fluctuations in natality, mortality, emigration and immigration of animals, as well as fluctuations in the physical environment, densities (individuals per unit area) constantly change (Odum, 1959; Dasman, 1966).

The following assumptions were made: (1) certain adjacent habitats are filled to capacity, and (2) others are not filled. Hence, the statement on page 75 (FEIS), "Those species eliminated from Sandy Butte... will either perish or establish new home ranges.

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781           Washington State Department of Ecology  
Comment #35 - The impacts of development on bald eagle, golden eagle, and osprey, which use the area for feeding and nesting, were not discussed. The impacts on mink and otter which use riparian areas were not discussed. Franklin grouse, Audubons warbler and pileated woodpecker may be present and impacts on these species should be discussed.

Only species which were verified by existing records, studies or surveys were listed as occurring in the area. The detailed report by Washington Department of Game, "Wildlife and Vegetation of the Early Winters Project Area" (Nelson and Fite, 1976) is the basis for the species list.

Of the species mentioned in the above comment, only the pileated woodpecker is documented as occurring. Discussion of effects for woodpeckers and snags is on page 75 (FEIS) and the predicted change in number is shown in Appendix B.

A nesting site for golden eagles is suspected on Sandy Butte. Aerial and ground surveys since 1979 have not confirmed activity. The location is protected from probable habitat change and human activity. If golden eagle activity occurs in the future and additional protection is necessary, restrictions can be implemented during the nesting season.

Estimated effects to other off-site wildlife habitats and populations are stated (pages 75-76, FEIS).

781           Washington State Department of Ecology  
Comment #36 - As compensation for loss of old growth habitat, areas in Wolf and War Creek drainages should be managed for old growth.

No loss of old growth is anticipated due to ski hill development (Table 11, page 74, FEIS). Forest policy is to provide old growth on a township basis to assure distribution throughout the Forest. Needs in one township are not necessarily satisfied by large amounts in different townships because of distributional needs of wildlife.

Land management allocations in areas outside the proposed ski hill site are beyond the scope of this EIS and will be addressed in the Forest Plan.

781           Washington State Department of Ecology  
Comment #37 - As mitigation for snag loss from removed timber stands, snags should be left in on-site timbered areas and other adjacent Forest Service lands.

This is addressed by wildlife mitigation (page 16, FEIS).

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781           Washington State Department of Ecology

Comment #38 - Potential animal damage problems should be addressed in the discussion of wildlife impacts. The riparian habitat on the base property and the upper Methow Valley provides excellent habitat for wildlife which can cause problems for certain kinds of developments. Residential development or a golf course in this type of habitat will likely experience problems with beaver which will attempt to harvest newly planted trees and make homes in water courses. An unending supply of underground rodents would probably extend pathways onto a golf course. These would be visible from the surface as long continuous mounds. Deer are attracted to heavily fertilized grass and orchards. Damage caused by deer should be expected. Bears have been observed in the area. With the increase of garbage accumulation, bears could congregate around disposal sites. Residential areas may also experience problems with bears as they may attempt to raid garbage containers and bee hives.

These problems are possible, depending on development and activities off-site. Also see comment #24.

781           Washington State Department of Ecology

Comment #39 - As mitigation for wildlife losses, increased emphasis should be given to managing other National Forest lands for game and non-game species.

National Forest lands are managed for multiple uses including game and non-game wildlife.

681 FP        National Oceanic & Atmospheric Administration

Comment #40 - The DEIS did not consider potential impacts to both existing and future anadromous fish resources as addressed in the Northwest Power Planning Council's "Fish and Wildlife Program."

The Early Winters Study Area is acknowledged as providing anadromous fish habitat (pages 36, FEIS). While potential threats to fisheries exist, it is expected that development with appropriate mitigation measures "would be compatible with the fisheries resources and habitats." See mitigation for Water Quality and Soils, page 16, FEIS.

It is recognized that the Northwest Power Planning Council is directed to "promptly develop and adopt... a program to protect, mitigate and enhance fish and wildlife, including related spawning grounds and habitat, on the Columbia River and its tributaries." 1/

In order to protect or enhance habitat for both the existing and possible future increases in anadromous fisheries, the following direction will apply.

- 1) Coordinate and cooperate with fish management agencies such as Washington State Game and Fish Departments and the U.S. Fish and Wildlife Service.

1/ Northwest Power Planning Council. Columbia River Basin Fish and Wildlife Program, Portland, OR; 1982.

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| 2)                | Provide clean water and minimize sediment, in compliance with the Clean Water Act, through Best Management Practices.  |
| 3)                | Use state-of-art knowledge (e.g., General Technical Reports PNW- 96, 104, 109, 113, 119, 124, 136, 138, and 140) <sup>1/</sup> and existing direction for management of watersheds and habitats of fish and wildlife (FSM 2520 and 2630), to protect or enhance fish habitat and streamside zones in conjunction with management activities. |

870 Washington Environmental Council

Comment #41 - It is unclear how ultimate wildlife population numbers undergo the same fluctuations by the same degree for each alternative.

The degree of change between alternatives will vary since the amount of affected acres varies.

With each action alternative (II - V), habitat changes and changes in human activity are similar. Hence, resulting trends in populations (+ or -) are expected to be the same.

708 U.S. Department of Interior, Pacific Northwest Region

Comment #42 - There is no discussion of impacts to habitat for the western bluebird, a sensitive species.

The western bluebird has not been confirmed to occupy lands which may be effected by ski hill development. It is not considered sensitive on National Forest lands in the Pacific Northwest by the Forest Service. The species is not expected to be affected, and special management or mitigation is not considered necessary.

<sup>1/</sup> Influence of Forest and Rangeland Management on Anadromous Fish Habitat in the Western North America. USDA Forest Service Anadromous Fish Habitat Program. A series of reports beginning in 1979.

## Air Quality

### LETTER NO.      AUTHOR

111            Patricia Petersen

Comment #1 - Discussion on air quality protection is inadequate.

Based on additional information and re-evaluation of old data, we have expanded on the initial evaluation of potential air quality impacts and the mitigation.

186            Frances Dollar

Comment #2 - The effects on increased particulates on the Class I air quality of the Pasayten Wilderness and North Cascades National Park is not discussed.

Impacts of particulate emissions on Class I areas are now discussed in the text. Also see comment #5.

294            North Central Washington Audubon Society

Comment #3 - The EIS does not substantiate the statement that favorable wind conditions will adequately disperse pollutants.

The impact analysis now assumes virtually no wind to disperse the pollutants. The buildup of pollutants caused by succeeding days of inversion conditions has been modeled as the worst case. In reality, vertical mixing and downslope winds may provide more dispersion than is assumed.

304            Frank & Patricia Nicholson

Comment #4 - The EIS does not discuss the increased motor vehicle emissions which would result from increased permanent and seasonal populations.

Carbon monoxide, as the principle pollutant from increased vehicle use, was felt to be insignificant in a rural environment. It is also felt that existing state auto pollution abatement programs are sufficient to mitigate all vehicle related pollution problems generated by the proposal.

415            Methow Valley Citizens Council

Comment #5 - As mitigation for protection of air quality, developer must include pollution from auto and aircraft emissions and wood smoke from heating of houses for permanent population in application for PSD (prevention of significant deterioration) permit. Also current levels of air pollution above estimated baseline must be included in the 19/cubic meters allowable deterioration.

Pollution from the sources mentioned have been addressed in more detail in the FEIS with the exception of aircraft emissions.

An accurate assessment of potential aircraft use (i.e., emissions) is not possible until the Intercity Airport Master Plan is completed.

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The proposed project is the lifts, tows, lodges, etc., that would be located on National Forest land. The actual facility development will not result in sufficient emissions of any of the criteria pollutants to require the PSD process.

NEPA/SEPA require the detailed disclosure of secondary impacts resulting from associated development - in this case on private lands. If PSD baseline and increment consumption have been triggered in Okanogan County, then the NEPA/SEPA document should discuss the total impact with respect to the increment consumption. Otherwise the impact need only be compared to the ambient air quality standards.

Baseline and increment consumption in Okanogan County was established for SO<sub>2</sub> by the Creston power plant PSD application. The TSP (total suspended particulates) baseline and increment consumption has not to date been triggered in the County. So increment consumption is only involved for SO<sub>2</sub> for this EIS.

A SEPA document and a PSD permit would be required if development were to be done as a large planned unit on contiguous land and exceed the emission criteria for a PSD permit of 250 tons per year of TSP. At that point the air quality issues with respect to TSP increment consumption in Class I and II areas would be addressed through the PSD process.

If developments were to proceed as isolated, individually owned, multi-family dwellings or as single family residences, it is unlikely that the PSD criteria emissions would be exceeded for these projects. A PSD permit would not be required even though the total level of developments could be the same as with the planned unit development.

The County and State (and EPA if a PSD permit is required) are the Governmental units with authority over development on private land.

416            Methow Recreation, Inc.

Comment #6 - The analysis of air quality and polluting impacts does not use current available information.

See comment #1.

417            Sally Portman

Comment #7 - As mitigation to minimize air pollution, specific regulations for base development should be designed to (a) control pollutants from heat sources, and (b) control of pollutants from auto emissions by mass transit which would be provided.

The FEIS has an expanded section on mitigation of air quality impacts. See pages 68-69.

417            Sally Portman

Comment #8 - No consideration was given to the effects of air pollution on health as documented in the EPA study entitled, "Economic Analysis of Costs of Pollution Induced Mortality."

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The U.S. Environmental Protection Agency established the Primary National Ambient Air Quality Standards (NAAQS) to protect human health. In most cases, those standards were set to protect not only the average citizen, but also those with pulmonary disease. They also adopted secondary NAAQS standards for the protection of general welfare. These standards are even stricter than the primary (health) standards. The State of Washington adopted these secondary standards as the State standards for air quality. The air quality impact analysis in the EIS compares impacts from the proposed development to the more strict State air quality standards.

417            Sally Portman

Comment #9 - The DEIS does not consider air quality protection based on conditions prevalent in the Methow Valley (i.e., ground base inversions, valley effect and lack of wind in winter, prolonged periods of high pressure). According to University of Michigan Professor of Meteorology, these conditions produce dangerous pollution conditions.

See comments #1 and #3.

461            Leah Swayze and Greg Knott

Comment #10 - Baseline pollutant levels are not discussed in the DEIS so an accurate analysis of changes in air quality cannot be made and DOE cannot monitor changes in ambient air quality.

Particulate measurements were made in 1975, 1976 and 1977 in both Mazama and Winthrop. Those years were especially dry and dusty so the data was not used in the DEIS. That data has been re-analyzed and is now discussed in the FEIS as representative of conditions existent at that time. The Air Quality Impact Analysis adjusts those values to account for development in the valley since 1977 to give an estimate of current existing conditions. Impacts from the proposed project are then compared to that base.

461            Leah Swayze and Greg Knott

Comment #11 - As mitigation to maintain air quality, disincentives for personal vehicle use should be required.

See comment #7.

553            Helen Eatinger

Comment #12 - Would use of fuelwood be limited at the development so that present dwellers in the valley would not be restricted?

Yes, the ski development will be restricted in their use of wood for heat. See Mitigation Measures - County Administrative Actions page 68 of FEIS. This does not mean that use of firewood by residents in the Valley would be without restrictions as the ski development would be but a small contributor to the impact on air quality.

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562            Alan Schnee

Comment #13 - The DEIS does not mention that a PSD permit is required by DOE.

See comment #5.

562            Alan Schnee

Comment #14 - As mitigation for reducing air pollution consideration should be given to where fireplaces can be installed and setting up a County Air Pollution Control Board.

A County Air Pollution Control Board is being considered by Okanogan County. Jurisdiction, approval and funding would have to be a County function. Mitigation limiting use of fireplaces is discussed in the FEIS.

562            Alan Schnee

Comment #15 - The DEIS is inadequate in its discussion on effects on air quality because:

- airshed characteristics have not been studied by a recognized and experienced authority;
- recording of air quality at several stations in the valley has not been done;
- baseline figures for air quality as per the County Comprehensive Plan were not used;
- Integral Vistas in Pasayten Wilderness were not identified.

Changes have been made to the FEIS that include a more detailed evaluation of airshed characteristics, a discussion of the air quality data that is available, and the impacts of the proposed project as they compare to the State ambient air quality standards.

Integral vistas as they are currently defined in the visibility regulations are views from within a Class I area looking out. The Forest Service has until December 31, 1985 to develop criteria for selection and to identify any integral vistas. Until they are formally published for public comment, they need not be addressed.

781            Department of Ecology

Comment #16 - Based on DOE information, the statement on there being no air pollution impacts at this time is incorrect.

The proposal, based on issuance of a special-use permit for downhill skiing, would cause little air pollution impacts at this time. The expected buildout on private lands will impact air quality and is covered in the FEIS.

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781            Department of Ecology

Comment #17 - Based on discussion with the Air Quality Division, the statement that no air quality standards have been established appears incorrect.

If no local air quality control measures are identified, then state or federal ambient air quality standards and control measures apply.

850            Department of Ecology

Comment #18 - The reference to total suspended particles not being hazardous to human health is incorrect as TSP standards were specifically set because TSP levels greater than standard are hazardous to human health.

The FEIS has been corrected.

850            Department of Ecology

Comment #19 - The reference to the Department of Ecology monitoring air pollution is incorrect, as we have not entered into any agreement to do so.

The FEIS is corrected.

680            Isabel Spohn

Comment #20 - As mitigation for protection of air quality:

- allow no wood heaters in dwellings at base of ski hill on company land;
- allow no wood heating in condominiums or apartments;
- allow only a few very efficient fireplaces in a few central public places.

See comment #12.

## Public Services and Taxes

- | <u>LETTER NO.</u> | <u>AUTHOR</u>  |
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| 10                | Town of Twisp  |
|                   | Comment #1 - Based on Twisp City records, the DEIS contains completely erroneous information on the Twisp water and sewer systems.   |
|                   | The information has been corrected in the FEIS.  |
| 65                | Stephen Sulzbacher   |
|                   | Comment #2 - Mitigation of public service cost deficits by the developer has not been considered.  |
|                   | RCW 58.17 provides authority to impose such requirements and will be used where appropriate. Recent legislation has somewhat limited this ability to mitigate indirect impacts that usually occur off-site.  |
| 100               | Jerry Gaines   |
|                   | Comment #3 - Based on my assessed property value increases of 300% between 1980-82, the 5.9% increase per year is too low.   |
|                   | Historic evidence shows that assessed valuation for Okanogan County has increased an average annual rate of 12%. This rate will fluctuate with changing economic conditions but will not likely decrease in the Methow Valley below this figure.   |
| 111               | Patricia Petersen  |
|                   | Comment #4 - The DEIS does not discuss how public service and facility need cost impacts will be mitigated.  |
|                   | The DEIS identifies general revenue categories and average cost of services. No attempt was made to provide detailed budget projections beyond acknowledging the need for certain specified capital projects such as school improvements. Cumulative deficiencies based upon this method are projected to reach \$1,308,683 in 1995. However in no single year will they exceed \$140,722. Mitigation has been so designed to assure overall revenues exceed expenditures for each year. |
| 268               | Shirlee Evans  |
|                   | Comment #5 - The figures for water use and sewage apply only to the ski facility itself and do not consider high density condo developments.   |
|                   | The Mazama/Early Winters Sewer Plan considered these impacts. Upper limits of development occurring within the sewerered portion of the study area will likely produce 1 mgd. The plan also sets out treatment guidelines for the unsewered portion of the area.   |

LETTER NO.      AUTHOR

294            North Central Washington Audubon Society

Comment #6 - The findings of the R. W. Beck Study casts doubt that existing soil and water conditions are capable of absorbing large quantities of sewage expected from development buildup.

The Plan's focus is the degree of treatment needed to maintain an exceptionally high level of water quality because of soil and water table characteristics. Volume is of little consequence if treatment levels are high.

298            Mel Bennett

Comment #7 - The consideration of grants as revenues is inappropriate as they are not dependable and are from taxes directly or indirectly.

Major capital projects typically are financed with a high proportion of tax supported grants and loans. While grants are not predictable eligibility requirements are surely tightening. This trend is expected to continue.

334            Ken Sletten

Comment #8 - As one method of mitigating public service deficits, consideration should be given to charging a motel room tax.

Motel room taxes are presently being assessed within Okanogan County, however monies collected are required by law to be earmarked specifically for the promotion of tourism.

359            Washington Wilderness Coalition

Comment #9 - As mitigation for sewage treatment, a tertiary treatment plant should be required at EW, and funding and siting for the plant should be discussed in the EIS.

The Mazama Early Winters Sewer Plan has been adopted and calls for such treatment measures with financing directly by the developer or through ULID (Utility Local Improvement District) serving the area.

396            Social Impact Research, Inc.

Comment #10 - Based on errors in the fiscal analysis for school expenditures, several figures in Tables 36 and 39 are incorrect.

Corrections have been made in the FEIS.

415            Methow Valley Citizens Council

Comment #11 - The analysis of public service impacts does not consider the cumulative deficits and costs to the County that will result from increased need for public services.

For increased public service needs, cumulative deficits were considered on an overall basis. Further revenue projections made since the draft show how these revenues would be apportioned. Imposition of the Admissions Tax assures an overall positive cash flow. See FEIS pages 135-136.

LETTER NO.      AUTHOR

415            Methow Valley Citizens Council

Comment #12 - Evaluation of "timing of break even" and "maximum deficit" as equal for all alternatives contradicts data in the FEIS.

The maximum deficit and break even were assumed to be of no consequence considering mitigation and that local government does not allow for deficit budgeting.

415            Methow Valley Citizens Council

Comment #13 - As mitigation for public services, consideration should be given to requiring that a percentage of lift ticket price go to provision of public services.

This has been included in the FEIS.

416            Methow Recreation, Inc.

Comment #14 - It is unclear in the Summary of Conclusions for what year the assessed land values are provided.

The assessed land values are provided for the year 2000.

416            Methow Recreation, Inc.

Comment #15 - The discussion under the Public Services evaluation criteria is not consistent with the assumptions described in the Land Use Section.

The public service evaluation does not specifically identify cost from individual development but rather lumps overall cost together. Land use assumptions deal with reactions to individual developments which may effect overall revenue/expenditure patterns.

416            Methow Recreation, Inc.

Comment #16 - It is unclear how Alternatives IV and V can cause the highest net deficits and at the same time the largest surplus.

The evaluation assumes a nearly constant straight line buildout during which deficits accumulate from the preceding years. According to the evaluation, deficits will continue to accrue until sometime during Alternative IV at which time surplus will begin to erode the deficit until eventually all previous deficits are removed. This should occur in 1995. With mitigation in FEIS no cumulative deficits will occur.

416            Methow Recreation, Inc.

Comment #17 - Reference should be made to the State Subdivision Act which requires that all subdivisions must make adequate provision for public services and that subdivisions cannot be approved until such services are adequate.

Reference is now included in the FEIS.

LETTER NO.      AUTHOR

416            Methow Recreation, Inc.

Comment #18 - The statement on page 124 relating to local concerns with sewage and waste water treatment is unclear.

The "local concerns" relate to the need to provide a viable sewage management plan regardless whether ski area is built. Present development trends show continued interest in the Mazama area.

416            Methow Recreation, Inc.

Comment #19 - The effects on schools are unclear because no methodology or assumptions were included and no reference was made to the SIRI study. Also there is no reference to the new Montessori school.

Proper reference to SIRI has been made in the FEIS. Private schools like the Montessori are projected to account for 15% of all school children.

416            Methow Recreation, Inc.

Comment #20 - The fiscal analysis does not refer to the County's zoning and platting ordinance, which requires the cost of infrastructure to be borne by the developer.

See comment #17.

461            Leah Swayze and Greg Knott

Comment #21 - As mitigation to determine the cumulative effects of increased sewer systems, a method should be developed to monitor and regulate these effects.

The Mazama Early Winters Sewer Plan calls for the establishment of a valley-wide water quality monitoring program. The Plan is currently being implemented.

554            Bruce Odom

Comment #22 - As mitigation for funding public service deficits, the developer should be required to fund sewage and water systems, transportation systems, and utilities.

State Law (RCW 58.17) prescribes what cost may be borne by developers. Generally speaking, only cost directly associated with the project may be charged back. For development of the base area, it is likely that utilities, streets and roads as well as the waste water facilities needed will be paid for directly by the developer and/or users. It has been Okanogan County policy to require costs of improvements be provided by the developer. This policy will likely continue.

556            Janet Thompson

Comment #23 - As mitigation for necessary capital improvements, definite and stable revenue sources should be identified.

When the decision is made to make a capital improvement using public funds from any source, funding must be definite and stable. Traditional funding sources are bonds, grants and loans, users fees and the like. Depending upon the improvement it is likely that a combination of all of these measures will be used.

LETTER NO.      AUTHOR

563            Edward Welch  
Comment #24 - The evaluation of the effects on public services is totally inadequate and misleading because of the use of breakeven, maximum deficit and revenue expenses.

Breakeven, Maximum deficit and revenue expense ratios are parameters used to assess overall impacts. No attempt has been made to assess budgets of each of the areas taxing jurisdictions. As such these parameters provide a view of the relative impacts of each Alternative and allows for evaluation of Alternatives in light of community inputs.

691            Interagency Committee for Outdoor Recreation  
Comment #25 - Based on the assessed increase of land values from 1980-2000 under Alternative 1, the indicated increase of 3.75% per year appears low.

See comment #3.

781            Department of Ecology  
Comment #26 - Because the critical number and concentration of on-site sewage disposal systems is unknown, the County should implement a program of monitoring on-site sewage treatment and disposal systems and area ground water.

See comment #21.

781            Department of Ecology  
Comment #27 - Based on correct capacity figures for the Twisp sewage facility, future facility demand and present facility should be re-evaluated.

The discussion of Twisp sewage facility has been revised in FEIS.

781            Department of Ecology  
Comment #28 - Based on updated blue book information, the reference to the Winthrop sewage disposal system being adequate is incorrect.

The FEIS contains the most recent information as provided by Jerry Blanchard of the City of Winthrop.

781            Department of Ecology  
Comment #29 - Because the updated "Okanogan County Solid Waste Management Plan" is not complete, it has not been determined if the present landfill will be replaced by a new landfill or by a transfer facility.

The Okanogan County Solid Waste Management Plan is in final draft form. The preferred Alternative calls for a central landfill site located in the Okanogan Valley.

LETTER NO.      AUTHOR

781           Department of Ecology

Comment #30 - Based on "Washington State Solid Waste Management Plan" projections, a more detailed comparison with areas of similar size regarding solid waste is called for.

The Okanogan County Solid Waste Management Plan contains specific information as to the amount of solid waste generated from permanent residents in the Methow Valley. The estimates were made considering disposal characteristics of ski areas.

	<u>Tons/Year</u>
Alternative I	2371
Alternative II	2460
Alternative III	2844
Alternative IV	3296
Alternative V	3761

842           Friends of the Earth

Comment #31 - There is no documentation of where assessed land value per acre figures came from.

Assessed valuations are based upon development values of commercial improvements, ski hill improvements, housing construction and increased land values divided by the total acres within the study area.

870           Washington Environmental Council

Comment #32 - Funding for increased police forces is dependent on continued availability of CETA funding or alternative funding methods which is not discussed in the document.

The need for increased funding of services is recognized. The CETA program has been terminated. The "Fiscal Analysis" section discusses mitigation for funding of increased services.

871           U.S. Environmental Protection Agency

Comment #33 - Alternative funding methods for wastewater treatment improvements should be discussed in the event that State or Federal funds are not available.

Funding of waste water improvements will likely be provided from a variety of sources. In the Mazama/Early Winters area it is anticipated most monies will be provided by developers and/or users. Both Twisp and Winthrop have waste water systems in place. Additional capacity may be funded through locally generated funds. However, it is more likely grant monies will be sought.

Economics

LETTER NO.      AUTHOR

303            Jeff Brown

Comment #1 - The DEIS does not address the fact that most jobs created are not only seasonal but are low paying service jobs that will not add noticeably to the tax base while workers in these jobs would place a high drain on local services.

Some jobs would be seasonal and low-paying. Information from other ski areas suggests that many seasonal ski area workers leave the area in the off season and move to areas with summer employment opportunities. Also, with the probability of a summer program at the ski area (destination or four season resort), employment for many of those at the ski area would be more than a one season job.

The establishment of housing, whether purchased or rented by workers, will add to the tax base.

Studies of other ski areas show that due to the mobility of seasonal workers they do not impact local services.

311            Annie Filer

Comment #2 - The economic merits of the proposed development to local residents don't agree with the statistics in the EIS which show greater unemployment, lower per capita income, and highest taxes.

Effects on employment and per capita income have been revised in the FEIS. Property taxes are based on land values with a County-wide limitation of a 6% increase. The limitation does not apply to new or added improvements made to the property. The FEIS includes consideration of a ski ticket tax for revenue.

405            Barry Stromberger

Comment #3 - As mitigation for assuring local job increases, require developer to hire local labor.

It is beyond legal authority to require the developer to hire "local" labor.

415            Methow Valley Citizens Council

Comment #4 - The methodology used to determine the unemployment rate in the Methow Valley is based on an approach that has not been tested, verified or standardized. This results in figures which are contradicted by other figures for the Methow Valley, such as welfare rates and demand for crisis services.

County employment or unemployment statistics are not listed below a County-wide level. Estimations of unemployment and the unemployment rate were derived by a subtractive process. There is no established correlation with welfare rates or demand for crisis services that would provide a specific unemployment rate.

LETTER NO.      AUTHOR

415            Methow Valley Citizens Council

Comment #5 - The DEIS does not consider the adverse economic impacts to the farming community as a result of development.

The contribution of agriculture to the economy of the Methow Valley is projected to continue an already established trend of becoming less important. The baseline projection for agricultural employment shows a substantial decline for the future and is unchanged with any ski development alternative. Population growth will prompt increased land values and competition to land use for agriculture. The FEIS contains mitigation for protection of agricultural land in the "Land Use and Regulation" section.

416            Methow Recreation, Inc.

Comment #6 - The statement on unemployment rates not falling below 10% should be clarified as it is an assumption based on historic valley trends, not what is happening at other major ski communities.

The statement was based on Average Annual Unemployment and has been clarified in the FEIS.

416            Methow Recreation, Inc.

Comment #7 - The employment analysis is based on the assumption there would not be a year-round operation, which is not consistent with the statement that Alternative V would be a year-round operation.

Until a specific summer program is identified its effect on employment or unemployment can not be estimated. The FEIS includes consideration of a year-round operation and that a summer program would enhance employment opportunities beyond those estimated.

416            Methow Recreation, Inc.

Comment #8 - The discussion of economic opportunities for women and minorities should be revised, as studies show that such opportunities generally improve in an improved economy.

The discussion has been revised.

416            Methow Recreation, Inc.

Comment #9 - The discussion of the economic structure evaluation criteria should be revised using available new information.

The discussion has been removed from the FEIS.

416            Methow Recreation, Inc.

Comment #10 - The assumption that high seasonal employment is worse than no employment, and that some jobs are worse than no jobs should be reconsidered based on year-round employment opportunities provided by higher levels of development.

LETTER NO.      AUTHOR

The discussions on evaluation criteria and assumptions have been removed in the FEIS. The possible operation of a year-round resort has been included in the FEIS.

416            Methow Recreation, Inc.

Comment #11 - In order to give a clearer picture of the effects of development on the per capita income of permanent residents, seasonal employees should not be considered.

Per capita income is derived by dividing Personal Income for wages and salaries by Permanent Population. See discussion in "Environmental Consequences." (Per Capita Income.)

416            Methow Recreation, Inc.

Comment #12 - The benefits of the preferred alternative to the State economy have not been discussed.

The FEIS makes reference to ski development contributing to the economy of the State of Washington.

416            Methow Recreation, Inc.

Comment #13 - The analysis of the effects of development on employment, unemployment, and seasonal variations in employment and unemployment need revision because current available information was not considered.

The FEIS has been revised where appropriate. (Discussion was added concerning mobility of seasonal workers, a year-round operation at the ski area and unemployment rates at other ski areas.)

461            Leah Swayze and Greg Knott

Comment #14 - In order to measure individual economic well being, cost of living must be directly, rather than indirectly, evaluated.

There is not sufficient information to project cost of living. See FEIS, pages 39 and 87.

501            Curtis Edwards

Comment #15 - The DEIS is inadequate because it fails to adequately analyze what type jobs will be created and who is likely to fill them.

Employment projections are shown for the economic sectors present in the Methow Valley (Economics). Employees will be selected primarily on their skills.

517            Paul Rerucha

Comment #16 - The adjectives used to describe increases in per capita income are incorrect and give a false impression of actual increases.

The adjectives were in error and have been corrected in the FEIS.

- | <u>LETTER NO.</u>   | <u>AUTHOR</u>        |
|---|----------------------|
| 535   | Mark Olsin           |
| Comment #17 - The statement on 29% unemployment is incorrect based on welfare records.  |                      |
| See comment #4. In 1974, a Washington Department of Health and Human Services survey showed that the Methow Valley had a proportionately lower share of public assistance than did the rest of the County. This could be attributed to a sense of self-reliance and the presence of informal networks of mutual help and support in the valley.   |                      |
| 562   | Alan Schnee          |
| Comment #18 - In order to understand the unemployment figures, the DEIS should discuss who are included in the figures.   |                      |
| Unemployment projections are based on the permanent population of the Methow Valley and the total wage and salary employment in the Valley. The assumption in the DEIS that average annual unemployment would not go below 10 percent was to account for in-migration.  |                      |
| 565   | Vicky Welch          |
| Comment #19 - The DEIS is inadequate as the increased cost of living and economic value of quality of life was not considered even though information is available.   |                      |
| See comment #14.  |                      |
| 736   | Ben Feeline          |
| Comment #20 - Because the model used was based on scanty and inappropriate data, the number of secondary jobs was overestimated.  |                      |
| The estimates for jobs are for full-time equivalents (FTE) and is based on the best information available.  |                      |
| 835   | Ann Osin             |
| Comment #21 - Based on FTE employment, permanent population and employable percentage figures, the estimate of current unemployment is erroneous.   |                      |
| Calculations to determine unemployment have been checked and are found to be correct. The rates may seem high because: the Methow Valley rates include all unemployment while the County rates apply to those eligible for unemployment insurance payments; the high proportion of seasonal work produces relatively large unemployment figures; there are some self-employed people who probably are not recorded and some who utilize labor exchanges and other forms of income outside the County's main money economy and finally in-migration has added to the labor force faster than jobs have been created. |                      |
| 842   | Friends of the Earth |
| Comment #22 - The basis for projecting a winter unemployment rate of 2.5% for Alternative 5 is unclear.   |                      |

LETTER NO.      AUTHOR

The lower winter than summer unemployment rate reflects a basic shift in the employment base from a summer orientation to a winter orientation based upon ski development. Seasonal unemployment rates were based on a relationship of seasonal unemployment of population - to the projected Average Annual Unemployment rate.

842           Friends of the Earth

Comment #23 - Tables 8 and 9 are inadequate as they do not provide the reviewer a clear understanding of type of economic tradeoffs and break even points.

The discussion of economic feasibility (and tables 8, 9) are intended to determine the rate of use needed at a ski area to offset the various expenses. As such, there are no "economic tradeoffs," rather a measure of how much use is needed for a viable operation.

870           Washington Environmental Council

Comment #24 - The rationale for including the assumptions made in relation to economics is unclear.

The assumptions were made to provide a basis to estimate impacts by alternative.

870           Washington Environmental Council

Comment #25 - It is unclear how Alternative V can have both a public service surplus and deficit at the same time.

Table 39 of the DEIS listed a "Difference" by year of expenditures and revenues that may show a surplus or deficit. The "Cumulative Balance" may also show a surplus or deficit but takes into account previous years of expenditures and revenues. Okanogan County is proposing an Adminissions Tax to mitigate projected deficits. See FEIS, page 135.

## Water and Soil

### LETTER NO.      AUTHOR

6            Dean E. Wilson

Comment #1 - Because of soil stability problems, Run E off Sandy Butte and Run E off Pt. 4223 should not be built.

Reference to Run E could not be found in the DEIS. In the site plan, the placement and development of each run will be evaluated considering erosion hazards as well as visual effects, slope and other physical constraints.

56            David Asia

Comment #2 - There is no reference to a map of sensitive ground water of the Upper Methow River as required by SEPA.

It is a County option to designate areas within its jurisdiction which are environmentally sensitive. The purpose for these designations are to identify areas where certain activities are nonexempt from the SEPA process. The SEPA process is followed in this case and consideration of exemption from the process is not required.

147            Bonita VanderWoude

Comment #3 - The EIS does not adequately address the availability and quality of water for down valley users caused by on-site use by tourists and recreationists.

Availability of water for downstream users is a State of Washington responsibility. Water rights are determined by the Washington State Department of Ecology. Long standing water right holders will be guaranteed (to extent water flows are available) water ahead of short-term water right holders, new water right holders or soon-to-file water users. The proposal's effects on water quality are described in the section "Environmental Consequences."

261            Bill Gaines

Comment #4 - There is no erosion control plan which shows how it is proposed to minimize sediment reaching Cedar and Early Winters Creek.

Page 16 of the FEIS explains the types of mitigation practices which will be used. When specific ski runs and road locations are proposed, detailed, effective erosion plans will be developed. A detailed erosion control plan will be required in a special-use permit.

261            Bill Gaines

Comment #5 - The EIS only uses turbidity as a measure of water quality. There is no discussion on oxygen concentrations, nutrient levels, eutrophication levels, or temperature changes which affect the benthic and pelagic organisms in the area.

The criteria for the State AA water quality standard includes those factors that effect stream organisms. By meeting these standards as required, the organisms will be protected.

LETTER NO.      AUTHOR

274            Seattle Audubon Society

Comment #6 - The proposal to use waste to make snow does not consider that most of the waste would end up in the river, thus affecting water quality.

The discharge of waste would be limited to only that which has been treated. The use of treated waste water for snowmaking is but one alternative for waste water disposal; others include summer irrigation, subsurface discharge and discharge to a receiving stream. The "Comprehensive Sewer Plan (Mazama-Early Winters Update)" and County review of development applications will provide the basis for determining waste water discharge methods as well as treatment.

304            Frank & Patricia Nicholson

Comment #7 - The EIS did not discuss the effects on the Early Winters Ditch Company irrigation system from taking water out of Cedar or Early Winters Creek.

Water uses and water rights are regulated by the Washington State Department of Ecology.

359            Washington Wilderness Coalition

Comment #8 - The EIS did not adequately address the fact that soils in the area are unstable and that development on these soils will lead to increased sedimentation through erosion, mass slumping, and sliding.

Discussion on delivered sediment and mass erosion begins on page 71, FEIS.

405            Barry Stromberger

Comment #9 - The EIS did not discuss the effects of parking lot runoff on water table pollution. This is important because of the amount of petroleum by-products that accumulate on parking lots.

Parking lots and equipment storage areas can be designed to prevent this occurrence. Some considerations are type of surfacing and filtering basins at the point of runoff and snow storage areas. Pollution from parking lot runoff will be considered in evaluating facility design in the site plan.

415            Methow Valley Citizens Council

Comment #10 - The DEIS does not discuss the fact that the water quality of the Methow River will be degraded to State Standards, which is forbidden by the Methow Valley Comprehensive Plan.

County Resolution #31-83, establishes a policy in regards to water quality using nitrate-nitrogen as an indicator pollutant for the Methow River above Weeman Bridge. Effects resulting from newly created lots must be within the policy.

LETTER NO.      AUTHOR

415            Methow Valley Citizens Council

Comment #11 - As mitigation for protection of water quality, consideration should be given to the following measures:

- Adoption of a County-wide comprehensive utility plan, including a general sewer plan.
- Formation of a review committee.
- Protection of existing water rights, particularly off-site.
- Protection of fishery resource in times of minimum stream flow.
- Further de-nitrification than recommended by R. W. Beck Study.

Okanogan County has adopted the "Comprehensive Sewer Plan (Mazama-Early Winters Update)" by R. W. Beck with some revisions. Water rights are administered by the Washington State Department of Ecology and provide for protection of prior rights and have established minimum flow requirements for protection of fish and other wildlife.

The County resolution adopting the R. W. Beck sewer plan sets limits on nitrate levels.

415            Methow Valley Citizens Council

Comment #12 - The DEIS does not adequately analyze water levels, particularly seasonal stream flows.

Stream flow levels will be evaluated by the Department of Ecology when considering water rights applications for use of surface waters. Information on the water table indicates that water needs can be met for the foreseeable future.

416            Methow Recreation, Inc.

Comment #13 - Based on a study by Farner and Winslow, the estimates of sediment production are high.

The estimates of sediment were for comparative purposes between alternatives. The more significant figure on page 72, FEIS, in Table 10 is the third item, magnitude of increase over current condition. The estimates stated are without considering specific mitigation for this project.

417            Sally Portman

Comment #14 - As mitigation for protecting water quality, adopt sewer system recommended by R. W. Beck and assure funding is available.

Okanogan County Resolution #31-83, adopts the "Comprehensive Sewer Plan (Mazama-Early Winters Update)" by R. W. Beck with some revisions. Funding will be provided by forming a Utility Local Improvement District under the County Services Act or by requiring individual property funding.

- | <u>LETTER NO.</u> | <u>AUTHOR</u>  |
|-------------------|--|
| 492               | John & Ruth Umberger   |
|                   | Comment #15 - The DEIS does not discuss properly the effects of sediment to downstream PUD facilities.   |
|                   | Page 72, paragraph 1, indicates sediment levels would be within State water quality standards in Cedar Creek, although sediment levels will increase. Sediment from the Methow River will continue to be deposited at the mouth of the river as long as Wells Dam maintains the water elevation in the Columbia River, with or without a ski hill development. The amount of sediment generated is not likely to change the clean-out frequency of the deposited sediment. |
| 502               | James Donaldson  |
|                   | Comment #16 - The DEIS ignores the fact that the State of Washington and Okanogan County forbids deterioration of water quality from present levels.   |
|                   | See comment #10.   |
| 661               | Richard Rutz   |
|                   | Comment #17 - The adverse effects of ripraping as a mitigation measure should be reexamined.   |
|                   | Ripraping of channels can cause changes in downstream characteristics. Water velocity may change, resulting in additional scouring, change in channel scouring location and change in sediment loads causing downstream deposits and, in extreme cases, flooding. Any ripraping that takes place must be analyzed for the specific reach of stream and its impact on downstream locations.   |
| 678               | Dave Philips   |
|                   | Comment #18 - The DEIS is inadequate because no evaluation of the effects of off-site development on river and ground water quality is discussed.  |
|                   | See Soil and Water, Chapter IV.  |
| 679               | The Mountaineers   |
|                   | Comment #19 - Because the possibility of mass erosion was not considered, sediment loads in Cedar Creek are understated.   |
|                   | Sediment production from mass erosion events occur at unknown intervals. These intervals are controlled by climate, soil condition, bedrock and vegetation. Climate may be the most important factor. However, it is impossible to foretell the occurrence of climatic events, and thus predict the occurrence of mass failure. Sediment loads for Cedar Creek did consider only surface erosion.  |
| 679               | The Mountaineers   |
|                   | Comment #20 - Because of soil and water conditions in the area, the proposed mitigation measures of straw mulching and use of fertilizer and seeding is unlikely to succeed in stopping mass soil movement.  |

LETTER NO.      AUTHOR

Surface erosion control techniques generally won't work to control mass erosion (slope failure). Controlling ground water and not loading unstable slopes is the key to controlling mass erosion. Reduction of ground water in slumpy areas reduces long-term mass erosion problems. Measures include eliminating unnecessary clearcutting of those sites, diversion of surface and ground water from above slope to more stable areas and use of perforated pipe to drain wet areas. If structures are to be put on these areas, drilling to determine depth of ground water should be done, engineering soil tests performed and engineering design of the project be done considering the results of the tests and drilling. Specific measures can not be designed until a site plan is completed.

679            The Mountaineers

Comment #21 - On areas subject to mass soil movement, elimination of unnecessary clearcuts on these sites and buffer strips along streams should be considered as mitigation measures.

Elimination or modification of clearcuts (ski runs) will be considered in unstable areas. Buffer strips along Cedar will be considered and implemented where necessary to protect water quality.

708            U.S. Department of Interior, Pacific Northwest Region

Comment #22 - The DEIS should more thoroughly discuss the impacts of use of 225,000 gallons of water per day (i.e., sources, adequacy of sources, impacts of planned use).

The impacts of water use by the development can only be addressed in the review of the master plan once items such as amount needed, sources and treatment needs have been identified.

Investigations by CH2M Hill (1976) on the draw-down effect indicated that local inflows from fracture and joint zones in adjacent bedrock could potentially be used with negligible impact on the ground water level and continuous ground water availability.

781            Department of Ecology

Comment #23 - Because of some widely recognized limitations to use of Universal Soil Equation, selection of this method should be justified.

The Universal Soil Loss Equation was used to provide relative differences between alternatives. It does not necessarily provide an absolute representation of actual sediment from mountainous slopes, but all alternatives were evaluated in a consistent, relative manner.

781            Department of Ecology

Comment #24 - To more clearly understand the impacts from sediment, impacts should be separated into during construction and post construction.

LETTER NO.      AUTHOR

90% of the accelerated surface erosion is expected to occur during the first 2 years after disturbance. The erosion rate is reduced by the successful re-establishment of vegetation, formation of an erosion pavement, initial loss of fine-sized soil particles and entrenchment of water delivery system (rills, gullies). Unless there is annual slope shaping or mass erosion, most erosion is expected to be short-term (less than 5 years). If annual slope shaping or mass erosion occurs, then sedimentation impacts could occur over the long-term without an erosion control program.

870                Washington Environmental Council

Comment #25 - The "1.56" sediment production for a ski run is unclear as it does not describe what is being measured.

The implication that sediment from ski run development would result in 1.56 times the sediment produced by a normal timber harvest operation has been deleted.

870                Washington Environmental Council

Comment #26 - The adverse effects of fertilization on the Mazama and Early Winters ground water based on their vulnerability to contamination by nitrates as discussed by the R. W. Beck Study is not discussed.

Fertilizer chemicals are relatively immobile in Forest soils and do not persist for very long. Control of such variables as rate of application, method of application, distance of treatment from water courses and the fact that the compounds are short-lived with a high dilution factor indicate that the contribution of fertilizer to nitrate levels will be insignificant. The erosion control plan will stipulate the amount, locations and kinds of fertilizer that may be used.

871                U.S. Environmental Protection Agency, Region X

Comment #27 - It is unclear from the data presented how the increase in turbidity was estimated in Cedar Creek.

A relationship between turbidity and suspended sediment was established. Our samples for Cedar Creek show the current average turbidity to be 1.6 FTU's. Average suspended sediment is 11.6 ppm. The State water quality standard for turbidity increase is 5 FTU's over the background level. Thus, an allowable turbidity during and after construction would be 6.6 FTU's ( $1.6 + 5 = 6.6$ ). Using the relationship for turbidity and suspended sediment, the maximum suspended sediment will be 40.8 ppm. Comparing 40.8 ppm to the background level of 11.6, this represents a 3.5 times increase in delivered sediment ( $40.8 - 11.6 = 3.5$ ). Thus, any increase in sediment of less than 5 times would be estimated to meet State water quality standards of turbidity.

Estimates of turbidity increase for each alternative made by multiplying the background suspended sediment (11.6 ppm) by the increase in stream sediment over current conditions, and comparing the estimate of suspended sediment to the 40.8 ppm values.

LETTER NO.      AUTHOR

871            U.S. Environmental Protection Agency, Region X  
Comment #28 - As agreed to with DOE, the document should indicate that Best Management Practices will be followed to protect water quality.

The FEIS now so indicates.

871            U.S. Environmental Protection Agency, Region X  
Comment #29 - In order to evaluate water quality effects of expanded and improved wastewater treatment facilities, existing water quality in streams receiving discharges from existing wastewater treatment plans should be discussed.

Existing water quality is discussed in the "Affected Environment" section. It will be the State Department of Ecology and County's authority and responsibility to determine effects of expanded and improved wastewater treatment facilities when particular proposals are made.

405            Barry Stromberger  
Comment #30 - As mitigation to protect water quality, implementation of the R. W. Beck Plan should be via a Utility and Light Industrial District as opposed to a Sewer District.

The Okanogan County Resolution #31-83, adopting the Comprehensive Sewer Plan (Mazama-Early Winters Update) states that the County should opt for establishment of a Utility Local Improvement District (ULID) as a means of providing and implementing framework for sewage improvements.

565            Vicky Welch  
Comment #31 - The document does not describe the effects of water withdrawal for resort use on existing agriculture and residential users during dry year shortages.

Water use is regulated by the Washington State Department of Ecology. A Level II study for the Methow River Basin was done in 1975-77. It established base stream flows and stated existing water right would be upheld in priority. Any new water right applications will be processed by the Department of Ecology. Consideration will be given to impacts to existing uses, minimum flow requirements and whether water is available for appropriation. The final decision to grant or not to grant a water right is made by the Department of Ecology.

## Land Uses

### LETTER NO.      AUTHOR

100            Jerry Gaines  
Comment #1 - There is no discussion of land adjacent to Intercity Airport currently being zoned residential.

The State of Washington is currently developing a Master Plan for Intercity Airport. Zoning changes are being considered to accommodate any expected growth and appropriate uses.

111            Patricia Peterson  
Comment #2 - Proper classification and protection of agricultural lands based on SCS information was not done.

The classification of prime and unique agricultural land is discussed in "Affected Environment" - Land Uses. Protection of these lands is discussed in "Environmental Consequences" - Land Use.

111            Patricia Petersen  
Comment #3 - The DEIS does not consider that Okanogan County is not yet prepared with zoning ordinances to insure a properly done development.

Okanogan County has adopted an addendum to the Comprehensive Plan for the Methow Valley and a zoning program that implements most of the goals within the plan. These documents are continually being refined. Mitigation identifies several key changes that are needed to further enhance their effectiveness.

415            Methow Valley Citizens Council  
Comment #4 - As mitigation, the following measures must be developed (formation of agricultural districts, development right transfers, tax incentives for agriculture, agriculture easements, protection of water rights, larger minimum lot sizes, and platting requirements for agricultural districts).

Mitigation for land uses has been expanded in the FEIS with these measures considered. It is not likely that mitigation for agricultural lands will result in transferable development rights or tax incentives beyond what is allowed under the Open Space tax law.

415            Methow Valley Citizens Council  
Comment #5 - As mitigation for off-site impacts, consideration should be given to the following zoning and land use measures:

- 20 acre minimums on Valley floor.
- Multi-use PUD's around urban areas, with higher densities.
- Extension of Methow Review District to Pateros.

LETTER NO.      AUTHOR

- Consider 5-acre minimums on traditional non-agriculture upland through special review, with 20-acre minimum on remainder.
- Consider current, pre-existing uses as "conforming" rather than "non-conforming" to provide security from downzoning and to allow for expansion and improvements.
- Establish Growth Management Plan for Methow Review District.

These issues will be addressed in implementation of land use changes designed to mitigate the effects of a large ski development.

416            Methow Recreation, Inc.

Comment #6 - The reference to 1165 acres of adjacent private land should be deleted as it only confuses the discussion.

The proximity of this private land to the proposed ski area was one of the main reasons the Sandy Butte site was chosen for winter recreation development. It is important the people know that this land exists and is controlled by one company and that most of the ski development base will occur there.

416            Methow Recreation, Inc.

Comment #7 - The document incorrectly identifies the amount of private land controlled by MRI.

It should be noted that Methow Recreation, Inc. does not own the property, but does have access to the property by virtue of an easement adjoining the base of Sandy Butte.

416            Methow Recreation, Inc.

Comment #8 - The discussion on current zoning and regulation does not mention the significance of the "Methow Review District," nor does it describe the residential classifications or explain the uses permitted.

Okanogan County Zoning Ordinance 79-8 describes the "Methow Review District" and identifies uses permitted, prohibited, allowed by Conditional Use Permit or Planned Unit Development. The discussion of the provisions of this ordinance has been expanded in the FEIS.

416            Methow Recreation, Inc.

Comment #9 - The discussion of land use and regulation should raise reference to the Shorelines Management Act, which is important because of the proximity of several streams and rivers.

The Shorelines Management Act of 1971 establishes criteria that set apart certain bodies of water as being significant on a State-wide level. These water bodies that have been so designated are to be given special consideration in regard to the shorelines associated with them.

RCW 90.58.030 outlines how shorelines and shorelines of State-wide significance are identified.

LETTER NO.      AUTHOR

The lakes, streams and rivers so identified in the Methow Valley are as follows:

Methow River  
Twisp River  
Chewack River  
Wolf Creek  
Gold Creek  
Beaver Creek  
Pearrygin Lake  
Patterson Lake  
Davis Lake

These lakes, streams and rivers will affect development occurring within the jurisdiction of the Act. Such developments will be required to conform with the regulations outlined in the Okanogan County Shorelines Master Program.

416            Methow Recreation, Inc.

Comment #10 - The planned unit development concept which provides an ample opportunity for the County to mitigate many of the potential effects of development needs to be discussed.

The Planned Unit Development concept is a method for increasing density on portions of land while maintaining open space. The Okanogan County Zoning Ordinance No. 79-8 presents a description of PUD's and contains several charts that are used to determine density bonuses for increased areas of open space.

This method of land development can aid the county in mitigating adverse impacts by encouraging the clustering of development and retaining desired open space.

416            Methow Recreation, Inc.

Comment #11 - The document does not qualitatively discuss the effect of development on existing uses within the area mapped by Design Workshop.

The Okanogan Planning Department investigation of analogous ski areas augments and for the most part confirms the findings of Design Workshop, Inc.

461            Leah Swayze and Greg Knott

Comment #12 - As mitigation for currently inadequate zoning regulations, the following should be done:

- develop criteria for land development
- develop sewage monitoring plan
- strengthen interpretation between Type A and Type B tourist developments
- restrict placement of mobile homes
- increase protection for agriculture land

LETTER NO.      AUTHOR

Mitigation for land uses has been expanded in the FEIS with these methods considered.

555            Keith Stennes

Comment #13 - The figures for agricultural land in the valley are misleading because they leave out land from Carlton to Pateros.

These figures stated for "Agriculture Land" applies to prime and unique agriculture land as classified by the Soil Conservation Service. The study area includes Carlton, north (School District #350) and covers the area seen as most effected by ski development at Sandy Butte.

562            Alan Schnee

Comment #14 - Based on current zoning regulations, the maximum allowable density for a PUD with maximum open space is incorrect.

Maximum allowable density for residential PUD's would vary depending upon site characteristics but would not exceed 0.8 dwellings/acre in most of the Methow Valley. Those areas appropriately zoned near Twisp and Winthrop may approach 3.5 dwellings acre. Multiple use PUD's have a maximum density of 3.5 dwellings/acre as do Type A, B, and C tourist accomodations.

565            Vicky Welch

Comment #15 - The DEIS does not include a map showing projected land use changes and sensitive areas.

Maps of projected land uses and sensitive areas is on file at the Planning Department of Okanogan County.

781            Department of Ecology

Comment #16 - Because funding for updating existing public services will be hard to get, the potential for new small residential communities developing should be discussed.

New information on baseline land use in the upper Methow Valley has resulted in a better understanding of where and what type of development will occur in the event of ski development. Mitigation measures for such development includes consideration of measures to assure that developers help pay for the installation of the appropriate public services.

842            Friends of the Earth

Comment #17 - The amount of strip development which could occur should be adequately addressed using information from other ski areas.

While it is true that other ski areas have experienced strip development, current Okanogan County zoning ordinances do not allow commercial strip development to occur. The goal of Okanogan County is to encourage the clustering of commercial and residential developments to alleviate the problems associated with strip development.

LETTER NO.      AUTHOR

870            Washington Environmental Council

Comment #18 - The DEIS did not include information relating to the type of facilities which would be involved with the highest level of development as detailed in the R.W. Beck study.

Studies done by the County Planning Department have resulted in the development of spatiality maps that show where development is most likely to occur. This information has been added to the FEIS. (See Land Use and Regulation, page 103).

871            U.S. Environmental Protection Agency

Comment #19 - In order to evaluate the effects of additional subsurface disposal on ground water quality, the magnitude of population growth and increase in number of septic systems in unincorporated areas should be estimated.

Population and housing reports prepared by the County Planning Department based on analogous ski areas have shown where development is likely to occur. Material from these reports has been incorporated into the FEIS.

565            Vicky Welch

Comment #20 - No consideration was given to impacts on the goals of the Methow Comprehensive Plan.

The goals of the Methow Valley Plan were used in the development of the Okanogan County Zoning Ordinance No. 79-8 and will be considered when changes to zoning laws are made in the effort to mitigate adverse impacts posed by potential ski development. The Okanogan County Regional Planning Commission is committed to further the goals and policies adopted with the Methow Valley Plan.

## Visuals

### LETTER NO.      AUTHOR

304            Frank & Patricia Nicholson

Comment #1 - The rationale for the visual effects of Alternative II being greater than Alternative V is unclear.

The "Major Conclusions" section of the FEIS has been corrected.

416            Methow Recreation, Inc.

Comment #2 - There is no discussion of the visual alterations to the upper valley as a whole.

Visual alterations will occur on private lands in the upper Methow Valley including the "Base Area," with the addition of structures, residential and commercial, and the conversion of agriculture land to other uses. Population increase is the primary force of these changes. Visual alterations are presently taking place and will continue even without ski development. However, visual change will intensify with increasing size of the ski development. The County Zoning Ordinance is the most effective means of mitigating visual impacts to the upper Methow Valley.

416            Methow Recreation, Inc.

Comment #3 - The effects of Alternative V on the visual resource in the "Summary" did not consider modern clearing techniques and mitigating measures.

The visual effects are now described with consideration of mitigation.

416            Methow Recreation, Inc.

Comment #4 - The entire visual analysis was based on viewing from the Goatwall Road which does not represent the view for the vast majority of the public which travels Highway 20.

Page 101 and 102 contains discussion of view impacts to those traveling State Route 20. It is correct that the vast majority of the public view Sandy Butte from State Route 20 and not the Goatwall Road. The "Summary" has been revised to reflect this.

416            Methow Recreation, Inc.

Comment #5 - As mitigation for visual effects, the following should be considered.

- Retention of existing vegetation
- Landscaping of parking areas
- Appropriate architectural features on base area facilities

See comment #3.

LETTER NO.      AUTHOR

546            Kathy & Jerry Hahn

Comment #6 - The DEIS did not mention the effect on visual quality as the result of development of private land from Mazama to Carlton.

See comment #2.

562            Alan Schnee

Comment #7 - The adverse effects on visual quality from deterioration of air quality needs is not discussed.

See discussion on Air Qualtiy.

870            Washington Environmental Council

Comment #8 - The visual impacts of development as seen from Class I areas is not discussed.

See discussion on Class I Visibility Areas in Environmental Consequences - "Air Quality".

V. LIST OF RESPONDENTS TO DEIS

The following agencies responded to the DEIS. Copies of the responses are included in this section.

Federal Agencies

Department of the Army, Corps of Engineers  
Department of Commerce, National Oceanic and Atmospheric Administration  
Department of Energy, Bonneville Power Administration  
Department of the Interior  
Environmental Protection Agency, Region X

State Agencies

Department of Ecology (includes Department of Ecology, Department of Commerce and Economic Development, Department of Game, Office of Archaeology and Historic Preservation)  
Department of Transportation, Aeronautics Division  
Department of Transportation, Highway Division  
Interagency Committee for Outdoor Recreation  
Office of the Governor  
Washington State Parks and Recreation Commission  
Washington State University  
Washington State Winter Recreation Commission

Local Agencies

Okanogan County Electric Cooperative  
Port of Seattle  
Town of Twisp

No list of responses from individuals or organizations is included because of the exceptionally large number of responses received. However, the responses received from individuals and organizations are part of the process records and are available for public review.



DEPARTMENT OF THE ARMY  
SEATTLE DISTRICT, CORPS OF ENGINEERS  
P.O. BOX C-3755  
SEATTLE, WASHINGTON 98124

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William D. McLaughlin, Forest Supervisor  
Okanogan National Forest  
Post Office Box 950  
Okanogan, Washington 98840

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#305\*  
#367 E.W. COMM

Dear Mr. McLaughlin:

We have reviewed the draft environmental impact statements (EIS) for the Okanogan National Forest Plan and the associated Early Winters Alpine Winter Sports Study, Okanogan County, Washington. With respect to the U.S. Army Corps of Engineers' areas of responsibility, we do not have any comments. We do have the following general comments on the Early Winters Alpine draft EIS which you may wish to consider:

- a. It does not appear that the primary impact area was thoroughly assessed for cultural resources effects; therefore, Executive Order 11593 process is not complete.
- b. Page 49, paragraph titled "Cultural Resources." In the first paragraph, attribution of the survey should be Mr. Harvey S. (Pete) Rice, Eastern Washington University.

Thank you for the opportunity to review these statements. If you have any questions regarding our comments, please contact Dr. Steven F. Dice, telephone (206) 764-3624, of my staff.

Sincerely,

*George W. Ploudre*

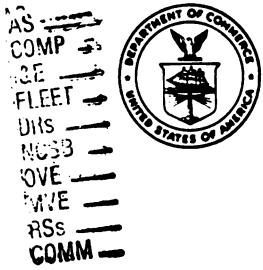
GEORGE W. PLoudre, P.E.  
Asst. Chief, Engineering Division

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TO: PP/EC - Joyce Wood

FROM: F/NWR5 - Dale R. Evans

SUBJECT: Comments on the Draft Environmental Impact Statements for the Okanogan National Forest Plan and the Early Winters Alpine Winter Sports Study, Washington (DEIS 8208.15)

Attached are our comments on the subject DEIS. In order to provide a timely response to the Okanogan National Forest's request, Doris Summers of your staff suggested we submit our comments directly to the Forest Supervisor. Our letter of transmittal is attached.

Attachments

UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE

ENVIRONMENTAL & TECHNICAL SERVICES DIVISION  
847 NE 19th AVENUE, SUITE 350  
PORTLAND, OREGON 97232  
(503) 230-5400

November 24, 1982

F/NWR5:JRC



November 24, 1982

F/NWR5:JRC

William D. McLaughlin, Forest Supervisor  
Okanogan National Forest  
P.O. Box 950  
Okanogan, Washington 98840

Dear Mr. McLaughlin:

The National Marine Fisheries Service has reviewed your Draft Environmental Impact Statements for the Okanogan National Forest Plan and the Early Winters Alpine Winter Sports Study.

In order to provide as timely a response to your request for comments as possible, we are submitting the following comments to you directly in parallel with their transmittal to the Department of Commerce for incorporation in the Departmental response. These comments represent the views of the National Marine Fisheries Service. The formal, consolidated views of the Department should reach you shortly.

#### General Comments

We are concerned that both DEIS's fail to address the beneficial impacts of the Northwest Power Planning Council's (NPPC) recently adopted Fish and Wildlife Program on upper Columbia River anadromous fishery resources, including those produced within the Okanogan National Forest.. The restoration and enhancement of upper Columbia River anadromous fishery resources is a high priority task of the NPPC's fish and wildlife program. Improvements in juvenile and adult migrant survival are expected to occur following implementation of the program. With enhanced survival increases in anadromous fish production, including that occurring within the forest, is expected. Presently underutilized anadromous fish production habitat will become increasingly important. Therefore, forest planning actions must fully consider potential impacts to both existing and future anadromous fish resources.

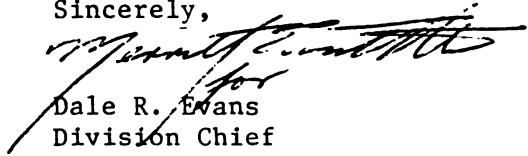
Included in the NPPC Fish and Wildlife Program are measures for the construction of new fish passage and protection facilities at the five mid-Columbia PUD dams. Another measure, the 'water budget', is directed towards improving riverflows to enhance the downstream migration of juvenile anadromous fish. Among other things, the program also requires improved spill, hatchery enhancement and coordination of future hydroelectric development to ensure fisheries protection.



In view of the above measures to protect, mitigate and enhance upriver anadromous fishery resources, we believe the DEIS's should include discussion of the potential impacts of forest planning actions on future as well as existing anadromous fishery resources.

Thank you for the opportunity to comment.

Sincerely,



A handwritten signature in black ink, appearing to read "Dale R. Evans".

Dale R. Evans  
Division Chief



Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

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In reply refer to: SJ

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Forest Supervisor  
Okanogan National Forest  
Attn: William D. McLaughlin  
P.O. Box 950  
Okanogan, Washington 98840

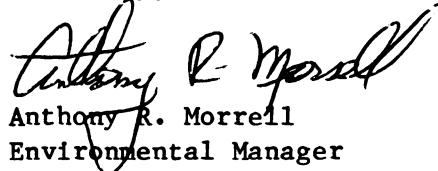
Dear Mr. McLaughlin:

The following are suggested comments you may wish to include in the final environmental impact statement (EIS) on the Early Winters Alpine Winter Alpine Sports Study. Bonneville Power Administration (BPA) has recently been contacted by the Okanogan County Electric Cooperative and Okanogan County PUD to review what effects this proposed winter recreational development would have on service to the Cooperative. These comments reflect the discussions that we have had to date:

1. Public Services, Alternative I, Electricity (Page 122). Both the Okanogan County Electric Cooperative and Okanogan County PUD have executed long-term power sales contracts with Bonneville Power Administration (BPA). Under terms of these agreements, BPA will meet each utility's electrical requirements until July 1, 2001.
2. Public Services, Alternatives II-V, Electricity (Page 126). BPA delivers electric power and energy to Okanogan County Electric Cooperative at Winthrop Substation, located just northwest of the town of Winthrop. Delivery is made at 12.5-kV through a 115-12.5-kV 20,000 kVA transformer installation. A preliminary plan of service study made in the mid-1970's indicated that no additional facilities would need to be constructed by BPA to serve a potential ski area development in the Mazama vicinity. This potential load could more economically be served by additions to the existing distribution system of the Cooperative. It does not appear that the alternatives now under consideration as described in the draft EIS would cause any change in the earlier determination. The existing transmission facilities owned by BPA should be adequate to serve the increased needs of the alternatives through the term of the Cooperative's power sales contract.

Thank you for the opportunity to review the draft EIS. We are also sending a copy of our comments to the Manager of the Okanogan County Electric Cooperative, Inc.

Sincerely,

  
Anthony R. Morrell  
Environmental Manager

cc:

Mr. Warren E. Pringle, Manager  
Okanogan County Electric Cooperative, Inc.  
P.O. Box 68  
Winthrop, Washington 98862



# United States Department of the Interior

## OFFICE OF THE SECRETARY

### PACIFIC NORTHWEST REGION

500 N.E. Multnomah Street, Suite 1692, Portland, Oregon 97232  
Okanogan N.F.

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William D. McLaughlin, Forest Supervisor  
Okanogan National Forest  
P.O. Box 950  
Okanogan, Washington 98840

Dear Mr. McLaughlin:

The Department of the Interior has reviewed the Draft Environmental Impact Statement for the Early Winters Alpine Winter Sports Study, Okanogan National Forest, Washington. The following comments are provided for your consideration when preparing the final document.

### Fish and Wildlife

#### General Comments

We have several concerns with this project; the most important ones involve anadromous fish and cavity-dwelling wildlife. The preferred project alternative has the potential to seriously impact anadromous fish spawning habitat in Early Winters Creek and the Methow River.

These negative impacts would result from increased sediment loads and turbidity from the proposed vegetation removal. We are also concerned with the loss of coniferous forest habitat which is important to cavity-nesting wildlife species. Of particular interest are several avian species such as the spotted owl and the western bluebird, which require tree cavities and are considered sensitive by the Fish and Wildlife Service. This classification means that the species could become threatened or endangered without active management or removal of threats.

The draft environmental impact statement (DEIS) discusses these problems and suggests mitigative measures to help reduce resource losses. However, due to the permanent nature of the habitat impacts, the project scale should be reduced from the level being proposed. While the "no action" alternative would be the most ecologically desirable, Alternative 2 would offer the most acceptable level of development. This alternative would require the least amount of forest removal and would also result in lower sediment and the turbidity changes than the preferred development alternative.

Regardless of the alternative which is ultimately selected, mitigation must be carefully planned and enforced to the satisfaction of State and Federal resource agencies.

## Specific Comments

Page 38, Endangered, Threatened and Sensitive Species - The DEIS references a field reconnaissance conducted to determine the presence of threatened or endangered species, but no results were documented. Our Endangered Species Team made a search of their files for species (#1-3-83-SP-20), as required by Section 7(c) of the Endangered Species Act of 1973, 16 U.S.C. 1531, et seq. To the best of their knowledge, no listed or proposed endangered species occur within the immediate area of project influence.

Page 69, Wildlife Mitigation - All of the onsite mitigation measures should be adopted and coordinated with the forest biologist. This is especially important in locating roads and other structures to avoid nest trees or prime wintering areas. The offsite mitigation involves local zoning changes to protect important wildlife habitats in the Methow Valley. The final statement should discuss how and when these zoning changes would be made.

Page 71, Fishery Mitigation - The buffer strips for all natural water conveyances should be strictly enforced to minimize fishery impacts from erosion. The erosion control plan for Early Winters and Cedar Creeks should be approved by all fishery management agencies before any development occurs. The other mitigative measures should be adopted and strictly enforced throughout the life of the project.

## Impacts to Units of the National Park System

The proposed winter sports site would be located approximately 11 miles from the boundary of the North Cascades National Park Service Complex and thus would not directly impact lands administered by the National Park Service. We feel, however, that if this facility were built, its presence would lead to increased pressure to maintain SR 20 (North Cascades section) as a year-round highway. We feel this point should be discussed in the sections entitled "Transportation" on pages ix, 54, and 114.

Keeping the highway open all year would result in increased use of the Ross Lake National Recreation Area and possibly North Cascades National Park. Keeping the highway open all year would also result in the elimination of snowmobile use on the presently unmaintained section of SR 20. A discussion describing this potential indirect impact to the North Cascades National Park Service Complex should be included in the "Environmental Consequences" portion of the document.

## Recreation Resources

With the exception of the points made above, the document appears to adequately discuss the potential impacts to recreation which would likely occur as a result of implementation of any of the alternatives.

## Water Resources

The statement should more thoroughly discuss the impacts of the use of up to 225,000 gallons of water per day (p. 124). The analysis should indicate the planned source(s) of the water, evaluate the adequacy of the source(s), and address the impacts of the planned use. If additional water will be needed for snowmaking, the analysis should also include effects of this use.

Thank you for the opportunity to review and comment on this document.

Sincerely,

  
Charles S. Polityka  
Regional Environmental Officer



U. S. ENVIRONMENTAL PROTECTION AGENCY

REGION X

1200 SIXTH AVENUE  
SEATTLE, WASHINGTON 98101

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William McLaughlin  
Forest Supervisor  
Okanogan National Forest  
P. O. Box 950  
Okanogan, Washington 98840

RE: Early Winters Alpine Winter Sports Study

Dear Mr. McLaughlin:

The Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (EIS) for the Early Winters Alpine Winter Sports Study. Our comments address discussion of the proposed alternatives, effects on water quality, and measures to mitigate potentially adverse consequences.

Alternatives

On page 5, the DEIS indicates that the study and EIS are only for a winter sports facility at Sandy Butte and that sites other than Sandy Butte are not considered as viable alternatives. The EIS also indicates that alternative sites were evaluated in a 1970 study, and that conditions have not changed sufficiently to warrant a new alternative sites study. As a result, the alternatives discussed in the DEIS are actually successive development stages of the same project, phased over a 20 year period.

In order to have a complete evaluation of alternatives, we recommend that a summary of the 1970 location study be made an appendix to the EIS. If there are alternative approaches to development at the Sandy Butte site, they should be enumerated and discussed.

Water Quality

Erosion control:

On page 71, the DEIS states that, lacking proper controls, the fishery resource in the area is likely to be severely affected by construction of the proposed facility. However, there is no discussion of specific controls to be included. Erosion and sedimentation controls to be included as part of project construction and operation should be identified and discussed.

On page 67, the DEIS states that "...analysis of surface erosion indicates that the impact of any of the alternatives on water turbidity in Cedar Creek would be within allowable Washington State water quality standards." From the data presented, we cannot determine how this increase in turbidity was estimated. Based on the indicated potential erosion, it appears that turbidity in Cedar Creek could be higher. The Final EIS needs to include: (a) more detailed supporting data regarding the estimated effects of erosion on Cedar Creek and the fishery which it supports and, (b) a discussion of mitigation measures that may be implicit in the estimated turbidity levels.

#### Best Management Practices (BMP):

The U.S. Forest Service should indicate its commitment to follow BMP as agreed to with Washington Department of Ecology, to protect water quality when:

- harvesting timber to clear slopes for lifts and ski runs.
- constructing lifts and related buildings.
- revegetation of the ski area once it is operational.

The EIS should also note the BMP specifications to be included in timber sale contracts.

#### Future Wastewater Treatment Needs:

The DEIS indicates that additional sewage disposal facilities will be needed to support the Early Winters facility and accompanying private developments. The Final EIS should discuss existing water quality in the streams receiving discharges from existing wastewater treatment plants and then evaluate water quality effects of expanded and improved wastewater treatment facilities. This portion of the Final EIS should also evaluate alternative funding mechanisms for wastewater treatment improvements in the event that the communities of Twisp and Winthrop do not receive state or Federal financial aid for additional or expanded treatment facilities.

#### Groundwater Quality:

The Draft Environmental Impact Statement indicates, at page 59, that "...several conditions exist which point toward a potential for groundwater contamination from subsurface sewage disposal" and, at page 124, that population growth resulting from the project will increase the number of septic systems in unincorporated areas. The Final EIS should estimate the magnitude of this increase and evaluate the effects of additional subsurface disposal on groundwater quality.

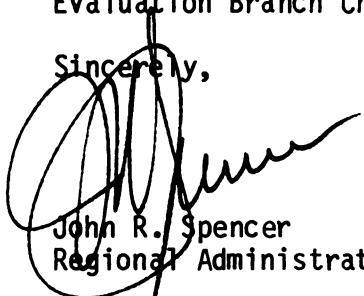
Measures to Mitigate Adverse Environmental Consequences

Agencies other than the Forest Service are responsible for implementing and operating many mitigation measures discussed in Chapter IV. Furthermore, the DEIS discusses mitigation largely in terms of measures which could or should be taken, not what commitments have been or are likely to be made, or what measures may be required as contract conditions for construction and operation of the ski area.

The Final EIS should indicate which other agencies are responsible for specific mitigation measures and discuss the required commitments and permit and contract specifications to accomplish mitigation. The Record of Decision should indicate which mitigation measures will be implemented and how the Forest Service plans to track the mitigation measures of others.

The Environmental Protection Agency has rated this DEIS LO-2 [LO - Lack of Objection; 2 - Insufficient Information]. We appreciate the opportunity to review this report. Should you wish to discuss EPA's comments and recommendations, please contact Mr. Dick Thiel, our Environmental Evaluation Branch Chief, at (FTS) 399-1728.

Sincerely,



John R. Spencer  
Regional Administrator

JOHN SPELLMAN  
Governor



DONALD W. MOOS  
Director

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

Mail Stop PV-11 • Olympia, Washington 98504 • (206) 459-6000  
November 30, 1982

PS —  
DAP —  
DCL —  
DEST —  
DLS —  
DMSB —  
DQE —  
DVE —  
DWS —  
DCMM —

781  
E.W.

Forest Supervisor  
Okanogan National Forest  
P.O. Box 950  
Okanogan, WA 98840

This letter represents the state of Washington's position with regard to the Draft EIS - Early Winters Alpine Winter Sports Study.

In general, the development of a winter sports area at Mazama could be of significant benefit to the state, particularly from an economic perspective. We further feel that a facility which would incorporate features to provide year-round employment opportunities would be highly desirable.

As you can see from the separate agency comments (enclosed) both general and specific concerns of significance need to be further considered in the final EIS and in subsequent permit and project reviews.

You or the developer may wish to consider requesting that the newly formed Natural Resource Coordinating Committee (NRCC) review this proposal. The NRCC is comprised of state resource agency directors and is designed to assist applicants by early discussion of a proposal. If you wish to request NRCC review, please contact me.

Thank you for the opportunity to comment on this Draft EIS. If you need further assistance, please contact Dennis Lundblad at (206) 459-6037.

Sincerely,

A handwritten signature in black ink, appearing to read "Donald W. Moos".  
Donald W. Moos,  
Director

DWM:lah  
112404

cc: Agencies  
David W. Stevens,  
Governor's Office

State of Washington  
Department of Ecology  
Comments on  
U.S. Forest Service Draft EIS  
for  
Early Winters Alpine Ski Area

The Department of Ecology has reviewed the above-referenced document and have the following comments:

1. Page 65 - Sewage Effluent; because the critical number and concentration of on-site sewage disposal systems is unknown, we would encourage the county to implement a program whereby on-site sewage treatment and disposal systems and area groundwater would be monitored. Such a program is mentioned briefly on Page 108. This is also a subject of the R. W. Beck addition to the Comprehensive Sewer Plan. This is not strictly within the confines of the USFS draft EIS, but should certainly be mentioned.
2. On Pages 120 and 124 - Public services; The Town of Twisp sewage treatment facility hydraulic capacity is as follows--average design flow 170,000 gpd, peak design 530,000 gpd. Future sewage facility demand and present sewage facility should be reevaluated, based on the above.
3. Page 33 - Air Quality: there appears to be a wrong impression relative to a Department of Ecology implied quote. Department of Ecology officials do, in fact, consider the upper Methow Valley to be an area directly impacted by man's presence. People live there, residential development and wastewater disposal is, to some extent, uncontrolled, and we are indeed concerned about a very real potential for "pollution." What the statement should say instead, is that we find the upper Methow Valley at this point in time to be an area where the presence of man has not yet violated the allowable standards for handling the disposal of potential pollutants. This is quite different from implying that there is zero impact at present, which is simply not true.
4. Page 34 and 37. The monitoring data, as carried out by the Aspen Group and this department's laboratory should be mentioned.

5. Page 59 and 60 - Sewage Disposal; Sewage disposal information is evidently lifted from the previous two-volume blue books, and is now outdated. Winthrop, in fact, is no longer a 100% reliable non-overflow system, and current information from the public works section of that town needs to be included. We have previously mentioned in this memo the correct information on Twisp. Additionally, there is a reference somewhere in this draft as Twisp having an inadequate and outdated sewer system. The EIS writers should check that out a little further.
6. Page 63 - Pollutants; The statement that suspended particulates have very little impact on human health needs to be modified.
7. Page 65 - Alternatives Which Meet Air Quality Standards; The EIS writers should check with the Air Quality Division concerning the statement that air quality standards for the study area have not been established. We believe something has been overlooked.
8. Page 65 - Sewage Effluent; The argument here seems to rely on dilution, and ignores potential surface water pollution from failed drainfields. Although it is true that there are no known problems with drainfields in the area at this time, it is generally recognized that there is a very real potential for problems in this area. This should be cited.
9. Page 65 - Mitigation; There are other alternatives which may or may not be rejected because of land availability or cost. In the long run, it will probably be facility cost rather than Cassidy's soil data which dictates the type of waste treatment facility.

A simple one-line statement here needs to be added explaining just what is and what is not AWT (Advanced Waste Treatment).

10. Page 66 - Mitigation; The statement is made that monitoring of the water quality will include ground and surface water. While we would clearly require this, since the draft EIS lacks the discussion of alternative wastewater treatment facilities, as is contained in the Beck report soon to be published. The statement on monitoring really doesn't justify itself.
11. Page 66 - Total Accelerated Sediment; There are some widely recognized limitations to use of the universal soil equation in evaluating sediment runoff. Forest Service or SCS should be familiar with whatever controversy in using that equation for prediction, and selection of that particular method should probably be justified.
12. Page 67 - The possibility for sediment loss through streams might be separated into impact during construction and post construction.

13. Page 68 - Under wildlife in several places; The Game Department will note this, but to reinforce, the drafters have committed one of the classic EIS errors in suggesting that wildlife members will simply "move to other areas". Nothing could be further from the truth. It violates all known principles of pop dynamics.
14. Page 71 - Mitigation (1); The suggestion that buffer strips would be required, partly for sediment control and surface waters, would certainly be supported by this agency.
15. Page 73 - Social and Economic; Data from other areas indicating a combined average utilization of 34.5% is one of those items that would need to be taken into account in the flexibility of any chosen wastewater treatment system.
16. Page 121 - Solid Waste; With regard to solid waste handling and disposal, it should be pointed out that Okanogan County has now obtained a grant through the Department of Ecology and has retained the services of a consultant to prepare an updated "Okanogan County Comprehensive Solid Waste Management Plan". It has not yet been determined if the present landfill will be replaced by another new landfill or by a transfer facility.
17. Page 126 - Solid Waste; Based on projections from the "Washington State Solid Waste Management Plan", December, 1980, per capita solid waste generation should approximate 4.6 pounds per day. Using the total site population capacity of 11,205, the daily solid waste generation will be about 51,500 pounds. Assuming a compaction of 600 pounds per cubic yard, the daily production of solid waste would equal 86 cubic yards per day, or 19.5 acre-feet per year, or 358 through the year 2000 (18 years).

Although comparison to other ski sites was done in the original blue book social/econ two-volume series, at the time of the specific ski development proposal, a more detailed comparison with areas of similar size (like Bend, Oregon) is probably called for.

18. Page 124 - Public Service (amongst other places); I think the drafters skipped over the real potential for new small residential communities as would develop outside of existing municipal areas, and at the same time, overemphasized impacts as would occur on Twisp and Winthrop sewage disposal facilities. Sewage hookups, and thus residences with city amenities, are going to be essentially self-limiting in both of those cities. DOE would not allow, nor would either of those cities allow, increase in population as would significantly overload their systems. Since neither community is in a good position to expand their sewage treatment facilities as might be appropriate, without the upfront money that is hard to get out of the users and no longer forthcoming from the state and/or federal government, this is further incentive for any residential population increase to occur outside of the cities of Twisp and Winthrop.

19. Water right permits may be required for ground water withdrawals. Water right permits will be required for any surface water diversions. Applications for, and information concerning, the requirements are available at the Central Regional Office, Department of Ecology, 3601 W. Washington, Yakima, Washington, 98903.
20. Our larger concern will be off of US Forest Service lands on the immediate private properties as will require water, sewer and solid waste handling facilities. These we will address if and when they occur when local permits are let.
21. Our other general concern is for the potential strip development as will occur along the upper Methow River (the so-called West Yellowstone effect). We will have input into any such proposals through review of county permitting authority and as partly addressed in the Referendum 26 funded study which augments the Okanogan County comprehensive plan.
22. Should a specific site plan for development come about after this EIS is finalized late next year, this will then afford us another opportunity to review that specific design.
23. General review comment is that this draft looks pretty good.

Should you have any questions, please feel free to contact Clar Pratt or Doug Clausing at (509) 575-2804.

EP:mjj

JOHN SPELLMAN  
Governor



RICHARD T. SCHROCK  
Director

STATE OF WASHINGTON  
COMMERCE & ECONOMIC DEVELOPMENT

General Administration Building • Olympia, Washington 98504 • (206) 753-5630 • (SCAN) 234-5630

October 22, 1982

TO: Greg Sorlie  
Department of Ecology  
Mail Stop PV-11

FROM: Richard T. Schrock *RTS*  
Director

SUBJECT: Early Winters Draft Environmental Impact Statement

Attached are comments by the Department of Commerce and Economic Development on the U.S. Forest Service Draft Environmental Impact Statement for the Early Winters Development Mazama. The comments are directed primarily toward the economic aspects of the study.

If you need further input from our department, please don't hesitate to get in touch with me.

Attachment

State of Washington  
Department of Commerce and Economic Development  
Comments on  
U.S. Forest Service Draft EIS  
for  
Early Winters Alpine Ski Development

The State of Washington's Department of Commerce and Economic Development (DCED) has analyzed U.S. Forest Service Draft Environmental Impact Statement for an alpine ski facility at Mazama, Washington. While the analysis covered all aspects of the study, DCED's comments focus primarily on the economic considerations.

DCED supports the Forest Service preferred alternative of a major destination ski resort capable of accommodating up to 10,500 skiers at one time. This alternative we believe will best meet the economic needs of the upper Methow Valley and the state of Washington for increased entry level employment, revenue and economic diversification.

The state has recently launched a comprehensive tourism promotion program to help broaden the economic base, provide jobs and attract new dollars. While this program is already beginning to bring results in terms of increased visits during the summer season, there is presently little to sustain the program during the crucial winter months and off-peak seasons.

A "flag ship" international-class destination ski resort facility has been identified by tourism professionals as a key element in making Washington State a successful year-round tourist destination. It will have the dual benefit of attracting outside dollars and keeping local dollars (many of which are now lost to Canada) in Washington State and in the U.S. As Sandy Butte has been evaluated as a prime, even a unique site among mountains in Washington State and in the Northwest, the chances of financial success for such a development would appear to be excellent.

In endorsing the U.S. Forest Service preferred alternative, DCED would offer two suggestions for consideration in the final EIS:

1. That the Forest Service recommend an accelerated development schedule to hasten the financial break even point and make the package more attractive to potential investors; and
2. That the Forest Service address the question of a year-round tourist resort at Early Winters, so that the facility would generate jobs and revenue twelve months a year instead of four.

JOHN SPELLMAN  
Governor



FRANK LOCKARD  
Director

STATE OF WASHINGTON

DEPARTMENT OF GAME

600 North Capitol Way, Cl-11 • Olympia, Washington 98504 • (206) 753-5700

November 18, 1982

Barbara Ritchie, NEPA Coordinator  
Washington Department of Ecology  
Olympia, Washington 98504

DRAFT ENVIRONMENTAL IMPACT STATEMENT:

Early Winters Alpine Winter Sports Study,  
Okanogan National Forest

Dear Ms. Ritchie:

The Okanogan National Forest Service's Environmental Impact Statement (EIS) has been reviewed by Department staff as requested. The following comments constitute the Department of Game's response to this proposal.

Any level of development at Early Winters could result in substantial negative impacts to wildlife of the Methow Valley. However, impacts will not be limited to the immediate vicinity of the proposed ski area. Other parts of Okanogan County as well as the rest of North Central Washington could be affected. Facility development and the associated support and commercial expansion will drastically alter the ecosystem of the upper Methow Valley. Since it is our Department's responsibility to preserve, protect and perpetuate wildlife resources for the people of the State, we must recommend that the Forest Service choose the alternative which is most compatible with our goals. Clearly in this instance the only alternative we can support is Alternative I (No Action).

Since development plans are not yet well defined, it is difficult to determine how severe impacts would be. The EIS lists alternative V as the preferred alternative. Our comments will be primarily based on this level of development. Lower levels of development would result in somewhat less substantial impacts. However, even alternative II, with the least amount of area affected, would impact some of the most critical habitats on the site. Several species would be eliminated. The numbers of many others would be reduced, and the valley's ecosystem substantially altered.

We believe impacts to mule deer will be more severe than described in this impact statement. Loss of summer and winter range and blocked migration routes to available ranges will substantially reduce deer numbers. Actual losses can be expected to be much greater than the 15 percent predicted for full development.

On page 39 you state that approximately 35 percent of the total deer winter range in the Methow is on private land. This is somewhat misleading. These figures are for the maximum available winter range or areas deer can use during mild winters. In severe winters such as the winter of 1968-69, approximately 15 percent of the maximum winter range was used. Even in milder times, the percent of available winter range on private land would be much higher. A closer figure would be 50 percent on private land. The upper valley has the highest density winter range. This area will likely be developed first and at a higher intensity. The resulting loss of available winter range will be substantially greater than 15 percent, perhaps higher than 50 percent. For these reasons we feel that with full site development, accelerated private development in the valley, increased road kills and increased human disturbance, the ultimate impact on the Methow deer herd could exceed a 50 percent reduction in numbers.

Okanogan County residents place a great deal of importance on the area's deer herd. This was shown in recent ballot issues when voters showed by an 85 percent majority how they felt the mule deer herd should be managed. The issue of deer management is often used as a campaign issue. However, the Methow deer herd has benefits for the rest of the State as well. We do not have figures for economic value of wildlife resulting from non-consumptive use. In 1974, the Methow River Basin Steering Committee was curious about the feelings of the valley residents pertaining to wildlife. Questionnaires were sent to 1,161 households. Of those responding, 95 percent were in favor of maintaining or enhancing populations of wildlife in the valley. Only 5 percent were in favor of the development of lands that would result in wildlife losses.

Our long-term goal for mule deer management is to maintain populations and harvest rates at current rates. Harvest for the five management units most likely to be impacted - Chewack, Pearrygin, Twisp, Chiliwist, and Alta - is substantial. In 1981, these five units alone had an estimated harvest of 3,247 deer. The total population is estimated at better than 30,000 animals. In the attached table we have shown how harvest and population estimates relate to economic benefits to the entire State.

In 1980, hunters on the average spent approximately \$1,980 for every deer harvested in Washington. Using this figure for the 3,247 deer harvested in the Methow area, hunters contributed over \$6 million to the State's economy in 1981. This includes such typical expenditures as equipment, gas, food, lodging, and licenses. With the predicted 15 percent reduction in winter range from full development by the year 2000, harvest is expected to decline by a similar proportion. This would result in a loss of nearly \$1 million annually to the State's economy. With a potential reduction in harvest of

50 percent, Washington business can expect to lose over \$3 million annually from reduced recreational opportunity. These figures do not take into account increases due to inflation over the life of the project. Actual economic loss will likely be much higher.

If the ski resort and associated growth in the valley does occur, it will likely be necessary to impose more restrictive hunting seasons to protect the herd. Shorter seasons or permit-only hunting are likely outcomes. This would result in direct impacts on Okanogan County and the State in the form of lost revenues.

With the loss of private lower elevation winter range, Forest Service lands become more important. The value of these public lands for wildlife will greatly increase with the private development in the valley.

The two most important factors in deer winter range are thermal cover and available forage. Most of the thermal cover is found on public lands while a greater portion of the forage is on private lands. If Forest Service lands are deficient in forage areas, the total value of winter range will decrease. The management of mule deer winter range on Forest Service lands becomes increasingly important with the loss of private lands. Remaining winter range on the National Forest should be managed primarily as winter range with other activities such as grazing and timber harvest allowed only if they will not conflict with deer use.

The value of summer range on Sandy Butte will also be greatly reduced due to development at the base and facilities on the mountain. With the predicted population increases in the valley, more people will be using the area in the summer. Activities such as hiking and horseback riding on Sandy Butte and in the Cedar Creek drainage will minimize deer use. We disagree that "sufficient summer range would be available for the existing herd, even with maximum development" (page 69). The combination of habitat loss, impacts to fawning areas and greatly increased human disturbance will reduce the value of the Sandy Butte area as summer range.

In the discussion of on-site impacts to wildlife (page 69), you state that resident mule deer would be disturbed during summer and fall with all development alternatives. Methow mule deer will also be impacted during spring and fall migrations. Access roads and on-site facilities could block migration routes to summer and winter ranges. However, the most serious impacts to migration would be felt off-site. Any development that blocks routes that cross the valley (for example, Cub Creek near Twisp) would impact the use of winter range.

Tagging studies indicate that some deer may use different migration routes in the fall than they do for their return trip in spring or early summer. Studies to show which routes are used and when they are used should be performed. This information should be used in developing specific alternatives for the master plan.

Domestic dogs can cause serious predator damage in some areas. When snow is deep and deer are forced into lowland agricultural or residential areas free-running dogs become a problem. Fifty-five deer were known to be killed by domestic dogs in the Methow Valley during the winter of 1973-74.

Increases in vehicle traffic from the 10,000 to 20,000 skiers per day during the winter could greatly increase vehicle-caused mortality of deer and other wildlife. During severe winters, many deer are forced down into agricultural areas where collisions with motor vehicles are inevitable. It is not uncommon for 50 to 100 deer to die on roads annually in the Methow Valley with existing conditions. This number likely would substantially increase with the projected traffic volumes resulting from full development.

Language referring to displaced wildlife should be deleted from the Final EIS. From a wildlife management standpoint, we must assume that adjacent habitats are filled to carrying capacity and will not support increased populations. Pine martens, goshawks and spotted owls would be lost. Other wildlife species would be eliminated from habitats which are taken out of production. To state that displaced animals would "establish new home ranges" (page 68) contradicts current, accepted, wildlife management theory.

Several animal species which can be expected to occur or that have been reported in the study area should be mentioned. Bald eagles migrate through the valley. Golden eagles and osprey use the area for feeding and nesting. Mink and otter can be found in riparian areas. Franklin's grouse, Audubon's warbler and pileated woodpecker may also be present. An analysis of impacts on these species should be included in the Final EIS.

Golden eagles are reported to nest near and on the project site. The Sandy Butte nesting territory is located on Sandy Butte in an area likely to be developed for skiing. Another nest is located in the area of the goat wall. Feeding activity occurs throughout this portion of the valley. Development of the Early Winters site will most likely eliminate eagle nesting and feeding activities in the upper Methow Valley.

Since July 1982, Game Department biologists have been radio tracking a pair of spotted owls that use the area immediately adjacent to Sandy Butte as their home range. Since data is only available for summer use, impacts associated with intensive winter activities are difficult to predict at this time. It is expected that during the winter the pair will move into the low old growth forest habitat in the Cedar Creek drainage. If sufficient thermal cover is available and human activity is minimal, they may winter there. However, if anticipated levels of development are achieved, the owls will likely be forced out of the area. Due to the low tolerance of spotted owls to disturbance, minimum 1/2 mile buffer zones should be required between developed areas and the spotted owl habitat.

In order to determine how severe impacts to spotted owls will be, monitoring must continue through the winter and spring months. This information should be incorporated in any final decision. Recommendations must be based on sound biological data.

Lowland old growth in the Cedar Creek drainage would be impacted by on-site development. Future development in the valley, if it extends into upland areas, could also impact old growth. Since suitable old growth habitat is limited in the Okanogan National Forest, it is very likely that these effects would be felt throughout the county. Spotted owls, pine marten and other mature forest species would be severely impacted by habitat alteration.

To compensate for the loss of these habitats, additional similar large stands in other parts of the Forest should be protected and managed as old growth. Two possible areas which could be managed this way are the Wolf and War creek drainages.

Since all existing and potential snags would be lost where timbered stands are removed, we suggest a policy of creating long-standing snags in on-site timbered areas and other adjacent Forest Service lands. This would help mitigate impacts to cavity dwellers including up to 120 pairs of woodpeckers.

Potential animal damage problems should be addressed in the discussion of wildlife impacts. The riparian habitat on the base property and the upper Methow Valley provides excellent habitat for wildlife which can cause problems for certain kinds of developments. Residential development or a golf course in this type of habitat will likely experience problems with beaver which will attempt to harvest newly planted trees and make homes in water courses. An unending supply of underground rodents would probably extend pathways onto a golf course. These would be visible from the surface as long continuous mounds.

Deer are attracted to heavily fertilized grass and orchards. Damage caused by deer should be expected. Fencing should be discouraged because there is considerable movement of deer in the area. Blocked migration routes would effectively eliminate available deer habitat.

Bears have been observed in the area. With the increase of garbage accumulation bears could congregate around disposal sites. Residential areas may also experience problems with bears as they may attempt to raid garbage containers and bee hives.

The discussion of impacts to fisheries appears accurate. However, even with the construction of adequate sewage disposal facilities, water quality in the Methow and Columbia rivers could be degraded. The Methow River water quality is currently classified as Class AA by the Washington Department of Ecology. Since the Methow currently exceeds the AA rating, water quality could be lowered to the lower limit of AA classification. This EIS should address impacts to fish due to reduced water quality which could result from on-site development and associated growth.

With the expected increases in permanent and seasonal populations in the valley, there will likely be greater pressure on the fishery resources of Cedar and Early Winters creeks. This pressure would also be felt county-wide. Steelhead fishing in the Methow River, lowland and alpine lake fishing, and resources in the many other streams would be impacted. It may be necessary to increase management emphasis in the area to offset the expected increased fishing pressure.

The following are potential changes to the Early Winters development proposal the Department of Game would consider acceptable:

1. The Forest Service should require that the Department of Game is involved in the development of the master plan. This would allow specific recommendations to be made on actual development plans and reduce the chance of wildlife conflicts.
2. The Forest Service should conduct a winter study of blue grouse habits. Roads, lifts and other facilities should be located to minimize disturbance.
3. Lowland old growth and deer summer and winter range and riparian habitats in other U. S. Forest Service management areas should be set aside and managed specifically for wildlife to compensate for on- and off-site losses due to development. The Wolf and War creek drainages are potential areas for preservation.
4. A research study should be conducted on mule deer to determine the impacts of timber harvest on winter range. Key mule deer winter range on Forest Service lands should be managed specifically for winter range.
5. Mule deer winter range lost on private lands should be replaced by fee title purchase by the Forest Service or private developers. Areas purchased should be managed for mule deer. The most important areas for acquisition include:
  1. Rendevous, Grizzly Mountain, Gaudy Grade area;
  2. Perry Brewster (Elbow Coulee/Big Buck);
  3. Pipestone Canyon and Beaver Creek;
  4. The area between Bonner Lake and Pipestone Canyon;
  5. Booth Canyon (Golden Doe Ranch);
  6. Libby Creek.

The protection of these areas would help reduce potential impacts to the mule deer herd.

Page 7  
November 18, 1982

6. The Forest Service should increase its emphasis for game and nongame management on other Okanogan National Forest lands to compensate for wildlife losses.
7. Dead and defective trees should be left standing in on-site timbered areas. To mitigate impacts on cavity dwellers from loss of existing snags, long-standing snags should be created in adjacent areas.
8. Potential wildlife damage problems and solutions should be addressed in the master plan.
9. To protect spotted owl habitat, one-half mile buffer strips should be provided adjacent to Cedar Creek.
10. Key mule deer fawning areas should be identified and protected.
11. Before approval, a definite commitment should be obtained from Okanogan County on necessary zoning changes to protect mule deer winter range and riparian habitat and to control free-ranging dogs.
12. The Forest Service should explore increased emphasis on road management. Many existing roads can be closed during hunting seasons. Roads constructed for new operations can be closed at the end of the operation.
13. All of the on- and off-site fish and wildlife mitigation proposals as listed in the draft EIS are good and should be required.

We appreciate the opportunity to review and respond to this Environmental Impact Statement. If one of the development alternatives is chosen, we look forward to working with the Forest Service and the developers to achieve a balance between site development and the future of the area's wildlife resource.

Sincerely,

THE DEPARTMENT OF GAME



Frank R. Lockard  
Director

FR:mjf

Estimated Deer Population and Expected Loss From Development

Management Unit	Square Miles	Deer/ Sq. Mile	Estimated Population <sup>1</sup>	Annual Expected Minimum Loss (15%) by Year 2000 <sup>1</sup>		Annual Expected Loss With 50% Habitat Reduction <sup>2</sup>
				2000	2001	
Chewack	559	9.1	5,100	765	765	2,550
Pearrygin	312	28.5	8,900	1,335	4,450	
Twisp	489	14.7	7,200	1,080	3,600	
Chilliwist	356	14.3	5,100	765	2,550	
Alta	<u>315</u>	<u>12.3</u>	<u>3,900</u>	<u>585</u>	<u>1,950</u>	
Total	<u>2,031</u>		<u>30,200</u>	<u>4,530</u>		<u>15,100</u>

Management Unit	1981 Harvest Estimate <sup>2</sup>	1980 Value of One Deer Harvested <sup>2</sup>	Approximate Value of 1981 Harvest <sup>2</sup> With 15% Reduction <sup>1</sup>	Approx. Annual Value of Lost Harvest <sup>1</sup> With 50% Reduction <sup>2</sup>	
				1981	1980
Chewack	551	\$1,980	\$1,091,000	\$164,000	\$ 546,000
Pearrygin	1,066	1,980	2,111,000	317,000	1,055,000
Twisp	722	1,980	1,430,000	214,000	715,000
Chilliwist	517	1,980	1,024,000	154,000	512,000
Alta	<u>391</u>	<u>1,980</u>	<u>774,000</u>	<u>116,000</u>	<u>387,000</u>
Total	<u>3,247</u>		<u>\$6,430,000</u>	<u>\$965,000</u>	<u>\$3,215,000</u>

<sup>1</sup>Derived from USFS estimates of deer habitat loss.

<sup>2</sup>Washington Department of Game estimates.

**JOHN SPELLMAN**  
**Governor**



JACOB THOMAS  
Director

## STATE OF WASHINGTON

# OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION

111 West Twenty-First Avenue, KL-11 • Olympia, Washington 98504 • (206) 753-4011

August 23, 1982

Mr. William D. McLaughlin  
Forest Supervisor  
Okanogan National Forest  
P.O. Box 950  
Okanogan, WA 98840

**Log Reference:** 222-F-FS-OK-06

**Re: Early Winters Alpine Winter Sports Study DEIS**

Dear Mr. McLaughlin:

A staff review has been completed of your draft environmental impact statement. The document exhibits a well considered concern for the cultural environment. The precautions proposed to identify cultural resources and to avoid or mitigate anticipated impacts to identified or unidentified cultural resources are adequate.

The above comments are based on the information available at the time of this review. Should additional information become available, our assessment may be revised. In the event that cultural materials are inadvertently discovered during construction, work in the immediate vicinity should be discontinued and this office notified. Please indicate the log reference number noted above in further communications concerning this project. A copy of these comments should be included in subsequent environmental documents.

Thank you for this opportunity to comment.

Sincerely,

  
Robert G. Whitlam, Ph.D.  
Archaeologist

di

JOHN SPELLMAN  
Governor



DUANE BERENTSON  
Secretary

STATE OF WASHINGTON  
DEPARTMENT OF TRANSPORTATION

Division of Aeronautics • 8600 Perimeter Road, King County Int'l Airport, 12 1982  
Seattle, Washington 98108 • (206) 764-4131 • (Toll Free) 1-800-552-0666

October 8, 1982

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AO \_\_\_\_\_  
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CWE \_\_\_\_\_  
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#28  
E.W.

William D. McLaughlin  
Forest Supervisor  
Okanogan National Forest  
Box 950  
Okanogan, WA 98840

Re: Early Winters DEIS

Dear Mr. McLaughlin:

The Washington State Division of Aeronautics would like to make the following comments regarding the Air Travel Section, under Transportation, of the above Draft Environmental Impact Statement.

Last July, the Division of Aeronautics acquired the Intercity Airport near Winthrop. Development plans for that airport are to be addressed by an Airport Master Plan now under development. The master plan will principally address three areas: (1) land uses on and adjacent to the airport, (2) a terminal area plan, and (3) the feasibility of a microwave landing system (MLS). The plan is geared toward the use of Intercity as the principal gateway airport to Early Winters.

Your DEIS states, that instrument procedures "are considered impractical for this airport". We believe that specialized application of the MLS concept is usable at Intercity Airport much as it is used at such places as Eagle and Aspen, Colorado, and South Lake Tahoe, California. Additionally, a LORAN C approach has been experimentally flight tested in VFR (Visual Flight Rules) conditions with excellent results. We believe, also, that weather conditions in the Methow Valley are consistently VFR enough of the time that good VFR services can be anticipated throughout the year.

The Division of Aeronautics has been approached, by two existing and two planned commuter airlines, regarding use of Intercity State Airport. Their use and development of the airport would be encouraged. We have also been approached by two different individuals concerning plans to initiate a fixed base operation at the airport.

Certain improvements are considered near term priorities for the airport. These include; new taxiway, lighting, a VASI (visual approach aid), parallel taxiway, and resurfacing of the existing runway. We anticipate some of these improvements will be started in the next 18 to 24 months. Concurrent with a new runway surface, we will begin winter plowing of the runway. Currently, a sod area parallel to the runway is plowed during the winter months and receives regular use.

William D. McLaughlin  
October 8, 1982  
Page 2

All funding for the Division of Aeronautics comes from the aviation community. No general taxpayer funds are used. Additionally, the Division of Aeronautics will seek federal funds for improvements at Intercity State Airport. These funds come from the Aviation Trust Fund, which is likewise entirely funded by the aviation industry.

Thank you for the opportunity to comment on the DEIS for Early Winters.

Sincerely,

WM. H. HAMILTON  
ASSISTANT SECRETARY FOR AERONAUTICS



LeMoine D. Stitt,  
Aeronautics Program Specialist

LDS:bw



STATE OF WASHINGTON

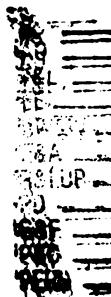
DEPARTMENT OF TRANSPORTATION

Highway Administration Building • Olympia, Washington 98504 • (206) 753-6005

November 10, 1982

NOV 12 1982

Mr. William D. McLaughlin  
Forest Supervisor  
Okanogan National Forest  
Box 950  
Okanogan, WA 98840



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E.W.

Re: Early Winters Alpine Winter  
Sports Study - Draft Environmental  
Impact Statement

Dear Mr. McLaughlin:

The Washington State Department of Transportation (WSDOT) offers the following comments regarding the above-referenced draft EIS:

1. On page 22 under the subtitle Assumptions, the first sentence of paragraph two should be corrected to read as follows:

An average of 1650 ADT was reported for the highest summer month over the last five years on State Route 20.

2. On page 22 under the subtitle Summary of Conclusions, the first sentence should be corrected to read as follows:

Projected winter ADT on State Route 20 at Weeman Bridge would increase with each alternative level of development, from 250 ADT in the year 2000 for Alternative I, 1,175 ADT for Alternative II, 1,790 ADT for Alternative III, 1,990 ADT for Alternative IV and 2,440 ADT for Alternative V.

On Table 1, opposite page 22, the average daily traffic (winter) volumes shown on the bottom of the page should be corrected to read as follows:

Current (1980)	Alternate				
	I	II	III	IV	V
150	250	1,175	1,790	1,990	2,440

3. The average highway capacity shown on page 54, amounting to 3000-5000 vehicles per day, is much too low for non-winter road conditions. The capacity at level of service E along State Route 20 in the study area amounts to approximately 800 vehicles per hour in both directions. It should be noted that highway capacity values are normally calculated for hourly, not daily, traffic volumes.

Mr. McLaughlin  
November 10, 1982  
Page Two

4. On page 115 under the Off-Site Roads, the wording of the last sentence of the second paragraph should be revised to reflect the fact that reconstruction of State Route 20 from Weeman Bridge to Mazama is subject to the availability of additional funding.

Also under the subtitle Alternative I, the first paragraph should be corrected to read as follows:

Traffic projections for State Route 20 from Mazama to Winthrop can be calculated using the 1979 winter counts, 150 average daily traffic (ADT) and increasing them at a rate of 2.85 percent per year. The winter baseline volumes for Highway 20 at Weeman Bridge are 175 ADT, 200 ADT and 250 ADT for the years 1985, 1990 and 2000 respectively.

The first sentence of the second paragraph under the subtitle Alternative I should be corrected to read as follows:

The Washington State Department of Transportation (WSDOT) proposes replacing the Weeman Bridge and constructing new approaches in the 1984 construction season.

5. A high degree of traffic congestion on State Route 20 is anticipated between Winthrop and Mazama at volumes greater than 1900 ADT (alternates IV and V) even with the proposed improvements to the Weeman Bridge and the upgrading of State Route 20 between Mazama and the bridge. We expect the developer to finance the design and construction of intersection improvements necessary at the major ski area entrance and at support facilities which may locate nearby. Such intersection improvements will most certainly include channelization and illumination. They could also require signalization.

Comments from WSDOT's Aeronautics Division were included in their letter to you of October 8, 1982.

Thank you for this opportunity to comment.

Very truly yours,



S. A. MOON, P. E.  
Location-Design Engineer

SAM:cjs  
TAK (EN)

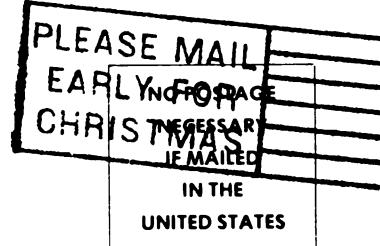
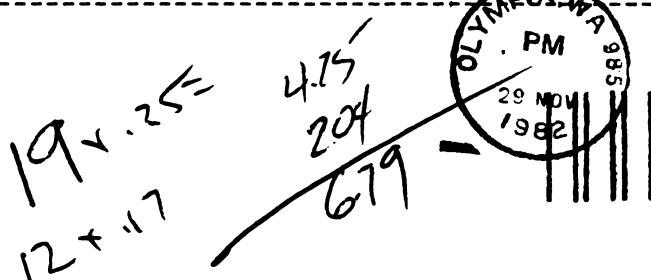
cc: R. C. Cook/L. L. Becker  
H. K. Gupta/C. A. Smith  
W. H. Hamilton/L. D. Stitt

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INTERAGENCY COMMITTEE FOR  
OUTDOOR RECREATION  
4900 CAPITOL BOULEVARD KP-11  
TUMWATER, WASHINGTON 98504

(Name & Address)

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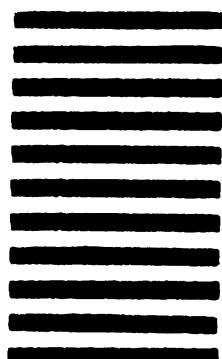


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**BUSINESS REPLY MAIL**  
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691 Okanogan National Forest  
E.W. P.O. Box 950  
COMM Okanogan, WA 98840



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Fold this flap to the inside.  
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bottom of the mailer.

PUBLIC RESPONSE FORM AND GUIDE for the Early Winters Alpine Winter Sports Study  
Draft Environmental Impact Statement (DEIS)

This response form is designed to assist you in commenting on the Early Winters Alpine Winter Sports Study Draft Environmental Impact Statement (DEIS), Okanogan National Forest, Pacific Northwest Region, USDA - Forest Service.

The DEIS informs the public and the decision-maker of the environmental consequences of the proposed action, and the alternatives to that action in the Methow Valley, Okanogan County, Washington State.

Alternative standards and guidelines have been established in the DEIS for five alternatives. A preferred alternative is identified.

---

This response form will assist you in commenting on the Early Winters DEIS. Please use the backs of these pages if you need additional space for comments, or enclose separate sheets.

When you finish with your comments, fold and staple this form so the Forest Service address is on the outside, then mail. We want to receive your comments no later than November 30, 1982.

---

Name ROBERT L. WILDER DIRECTOR 

Address 4800 CAPITOL BLVD. KP-11

City OLYMPIA, WASHINGTON

State WASHINGTON Zip Code 98504

Agency or Group Affiliation, if any INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION  
(STATE OF WASHINGTON)

YOUR COMMENTS

CHAPTER I - PURPOSE AND NEED FOR ACTION (Public Issues, Permit Process, Cooperating Agencies) Pages 1 through 4.

No comment

CHAPTER II - ALTERNATIVES (Development, Alternatives in Detail, Comparison of Impacts by Alternative, Identification of the Preferred Alternative) Pages 5 through 28.

Page 13, Figure 6: The permit area extends into the bottom lands of the Methow River. Why is this needed and what recreation opportunities were in this area? Does the project propose chalet-type individual/seasonal units for this area, and will it replace hunting/fishing, etc? Ski areas should remain up in the mountains.

Page 22 Summary of Conclusions: Transportation aspects should include the need for ground transportation from "a facility" to the ski area as this will be an important aspect.

Page 25 Public Service Facilities: "Visitor expenditures" will have to provide almost year-around support (Alt. V). The revenues for future services may take care of the visitors, but will they be enough to sustain the "core population", and their needs, from season to season?

Page 26 Recreation: Is Alt. V designed so that, in fact, significant regional demand can be accommodated? What is the impact on existing areas, i.e., Stevens Pass? If this is true, there will be significant additional maintenance on Highway 20, and perhaps a move by residents to keep it open during the winter season -- regardless of the existing recommendation in this EIS.

Page 26 Recreation: Studies of mass transit show significant resistance to travel by bus. Visitors may use aircraft, but residents (the Regional Demand stated above) will prefer private auto. SR 20 will need upgrading and DOT will have to provide the funds. It can be a significant impact on state agency budgets.

CHAPTER III - AFFECTED ENVIRONMENT (Introduction, Biophysical Description and Current Resource Uses, Social and Economic, Other Resources) Pages 29 through 62.

Page 56 Airport Facilities: Maintenance and safety considerations will be important aspects of winter airport use.

CHAPTER IV - ENVIRONMENTAL CONSEQUENCES (Biophysical Resources, Social and Economic, Other Resources) Pages 63 through 143.

Page 75, Table 8: Day skiers and weekend skiers show growth of two to three times by the year 2000. Vacation skier days show growth of 5.5 to 7 times. Although these are approximate ratios, the assumption is mostly vacation skiers.

Where is the market and how do these ratios correspond with the finding of "Significant Regional Demand" under Alternative V as discussed in the section on Recreation (Pg. 26)?

Page 95 - Tourist Accommodations: (and Table 19, Page 96) -- "Tourist" accommodations seem to relate to summer use (paragraph 2). However, the text of paragraph 3 seems to talk about the demand in terms of "ski visitors" and "tourist beds". Then paragraph 4 talks about both, saying the construction impact is negligible. There seems to be some intermixture of "tourist" and "ski visitor" and some clarification would help.

Page 97 Land Values: Shows an assessment increase from 421 to 878 per acre in 20 years (1980-2000) under Alternative I. This is more than a 100% increase in that time or an average of about 5%/year. The indicated increase of 3.75% per year seems a little modest. Average market values are projected to increase in about the same ratio over the same period of time. Under Alternative V projected average market values increase from 601/acre to 1902/acre in 20 years, or about a 200% increase. This is an average of 10% per year and illustrates the impact of major development on the average market value of land in the region. The result will be a substantial increase in assessed valuation for all land users regardless of their relationship to the proposed development.

Page 109 Recreation: Nordic skiers and snowshoe users will come to the area, perhaps for the amenities. Their numbers will be small, but some associated opportunities should be provided.

**ADDITIONAL COMMENTS:**

Data in the Statewide Comprehensive Outdoor Recreation Plan (SCORP) supports the need to provide additional skiing opportunities in this state for residents. Annual activity occasions for downhill skiing are projected to increase from 1,362,200 in 1980 to 1,877,000 by 2000 (Page 78). On a regional basis (Chelan, Douglas, Okanogan Counties), the projection of activity occasions is 159,300 and 220,500 for the same twenty year period (Page 91).

While it's doubtful that development at the Alternative V level could be justified on these figures alone, they do show that development at any level should provide for the statewide and local demand that is documented in SCORP.

In the same manner data in the 1969 Winter Sports Site Survey should be specifically cited to the extent it supports one or more of the alternatives discussed. This would be particularly appropriate if the data makes a strong case for Alternative V.

The issue at large seems to be present life style of the area vs. economic vitality of the same area.

The preferred alternative is strongly oriented to, and will depend for success upon, out-of-state and/or regional clientele. Where are the markets? Continental U.S. -- will visitors bypass the luxury resorts of Colorado and other states for Early Winters? Will California furnish a substantial number of visitors?

In order to succeed this proposal (Alternative V) will require vigorous and continuous marketing of a high calibre. It will also require governmental cooperation at all levels. This will mean a private and public alliance and a willingness for action. Without those elements this entire venture could become just another case number under the Bankruptcy Reorganization Act.



## State of Washington

JOHN SPELLMAN, Governor

October 28, 1982

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OFFICE OF THE GOVERNOR

Mr. Jeff Sirmon  
Regional Forester  
Pacific Northwest Region  
U.S. Forest Service  
P. O. Box 3623  
Portland, OR 97208

# 75  
E.W.

Dear Mr. Sirmon:

I write with regard to the draft Environmental Impact Statement (EIS) developed by the Okanogan National Forest Service for the proposed alpine ski facility at Mazama, Washington. That statement is currently undergoing review by the appropriate state agencies. I do not wish to comment formally on any of its specifics until the review process is complete, but I wanted you to know as early as possible that I strongly support the concept of a major destination ski facility.

The state has made a major commitment to the development of our tourism industry. The addition of an international-class destination ski resort can provide the critical winter recreation link to our tourism program and thereby yield great benefits, not just for the economically depressed upper Methow Valley, but also for the entire state of Washington. We are currently losing business and revenue to British Columbia and Alberta, both of which are developing massive, government-subsidized destination ski facilities. Assuming that the environmental and planning aspects are adequately addressed through the EIS process, maximum development of the Sandy Butte site will allow Washington State to become competitive with Canadian facilities and to provide needed revenue and jobs.

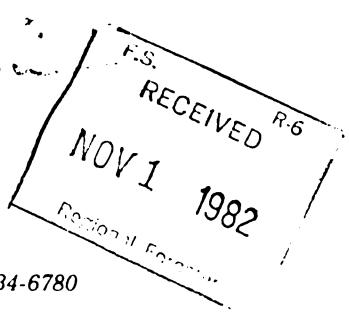
Your Okanogan office will be receiving formal comment from the various state agencies within the next month. I hope that there will be no unresolvable aspects to the proposal.

I look forward to working with the United States Forest Service in the years ahead to develop a truly world-class destination ski resort at Sandy Butte.

With best wishes,

Sincerely,

John Spellman  
Governor



Dreq - PD+B  
cc: Ken  
RF  
Okanogan

Legislative Building • Olympia, Washington 98504 • (206) 753-6780 • (Scan) 234-6780

JOHN SPELLMAN  
Governor



JAN TVETEN  
Director

STATE OF WASHINGTON

WASHINGTON STATE PARKS AND RECREATION COMMISSION

7150 Cleanwater Lane, KY-11 • Olympia, Washington 98504 • TEL (206) 753-5755

November 29, 1982

REC'D 11/30/82

F&A \_\_\_\_\_  
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B&F \_\_\_\_\_  
Re: 35-718 P1820  
PEERS  
Pearrygin Lake State Park  
DEIS - Early Winters Alpine  
Winter Sports Study  
(E-2433)

585  
E.W.

Mr. William D. McLaughlin  
Forest Supervisor  
Okanogan National Forest  
P.O. Box 950  
Okanogan, Washington 98840

Dear Mr. McLaughlin:

Staff of the Washington State Parks and Recreation Commission have reviewed this rather extensive DEIS and offer the following comments.

The state park nearest to this proposed development is located at Pearrygin Lake, which is approximately one and one-half miles northeast of Winthrop. This park receives substantial summer use and the year round attractiveness of the Early Winters complex may increase this use. Pearrygin Lake State Park is shown on Page 2 of your Impact Statement. I have included the last five years of day use and overnight camping statistics for inclusion in your studies of the recreation demand, supply and need for the area.

<u>Fiscal Years</u>	<u>Day Users</u>	<u>Overnight</u>	<u>Total</u>
7/80 - 6/81	133,770	29,755	163,525
7/79 - 6/80	102,181	33,878	136,059
7/78 - 6/79	154,130	36,856	190,986
7/77 - 6/78	223,832	38,671	262,503
7/76 - 6/77	108,625	40,012	148,637

Thank you for the opportunity to review and comment on this DEIS. Please feel free to contact us if there is any further question

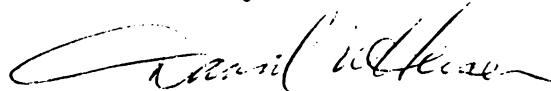
Mr. McLaughlin

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November 29, 1982

concerning the impact upon Pearrygin Lake State Park or upon recreation in general.

Sincerely,

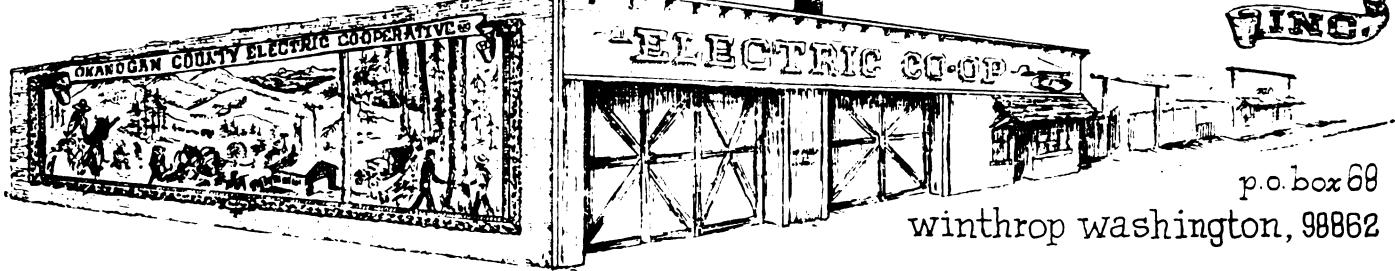


David W. Heiser, E.P.  
Chief, Environmental Coordination

bh

cc: Daren Johnson, Assistant Director, Resources Development  
and Member Winter Recreation Committee  
Ange Taylor, Region Supervisor/Pearrygin State Park

# OKANOGAN COUNTY ELECTRIC CO-OPERATIVE



p.o.box 68  
winthrop washington, 98862

November 9, 1982

NOV 10 1982

Forest Supervisor  
Okanogan National Forest  
P.O. Box 950  
Okanogan, Wa. 98840

#87  
E.W.

re: Draft EIS for Early Winters Sports Study

Dear Sir:

A potential savings in time and money could be had if your final EIS would address the needs for right-of-ways for transmission & distribution power lines both on Sandy Butte and from Winthrop.

If BPA or the Cooperative are requested to build a transmission line from Winthrop to Mazama, for example, your EIS could be adequate for our purposes.

I am concerned about the area between Winthrop and Mazama because a R/W is not now available, and USFS land may be necessary for use in some areas.

Respectfully,

A handwritten signature in cursive ink, appearing to read "Warren E. Pringle".

Warren E. Pringle  
Manager

WEP:prm



POR T OF SEATTLE

P.O. BOX 1209 SEATTLE, WASHINGTON 98111

EXECUTIVE DEPARTMENT

Nov. 24, 1982

1982

616  
E.W.

Forest Supervisor  
Box 950  
Okanogan, Washington 98840

Dear Sir:

I believe that it is important to develop the resources of the State of Washington. Early Winters Ski Area is an important asset to the entire North-West. Tourism is a vital business to our state's economy. As operators of Sea-Tac Airport here in Seattle, we are very cognizant of the value of tourism. We also recognize the value of a top-grade destination ski resort to the traffic at the airport. Therefore I support Alternative No. 5.

Sincerely,

Henry T. Simonson  
Commissioner



# WASHINGTON STATE UNIVERSITY

PULLMAN, WASHINGTON 99164-4006

DEPARTMENT OF SOCIOLOGY/DEPARTMENT OF RURAL SOCIOLOGY  
Room 23, Wilson Hall

## MEMORANDUM

To: Roland Whited,  
Okanogan National Forest

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E. W.  
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M. J. Anderson  
11/29/82

From: William R. Freudenburg, Assistant Professor  
Department of Rural Sociology

Date: November 29, 1982

Subject: The Social, Cultural, and Psychological Impacts of the  
Early Winters Alpine Winter Sports Development

As a public service, I will occasionally review draft Environmental Impact Statements (dEISs) for their adequacy in my area of expertise. In response to requests from a citizens group, I have reviewed the social science components of the draft Environmental Impact Statement on the Early Winters Alpine Winter Sports Development site. In a telephone conversation on November 24, I was assured by Irv Smith of the Okanogan National Forest that all comments post-marked on or before November 30 will be given full consideration; thus, I have prepared this memorandum to summarize my comments, and to offer you my technical assistance in preparing the final Environmental Impact Statement.

I find the dEIS to be an excellent one in several respects, although it has a number of important deficiencies. Three aspects of the dEIS are worthy of favorable comment. The first is the fact that your interdisciplinary team obviously took some pains to write the document clearly, and with a minimum of jargon. I frankly wish that other offices preparing Environmental Impact Statements would follow your example in this regard. The second is the fact that your office hired Social Impact Research, Inc., to assist in the assessment of the development's likely social impacts. The third may be related to the second: Perhaps partly as a result of the expertise of Social Impact Research, Inc., the dEIS appears to do a reasonably appropriate job of assessing social impacts at what it calls the "group" level. While the remainder of this memorandum will deal with inadequacies of the dEIS, I do want to emphasize again that these three strengths are particularly praiseworthy and noteworthy.

## Deficiencies

While I have a good deal of respect for Social Impact Research, Inc., and while the document's assessment of group-level impacts is worthy of note, the dEIS is still seriously deficient in its assessments of social impacts at the community level and at the individual level. Perhaps partly as a result, it

Roland Whited  
November 29, 1982  
Page Two

also fails to consider all relevant and reasonable alternatives and mitigation measures. In so doing, the dEIS fails to comply with the Council on Environmental Quality's Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR 1500-1508), as well as the Forest Service's more specific Guidelines for Economic and Social Analysis of Programs, Resource Plans, and Projects; Final Policy (Forest Service Manual [FSM] Titles 1970-1973, as published in Federal Register 47/80, April 26, 1982, Pages 17940-17954).

I call your attention particularly to FSM 1973.3, "Selection of Variables," which notes explicitly that the major categories of social life effects to be examined include "1. lifestyles . . . 2. attitudes, beliefs, and values . . . 3. social organization [including the major components of] institutions, community cohesion, and community stability." While lifestyles are considered to some extent through the "group" approach of the dEIS (and a fourth major category of "population and land use" is considered to some extent in other sections), the major components of attitudes, beliefs, and values, on the one hand, and community-level social organization, on the other, appear to be omitted entirely from the dEIS. Through these omissions, the dEIS fails to comply with the CEQ Regulations, and with its own Policy (FSM 1973) that social impact analysis in the Forest Service is to focus upon "how Forest Service policies and actions affect the quality of life or social well-being."

It appears that these omissions have occurred in part because the dEIS largely ignores the body of evidence that has been accumulated from past impact situations; the dEIS makes a number of arguments that would be plausible if no relevant data were available, but since the data are available and have evidently been overlooked, the dEIS is not in compliance with CEQ regulations calling for "information . . . of high quality" and "accurate scientific analysis" (40 CFR 1500.1 [b], emphasis added), requiring consideration of direct and indirect social and cultural effects (40 CFR 1508.8), with emphasis upon the "human environment," as "interpreted comprehensively" (40 CFR 1508.14), and providing full "scientific integrity" or scientific sufficiency (40 CFR 1502.22 and 1502.24).

These are the major points of this memorandum. By way of providing you with more specificity, however, I will also offer brief discussions of the two levels at which the dEIS is most clearly deficient.

Community-level impacts. There is a large and growing body of social science research on the impacts of major resource development in the western United States. This research has documented a consistent pattern--substantial increases in crime, juvenile delinquency, alcohol and drug abuse, and so forth--accompanying such developments. These are clearly significant social impacts, having to do with the "evaluation criterion" identified by the dEIS

Roland Whited  
November 29, 1982  
Page Three

as the second most important of the six criteria considered; yet this entire body of relevant social science findings is ignored in the dEIS, in clear violation of the CEQ Regulations.

The omission is particularly noteworthy given the fact that several knowledgeable social scientists consider these community-level impacts to be particularly serious in the case of recreational developments (especially ski areas). The persons drawn to ski areas tend to be more "urbanized," less conservative, and (in the eyes of some observers) more likely to use certain control substances such as cocaine, than is the case with other projects such as energy developments.

The current dEIS contains virtually no discussion of community-level impacts. Instead, it simply utilizes assumptions. For example, Table 28 (Page 129) asserts that police costs will be a linear function of community population; there are three problems with this approach. The first is that crime rates are an indicator of community stability, and not simply a matter of economic costs; the second is that other indicators of community stability (and the issue of community stability) are generally ignored; the third is that the assumption of linearity is demonstrably incorrect. Whether one wishes to employ community-specific crime rate data (as reported, for example, in Statistical Abstracts of the United States), or to use the more appropriate statistics that have been obtained from previous impact communities, crime rates tend to increase at a much more rapid rate than do populations. A 100% increase in a given community's population, for example, might be associated with anything between a 200% - 900% increase in crimes, depending upon the case study and the types of crimes being examined.

A memorandum of this length cannot begin to provide a complete discussion of the relevant social science literature on this point; for a relatively up-to-date overview and introduction, I suggest you examine Coping With Rapid Growth in Rural Communities, edited by Bruce A. Weber and Robert E. Howell, and available from Westview Press (Boulder, Colorado, 1982; price approximately \$22.50). Please note, however, that merely changing Table 28 and the discussion about the economic cost of police services would not adequately deal with the issue of community stability under the CEQ Regulations' call for scientific accuracy (40 CFR 1502.24) and for efforts to obtain and present adequate information (40 CFR 1502:22). Such changes, in fact, would not even deal with the more specific issue of public safety. As a number of social researchers have noted, persons in impact communities may have reduced safety from crime even after police expenditures increase substantially, since the communities' real crime rates appear to climb significantly despite the increased police surveillance. The police will only catch a certain proportion of the criminals, meaning that an increased number of crimes will go unsolved; moreover, even in cases where criminals are caught and punished, this will not change or greatly mitigate the fact that a resident has been the victim of a crime.

Roland Whited  
November 29, 1982  
Page Four

Individual-level impacts. Similarly, there is a large and growing body of research indicating that significant effects are experienced on the individual level. This literature is also ignored, in clear violation of the CEQ Regulations and the Forest Service's own policies. In addition to the regulations cited above, the Forest Service Manual's emphasis upon the quality of life is of relevance. Quality of life or well-being can only be experienced meaningfully by individuals. "Communities" or "groups," as the terms are commonly employed and used in the dEIS, are abstractions. Individual humans can laugh, cry, or describe the overall quality of their lives; except through the use of additional variables such "community stability," however, the quality of group or community life is meaningful only insofar as that quality of life is experienced by the individuals who make up the community and/or group. It is thus doubly unfortunate that the dEIS omits virtually all references to actual individual-level experiences.

When the dEIS does refer to individuals, it does so with the assertion that "those unable to adapt would leave the valley" (e.g., Page 17). There are two problems with this assertion: One is that it is highly implausible, particularly as such a broad generalization, and the other is that if individuals were forced to leave the valley, this would constitute one of the most significant social impacts imaginable.

In one of the most widely utilized of all scales of stressful life events--the Social Readjustment Rating Scale of Thomas Holmes and Richard Rahe, published in the Journal of Psychosomatic Research 11 (1967):213-218--a "change in residence" was computed to be one-fifth as stressful as the most severe event listed, namely, the death of a spouse (20 points for moving, versus 100 points for loss of spouse). Given that a move would normally be associated with a "change in social activities" (18 points), a "change in living conditions" (25 points), and either a "business readjustment" (39 points) or a "change to different line of work" (36 points)--as well as any number of other significant social changes--it can be seen that "leaving the valley" because of an inability to adapt would need to be calculated as one of the most significant impacts upon the human environment that could possibly be created by the Winter Sports Complex. The significance would be multiplied further by the fact that--virtually by definition--the persons forced out would be precisely the ones who were least able to adapt to such stresses. These impacts are simply not adequately dealt with in the dEIS.

Moreover, even if we were to concentrate only upon the individual-level impacts experienced by persons who would stay in the area--and realizing that these persons are likely to be in the majority, given the human significance of being forced out of a relatively stable rural area--the dEIS completely fails to draw upon the social scientific information currently available from other communities that have experienced impacts from development-related rapid growth in the past. Again, I call your attention to the book by Weber and Howell as a useful starting point for locating the relevant literature, but I respectfully

Roland Whited  
November 29, 1982  
Page Five

suggest that (despite the respect that I have for the work which Social Impact Research, Inc., has completed so far) the deficiencies in the dEIS are such that further professional assistance from qualified social scientists is likely to be required.

Mitigation and alternatives. Perhaps it is because the document is deficient in its consideration of the likely social, cultural, and psychological impacts that the dEIS also pays insufficient attention to measures that might be effective in mitigating these impacts. It needs to be stressed that further alternatives to the proposed action might be particularly important mitigating measures, as noted in the CEQ Regulations (40 CFR 1508.20 [a]). Mitigating measures, in short, are not simply limited to financial measures that are available to local governments; indeed, as some social scientists have noted, the kinds of "mitigating" measures discussed in the current dEIS may actually exacerbate many of the social and cultural impacts that are likely to be created.

#### Concluding Observations

The detailed comments in this memorandum can be summarized in terms of three major points. First, the final EIS will need to include attention to individual-level and community-level social impacts, as well as to "group-level" impacts. Second, the document needs to draw upon the large and growing body of social science documentation that is available from other impact communities, rather than relying so heavily upon the judgments of consultants--even good consultants--and of the local officials they have interviewed. Third, it is also important that the final EIS include adequate and explicit attention to important steps that could be taken to mitigate these impacts.

If these steps are fully taken, and if the final EIS continues to use clear English prose, my judgment is that the final EIS would be in substantial compliance with the letter and spirit of the law on the assessment of likely social impacts. If I may assist you in bringing the final EIS in line with relevant regulations on any or all of these three points, please do not hesitate to contact me.

WRF/1m1

November 29, 1982

LEO E

DEC 5 1982

TO: Senator Alan Bluechel, Chairman  
Washington State  
Winter Recreation Commission

P P & B

FROM: Representative Earl Tilly  
Mel Borgersen  
Frank DeLong

SUBJECT: Subcommittee Report on Early Winters Draft Environmental Impact Statement

Pursuant to your directive of September 16, 1982, the Early Winters Subcommittee has met to review the draft environmental impact statement developed by the U. S. Forest Service for an alpine ski facility at Sandy Butte in Okanogan County.

On the whole, we found the study to be thorough, accurate and highly competent and the conclusions to be entirely in keeping with the stated goals of the Winter Recreation Commission for optimum development of Washington State's winter recreation potential. The preferred alternative of a major international class destination ski resort will improve the state's economic well-being, strengthen our burgeoning tourism industry and provide vital employment opportunities for the economically depressed Methow Valley -- all without undue environmental or sociological dislocation.

There were several questions regarding specific aspects of the draft which we would urge the Forest Service to address in its final document:

1. Given the extensive time period necessary to develop such a study and the time-perishable nature of much of the material, a thorough review and update would be appropriate to ensure that all facts and statistics are current (for example, since the draft EIS was published, the intercity airport at Twisp has been sold to the Washington State Department of Transportation);
2. While the draft EIS focuses entirely upon the alpine skiing aspect of Sandy Butte, the economic realities would suggest that the final document give extensive consideration both to the year-round recreation potential of the area and to off-hours recreation during the ski season;
3. The draft EIS establishes a phase development schedule stretching over 15 years and reaching completion in 1998. This protracted time table pushes the financial break-even point well into the twenty-first century, which could discourage potential investors. At least as serious is the fact that, in its first critical years the Early Winters facility would be a de facto commuter resort competing with well-established and more accessible commuter resorts. Since each successive phase of development would hinge on the demonstrated financial success of the previous phase,

Senator Alan Bluechel  
November 29, 1982

financial soundness of the entire project could be jeopardized. We would urge that, in its final document, the Forest Service consider an alternative and sharply accelerated development schedule similar to those employed successfully at Blackcomb and Beaver Creek. While such an approach would require a greater up-front capital investment, we believe that it might substantially increase the chances for the ultimate success of the project;

4. Recognizing that accessibility will be critical to the success of the Early Winters development, and that the intercity airport at Twisp will be an essential factor in that accessibility, we encourage the Forest Service to be cognizant of the airport masterplan now being developed by the Washington State Department of Transportation, Aeronautics Division, and to give that master-plan full consideration in the final EIS document;
5. We appreciate the extremely precious and delicate nature of the environment of the upper Methow Valley. Therefore, we urge that the final EIS direct the Okanogan County Planning Office to focus all planning efforts not just towards the proposed development at Sandy Butte, but towards the entire affected region to ensure that all adverse environmental impacts are anticipated and mitigated to the extent possible.

These observations notwithstanding, Mr. Chairman, the subcommittee is unanimous and unreserved in its recommendation that the Winter Recreation Commission endorse the draft EIS preferred alternative for a major, international class destination ski resort at Sandy Butte. In offering this recommendation, we would reiterate what numerous studies have borne out -- that Sandy Butte is virtually unique among mountains in the Pacific Northwest in its combination of qualities favorable to such a project: vertical drop, mix of terrain, ample privately-owned land for base area, quality and dependability of snow conditions, etc. The mountain is, in fact, a valuable state resource and we are fortunate to have the opportunity to avail ourselves of that resource.

FD:lam



# Washington State Senate

**ALAN BLUECHEL**  
FORTY-FIFTH DISTRICT  
**MAJORITY WHIP**

103 INSTITUTIONS BUILDING  
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(206) 753-7672

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November 30, 1982

Mr. Jeff Sirmon  
Regional Forester  
Pacific Northwest Region  
P.O. Box 3623  
Portland, OR 97208

**FS** \_\_\_\_\_  
**AO** \_\_\_\_\_  
**T&L** \_\_\_\_\_  
**FE** \_\_\_\_\_  
**RW&W** \_\_\_\_\_  
**F&A** \_\_\_\_\_  
**RGLUP** \_\_\_\_\_  
**PB** \_\_\_\_\_  
**B&F** \_\_\_\_\_  
**P&C** \_\_\_\_\_  
**PERS** \_\_\_\_\_

Oklahoma N.E.  
1900-1920

RECEIVED  
DEC 8 1982

P P & B

**Re: Early Winters Draft Environmental Impact Statement**

Dear Mr. Sirmon:

Please find attached a copy of the Subcommittee Report on the Early Winters Draft Environmental Impact Statement which was adopted by the Washington State Winter Recreation Commission at their meeting on November 29, 1982.

Respectfully,

Alan Bluel

Alan Bluechel, Chairman  
Washington State  
Winter Recreation Commission

## Attachment

pc: U.S. Forest Service  
Okanogan National Forest

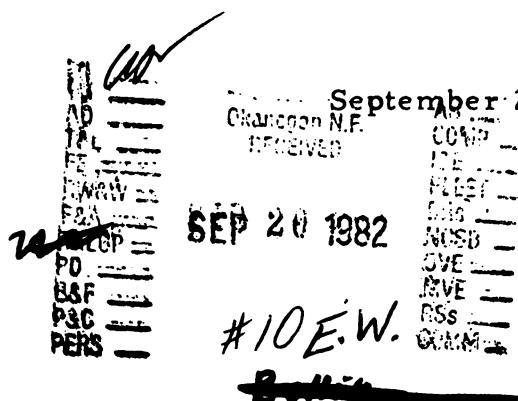
U.S. Forest Service  
Wenatchee National Forest

AB: Tam

# TOWN OF TWISP

118 GLOVER STREET • BOX 278 • TWISP, WA 98856 • 509/997-4081

Social Impact Research, Inc.  
2366 Eastlake Avenue East  
Suite 427  
Seattle, WA 98102  
&  
William D. McLaughlin  
Forest Supervisor  
Okanogan National Forest  
P.O. Box 950  
Okanogan, WA 98840



References: Early Winters EIS: USFS 7/82 ("EIS")  
The Social and Economic Impacts of the Proposed Ski Development at Early Winters, Vol. I: SIR, Inc. 4'81 ("Social Needs Study")

Gentlemen:

The referenced EIS which we recently received contains completely erroneous information on the Twisp water and sewer systems based on the equally erroneous Social Needs Study, a copy of which we have never been provided with.

It will be simpler to state the facts than to correct Chapter 6 of the SIR study in detail.

Water System: (EIS, p120, P4)	(million gal./day)
Average Daily Use	approx. .6MGD
Peak Day Use	approx. 2.0MGD
Source Capacity	approx. 2.2MGD
Reserve Capacity	approx. 2 MGD (approx. 10%)

At 1700 gallons per day per capita peak use<sup>1</sup>, this reserve capacity will be essentially exhausted by 1985 using the no project population projections (Social Needs Study p6-9, Alternative 1 (baseline): pop. peak 1400).

<sup>1</sup> 1700 gpd (versus average western US municipal peak use of 450 gpd) is actual peak use figure for Twisp. This high figure is undoubtedly due to extensive irrigation in an area of extremely permeable soils.

Sewer System: (EIS, pl20, P7)	(gal. per day)
Average Day	90,000 gpd
Peak Day	150,000 gpd
Design Average Flow	170,000 gpd
Design Peak Flow	530,000 gpd
% of Average design Flow	53%
% of Peak design Flow	28%

The average per capita contribution is about 90 gpd, if infiltration and inflow (I&I) are factored out. An average of 110 to 120 gpd is probably reasonable for new residents, assuming 1) new construction averages a higher contribution than the typical older Twisp residence which lacks garbage disposals, dishwashers and the like, and 2) that newly constructed side sewers will add only very slightly to infiltration.

Taking 120 gpd/capita as the figure, about 650 residents can be added to the sewer system, without exceeding design capacity hydraulically.  $(170,000 - 90,000 = 80,000; 80,000 / 120 = 666.7)^2$ . This should be adequate through 1995, the design life of the Sewer Plant.

The actual problems with the sewer system are threefold:

1. Bulking. The Plant occasionally suffers from filamentous bulking, a problem common to many oxydation ditches in extreme climates.
2. High maintenance. The Plant is nearly half way through its 20 year design life, and plant and lab equipment are already beginning to fail, escalating maintenance costs.
3. Long Range Financing. The water and sewer systems were 100% mortgaged for 40 years to pay for the construction of a sewer system with a 20 year design life. Therefore, between 1995, when the plant is scheduled to collapse, and 2015, when the Town's water-sewer utility will be able to borrow money again, the people of Twisp may have to do with very inadequate sewage treatment.

In conclusion, "The town water system appears" not "to have excess capacity for the foreseeable future," and "clearly, within the next few years Twisp will" not "have difficulty meeting sewer system demands." (pl20

<sup>2</sup> Peak flows are entirely the result of Spring high water, when population is low, and will increase slightly as trunk sewers expand, and as existing sewers age. Assuming a 20% expansion of trunks (new sewers are tight) peak flows should increase to about 250,000 gpd (60,000 present I&I times 1.2, added to ~~design flow~~ of 170,000 equals 242,000).

Early Winters EIS)

It would appear that these errors in the Social Needs Study were the result of gathering misinformation from DOE and DSHS. Some of this is no doubt due to mistaken reporting on the part of the Town, the bulk of it due to misinterpretation and computer foul-ups on the part of the state. All of it could have been corrected by providing the Town with a review copy.

It is also less than commendable that the study team did not investigate these discrepancies after a front page story in the local paper pointed them out months ago.

Cordially,



David Philips  
Assistant Town Superintendant

pc: Jim King, Okanogan County  
Ron Cook, Gray & Osborne  
John Hodgson, DOE  
Tom Justus, DSHS  
Jeff Sirmon, USFS

## APPENDIX E

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## APPENDIX F

### **GLOSSARY**

ADT: Average Daily Traffic - defined by number of vehicles/day.

Alkalinity: A measure of a solution to neutralize hydrogen ions. It is expressed in terms of an equivalent amount of calcium carbonate; i.e., maintain the pH of a solution.

"Base Area": Refers to 1,165 acres at the base of Sandy Butte in private ownership with potential to accommodate ski support development.

Bf/A/Yr: Board feet per acre per year

Conifer: Any of various predominantly evergreen, cone-bearing trees such as pine, spruce, hemlock or fir.

DEIS: Draft Environmental Impact Statement

Dendritic: Drainage pattern characterized by irregular branching in all directions with the tributaries joining the mainstream at all angles.

Diurnal Topographical Winds: Winds that flow upslope during the day, as the result of surface heating, and downslope at night, as the result of surface cooling.

Enplanement: The boarding of one passenger onto a commuter aircraft.

Ephemeral: A stream that flows only in direct response to precipitation.

Evaluation Criteria: Measurements used to examine the relative degrees of desirability among alternatives.

FAA: Federal Aviation Administration

FEIS: Final Environmental Impact Statement.

Forb(s): Any grass-like plant having little or no woody material in it.

FTE: Full-Time-Equivalent

Glacial Tills: Nonsorted, nonstratified sediment carried onto a slope(s) by a glacier.

Glacial Trough: Originally a stream-cut valley, modified by glacial ice to form a broad U-shaped cross-profile.

Glade Skiing: Open space skiing in a forest.

Gradients: The rate of incline of a slope.

Green Fescue: A species of grass that grows within the spruce/fir tree timberline, mostly above 6,000 feet, although a few specimens have been collected as low as 5,000 feet. Green fescue furnishes an abundance of very palatable and nutritious feed for livestock.

Level I Transportation Plan: A plan developed by the Forest Service which identifies existing and proposed transportation facilities needed to access and utilize forest resources.

Loamy Sand: A textural class used to define the proportionate content of sand, silt and clay (60% sand; 20% clay; 20% silt).

Mass Failure: Bulk movement of masses of rock, soil and debris down slopes under the direct influence of gravity. The movement is usually aided by the presence of water, but the water is not in such an amount to be the transporting agent.

MMBF: Lumber or timber measurement term. One million board feet.

MMchos/CM: It is a measure of specific conductants of a solution (e.g., a measure of a solution's capacity to convey an electric current).

MOA: Military Operations Area

NEPA: National Environmental Policy Act.

PAOT: Persons at one time

Planned Unit Development: A process where the local government alters standard lot size regulations to permit tighter patterns of house groupings. The developer saves money while he/she builds the same number of housing units and service facilities, but does not have to bulldoze as much or lay as much asphalt. In exchange, the developer leaves from 40 to 60 percent of the land open and deeds it for common use of the residents.

Platting: A diagram drawn to scale and showing essential data pertaining to boundaries and subdivisions of a tract of land, as determined by survey or drawing to scale.

PUD: Public Utility District

ROS: Recreation Opportunity Spectrum

RVD: A unit for measuring recreation activities which aggregates 12 visitor hours.

SAOT: Skiers at one time

SEPA: State Environmental Policy Act (Washington).

Scarp: A steep slope or cliff.

Sheet and Rill Erosion: The attachment or removal of individual soil particles or small aggregates from the land's surface.

SIR: Social Impact Research, Inc.

Sluff: Material that accumulates at the base of a slope.

Till Deposits: Nonsorted, nonstratified sediment carried onto slopes by a glacier.

Total Suspended Particulates: A component of polluted air consisting of any liquid or solid particles suspended in or falling through the atmosphere. Particulates are responsible for the visible forms of air pollution.

Trough: See Glacial Trough.

Turbidity: An expression of the optical property of a water sample which causes light to be scattered and absorbed, rather than transmitted in straight lines through the water sample.

ULID: Utility Local Improvement District

VASI: Visual Approach Slope Indicator

VRM: Visual Resource Management

Waterbars: Cross drain on a road or trail designed to carry accumulated run-off to a designated area.

WSDOT: Washington State Department of Transportation

Zoning: The demarcation of a planning area by ordinance into zones and the establishment of regulations to govern the use of the land (commercial, industrial, residential, type of residence) and the location, bulk, height, slope, use and coverage of structure within each zone.

# Chapter 173-201 WAC

## WATER QUALITY STANDARDS FOR WATERS OF THE STATE OF WASHINGTON

**WAC**

- 173-201-010 Introduction.
- 173-201-025 Definitions.
- 173-201-035 General considerations.
- 173-201-045 General water use and criteria classes.
- 173-201-070 General classifications.
- 173-201-080 Specific classifications—Freshwater.
- 173-201-085 Specific classifications—Marine water.
- 173-201-090 Achievement considerations.
- 173-201-100 Implementation.
- 173-201-110 Surveillance.
- 173-201-120 Enforcement.

**DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER**

- 173-201-020 Water use and quality criteria. [Statutory Authority: RCW 90.48.035. 78-02-043 (Order DE 77-32), § 173-201-020, filed 1/17/78; Order 73-4, § 173-201-020, filed 7/6/73.] Repealed by 82-12-078 (Order DE 82-12), filed 6/2/82. Statutory Authority: RCW 90.48.035.
- 173-201-030 Water use and quality criteria—General water use and criteria classes. [Order 73-4, § 173-201-030, filed 7/6/73.] Repealed by 78-02-043 (Order DE 77-32), filed 1/17/78. Statutory Authority: RCW 90.48.035.
- 173-201-040 Water use and quality criteria—General considerations. [Order 73-4, § 173-201-040, filed 7/6/73.] Repealed by 78-02-043 (Order DE 77-32), filed 1/17/78. Statutory Authority: RCW 90.48.035.
- 173-201-050 Characteristic uses to be protected. [Statutory Authority: RCW 90.48.035. 78-02-043 (Order DE 77-32), § 173-201-050, filed 1/17/78; Order 73-4, § 173-201-050, filed 7/6/73.] Repealed by 82-12-078 (Order DE 82-12), filed 6/2/82. Statutory Authority: RCW 90.48.035.
- 173-201-060 Water course classification. [Order 73-4, § 173-201-060, filed 7/6/73.] Repealed by 78-02-043 (Order DE 77-32), filed 1/17/78. Statutory Authority: RCW 90.48.035.
- 173-201-130 Definitions. [Order 73-4, § 173-201-130, filed 7/6/73.] Repealed by 78-02-043 (Order DE 77-32), filed 1/17/78. Statutory Authority: RCW 90.48.035.
- 173-201-140 Miscellaneous. [Statutory Authority: RCW 90.48.035. 78-02-043 (Order DE 77-32), § 173-201-140, filed 1/17/78; Order 73-4, § 173-201-140, filed 7/6/73.] Repealed by 82-12-078 (Order DE 82-12), filed 6/2/82. Statutory Authority: RCW 90.48.035.

**WAC 173-201-010 Introduction.** (1) The purpose of this chapter is to establish water quality standards for surface waters of the state of Washington pursuant to the provisions of chapter 90.48 RCW and the policies and purposes thereof.

(2) This chapter shall be reviewed periodically by the department and appropriate revisions shall be undertaken.

(3) The water use and quality criteria set forth in WAC 173-201-035 through 173-201-085 are established in conformance with present and potential water uses of the surface waters of the state of Washington

and in consideration of the natural water quality potential and limitations of the same. These shall be the sole criteria for said waters. [Statutory Authority: RCW 90.48.035. 82-12-078 (Order DE 82-12), § 173-201-010, filed 6/2/82; 78-02-043 (Order DE 77-32), § 173-201-010, filed 1/17/78; Order 73-4, § 173-201-010, filed 7/6/73.]

**WAC 173-201-025 Definitions.** (1) **Background conditions:** The biological, chemical, and physical conditions of a water body, upstream from the point or non-point source of any discharge under consideration. Background sampling location in an enforcement action would be upstream from the point of discharge, but not upstream from other inflows. If several discharges to any water body exist, and enforcement action is being taken for possible violations to the standards, background sampling would be undertaken immediately upstream from each discharge.

(2) **Department:** State of Washington department of ecology.

(3) **Director:** Director of the state of Washington department of ecology.

(4) **Fecal coliform:** That portion of the coliform group which is present in the intestinal tracts and feces of warm-blooded animals as detected by the product of acid or gas from lactose in a suitable culture medium within 24 hours at 44.5 plus or minus 0.2 degrees Celsius.

(5) **Geometric mean:** The nth root of a product of n factors.

(6) **Mean detention time:** The time obtained by dividing a reservoir's mean annual minimum total storage by the 30-day ten-year low-flow from the reservoir.

(7) **Permit:** A document issued pursuant to RCW 90.48.160 et seq. or RCW 90.48.260 or both, specifying the waste treatment and control requirements and waste discharge conditions.

(8) **pH:** The negative logarithm of the hydrogen ion concentration.

(9) **Primary contact recreation:** Activities where a person would have direct contact with water to the point of complete submergence, including but not limited to skin diving, swimming and water skiing.

(10) **Secondary contact recreation:** Activities where a person's water contact would be limited (wading or fishing) to the extent that bacterial infections of eyes, ears, respiratory or digestive systems or urogenital areas would normally be avoided.

(11) **Surface waters of the state:** Include lakes, rivers, ponds, streams, inland waters, saltwaters, and all other

surface waters and water courses within the jurisdiction of the state of Washington.

(12) Temperature: Water temperature expressed in degrees Celsius ( $^{\circ}\text{C}$ ).

(13) Turbidity: The clarity of water expressed as nephelometric turbidity units (NTU) and measured with a calibrated turbidimeter.

(14) Upwelling: The annual natural phenomenon where the summer prevailing, northerly winds parallel to Washington's coast produce a seaward transport of surface waters. Cold, deeper more saline waters rich in nutrients and low in dissolved oxygen rise to replace the surface water. The cold, oxygen deficient water flows into Puget Sound and other coastal estuaries replacing the deep water with lower dissolved oxygen concentrations reaching the surface during late summer and fall.

(15) USEPA: United States Environmental Protection Agency.

(16) Wildlife habitat: Waters of the state used by fish, other aquatic life and wildlife for any life history stage or activity. [Statutory Authority: RCW 90.48.035. 82-12-078 (Order DE 82-12), § 173-201-025, filed 6/2/82; 78-02-043 (Order DE 77-32), § 173-201-025, filed 1/17/78.]

**WAC 173-201-035 General considerations.** The following general guidelines shall apply to the water quality criteria and classifications set forth in WAC 173-201-045 through 173-201-085 hereof:

(1) At the boundary between waters of different classifications, the water quality criteria for the higher classification shall prevail.

(2) In brackish waters of estuaries, where the fresh and marine water quality criteria differ within the same classification, the criteria shall be interpolated on the basis of salinity; except that the marine water quality criteria shall apply for dissolved oxygen when the salinity is one part per thousand or greater and for fecal coliform organisms when the salinity is ten parts per thousand or greater.

(3) The water quality criteria herein established shall not apply within an authorized dilution zone adjacent to or surrounding a waste-water discharge.

(4) Generally, waste discharge permits, whether issued pursuant to the National Pollutant Discharge Elimination System or otherwise, shall be conditioned in such manner as to authorize discharges which meet the water quality standards.

(a) However, persons discharging wastes in compliance with the terms and conditions of permits shall not be subject to civil and criminal penalties on the basis that discharge violates water quality standards.

(b) Permits shall be subject to modification by the department whenever it appears to the department the discharge violates water quality standards. Modification of permits, as provided herein, shall be subject to review in the same manner as originally issued permits.

(5) Nonpoint sources and water quality standards.

(a) It is recognized that many activities not subject to a waste discharge permit system are now being performed in the state, which result in conflicts with the

water quality standards of this chapter. Further, the department has not developed a program which, in a reasonable or fully satisfactory manner, provides methods or means for meeting such standards. Persons conducting such activities shall not be subject to civil or criminal sanctions for violation of water quality standards if the activities are either:

(i) Conducted in accordance with management practices set forth by rules of the department.

For example, promulgation of regulations by the department which set forth approved management practices or other effluent limits shall be accomplished so that activities conducted within such regulations, (i.e., Forest Practices Rules and Regulations chapter 173-202 WAC and Title 222 WAC) will achieve compliance with water pollution control laws. When the regulations are violated, the water quality standard can be enforced as described in WAC 173-201-045 through 173-201-085; or,

(ii) Subject to a regulatory order issued by the department relating to specific activities as provided for in WAC 173-201-100(2).

(b) Management practices or regulatory orders described in WAC 173-201-035(5) hereof, shall be subject to modification by the department whenever it appears to the department that the discharge violates water quality standards. Modification of management practices or regulatory orders, as provided herein, shall be subject to review in the same manner as the originally issued management practices or regulatory orders.

(6) The water quality criteria herein established for total dissolved gas shall not apply when the stream flow exceeds the 7-day, 10-year frequency flood.

(7) The total area and/or volume of a receiving water assigned to a dilution zone shall be as described in a valid discharge permit as needed and be limited to that which will:

(a) Not cause acute mortalities of sport, food, or commercial fish and shellfish species of established biological communities within populations or important species to a degree which damages the ecosystem.

(b) Not diminish aesthetic values or other beneficial uses disproportionately.

(8) The antidegradation policy of the state of Washington, as generally guided by chapter 90.48 RCW, Water Pollution Control Act, and chapter 90.54 RCW, Water Resources Act of 1971, is stated as follows:

(a) Existing beneficial uses shall be maintained and protected and no further degradation which would interfere with or become injurious to existing beneficial uses will be allowed.

(b) No degradation will be allowed of waters lying in national parks, national recreation areas, national wildlife refuges, national scenic rivers, and other areas of national ecological importance.

(c) Whenever waters are of a higher quality than the criteria assigned for said waters, the existing water quality shall be protected and waste and other materials and substances shall not be allowed to enter such waters which will reduce the existing quality thereof, except, in those instances where:

(i) It is clear that overriding considerations of the public interest will be served, and

(ii) All wastes and other materials and substances proposed for discharge into the said waters shall be provided with all known, available, and reasonable methods of treatment before discharge.

(d) Whenever the natural conditions of said waters are of a lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria.

(e) The criteria and special conditions established in WAC 173-201-045 through 173-201-085 may be modified for a specific water body on a short-term basis when necessary to accommodate essential activities, respond to emergencies, or to otherwise protect the public interest. Such modification shall be issued in writing by the director or his designee subject to such terms and conditions as he may prescribe. The aquatic application of herbicides which result in water use restrictions shall be considered an activity for which a short-term modification generally may be issued subject to the following conditions:

(i) A request for a short-term modification shall be made to the department on forms supplied by the department. Such request generally shall be made at least thirty days prior to herbicide application.

(ii) Such herbicide application shall be in accordance with state of Washington department of agriculture regulations.

(iii) Such herbicide application shall be in accordance with label provisions promulgated by USEPA under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended. (7 U.S.C. 136, et seq.)

(iv) Notice, including identification of the herbicide, applicator, location where the herbicide will be applied, proposed timing and method of application, and water use restrictions shall be given according to the following requirements:

(A) Appropriate public notice as determined and prescribed by the director or his designee shall be given of any water use restrictions specified in USEPA label provisions.

(B) The appropriate regional offices of the departments of fisheries and game shall be notified twenty-four hours prior to herbicide application.

(C) In the event of any fish kills, the departments of ecology, fisheries, and game shall be notified immediately.

(v) The herbicide application shall be made at times so as to:

(A) Minimize public water use restrictions during weekends.

(B) Completely avoid public water use restrictions during the opening week of fishing season, Memorial Day weekend, July 4 weekend, and Labor Day weekend.

(vi) Any additional conditions as may be prescribed by the director or his designee.

(f) In no case, will any degradation of water quality be allowed if this degradation interferes with or becomes injurious to existing water uses and causes long-term and irreparable harm to the environment.

(g) No waste discharge permit will be issued which violates established water quality criteria, except, as provided for under WAC 173-201-035(8)(e).

(9) Due consideration will be given to the precision and accuracy of the sampling and analytical methods used as well as existing conditions at the time, in the application of the criteria.

(10) The analytical testing methods for these criteria shall be in accordance with the most recent editions of "Standard Methods for the Examination of Water and Wastewater," published by the American Public Health Association, American Water Works Association, and the Water Pollution Control Federation, and "Methods for Chemical Analysis of Water and Wastes," published by USEPA, and other or superseding methods published and/or approved by the department following consultation with adjacent states and concurrence of the USEPA.

(11) Deleterious concentrations of radioactive materials for all classes shall be as determined by the lowest practicable concentration attainable and in no case shall exceed:

(a) 1/100 of the values listed in WAC 402-24-220 (Column 2, Table II, Appendix A, Rules and Regulations for Radiation Protection); or,

(b) USEPA Drinking Water Regulations for radionuclides, as published in the Federal Register of July 9, 1976, or subsequent revisions thereto.

(12) Deleterious concentrations of toxic, or other non-radioactive materials, shall be determined by the department in consideration of the Quality Criteria for Water, published by USEPA 1976, and as revised, as the authoritative source for criteria and/or other relevant information, if justified.

(13) Nothing in this chapter shall be interpreted to be applicable to those aspects of governmental regulation of radioactive wastes which have been preempted from state regulation by the Atomic Energy Act of 1954, as amended, as interpreted by the United States Supreme Court in the cases of Northern States Power Co. v. Minnesota 405 U.S. 1035 (1972) and Train v. Colorado Public Interest Research Group 426 U.S. 1 (1976).

(14) Nothing in this chapter shall be interpreted to prohibit the establishment of effluent limitations for the control of the thermal component of any discharge in accordance with Section 316 of the Federal Clean Water Act (P.L. 95-217 as amended). [Statutory Authority: RCW 90.48.035. 82-12-078 (Order DE 82-12), § 173-201-035, filed 6/2/82; 78-02-043 (Order DE 77-32), § 173-201-035, filed 1/17/78.]

**WAC 173-201-045 General water use and criteria classes.** The following criteria shall apply to the various classes of surface waters in the state of Washington:

(1) CLASS AA (EXTRAORDINARY).

(a) General characteristic. Water quality of this class shall markedly and uniformly exceed the requirements for all or substantially all uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

(i) Water supply (domestic, industrial, agricultural).

- (ii) Stock watering.
- (iii) Fish and shellfish:  
Salmonid migration, rearing, spawning, and harvesting.  
Other fish migration, rearing, spawning, and harvesting.  
Clam, oyster, and mussel rearing, spawning, and harvesting.  
Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing, spawning, and harvesting.
- (iv) Wildlife habitat.
- (v) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment).
- (vi) Commerce and navigation.
- (c) Water quality criteria.
- (i) Fecal coliform organisms.  
(A) Freshwater – Fecal coliform organisms shall not exceed a geometric mean value of 50 organisms/100 mL, with not more than 10 percent of samples exceeding 100 organisms/100 mL.  
(B) Marine water – Fecal coliform organisms shall not exceed a geometric mean value of 14 organisms/100 mL, with not more than 10 percent of samples exceeding 43 organisms/100 mL.
- (ii) Dissolved oxygen.  
(A) Freshwater – Dissolved oxygen shall exceed 9.5 mg/L.  
(B) Marine water – Dissolved oxygen shall exceed 7.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 7.0 mg/L, natural dissolved oxygen levels can be degraded by up to 0.2 mg/L by man-caused activities.
- (iii) Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.
- (iv) Temperature shall not exceed 16.0° C (freshwater) or 13.0° C (marine water) due to human activities. Temperature increases shall not, at any time, exceed  $t=23/(T+5)$  (freshwater) or  $t=8/(T-4)$  (marine water). When natural conditions exceed 16.0° C (freshwater) and 13.0° C (marine water), no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3° C.  
For purposes hereof, "t" represents the permissive temperature change across the dilution zone; and "T" represents the highest existing temperature in this water classification outside of any dilution zone.  
Provided that temperature increase resulting from nonpoint source activities shall not exceed 2.8° C, and the maximum water temperature shall not exceed 16.3° C (freshwater).
- (v) pH shall be within the range of 6.5 to 8.5 (freshwater) or 7.0 to 8.5 (marine water) with a man-caused variation within a range of less than 0.2 units.
- (vi) Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.
- (vii) Toxic, radioactive, or deleterious material concentrations shall be less than those which affect public health, the natural aquatic environment, or the desirability of the water for any use.
- (viii) Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.
- (2) CLASS A (EXCELLENT).  
(a) General characteristic. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.  
(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:  
(i) Water supply (domestic, industrial, agricultural).  
(ii) Stock watering.  
(iii) Fish and shellfish:  
Salmonid migration, rearing, spawning, and harvesting.  
Other fish migration, rearing, spawning, and harvesting.  
Clam, oyster, and mussel rearing, spawning, and harvesting.  
Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing, spawning, and harvesting.
- (iv) Wildlife habitat.  
(v) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment).  
(vi) Commerce and navigation.  
(c) Water quality criteria.  
(i) Fecal coliform organisms.  
(A) Freshwater – Fecal coliform organisms shall not exceed a geometric mean value of 100 organisms/100 mL, with not more than 10 percent of samples exceeding 200 organisms/100 mL.  
(B) Marine water – Fecal coliform organisms shall not exceed a geometric mean value of 14 organisms/100 mL, with not more than 10 percent of samples exceeding 43 organisms/100 mL.
- (ii) Dissolved oxygen.  
(A) Freshwater – Dissolved oxygen shall exceed 8.0 mg/L.  
(B) Marine water – Dissolved oxygen shall exceed 6.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 6.0 mg/L, natural dissolved oxygen levels can be degraded by up to 0.2 mg/L by man-caused activities.
- (iii) Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.
- (iv) Temperature shall not exceed 18.0° C (freshwater) or 16.0° C (marine water) due to human activities. Temperature increases shall not, at any time, exceed  $t=28/(T+7)$  (freshwater) or  $t=12/(T-2)$  (marine water). When natural conditions exceed 18.0° C (freshwater) and 16.0° C (marine water), no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3° C.  
For purposes hereof, "t" represents the permissive temperature change across the dilution zone; and "T" represents the highest existing temperature in this water classification outside of any dilution zone.

Provided that temperature increase resulting from nonpoint source activities shall not exceed 2.8° C, and the maximum water temperature shall not exceed 18.3° C (freshwater).

(v) pH shall be within the range of 6.5 to 8.5 (freshwater) or 7.0 to 8.5 (marine water) with a man-caused variation within a range of less than 0.5 units.

(vi) Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vii) Toxic, radioactive, or deleterious material concentrations shall be below those of public health significance, or which may cause acute or chronic toxic conditions to the aquatic biota, or which may adversely affect any water use.

(viii) Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.

(3) CLASS B (GOOD).

(a) General characteristic. Water quality of this class shall meet or exceed the requirements for most uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

(i) Water supply (industrial and agricultural).

(ii) Stock watering.

(iii) Fish and shellfish:

Salmonid migration, rearing, and harvesting.

Other fish migration, rearing, spawning, and harvesting.

Clam, oyster, and mussel rearing and spawning.

Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing, spawning, and harvesting.

(iv) Wildlife habitat.

(v) Recreation (secondary contact recreation, sport fishing, boating, and aesthetic enjoyment).

(vi) Commerce and navigation.

(c) Water quality criteria.

(i) Fecal coliform organisms.

(A) Freshwater – Fecal coliform organisms shall not exceed a geometric mean value of 200 organisms/100 mL, with not more than 10 percent of samples exceeding 400 organisms/100 mL.

(B) Marine water – Fecal coliform organisms shall not exceed a geometric mean value of 100 organisms/100 mL, with not more than 10 percent of samples exceeding 200 organisms/100 mL.

(ii) Dissolved oxygen.

(A) Freshwater - Dissolved oxygen shall exceed 6.5 mg/L.

(B) Marine water - Dissolved oxygen shall exceed 5.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 5.0 mg/L, natural dissolved oxygen levels can be degraded by up to 0.2 mg/L by man-caused activities.

(iii) Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.

(iv) Temperature shall not exceed 21.0° C (freshwater) or 19.0° C (marine water) due to human activities.

Temperature increases shall not, at any time, exceed  $t=34/(T+9)$  (freshwater) or  $t=16/T$  (marine water).

When natural conditions exceed 21.0° C (freshwater) and 19.0° C (marine water), no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3° C.

For purposes hereof, "t" represents the permissive temperature change across the dilution zone; and "T" represents the highest existing temperature in this water classification outside of any dilution zone.

Provided that temperature increase resulting from nonpoint source activities shall not exceed 2.8° C, and the maximum water temperature shall not exceed 21.3° C (freshwater).

(v) pH shall be within the range of 6.5 to 8.5 (freshwater) and 7.0 to 8.5 (marine water) with a man-caused variation within a range of less than 0.5 units.

(vi) Turbidity shall not exceed 10 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 20 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vii) Toxic, radioactive, or deleterious material concentrations shall be below those which adversely affect public health during characteristic uses, or which may cause acute or chronic toxic conditions to the aquatic biota, or which may adversely affect characteristic water uses.

(viii) Aesthetic values shall not be reduced by dissolved, suspended, floating, or submerged matter not attributed to natural causes, so as to affect water use or taint the flesh of edible species.

(4) CLASS C (FAIR).

(a) General characteristic. Water quality of this class shall meet or exceed the requirements of selected and essential uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

(i) Water supply (industrial).

(ii) Fish (salmonid and other fish migration).

(iii) Recreation (secondary contact recreation, sport fishing, boating, and aesthetic enjoyment).

(iv) Commerce and navigation.

(c) Water quality criteria – marine water.

(i) Fecal coliform organisms shall not exceed a geometric mean value of 200 organisms/100 mL, with not more than 10 percent of samples exceeding 400 organisms/100 mL.

(ii) Dissolved oxygen shall exceed 4.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 4.0 mg/L, natural dissolved oxygen levels can be degraded by up to 0.2 mg/L by man-caused activities.

(iii) Temperature shall not exceed 22.0° C due to human activities. Temperature increases shall not, at any time, exceed  $t=20/(T+2)$ .

When natural conditions exceed 22.0° C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3° C.

For purposes hereof, "t" represents the permissive temperature change across the dilution zone; and "T" represents the highest existing temperature in this water classification outside of any dilution zone.

represents the highest existing temperature in this water classification outside of any dilution zone.

(iv) pH shall be within the range of 6.5 to 9.0 with a man-caused variation within a range of less than 0.5 units.

(v) Turbidity shall not exceed 10 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 20 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vi) Toxic, radioactive, or deleterious material concentrations shall be below those which adversely affect public health during characteristic uses, or which may cause acute or chronic toxic conditions to the aquatic biota, or which may adversely affect characteristic water uses.

(vii) Aesthetic values shall not be interfered with by the presence of obnoxious wastes, slimes, aquatic growths, or materials which will taint the flesh of edible species.

#### (5) LAKE CLASS.

(a) General characteristic. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

(i) Water supply (domestic, industrial, agricultural).

(ii) Stock watering.

(iii) Fish and shellfish:

Salmonid migration, rearing, spawning, and harvesting.

Other fish migration, rearing, spawning, and harvesting.

Clam and mussel rearing, spawning, and harvesting.

Crayfish rearing, spawning, and harvesting.

(iv) Wildlife habitat.

(v) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment).

(vi) Commerce and navigation.

(c) Water quality criteria.

(i) Fecal coliform organisms shall not exceed a geometric mean value of 50 organisms/100 mL, with not more than 10 percent of samples exceeding 100 organisms/100 mL.

(ii) Dissolved oxygen – no measurable decrease from natural conditions.

(iii) Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.

(iv) Temperature – no measurable change from natural conditions.

(v) pH no measurable change from natural conditions.

(vi) Turbidity shall not exceed 5 NTU over background conditions.

(vii) Toxic, radioactive, or deleterious material concentrations shall be less than those which may affect public health, the natural aquatic environment, or the desirability of the water for any use.

(viii) Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste. [Statutory Authority: RCW 90.48.035.

82-12-078 (Order DE 82-12), § 173-201-045, filed 6/2/82; 78-02-043 (Order DE 77-32), § 173-201-045, filed 1/17/78.]

**WAC 173-201-070 General classifications.** General classifications applying to various surface water bodies not specifically classified under WAC 173-201-080 or 173-201-085 are as follows:

(1) All surface waters lying within the mountainous regions of the state assigned to national parks, national forests, and/or wilderness areas, are classified Class AA or Lake Class.

(2) All lakes and their feeder streams within the state are classified Lake Class and Class AA respectively, except for those feeder streams specifically classified otherwise.

(3) All reservoirs with a mean detention time of greater than 15 days are classified Lake Class.

(4) All reservoirs with a mean detention time of 15 days or less are classified the same as the river section in which they are located.

(5) All reservoirs established on preexisting lakes are classified as Lake Class.

(6) All unclassified surface waters that are tributaries to Class AA waters are classified Class AA. All other unclassified surface waters within the state are hereby classified Class A. [Statutory Authority: RCW 90.48-.035. 82-12-078 (Order DE 82-12), § 173-201-070, filed 6/2/82; 78-02-043 (Order DE 77-32), § 173-201-070, filed 1/17/78; Order 73-4, § 173-201-070, filed 7/6/73.]

**WAC 173-201-080 Specific classifications-- Freshwater.** Specific fresh surface waters of the state of Washington are classified as follows:

(1) American River.	Class AA
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(2) Big Quilcene River and tributaries.	Class AA
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(3) Bumping River.	Class AA
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(4) Burnt Bridge Creek.	Class A
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(5) Cedar River from Lake Washington to Landsburg Dam (river mile 21.6).	
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(6) Cedar River and tributaries from Landsburg Dam (river mile 21.6) to headwaters. Special condition – no waste discharge will be permitted.	
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(7) Chehalis River from upper boundary of Grays Harbor at Cosmopolis (river mile 3.1, longitude 123°45'45" W) to Scammon Creek (river mile 65.8).	Class AA
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(8) Chehalis River from Scammon Creek (river mile 65.8) to Newaukum River (river mile 75.2). Special condition – Dissolved oxygen shall exceed 5.0 mg/L from June 1, to September 15. For the remainder of the year, the dissolved oxygen shall meet Class A criteria.	Class A
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(9) Chehalis River from Newaukum River (river mile 75.2) to Rock Creek (river mile 106.7).	Class A
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(10) Chehalis River, from Rock Creek (river mile 106.7) to headwaters.	Class AA	(35) Dungeness River and tributaries from Canyon Creek (river mile 10.8) to headwaters.	Class AA
(11) Chehalis River, south fork.	Class A	(36) Duwamish River from mouth south of a line bearing 254° true from the NW corner of berth 3, terminal No. 37 to the Black River (river mile 11.0) (Duwamish River continues as the Green River above the Black River).	Class AA
(12) Chewack River.	Class AA	(37) Elochoman River.	Class B
(13) Chiwawa River.	Class AA	(38) Elwha River and tributaries.	Class A
(14) Cispus River.	Class AA	(39) Entiat River from Wenatchee National Forest boundary (river mile 20.5) to headwaters.	Class AA
(15) Clearwater River.	Class A	(40) Grande Ronde River from mouth to Oregon border (river mile 37). Special condition – Temperature shall not exceed 20.0° C due to human activities. When natural conditions exceed 20.0° C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3° C; nor shall such temperature increases, at any time, exceed 0.3° C due to any single source or 1.1° C due to all such activities combined. Dissolved oxygen shall exceed 90 percent of saturation.	Class AA
(16) Cle Elum River.	Class AA	(41) Grays River from Grays River Falls (river mile 15.8) to headwaters.	Class A
(17) Cloquallum Creek.	Class A	(42) Green River (Cowlitz County).	Class AA
(18) Clover Creek from outlet of Lake Spanaway to inlet of Lake Steilacoom.	Class A	(43) Green River (King County) from Black River (river mile 11.0 and point where Duwamish River continues as the Green River) to west boundary of Sec. 27-T21N-R6E (west boundary of Flaming Geyser State Park at river mile 42.3).	Class AA
(19) Columbia River from mouth to the Washington–Oregon border (river mile 309.3). Special conditions – Temperature shall not exceed 20.0° C due to human activities. When natural conditions exceed 20.0° C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3° C; nor shall such temperature increases, at any time, exceed 0.3° C due to any single source or 1.1° C due to all such activities combined. Dissolved oxygen shall exceed 90 percent of saturation.	Class A	(44) Green River (King County) from west boundary of Sec. 27-T21N-R6E (west boundary of Flaming Geyser State Park, river mile 42.3) to west boundary of Sec. 13-T21N-R7E (river mile 59.1).	Class AA
(20) Columbia River from Washington–Oregon border (river mile 309.3) to Grand Coulee Dam (river mile 596.6). Special condition from Washington–Oregon border (river mile 309.3) to Priest Rapids Dam (river mile 397.1). Temperature shall not exceed 20.0° C due to human activities. When natural conditions exceed 20.0° C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3° C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$ .	Class A	(45) Green River and tributaries (King County) from west boundary of Sec. 13-T21N-R7E (river mile 59.1) to headwaters. Special condition – No waste discharge will be permitted.	Class A
(21) Columbia River from Grand Coulee Dam (river mile 596.6) to Canadian border (river mile 745.0).	Class AA	(46) Hamma Hamma River and tributaries.	Class AA
(22) Colville River.	Class A	(47) Hanaford Creek from mouth to east boundary of Sec. 25-T15N-R2W (river mile 4.1). Special condition – Dissolved oxygen shall exceed 6.5 mg/L.	Class AA
(23) Coweeman River from mouth to Mulholland Creek (river mile 18.4).	Class A	(48) Hanaford Creek from east boundary of Sec. 25-T15N-R2W (river mile 4.1) to headwaters.	Class A
(24) Coweeman River from Mulholland Creek (river mile 18.4) to headwaters.	Class AA	(49) Hoh River and tributaries.	Class A
(25) Cowlitz River from mouth to base of Riffe Lake Dam (river mile 52.0).	Class A	(50) Hoquiam River (continues as west fork above east fork) from mouth to river mile 9.3 (Dekay Road bridge) (upper limit of tidal influence).	Class AA
(26) Cowlitz River from base of Riffe Lake Dam (river mile 52.0) to headwaters.	Class AA	(51) Humptulips River and tributaries from mouth to Olympic National Forest boundary on east fork (river mile 12.8) and west fork (river mile 40.4) (main stem continues as west fork).	Class B
(27) Crab Creek and tributaries.	Class B		
(28) Decker Creek.	Class AA		
(29) Deschutes River from mouth to boundary of Snoqualmie National Forest (river mile 48.2).	Class A		
(30) Deschutes River from boundary of Snoqualmie National Forest (river mile 48.2) to headwaters.	Class AA		
(31) Dickey River.	Class A		
(32) Dosewallips River and tributaries.	Class AA		
(33) Duckabush River and tributaries.	Class AA		
(34) Dungeness River from mouth to Canyon Creek (river mile 10.8).	Class A		Class A

(52) Humptulips River, east fork from Olympic National Forest boundary (river mile 12.8) to headwaters.

(53) Humptulips River, west fork from Olympic National Forest boundary (river mile 40.4) to headwaters.

(54) Issaquah Creek.

(55) Kalama River from lower Kalama River Falls (river mile 10.4) to headwaters.

(56) Klickitat River from Little Klickitat River (river mile 19.8) to headwaters.

(57) Lake Washington Ship Canal from Government Locks (river mile 1.0) to Lake Washington (river mile 8.6). Special condition – Salinity shall not exceed one part per thousand (1.0 ppt) at any point or depth along a line that transects the ship canal at the University Bridge (river mile 6.1).

(58) Lewis River, east fork, from Multon Falls (river mile 24.6) to headwaters.

(59) Little Wenatchee River.

(60) Methow River from mouth to Chewack River (river mile 50.1).

(61) Methow River from Chewack River (river mile 50.1) to headwaters.

(62) Mill Creek from mouth to 13th street bridge in Walla Walla (river mile 6.4). Special condition – Dissolved oxygen concentration shall exceed 5.0 mg/L.

(63) Mill Creek from 13th Street bridge in Walla Walla (river mile 6.4) to Walla Walla waterworks dam (river mile 25.2).

(64) Mill creek and tributaries from city of Walla Walla waterworks dam (river mile 25.2) to headwaters. Special condition – No waste discharge will be permitted.

(65) Naches River from Snoqualmie National Forest boundary (river mile 35.7) to headwaters.

(66) Naselle River from Naselle "Falls" (cascade at river mile 18.6) to headwaters.

(67) Newaukum River.

(68) Nisqually River from mouth to Alder Dam (river mile 44.2).

(69) Nisqually River from Alder Dam (river mile 44.2) to headwaters.

(70) Nooksack River from mouth to Maple Creek (river mile 49.7).

(71) Nooksack River from Maple Creek (river mile 49.7) to headwaters.

(72) Nooksack River, south fork, from mouth to Skookum Creek (river mile 14.3).

(73) Nooksack River, south fork, from Skookum Creek (river mile 14.3) to headwaters.

(74) Nooksack River, middle fork.

(75) Okanogan River.

(76) Palouse River from mouth to south fork (Colfax, river mile 89.6).

(77) Palouse River from south fork (Colfax, river mile 89.6) to Idaho border

(river mile 123.4). Special condition – Temperature shall not exceed 20.0° C due to human activities. When natural conditions exceed 20.0° C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3° C; nor shall such temperature increases, at any time, exceed  $t=34/(T+9)$ .

(78) Pend Oreille River from Canadian border (river mile 16.0) to Idaho border (river mile 87.7). Special condition – Temperature shall not exceed 20.0° C due to human activities. When natural conditions exceed 20.0° C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3° C; nor shall such temperature increases, at any time, exceed  $t=34/(T+9)$ .

(79) Pilchuck River from city of Snohomish waterworks dam (river mile 26.8) to headwaters.

(80) Puyallup River from mouth to river mile 1.0.

(81) Puyallup River from river mile 1.0 to Kings Creek (river mile 31.6).

(82) Puyallup River from Kings Creek (river mile 31.6) to headwaters.

(83) Queets River and tributaries.

(84) Quillayute River.

(85) Quinault River and tributaries.

(86) Salmon Creek (Clark County).

(87) Satsop River from mouth to west fork (river mile 6.4).

(88) Satsop River, east fork.

(89) Satsop River, middle fork.

(90) Satsop River, west fork.

(91) Skagit River from mouth to Skiyou Slough-lower end (river mile 25.6).

(92) Skagit River and tributaries (includes Baker, Suak, Suiattle, and Cascade Rivers) from Skiyou Slough-lower end, (river mile 25.6) to Canadian border (river mile 127.0).

(93) Skokomish River and tributaries.

(94) Skookumchuck River from Bloody Run Creek (river mile 21.4) to headwaters.

(95) Skykomish River from mouth to May Creek (above Gold Bar at river mile 41.2).

(96) Skykomish River from May Creek (above Gold Bar at river mile 41.2) to headwaters.

(97) Snake River from mouth to Washington–Idaho–Oregon border (river mile 176.1). Special condition

(a) Below Clearwater River (river mile 139.3). Temperature shall not exceed 20.0° C due to human activities. When natural conditions exceed 20.0° C, no temperature increase will be allowed which will raise the receiving water temperature by greater than

$0.3^{\circ}$  C; nor shall such temperature increases, at any time, exceed  $t=34/(T+9)$ .

(b) Above Clearwater River (river mile 139.3). Temperature shall not exceed  $20.0^{\circ}$  C due to human activities. When natural conditions exceed  $20.0^{\circ}$  C, no temperature increase will be allowed which will raise the receiving water temperature by greater than  $0.3^{\circ}$  C; nor shall such temperature increases, at any time, exceed  $0.3^{\circ}$  C due to any single source or  $1.1^{\circ}$  C due to all such activities combined.

(98) Snohomish River from mouth and east of longitude  $122^{\circ}13'40''W$  upstream to latitude  $47^{\circ}56'30''N$  (southern tip of Ebey Island river mile 8.1). Special condition: Fecal coliform organisms shall not exceed a geometric mean value of 200, organisms/100 mL. with not more than 10 percent of samples exceeding 400 organisms/100 mL.

(99) Snohomish River upstream from latitude  $47^{\circ}56'30''N$  (southern tip of Ebey Island river mile 8.1) to confluence with Skykomish and Snoqualmie River (river mile 20.5).

(100) Snoqualmie River and tributaries from mouth to west boundary of Twin Falls State Park on south fork (river mile 9.1).

(101) Snoqualmie River, middle fork.

(102) Snoqualmie River, north fork.

(103) Snoqualmie River, south fork, from west boundary of Twin Falls State Park (river mile 9.1) to headwaters.

(104) Soleduck River and tributaries.

(105) Spokane River from mouth to Idaho border (river mile 96.5). Special condition – Temperature shall not exceed  $20.0^{\circ}$  C due to human activities. When natural conditions exceed  $20.0^{\circ}$  C, no temperature increase will be allowed which will raise the receiving water temperature by greater than  $0.3^{\circ}$  C; nor shall such temperature increases, at any time, exceed  $t=34/(T+9)$ .

(106) Stehekin River.

(107) Stillaguamish River from mouth to north and south forks (river mile 17.8).

(108) Stillaguamish River, north fork, from mouth to Squire Creek (river mile 31.2).

(109) Stillaguamish River, north fork, from Squire Creek (river mile 31.2) to headwaters.

(110) Stillaguamish River, south fork, from mouth to Canyon Creek (river mile 33.7).

(111) Stillaguamish River, south fork, from Canyon Creek (river mile 33.7) to the headwaters.

(112) Sulphur Creek.

(113) Sultan River from mouth to Chaplain Creek (river mile 5.9).

(114) Sultan River and tributaries from Chaplain Creek (river mile 5.9) to headwaters. Special condition – No waste discharge will be permitted above city of Everett diversion dam (river mile 9.4).

(115) Sumas River from Canadian border (river mile 12) to headwaters (river mile 23).

(116) Tieton River.

(117) Tolt River, south fork and tributaries from mouth to west boundary of Sec. 31-T26N-R9E (river mile 6.9).

(118) Tolt River, south fork from west boundary of Sec. 31-T26N-R9E (river mile 6.9) to headwaters. Special condition – No waste discharge will be permitted.

(119) Touchet River, north fork from Dayton water intake structure (river mile 3.0) to headwaters.

(120) Toutle River, north fork, from Green River to headwaters.

(121) Toutle River, south fork.

(122) Tucannon River from Umatilla National Forest boundary (river mile 38.1) to headwaters.

(123) Twisp River.

(124) Union River and tributaries from Bremerton waterworks dam (river mile 6.9) to headwaters. Special condition – No waste discharge will be permitted.

(125) Walla Walla River from mouth to Lowden (Dry Creek at river mile 27.2).

(126) Walla Walla River from Lowden (Dry Creek at river mile 27.2) to Oregon border (river mile 40). Special condition – Temperature shall not exceed  $20.0^{\circ}$  C due to human activities. When natural conditions exceed  $20.0^{\circ}$  C, no temperature increase will be allowed which will raise the receiving water temperature by greater than  $0.3^{\circ}$  C; nor shall such temperature increases, at any time, exceed  $t=34/(T+9)$ .

(127) Wenatchee River from Wenatchee National Forest boundary (river mile 27.1) to headwaters.

(128) White River (Pierce-King Counties) from Mud Mountain Dam (river mile 29.6) to headwaters.

(129) White River (Chelan County).

(130) Wildcat Creek.

(131) Willapa River upstream of a line bearing  $70^{\circ}$  true through Mailboat Slough light (river mile 1.8).

(132) Wishkah River from mouth to river mile 6 (SW 1/4 SW 1/4 NE 1/4 Sec. 21-T18N-R9W).

(133) Wishkah River from river mile 6 (SW 1/4 SW 1/4 NE 1/4 Sec. 21-T18N-R9W) to west fork (river mile 17.7).

(134) Wishkah River from west fork of Wishkah River (river mile 17.7) to south

Class AA

Class A  
Class AA

Class AA

Class AA

Class AA  
Class AA

Class AA  
Class AA

Class AA

Class B

Class A

Class AA

Class AA  
Class AA  
Class A

Class A

Class B

Class A

**Water Quality Standards**

boundary of Sec. 33-T21N-R8W (river mile 32.0).

(135) Wishkah River and tributaries from south boundary of Sec. 33-T21N-R8W (river mile 32.0) to headwaters. Special condition - No waste discharge will be permitted.

(136) Wynoochee River from mouth to Olympic National Forest boundary (river mile 45.9)

(137) Wynoochee River from Olympic National Forest boundary (river mile 45.9) to headwaters.

(138) Yakima River from mouth to Sunnyside Dam (river mile 103.8).

(139) Yakima River from Sunnyside Dam (river mile 103.8) to Cle Elum River (river mile 185.6). Special condition - Temperature shall not exceed 21.0° C due to human activities. When natural conditions exceed 21.0° C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3° C; nor shall such temperature increases, at any time, exceed  $t=34/(T+9)$ .

(140) Yakima River from Cle Elum River (river mile 185.6) to headwaters.

[Statutory Authority: RCW 90.48.035. 82-12-078 (Order DE 82-12), § 173-201-080, filed 6/2/82; 78-02-043 (Order DE 77-32), § 173-201-080, filed 1/17/78; Order DE 73-22, § 173-201-080, filed 11/16/73; Order 73-4, § 173-201-080, filed 7/6/73.]

**WAC 173-201-085 Specific classifications—Marine water.** Specific marine surface waters of the state of Washington are classified as follows:

(1) Budd Inlet south of latitude 47°04'N (south of Priest Point Park).

(2) Coastal waters: Pacific Ocean from Ilwaco to Cape Flattery.

(3) Commencement Bay south and east of a line bearing 258° true from "Brown's point" and north and west of line bearing 225° true through the Hylebos waterway light.

(4) Commencement Bay, inner, south and east of a line bearing 225° true through Hylebos Waterway light except the city waterway south and east of south 11th Street.

(5) Commencement Bay, city waterway south and east of south 11th Street.

(6) Drayton Harbor, south of entrance.

(7) Dyes and Sinclair Inlets west of longitude 122°37'W.

(8) Elliott Bay east of a line between Pier 91 and Duwamish head.

(9) Everett Harbor, inner, north and east of a line bearing 121° true from light "4" (Snohomish River mouth).

(10) Grays Harbor west of longitude 123°59'W.

Class AA	(11) Grays Harbor east of longitude 123°59'W to longitude 123°45'45"W (Cosmopolis Chehalis River, river mile 3.1). Special condition - Dissolved oxygen shall exceed 5.0 mg/L.	Class B
Class AA	(12) Guemes Channel, Padilla, Samish and Bellingham Bays east of longitude 122°39'W and north of latitude 48°27'20"N.	Class A
Class A	(13) Hood Canal.	Class AA
Class AA	(14) Mukilteo and all North Puget Sound west of longitude 122°39' W (Whidbey, Fidalgo, Guemes and Lummi Islands and state highway 20 bridge at Deception Pass), except as otherwise noted.	Class B
Class B	(15) Oakland Bay west of longitude 123°05'W (inner Shelton harbor).	Class A
	(16) Port Angeles south and west of a line bearing 152° true from buoy "2" at the tip of Ediz Hook.	Class A
	(17) Port Gamble south of latitude 47°51'20"N.	Class A
	(18) Port Townsend west of a line between Point Hudson and Kala point.	Class A
	(19) Possession Sound, south of latitude 47°57'N.	Class AA
Class A	(20) Possession Sound, Port Susan, Saratoga Passage, and Skagit Bay east of Whidbey Island and state highway 20 bridge at Deception Pass between latitude 47°57'N (Mukilteo) and latitude 48°27'20"N (Similk Bay), except as otherwise noted.	Class A
Class AA	(21) Puget Sound through Admiralty Inlet and South Puget Sound, south and west to longitude 122°52'30"W (Brisco Point) and longitude 122°51'W (northern tip of Hartstene Island).	Class AA
Class B	(22) Sequim Bay southward of entrance.	Class AA
Class AA	(23) South Puget Sound west of longitude 122°52'30"W (Brisco Point) and longitude 122°51'W (northern tip of Hartstene Island), except as otherwise noted.	Class A
Class A	(24) Strait of Juan de Fuca.	Class AA
Class B	(25) Willapa Bay seaward of a line bearing 70° true through Mailboat Slough light (Willapa River, river mile 1.8).	Class A
Class C		
Class A		
Class A		
Class A		
Class B		
Class C		
Class A		
Class A		
Class B		
Class A		

**WAC 173-201-090 Achievement considerations.** To fully achieve and maintain the foregoing water quality in the state of Washington, it is the intent of the department to apply the various implementation and enforcement authorities at its disposal, including participation in the programs of the Federal Clean Water Act (P.L. 95-217) as appropriate. It is also the intent that cognizance will be taken of the need for participation in cooperative programs with other state agencies and private

groups with respect to the management of related problems. The department's planned program for water pollution control will be defined and revised annually in accordance with section 106 of said federal act. Further, it shall be required that all activities which discharge wastes into waters within the state, or otherwise adversely affect the quality of said waters, be in compliance with the waste treatment and discharge provisions of state or federal law. [Statutory Authority: RCW 90.48.035. 82-12-078 (Order DE 82-12), § 173-201-090, filed 6/2/82; 78-02-043 (Order DE 77-32), § 173-201-090, filed 1/17/78; Order 73-4, § 173-201-090, filed 7/6/73.]

**WAC 173-201-100 Implementation.** (1) Discharges from municipal, commercial, and industrial operations. The primary means to be used for controlling municipal, commercial, and industrial waste discharges shall be through the issuance of waste disposal permits, as provided for in RCW 90.48.160 and following.

(2) Miscellaneous waste discharge or water quality effect sources. The director shall, through the issuance of regulatory permits, directives, and orders, as are appropriate, control miscellaneous waste discharges and water quality effect sources not covered by WAC 173-201-100(1) hereof. It is noted that, from time to time, certain short-term activities which are deemed necessary to accommodate essential activities or to otherwise protect the public interest may be specially authorized by the director as indicated in WAC 173-201-035(8)(e), under such conditions as the director may prescribe, even though such activities may result in a reduction of water quality conditions below those criteria and classifications established by this regulation. [Statutory Authority: RCW 90.48.035. 78-02-043 (Order DE 77-32), § 173-201-100, filed 1/17/78; Order 73-4, § 173-201-100, filed 7/6/73.]

**WAC 173-201-110 Surveillance.** A continuing surveillance program, to ascertain whether the regulations, waste disposal permits, orders, and directives promulgated and/or issued by the department are being complied with, will be conducted by the department staff as follows:

- (1) Inspecting treatment and control facilities.
- (2) Monitoring and reporting waste discharge characteristics.
- (3) Monitoring receiving water quality. [Statutory Authority: RCW 90.48.035. 78-02-043 (Order DE 77-32), § 173-201-110, filed 1/17/78; Order 73-4, § 173-201-110, filed 7/6/73.]

**WAC 173-201-120 Enforcement.** To insure that the provisions of chapter 90.48 RCW, the standards for water quality promulgated herein, the terms of waste disposal permits, and other orders and directives of the department are fully complied with, the following enforcement tools will be relied upon by the department, in

cooperation with the attorney general as it deems appropriate:

(1) Issuance of notices of violation and regulatory orders as provided for in RCW 90.48.120. Under this section, whenever in the opinion of the department a person is violating or about to violate chapter 90.48 RCW, the department shall notify said person of its determination. Within thirty days said person shall notify the department of the action taken or being taken in response to the department's determination, whereupon the department may issue a regulatory order as it deems appropriate. Whenever the department deems immediate action is necessary to accomplish the purposes of chapter 90.48 RCW, it may issue a regulatory order without first giving notice and thirty days for response.

(2) Initiation of actions requesting injunctive or other appropriate relief in the various courts of the state, as provided for in RCW 90.48.037.

(3) Levying of civil penalties as provided for in RCW 90.48.144. Under this section, the director may levy a civil penalty up to five thousand dollars per day against a person who violates the terms of a waste discharge permit, or who discharges without such a permit when the same is required, or violates the provisions of RCW 90.48.080. If the amount of the penalty, which is subject to mitigation or remission by the department, is not paid within thirty days after receipt of said notice, the attorney general, upon request of the director, shall bring an action in superior court to recover the same.

(4) Initiation of a criminal proceeding by the appropriate county prosecutor, as provided for in RCW 90.48.140.

(5) Issuance of regulatory orders or directives as provided for in RCW 90.48.240. [Statutory Authority: RCW 90.48.035. 82-12-078 (Order DE 82-12), § 173-201-120, filed 6/2/82; 78-02-043 (Order DE 77-32), § 173-201-120, filed 1/17/78; Order 73-4, § 173-201-120, filed 7/6/73.]



## APPENDIX H

The model used to evaluate impacts to the air quality of the Upper Methow Valley is described below. Due to information not being available, several assumptions were made in order to complete the air quality model. These assumptions provide values that are more likely to overestimate concentration levels.

The Upper Methow Valley was divided into area sources shown as boxes (attached map). The length of each box is approximately 5 kilometers, the width is approximately the width of the valley to the 2500 foot contour level (corresponding to a 100 meter inversion height at Mazama). It is assumed that the top of the inversion remains at this elevation throughout the valley. This means that the mixing depth (the height of the top of the box) over Winthrop is 200 meters and 225 meters for Twisp. These depths are consistent with acoustic sounder data (Robinson, 1977) and with photographs and temperature observations (Knott, 1983). Each box contains sources of pollution model accounts for this mixing with a virtual source.

Robinson observed stable conditions at night and mixing conditions during the day. Knott's observations, however, indicate that the stable conditions persist into the day. Stable conditions (less mixing) were assumed for both day and night. Robinson's wind data indicates down canyon winds from 4:00 p.m. through 11:00 a.m. with very slow speeds (.5 meters per second). Up canyon winds were observed from 10:00 a.m. to 4:00 with slightly higher wind speeds (1 meter per second).

The equation used is one for conditions with a strong inversion that limits mixing:

$$X = \frac{Q}{\sqrt{2} \pi \sigma g L U} \text{ "exp" } -\frac{1}{2} (u/\sigma g)$$

where

X = concentration in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) at a specific downwind distance

Q = emission rate of total suspended particulates in grams (g) per second(s)

$\sigma g$  = standard deviation of the wind direction in the horizontal at the specific downwind distance corrected for an area source (m)

L = mixing depth in meters

U = wind speed in meters per second

"exp" = exponential function

y = crosswind distance (500 meters)

The model and assumptions essentially mean the pollutants are trapped below an inversion, are uniformly mixed in a box, and travel approximately 6 boxes down canyon at night and 4 boxes up canyon during the day.

The emission rate is a function of the number of fireplaces and wood stoves in use at any time multiplied by the amount of particulate generated. Studies in several communities have indicated that the use of these devices varies by time of the day and day of the week. (Portland Area Wood Heating Survey - Cummings, 1982 and Medford Area Wood Heating Survey - Oregon Department of Environmental Quality and Oregon Department of Energy, 1982). The emissions used here are based on weekend use and highest factor of wood stove and fireplace use for heating found in the above studies. The emission rate, Q, is determined by:

$$Q = N R T W E F H$$

Where

N = number of housing units

R = ratio of the number of units with wood stoves to the total number (.72)

T = ratio of wood stoves in use at any one time to the total number of wood stoves (.65)

W = amount of wood burned (22 kilograms per hour)

E = emission factor in grams of particulate per kilogram of fuel (20g/kg)

F = conversion from grams to micrograms ( $10^6 \mu\text{g/g}$ )

H = hours to seconds (1hr/3600s)

Tourist accommodations are treated with the same basic formula. It is assumed that only 1 in 5 tourist units will have a fireplace. For use, T = .30 during the day and .40 at night.

Below is an estimate of the number of housing units in each box for each of the alternatives considered. The spatial distribution of housing units by box was estimated using information provided in "Analogous Ski Area Evaluation and Assessment of Offsite Impacts for Early Winters Project," (Okanogan County, 1983).

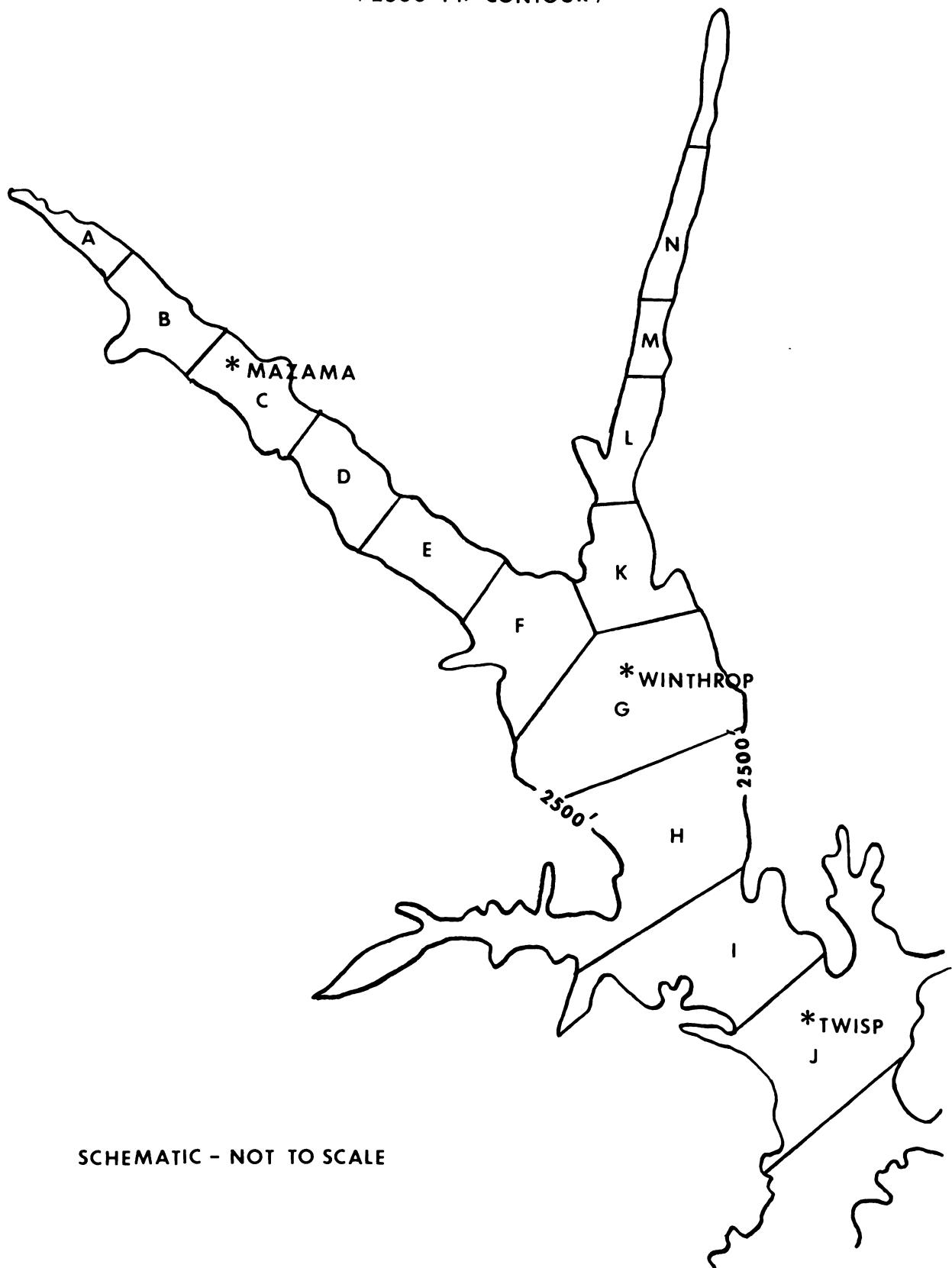
**Number and Distribution of Housing Units<sup>a</sup>**  
**By Alternative (Year 2000)**

<u>Box</u>	<u>Alt. I</u>	<u>Alt. II</u>	<u>Alt. III</u>	<u>Alt. IV</u>	<u>Alt. V</u>
A	212	238	273	310	331
B	212	238	273	310	331
C (Mazama)	253	576	949	1394	1605
D	414	462	530	600	650
E	693	773	887	1005	1087
F	277	296	343	396	433
G (Winthrop)	1247	1334	1544	1781	1953
H	233	249	289	333	367
I	52	54	63	74	81
J (Twisp)	292	305	358	417	457
K	249	266	308	356	389
L (Chewack	43	44	50	57	62
M Drainage)	28	29	33	37	40
N	13	14	16	17	19

<sup>a</sup> - Each housing unit converts to one wood burning device (stove or fireplace). The housing unit number includes 20% of the tourist units projected for each box as it is assumed that only one in five tourist units will have wood burning facilities.

## AIRSHED BOX LOCATIONS

( 2500 FT. CONTOUR )



SCHEMATIC - NOT TO SCALE

## APPENDIX -I

United States Department of Agriculture Forest Service	a. Record no. (1-2)  70 --	b. Region (3-4)  Northwest --	c. Forest (5-6)  Okanogan --
SPECIAL USE PERMIT	d. District (7-8)  Winthrop --	e. User number (9-12)  Recreation ---	f. Kind of use (13-15)  Winter Sports-
Act of June 4, 1897  This permit is revocable and nontransferable (Ref. FSM 2710)	g. State (16-17)  Wash. --	h. County (18-20)  Okanogan ---	k. Card no. (21)  1 -

Permission is hereby granted to a developer

of some place,  
hereinafter called the permittee, to use subject to the conditions set out below, the following described lands or improvements: Lands within T.35N., R.19E., WM, Sections 1, 2, 3, 11 and T.36N., R.19E., WM, Sections 25, 26, 27, 34, 35, and 36.

This permit covers 3795 acres ~~and xxxxxxxxxxxxxxxxx miles~~ and is issued for the purpose of:

Construction, operation, and maintenance of ski trails and runs, roads, along with other related activities appurtenant to uses authorized by the Term Special Use Permit.

This permit is supplementary to the Term Special Use Permit of the same date and is subject to all clauses of that permit.

1. Construction or occupancy and use under this permit shall begin within \_\_\_\_\_ months, and construction, if any, shall be completed within \_\_\_\_\_ months, from the date of the permit. This use shall be actually exercised at least 365 days each year, unless otherwise authorized in writing.

2. In consideration for this use, the permittee shall pay to the Forest Service, U.S. Department of Agriculture, the sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) for the period from 19 , to 19 , and thereafter annually on See Clause #22, Term Special Use Permit \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) :

*Provided, however, Charges for this use may be made or readjusted whenever necessary to place the charges on a basis commensurate with the value of use authorized by this permit.*

3. This permit is accepted subject to the conditions set forth herein, ~~and to conditions xxxxxxxxxxxxxxxxxx attached hereto and made a part of this permit~~

PERMITTEE	NAME OF PERMITTEE  TITLE	SIGNATURE OF AUTHORIZED OFFICER  TITLE	DATE
ISSUING OFFICER	NAME AND SIGNATURE  TITLE	TITLE	DATE

(CONTINUED ON REVERSE)

2700-4 (7/71)

4. Development plans; layout plans; construction, reconstruction, or alteration of improvements; or revision of layout or construction plans for this area must be approved in advance and in writing by the forest supervisor. Trees or shrubbery on the permitted area may be removed or destroyed only after the forest officer in charge has approved, and has marked or otherwise designated that which may be removed or destroyed. Timber cut or destroyed will be paid for by the permittee as follows: Merchantable timber at appraised value; young-growth timber below merchantable size at current damage appraisal value; *provided* that the Forest Service reserves the right to dispose of the merchantable timber to others than the permittee at no stumpage cost to the permittee. Trees, shrubs, and other plants may be planted in such manner and in such places about the premises as may be approved by the forest officer in charge.

5. The permittee shall maintain the improvements and premises to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the forest officer in charge.

6. This permit is subject to all valid claims.

7. The permittee, in exercising the privileges granted by this permit, shall comply with the regulations of the Department of Agriculture and all Federal, State, county, and municipal laws, ordinances, or regulations which are applicable to the area or operations covered by this permit.

8. The permittee shall take all reasonable precautions to prevent and suppress forest fires. No material shall be disposed of by burning in open fires during the closed season established by law or regulation without a written permit from the forest officer in charge or his authorized agent.

9. The permittee shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this permit, and shall pay the United States for any damage resulting from negligence or from the violation of the terms of this permit or of any law or regulation applicable to the National Forests by the permittee, or by any agents or employees of the permittee acting within the scope of their agency or employment.

10. The permittee shall fully repair all damage, other than ordinary wear and tear, to national forest roads and trails caused by the permittee in the exercise of the privilege granted by this permit.

11. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise herefrom unless it is made with a corporation for its general benefit.

12. Upon abandonment, termination, revocation, or cancellation of this permit, the permittee shall remove within a reasonable time all structures and improvements except those owned by the United States, and shall restore the site, unless otherwise agreed upon in writing or in this permit. If the permittee fails to remove all such structures or improvements within a reasonable period, they shall become the property of the United States, but that will not relieve the permittee of liability for the cost of their removal and restoration of the site.

13. This permit is not transferable. If the permittee through voluntary sale or transfer, or through enforcement of contract, foreclosure, tax sale, or other valid legal proceeding shall cease to be the owner of the physical improvements other than those owned by the United States situated on the land described in this permit and is unable to furnish adequate proof of ability to redeem or otherwise reestablish title to said improvements, this permit shall be subject to cancellation. But if the person to whom title to said improvements shall have been transferred in either manner provided is qualified as a permittee and is willing that his future occupancy of the premises shall be subject to such new conditions and stipulations as existing or prospective circumstances may warrant, his continued occupancy of the premises may be authorized by permit to him if, in the opinion of the issuing officer or his successor, issuance of a permit is desirable and in the public interest.

14. In case of change of address, the permittee shall immediately notify the forest supervisor.

15. The temporary use and occupancy of the premises and improvements herein described may be sublet by the permittee to third parties only with the prior written approval of the forest supervisor but the permittee shall continue to be responsible for compliance with all conditions of this permit by persons to whom such premises may be sublet.

16. This permit may be terminated upon breach of any of the conditions herein or at the discretion of the regional forester or the Chief, Forest Service.

17. In the event of any conflict between any of the preceding printed clauses or any provisions thereof and any of the following clauses or any provisions thereof, the following clauses will control.

**TERM SPECIAL USE PERMIT**

*Act of March 4, 1915, as amended July 28, 1956,  
or Act of March 30, 1948  
(Ref. FSM 2710)*

a. Record no. (1-2)	b. Region (3-4)	c. Forest (5-6)
70	Northwest ____	Okanogan ____
d. District (7-8)	e. User number (9-12)	f. Kind of use (13-15)
Winthrop ____	Recreation _____	Winter Sports _____
g. State (16-17)	h. County (18-20)	i. Card no. (21)
Washington ____	Okanogan _____	1

Permission is hereby granted to A Developer  
of Some Place,

hereinafter called the permittee, to use subject to the conditions set out below, the following described lands or improvements for the period of 30 years from the date thereof:

Lands within T.35N., R.19E., WM, Sections 1, 2, 3, 11 and T.36N., R.19E., WM, Sections 25, 26, 27, 34, 35, and 36.

This permit covers 80 acres and is issued for the purpose of:

Operating and maintaining base facilities and lifts needed in support of recreation users and described in Site Development Plan.

1. Construction or occupancy and use under this permit shall begin within \_\_\_\_ months, and construction, if any, shall be completed within \_\_\_\_ months, from the date of the permit. This use shall be actually exercised at least 365 days each year, unless otherwise authorized in writing.

2. In consideration for this use, the permittee shall pay to the Forest Service, U.S. Department of Agriculture, the sum of                      Dollars (\$                     ) for the period from                     , 19      , and thereafter annually on                      See Clause #22                      Dollars (\$                     ):

*Provided, however, That the charges for this use shall be readjusted as of, and effective on, the beginning of each 5-year period from the due date of the first annual payment in order to place the charges on a basis commensurate with the value of use authorized by this permit.*

3. This permit is accepted subject to the conditions set forth herein, and to conditions                      to                      attached hereto and made a part of this permit.

PERMITTEE	NAME OF PERMITTEE	SIGNATURE OF AUTHORIZED OFFICER	DATE
		TITLE	
ISSUING OFFICER	NAME AND SIGNATURE	TITLE	DATE

(CONTINUED ON REVERSE)

2700-5 (9/72)

4. Development plans; lay-out plans; construction, reconstruction, or alteration of improvements; or revision of lay-out or construction plans for this area must be approved in advance and in writing by the forest supervisor. Trees or shrubbery on the permitted area may be removed or destroyed only after the forest officer in charge has approved, and has marked or otherwise designated that which may be removed or destroyed. Timber cut or destroyed will be paid for by the permittee as follows: Merchantable timber at appraised value; young-growth timber below merchantable size at current damage appraisal value; provided that the Forest Service reserves the right to dispose of the merchantable timber to others than the permittee at no stumpage cost to the permittee. Trees, shrubs, and other plants may be planted in such manner and in such places about the premises as may be approved by the forest officer in charge.

5. The permittee shall maintain the improvements and premises to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the forest officer in charge.

6. This permit is subject to all valid claims.

7. The permittee, in exercising the privileges granted by this permit, shall comply with the regulations of the Department of Agriculture and all Federal, State, county, and municipal laws, ordinances, or regulations which are applicable to the area or operations covered by this permit.

8. The permittee shall take all reasonable precaution to prevent and suppress forest fires. No material shall be disposed of by burning in open fires during the closed season established by law or regulation without a written permit from the forest officer in charge or his authorized agent.

9. The permittee shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this permit, and shall pay the United States for any damage resulting from negligence or from the violation of the terms of this permit or of any law or regulation applicable to the national forests by the permittee, or by any agents or employees of the permittee acting within the scope of their agency or employment.

10. The permittee shall fully repair all damage, other than ordinary wear and tear, to national forest roads and trails caused by the permittee in the exercise of the privilege granted by this permit.

11. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise herefrom unless it is made with a corporation for its general benefit.

12. Except as provided in Clause 16 below, upon abandonment, termination, revocation, or cancellation of this permit, the permittee shall remove within a reasonable time all structures and improvements except those owned by the United States, and shall restore the site, unless otherwise agreed upon in writing or in this permit. If the permittee fails to remove all such structures or improvements within a reasonable period, they shall become the property of the United States, but that will not relieve the permittee of liability for the cost of their removal and the restoration of the site.

13. This permit is not transferable. If the permittee through voluntary sale or transfer, or through enforcement of contract, foreclosure, tax sale, or other valid legal proceeding shall cease to be the owner of the physical improvements other than those owned by the United States situated on the land described in this permit and is unable to furnish adequate proof of ability to redeem or otherwise reestablish title to said improvements, this permit shall be subject to cancellation. But if the person to whom title to said improvements shall have been transferred in either manner above provided is qualified as a permittee, and is willing that his future occupancy of the premises shall be subject to such new conditions and stipulations as existing or prospective circumstances may warrant, his continued occupancy of the premises will be authorized by a permit to him, which may be for the unexpired term of this permit or for such new period as the circumstances justify.

14. The permittee may sublease the use of land and improvements covered under this permit and the operation of concessions and facilities authorized; Provided the express written permission of the Forest Supervisor has been secured. The permittee shall continue to be responsible for compliance with all conditions of this permit by persons to whom such premises may be sublet.

15. This permit may be revoked upon breach of any of the conditions herein.

16. If during the term of this permit or any extension thereof, the Secretary of Agriculture or any official of the Forest Service acting by or under his authority shall determine that the public interest requires termination of this permit, this permit shall terminate upon thirty days' written notice to the permittee of such determination, and the United States shall have the right thereupon to purchase the permittee's improvements, to remove them, or to require the permittee to remove them, at the option of the United States, and the United States shall be obligated to pay an equitable consideration for the improvements or for removal of the improvements and damages to the improvements resulting from their removal. The amount of the consideration shall be fixed by mutual agreement between the United States and the permittee and shall be accepted by the permittee in full satisfaction of all claims against the United States under this clause: *Provided*, That if mutual agreement is not reached, the Forest Service shall determine the amount and if the permittee is dissatisfied with the amount thus determined to be due him he may appeal the determination in accordance with the Appeal Regulation (36 C.F.R. 211.20 - 211.37) and the amount as determined on appeal shall be final and conclusive on the parties hereto; *Provided further*, That upon the payment to the permittee of 75% of the amount fixed by the Forest Service, the right of the United States to remove or require the removal of the improvements shall not be stayed pending final decision on appeal.

17. The permittee agrees that the amount which the United States shall be required to pay for improvements in accordance with Clause 16 shall in no event exceed \$\_\_\_\_\_, and that this instrument may be introduced in any judicial proceedings for the acquisition of such improvements by the United States as the stipulation of the permittee and the United States with regard to the maximum amount which the United States shall be required to pay for the taking thereof.

17. In case of change of address the permittee shall immediately notify the forest supervisor.

18. In the event of any conflict between any of the preceding printed clauses or any provision thereof and any of the following clauses or any provisions thereof, the following clauses will control.

19. The permittee shall send to the Forest Supervisor on or before (given date which shall be 30 days after the close of the permittee's fiscal year) of each year a statement of sales as defined in the Sales Clause of this permit for itself and each sublessees for the same period. The permittee must also provide within three (3) months after close of its operating year a balance sheet representing its financial condition at the close of its business year, an annual operating statement reporting the results of operations including yearend adjustments for itself and each sublessee for the same period, and a schedule of gross fixed assets adjusted to comply with the terms of this permit in a format and manner prescribed by the Forest Service.

20. For purposes of recording and reporting sales, and sales-related information including the cost of sales, the activities of the concessioner are divided into:

Service, Food. Includes the serving of meals, sandwiches, and other food materials either consumed on the premises or prepared for carry-out. Snackbars are included here, as well as the sale of nonalcoholic drinks and beer, served in conjunction with food.

Merchandise. Includes the sale of miscellaneous clothing, and such items as hardware, souvenirs, and gifts. Bait, fishing rods, reels, boats, motor and boating accessories are included as well as other sporting equipment and clothing sales. Where a "Service, Cars" category of business is not established by this permit, the sale of auto accessories is included in this category.

Service, Liquor. Includes the sale of alcoholic drinks for consumption on the premises and other sales ordinarily a part of a bar or cocktail-lounge business. Where a bar is operated in conjunction with a restaurant or overnight accommodations, liquor and beer sales are recorded separately from the other sales and included in this category. The sale of alcoholic beverages for consumption off the premises is also included in this item, except as indicated in "Grocery" and "Service, Food."

Outfitting, Guiding. Includes all activities or commercial guiding services involving back-country travel, regardless of mode of travel, when associated with a resort or dude ranch with a mixture of businesses. All fees charged are considered sales.

Lift, Tow, and Ski Schools. Includes charges for use of all types of up-hill transportation facilities and for sports lessons and training.

21. The minimum annual fee for this use, which is due in advance and is not subject to refund, will be equal to the fee that would result when sales are 40 percent of the breakeven point. This fee will be calculated and billed by the Forest Service during the final quarter of the permittee's fiscal year using the most recent GFA figure and previously reported sales data for the current year, plus, if the operating season is still active, estimated sales for the remainder of the year.

22. The minimum fee shall never be less than the minimum amount, as stated in FSM 2720, for the permitted use.

23. Upon determination by the Chief of the Forest Service that sufficient changes have occurred in conditions relating to specific kinds of business to warrant review, breakeven points and rates will be re-examined and, if appropriate, new schedules will be prepared by the Forest Service to be effective in all permits authorizing such business or businesses. The charges for this permit will be developed according to the new schedule, as of, and effective on, the beginning of the permittee's business year following approval of the revised rate schedule.

24. Reports and deposits required as outlined above shall be tendered in accordance with the schedule below. They will be sent or delivered to the Collection Officer, Forest Service, USDA, at the address furnished by the Forest Supervisor. Checks or money orders will be payable to "Forest Service, USDA."

The permittee will:

Pay a flat fee of \$ \_\_\_\_\_ for the period from the effective date of this permit to \_\_\_\_\_, 19\_\_\_\_, and \$ \_\_\_\_\_ per annum thereafter until (enter date of . . . sales occur and fees are determined by the Graduated Rate Fee System). Thereafter, - -

- (1) During the final fiscal quarter, pay within 15 days of billing by the Forest Service, the annual minimum fee for the next year.
- (2) The permittee shall send to the Forest Supervisor on or before (given date which shall be 30 days after the close of the permittee's fiscal year) of each year a statement of sales as defined in the Sales Clause of this permit for itself and each sublessees for the same period. The permittee must also provide within three (3) months after close of its operating year a balance sheet representing its financial condition at the close of its business year, an annual operating statement reporting the results of operations including yearend adjustments for itself and each sublessee for the same period, and a schedule of gross fixed assets adjusted to comply with the terms of this permit in a format and manner prescribed by the Forest Service.
- (3) Within 15 days of receipt of a statement from the Forest Supervisor, pay any additional fee required to correct fees paid for the past year's operation.

- (4) Report sales, calculate fees due using forms supplied, and make payment each calendar (quarter) except for periods in which no sales take place and the permittee has notified the Forest Service that his operation has entered a seasonal shutdown for a specific period. Reports and payments will be made by the 10th of the month following the end of each reportable period.

The Forest Supervisor, will furnish the permittee with a tentative rate which shall be applied to sales in the fee calculation (item (4)), such rate to be one that will produce the expected fee based on past experience. The correct fee will be determined at the end of the year and adjustment made as provided under item (3). Any balance that may exist will be credited and applied against the next payment due.

All fee calculations and records of sales and GFA are subject to periodic audit. Errors in payment will be corrected as needed in conformance with those audits.

25. A late payment charge, in addition to the regular fees, shall be made for failure to meet the fee payment due date or any of the dates specified for submission of statements required for fee calculation. The late payment charge shall be \$20, or an amount calculated by applying the current rate prescribed by Treasury Fiscal Requirements Manual Bulletins to the overdue amount for each 30-day period or fraction thereof that the payment is overdue, whichever is greater. If the due date falls on a nonworkday, the late payment charge shall not apply until the end of the next workday.

26. For the purpose of administering this permit (including ascertaining that fees paid were correct and evaluating the propriety of the fee base), the permittee agrees to make all of the accounting books and supporting records for business activities, as well as those of sublessees operating within the authority of this permit, available for analysis by qualified representatives of the Forest Service or other Federal agencies authorized to review the Forest Service activities. Review of accounting books and supporting records will be made at dates convenient to the permittee and reviewers. Financial information so obtained will be treated as confidential to the extent allowed in the Freedom of Information and the Privacy Acts.

The permittee will retain the above records and keep them available for review for 3 years after the end of the year involved, unless disposition is otherwise authorized by the Forest Service in writing.

27. The permittee shall follow generally accepted accounting principles in recording financial transactions and in reporting results to the Forest Service. When requested by the Forest Service, the permittee at own expense, will have the annual accounting reports audited by a public accountant acceptable to the Forest Service. The permittee will require sublessees to comply with these same requirements. The minimum acceptable accounting system will include:

- (1) Systematic internal controls and recording by kind of business the gross receipts derived from all sources of business conducted under this permit. Receipts should be recorded daily and, if possible, deposited into a bank account without reduction by disbursements. Receipt entries should be supported by such source documents as cash-register tapes, sale invoices, room-rental records, and cash accounts from other sources.
- (2) A record of all disbursements, including capital items, and a permanent record of investments in facilities.
- (3) Bank accounts will be maintained separately for the businesses conducted under this permit and not commingled with those for other businesses of the permittee.

The permittee shall follow generally accepted accounting principles in recording financial transactions and reporting results to the Forest Service. They shall maintain suitable systems of internal control to ensure the recording of all revenue in the accounts and reports. When requested by the Forest Service, the permittee, at own expense, shall have accounting records and reports audited by a public accountant acceptable to the Forest Service and shall furnish the Forest Supervisor a complete copy of the accountant's report.

28. The fees due the United States for this use shall be deposited with the Unit Collection Officer, Okanogan National Forest, P. O. Box 950, Okanogan Washington, in the form of check, draft, or money order made payable to "Forest Service, USDA" and shall:

A flat fee of \$\_\_\_\_\_ for the period from the effective date of this permit to \_\_\_\_\_, 19\_\_\_\_.

and \$\_\_\_\_\_ per annum thereafter until \_\_\_\_\_, 19\_\_\_\_. This fee is due in advance and is not subject to refund.

Beginning \_\_\_\_\_, 19\_\_\_\_, the annual flat fee will be \$\_\_\_\_\_ which is due in advance on \_\_\_\_\_ of each year and is not subject to refund.

29. In connection with the performance of work under this permit, the permittee agrees as follows:

- a. The permittee will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The permittee will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer;

recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The permittee agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Forest Service setting forth the provisions of this nondiscrimination clause.

- b. The permittee will, in all solicitations or advertisements for employees placed by or on behalf of the permittee, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- c. The permittee will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Forest Service, advising the labor union or workers' representative of the permittee's commitments under this clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- d. The permittee will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended by Executive Order No. 11375 of October 31, 1967, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- e. The permittee will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Forest Service and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- f. In the event of the permittee's noncompliance with the nondiscrimination clauses of this permit or with any of such rules, regulations, or orders, this permit may be canceled or terminated in whole or in part and the permittee may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor or as otherwise provided by law.

g. The permittee will include the provisions of the foregoing paragraphs (a) through (f) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The permittee will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for non-compliance: Provided, however, that in the event the permittee becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Forest Service, the permittee may request the United States to enter into such litigation to protect the interests of the United States.

30. By accepting this permit, the permittee hereby agrees to comply with Title VI of the Civil Rights Act of 1964 and Section 504 of the Rehabilitation Act of 1973 as amended by the Rehabilitation Comprehensive Services and Developmental Disabilities Amendment of 1978 and all requirements imposed by or pursuant to the regulation of the United States Department of Agriculture (7 CFR, part 15) issued pursuant to that Act, and hereby assures that in the operation and performance of this permit to take immediately any measures necessary to effectuate this requirement. If any real property or structure thereon is provided or improved with the aid of Federal Financial assistance extended to a permittee, by the United States Department of Agriculture, this assurance shall obligate the permittee, or in case of any transfer of such property, any transferee, for the period during which the real property or structure is used for a purpose for which the Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits. If any personal property is so provided, this assurance shall obligate the permittee for the period during which the permittee retains ownership or possession of the property. In all other cases, this assurance shall obligate the permittee for the period during which the Federal financial assistance is extended by this permit. This assurance is given in consideration of the Federal financial assistance extended in this permit to the permittee by the United States Department of Agriculture. The permittee recognizes and agrees that such Federal financial assistance will be extended in reliance on the representations and agreements made in this assurance. The permittee further agrees that the United States in addition to any other rights and remedies provided by this assurance, the Civil Rights Act of 1964, the Rehabilitation Act of 1973, or the regulations issued thereunder, shall have the right to enforce this agreement by suit for specific performance or any other available remedy under the laws of the United States or the State in which the breach or violation occurs. Signs setting forth this policy of non-discrimination to be furnished by the Forest Service will be conspicuously displayed at the public entrance to the premises, and at other exterior or interior locations as directed by the Forest Service.

31. The permittee shall perform all work with explosives in such a manner as not to endanger life or property. All storage places for explosives and flammable material shall be marked "DANGEROUS." The method of storing and handling explosives and flammable materials shall conform to recommended procedures contained in the "Blasters Handbook," published by E. I. du Pont de Nemours & Co., and in all Federal, State, and local laws and regulations.

32. The permittee shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of National Forest lands under this permit.

33. The permittee shall have in force public liability insurance covering: (1) property damage in the amount of \_\_\_\_\_ dollars (\$\_\_\_\_\_), and (2) damage to persons in the minimum amount of \_\_\_\_\_ dollars (\$) in the event of death or injury to one individual and the minimum amount of \_\_\_\_\_ dollars (\$) in the event of death or injury to more than one individual. The coverage shall extend to property damage, bodily injury, or death arising out of the permittee's activities under the permit including, but not limited to, the occupancy or use of the land and the construction, maintenance, and operation of the structures, facilities, or equipment authorized by this permit. Such insurance shall also name the United States as additional insured and provide for specific coverage of the permittee's contractually assumed obligation to indemnify the United States. The permittee shall require the insurance company to send an authenticated copy of its insurance policy to the Forest Service immediately upon issuance of the policy. The policy shall also contain a specific provision or rider to the effect that the policy will not be canceled or its provisions changed or deleted before thirty (30) days written notice to the Forest Supervisor, by the insurance company.

34. The operation and maintenance of all sanitation, food-service, and water-supply methods, systems, and facilities shall comply with the standards of the local Department of Health and the United States Public Health Service.

The permittee shall dispose of all garbage and refuse in a place and manner specified by the Forest officer in charge.

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35. Not later than \_\_\_\_\_ of each year, the permittee shall have all lifts and tows inspected by a qualified engineer. A qualified engineer is one authorized to practice engineering in the State either by reason of his employment by the State or Federal government or by registration as provided by law of the State. A certificate of this inspection attesting to the adequacy and safety of the installations and equipment for public use shall be forwarded to the Forest Service no later than \_\_\_\_\_ following each inspection. Inspections will be made in accordance with the American National Standard Safety Requirements for Aerial Passenger Tramways (ANSI B 77.1), with the Forest Service supplements.

The permittee shall present detailed drawings and specifications for all towers and foundations, including those for the upper and lower terminals, for approval by the Forest Service. During foundation construction, concrete shall be tested for quality and the test results presented to the Forest Supervisor.

The permittee shall present to the Forest Service for approval, detailed drawings of mechanical parts to show design, or a manufacturer's model or schematic diagram showing the parts, or make reference to manufacturer's identification of such parts as gears, reducers, power units, and brakes.

36. The Forest Service reserves the right to inspect the permitted facilities and improvements at any time for compliance with terms of this permit, and if in the opinion of the Forest Supervisor there is insufficient adherence to the terms of the permit, he may suspend use or operation of any part, or all, of the permitted facilities or improvements. Such inspections by the Forest Service do not relieve the permittee of his responsibilities under other terms of this permit.

37. At any time the lift systems authorized by this permit are open to public use, the permittee shall maintain in operable condition an auxiliary source of power sufficient to operate the lifts for the purpose of unloading passengers.

38. The permittee shall install and maintain in operable condition, an adequate telephone or radio-telephone system to provide communication between operators at each terminal or loading station and to and from the area.

39. The use of explosives and blank ammunition shall be in accordance with safety rules designed to prevent damage to life, property, or forest cover. Periods of use may be restricted by the Forest Service, when fire danger conditions require.

40. The permittee shall dispose of refuse resulting from this use, including waste materials, garbage, and rubbish of all kinds, in the following manner, and shall guard the purity of streams and living waters:

41. The permittee shall install and maintain safety gates or devices needed to prevent skiers from becoming entangled in power units, sheaves, idlers, headworks, or any other unit or mechanism.

42. The permittee shall maintain and operate a ski school on the permit area. The director for said school shall be qualified, to the satisfaction of the Forest Supervisor, to give instruction and to direct others in giving instruction in all degrees of skiing proficiency required at the site. Ski safety shall be emphasized in all instruction.

43. Avalanches, rising waters, high winds, falling limbs or trees, and other hazards are natural phenomenons in the forest that present risks which the permittee assumes. The permittee has the responsibility of inspecting his site, lot, right-of-way, and immediate adjoining area for dangerous trees, hanging limbs, and other evidence of hazardous conditions and, after securing permission from the Forest Service, of removing such hazards.

44. a. When lifts and tows are in operation, the permittee shall have on duty trained ski patrol personnel in sufficient number to evacuate injured skiers with reasonable speed. The required number of ski patrolmen and necessary equipment will be specified in the Area Safety and Operations Plan.

b. All ski patrolmen will meet qualification standards equivalent to or exceeding those required by the National Ski Patrol.

45. The permittee representative shall prepare an operating plan covering details of safety, land treatment, and protection. As a minimum, the plan shall include, but shall not be limited to, the following sections and subheadings:

1. Statement of Responsibilities and Procedures.

2. Snow Safety - revised annually by \_\_\_\_\_.

- a. Ski Patrol and first-aid.
- b. Communications.
- c. General Safety.
- d. Aerial Lift Evacuation.
- e. Accident reporting.
- f. Avalanche control.
- g. Avalanche rescue.
- h. Signing.
- i. Building fire protection.

3. Seasonal work plan for construction and maintenance--revised annually by \_\_\_\_\_, and shall contain:

- a. Area fire protection.
- b. Erosion control.
- c. Timber and debris disposal.
- d. Sanitation.
- e. General safety.
- f. List of planned development work for the work season.

Provisions of the Winter Sports Site Operating Plan and its annual revisions will become a part of this permit and be signed by the Forest Supervisor and the permittee or his/her designated representative.

46. As a part of this permit, a schedule for the progressive development of the permitted site and installation of facilities shall be prepared jointly by the permittee and the Forest Service. Such a schedule shall be prepared by \_\_\_\_\_, and shall set forth an itemized priority list of planned improvements and the due date for completion. This schedule shall be made a part of this permit. The permittee may accelerate the scheduled date for installation of any improvement authorized, provided the other scheduled priorities are met; and provided further, that all priority installations authorized are completed to the satisfaction of the Forest Service and ready for public use prior to the schedule due date.

All required plans and specifications for site, improvements, and structures included in the development schedule shall be submitted to the Forest Service at least forty-five (45) days before the construction date stipulated in the development schedule.

47. The permittee shall prepare site plans to show the location of all buildings, service areas, roads, and structures. Such plan shall be on a scale of \_\_\_\_\_ with \_\_\_\_\_ foot contour intervals. The permittee is encouraged to consult with the Forest Service during the preparation of the site plan to ensure that it is adequate and to gain multiple use compliance. No construction shall be undertaken by the permittee prior to site plan approval.

48. As a further guarantee of the faithful performance of the provisions of clauses of this permit, the permittee agrees to deliver and maintain a surety bond in the amount of \_\_\_\_\_ dollars (\$\_\_\_\_\_\_). Prior to undertaking additional construction or alteration work not provided for in the above clause(s) or when the improvements are to be removed and the area restored, the permittee shall deliver and maintain a surety bond in an amount set by the Forest Service, which amount shall not be in excess of the estimated loss which the Government would suffer upon default in performance of this work. Should the sureties or the bonds delivered under this permit become unsatisfactory to the Forest Service, the permittee shall, within thirty (30) days of demand, furnish a new bond with surety, solvent and satisfactory to the Forest Service. In lieu of surety bond, the permittee may deposit into a Federal depository, as directed by the Forest Service, and maintain therein, cash in the amounts provided for above, or negotiable securities of the United States having a market value at time of deposit of not less than the dollar amounts provided above.

The permittee's surety bond will be released, or deposits in lieu of bond, will be returned thirty (30) days after certification by the Forest Service that priority installations under the development plan are complete, and upon furnishing by the permittee of proof satisfactory to the Forest Service that all claims for labor and material on said installations have been paid or released and satisfied. The permittee agrees that all moneys deposited under this permit may, upon failure on his part to fulfill all and singular the requirements herein

set forth or made a part hereof, be retained by the United States to be applied as far as may be to the satisfaction of his obligations assumed hereunder, without prejudice whatever to any other rights and remedies of the United States.

49. The permittee shall submit planting plans to reasonably restore or protect all areas disturbed during construction of the resort. Such plans will identify plant material by botanical name, size, and location. Each stage of construction will be considered complete only upon completion and acceptance of the successful seeding and planting in the vicinity of construction. All seeding and planting required on the permitted area shall be completed according to the development schedule.

50. All plans and specifications for buildings shall be prepared by an architect licensed in the State in which the building will be located. The plans shall be in accordance with all Building Codes. Building plumbing shall be in accordance with the National Plumbing Code. The electrical system shall be in accordance with the National Electrical Code. Other systems shall be designed in accordance with recognized standards.

Plans shall be submitted to the Forest Service for approval prior to beginning of construction.

The permittee shall submit to the Forest Service a certification by the architect or engineer who inspected construction that the building has been constructed in accordance with the approved plans before the building is approved for use.

51. All plan drawings for uphill equipment and systems shall be prepared by a qualified engineer or by a tramway firm in accordance with the American National Standard Safety Requirements for Aerial Passenger Tramways (ANSI B 77.1) with Forest Service supplements. A qualified engineer is one authorized to practice engineering in the State either by reason of employment by the State or Federal government or by registration as provided by law of the State. Plans and specifications must be approved by the Regional Forester. Prior to construction of any uphill system, the permittee shall submit to the Forest Service an accurate ground-profile and snow-profile map scaled not smaller than one hundred (100) feet equals one (1) inch horizontally and forty (40) feet equals one (1) inch vertically.

The map shall show all tower locations and the cable profiles.

52. All lifts and tows installed on National Forest land, or which serve National Forest together with other lands, must be constructed under the supervision of a professional engineer or such other supervision as may be approved in writing by the Forest Service. The engineer shall certify in writing that all improvements were installed in accordance with approved plans. The permittee shall bear the cost of engineering and supervision services. The permittee shall not operate the facilities for public purposes until written approval is granted by the Forest Service.

53. No waste or byproducts shall be discharged if it contains any substances in concentrations which will result in substantial harm to fish and wildlife, or to human water supplies.

Storage facilities for materials capable of causing water pollution, if accidentally discharged, shall be located so as to prevent any spillage into waters, or channels leading into water, that would result in substantial harm to fish and wildlife or to human water supplies.

54. The permittee shall protect the scenic esthetic values of the area under this permit, and the adjacent land, as far as possible with the authorized use, during construction, operation, and maintenance of the improvements.

55. The permittee shall take reasonable precautions to protect, in place, all public land survey monuments, private property corners, and Forest boundary markers. In the event that any such land markers or monuments are destroyed in the exercise of the privileges authorized by this permit, depending on the type of monument destroyed, the permittee shall see that they are re-established or referenced in accordance with (1) the procedures outlined in the "Manual of Instructions for the Survey of the Public Land of the United States," (2) the specifications of the county surveyor, or (3) the specifications of the Forest Service.

Further, the permittee shall cause such official survey records as are affected to be amended as provided by law.

56. The permittee will ensure slope stabilization and prevent soil loss throughout the permitted area by carrying out the provisions of an erosion-control plan prepared jointly by the permittee and the Forest Service. The plan will be reviewed annually by \* and at any other time deemed necessary by either party. If revision is indicated, such revision will be prepared in writing as agreed to by the Forest Service and the permittee and incorporated into the plan by \*.

57. Use of this permit may be suspended by the Forest Service for breach of any stipulation contained within. Continued use of the permit area or facilities thereon during suspension may result in cancellation of the permit.

58. All chimneys must be built from the ground up and all flues, from ceiling through roof, must be of black or galvanized stovepipe with riveted joints encased in terra-cotta pipe with permanently sealed joints through a roofjack; or of stone or brick lined with terra-cotta flue lining. Chimneys must extend at least one foot above the roof ridge.

59. Open fireplaces shall be equipped with spark screens.

60. All electrical equipment and facilities installed and operated shall conform to the National Electric Code and the equipment must have been approved by the American Insurance Association.

61. The permittee shall install fire extinguishers and firefighting apparatus of types, of capacities, in numbers, and at locations approved by the Forest Supervisor. This equipment shall be in readiness at all times for immediate use, and shall be tested each year, at such times as may be required by the Forest Supervisor.

62. Nothing in this permit shall be construed to imply permission to build or maintain any structure not specifically named on the face of this permit, or approved by the Forest Service in the form of a new permit or permit amendment. Additional structures requiring specific approval shall include, but are not limited to: signs, fences, nameplates, mailboxes, newspaper boxes, boathouses, docks, pipelines, and television antenna.

63. This permit is subject to the rights and privileges granted in mineral, oil, or gas leases covering this land which have been issued by an authorized agency of the United States, and this permit does not authorize the prevention or obstruction of the reasonable exercise of the rights and privileges granted by said mineral, oil, or gas leases.

64. This permit is for the occupancy of land for the purposes stated and does not provide for the furnishing of road maintenance, water, fire protection, or any other such service by a Government agency, utility, association, or individual.

65. The permittee agrees to permit the free and unrestricted access to and upon the premises at all times for all lawful and proper purposes not inconsistent with the intent of the permit or with the reasonable exercise and enjoyment by the permittee of the privileges thereof.

66. The Forest Service shall have the authority to check and regulate the adequacy and type of services provided the public and to require that such services conform to satisfactory standards. The permittee may be required to furnish the Forest Service a schedule of prices for sales and services authorized by the permit. Such prices and services may be regulated by the Forest Service: Provided, that the permittee shall not be required to charge prices lower than those charged by comparable or competing enterprises.

67. Gambling or gambling machines or devices will not be permitted on National Forest lands regardless of whether or not they are lawful under State law or county ordinances.

68. The sale of liquors, or other intoxicating beverages, (beer and wine) is allowed under this permit. However, if conditions develop as a result of this privilege which, in the judgment of the Forest officer in charge are undesirable, the sale of such liquors or beverages, (beer and wine) shall be discontinued. In the event that this action becomes necessary, the permittee will be informed in writing by the Forest Service.

69. The permittee shall restrict all parking to areas approved by the Forest Service.

70. No signs or advertising devices shall be erected on the area covered by this permit, or highways leading thereto, without prior approval by the Forest Service as to location, design, size, color, and message. Erected signs shall be maintained or renewed as necessary to near and presentable standards.

71. The permittee, in his advertisements, signs, circulars, brochures, letterheads, and like materials, as well as orally, shall not misrepresent in any way, either the accommodations provided, the status of his permit, or the area covered by it or tributary thereto.

The fact that the permitted area is located on the Okanogan National Forest shall be made apparent in all of the permittee's brochures and advertising regarding use and management of the area and facilities under permit.

72. The acquisition or assumption by another party under an agreement with the permittee of any right or obligation of the permittee under this permit shall be ineffective as to the Forest Service unless and until the Forest Service shall have been notified of such agreement and shall have recognized and approved it in writing signed by the Forest officer who approved this permit, or by his successor or superior officer; and in no case shall such recognition or approval:

a. Operate to relieve the permittee of the responsibilities or liabilities he has assumed hereunder; or

b. Be given unless such other party

(1) Is acceptable to the Forest Service as a permittee, and assumes in writing all of the obligations to the Forest Service under the terms of this permit as to the incomplete portion thereof, or

(2) Acquires the rights in trust as security and subject to such conditions as may be necessary for the protection of the public interests.

73. The permittee or a designated representative shall be present on the premises at all times when the facilities are open to the public. The permittee will notify the District Ranger in writing who the representative will be.

74. The permittee, if a corporation, shall notify the Forest Service within fifteen (15) days of changes listed below:

- a. Names of officers appointed or terminated.
- b. Names of stockholders who acquire stock shares causing their ownership to exceed 50 percent of shares issued or who otherwise acquire controlling interest in the corporation.

APPENDIX J

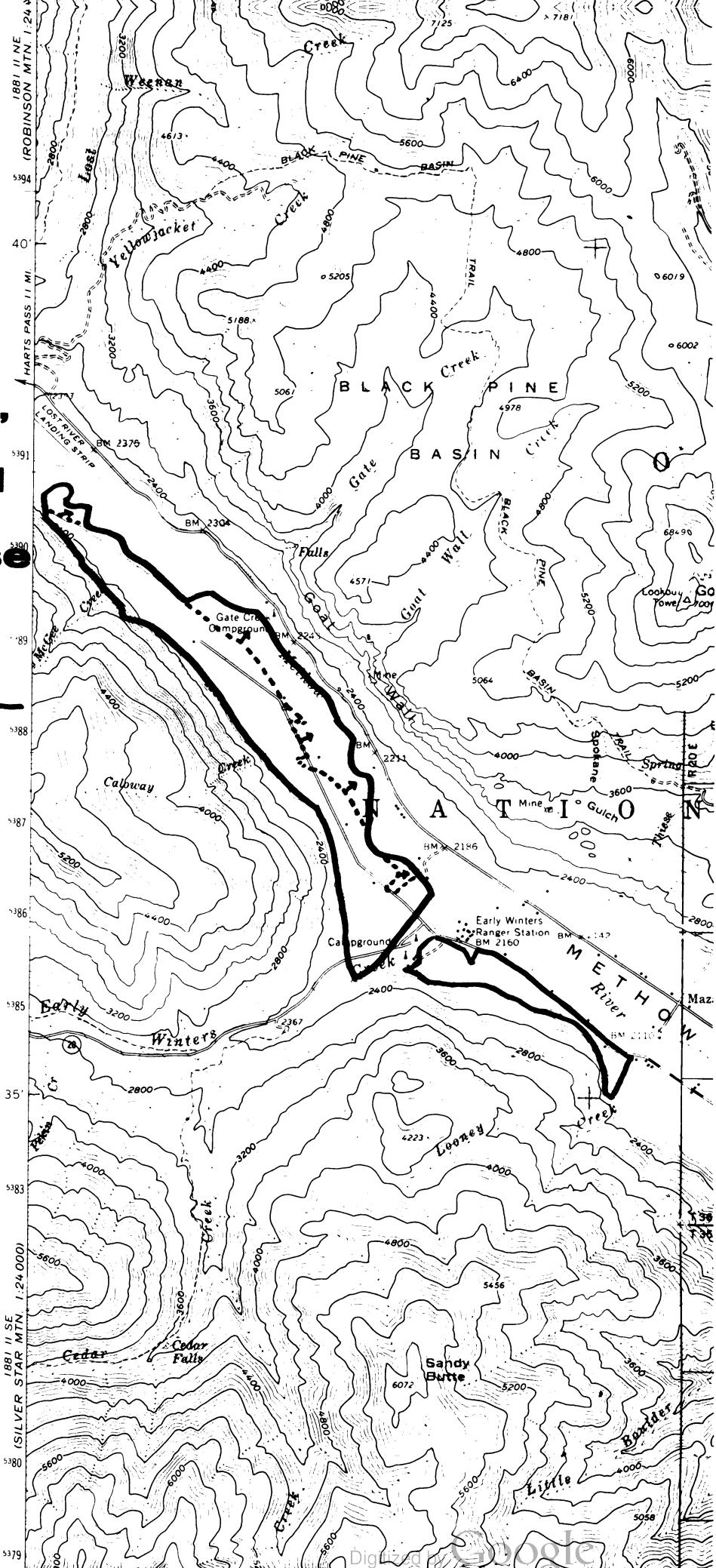
**100 Year Flood-  
plain (CH2M HILL,  
1976) In Proposed  
Early Winters Base  
Area**

Boundary of Proposed Base Area —



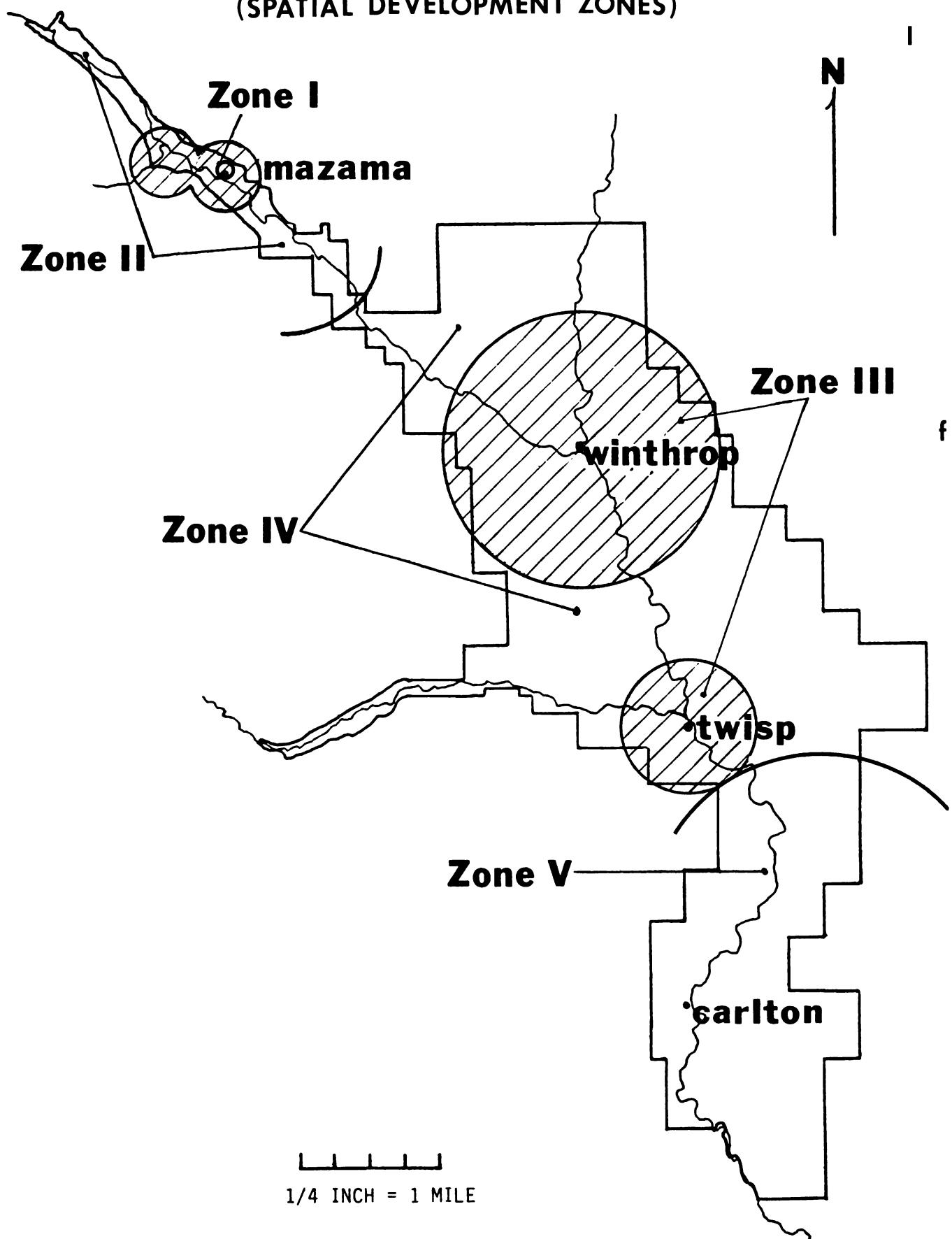
Scale 1:62,500

1984 MWB



APPENDIX K

**METHOW VALLEY STUDY AREA**  
(SPATIAL DEVELOPMENT ZONES)





District 1 ARLIE CLINKENBEARD  
 District 2 ARCHIE EIFFERT  
 District 3 MELVIN E. KUHLMANN

Phone 422-3521

## BOARD OF COUNTY COMMISSIONERS

OKANOGAN, WASHINGTON 98840

June 18, 1984

FS	—	AS	—
AO	—	COMP	—
T&L	—	BE	—
FE	—	FLEET	—
RW&W	—	DRS	—
F&A	—	NCSB	—
R&LUP	<i>1022</i>	OVE	—
PD	—	MVE	—
B&F	—	RS	—
P&C	—	COMM	—
PEAS	—		

RECEIVED

JUN 18 1984

Mr. Mike Lunn  
 Okanogan National Forest Service  
 Planning Division  
 Post Office Box 950  
 Okanogan, Washington 98840

Dear Mr. Lunn:

We have attached the final draft of our input for the Record of Decision to be appended to the final Environmental Impact Statement and are in concurrence with the general scope of the Okanogan National Forest's proposed decision to proceed with Alternative Four.

Sincerely,

BOARD OF COUNTY COMMISSIONERS  
 OKANOGAN COUNTY, WASHINGTON

Melvin E. Kuhlmann, Chairman

*Arlie Clinkenbeard*  
 Arlie Clinkenbeard, Member

*Archie B. Eiffert*  
 Archie B. Eiffert, Member

ATTEST: *Armentia M. Inner*  
 Evelyn Frazier, County Auditor and  
 Ex-officio Clerk of the Board  
*Deputy*

4. The Forest Supervisor shall be satisfied that, prior to construction of hill improvements, the government of Okanogan County has taken the following action:
  - A. Initiated an effort that will result in the eventual adoption of an air quality management program designed to effectively minimize deterioration of ambient air quality from pollutants, particularly wood smoke.

The effort will be undertaken to achieve the following objectives:

    1. Finish data analysis and develop more sophisticated modeling for the Methow Valley.
    2. Establish planning goals for air quality in the Methow Valley through citizen involvement.
    3. Identify preferred measures needed to minimize deterioration of air quality.
    4. Identify administrative and funding structures necessary to implement the preferred management strategy.
    5. Identify preferred management strategy.
  - B. Participate in the development of a multiagency agreement for management of the Methow Valley mule deer population. Parties to the agreement shall include as a minimum the Okanogan National Forest Supervisor, the Washington State Department of Game, and the government of Okanogan County. The purpose of the agreement will be to minimize the effects of development on the Methow Valley mule deer population through the development of management strategies. These strategies shall include at least the following elements:
    1. Citizen involvement in developing goals for management of the Methow Valley deer herds.
    2. Continued refinement of information base needed to manage herds effectively.
    3. Identification of specific management strategies for herd management.
    4. Identification of funding mechanisms and sources to assure management strategies will be met.

- C. Developed and implemented a dog control ordinance to protect critical mule deer migratory routes, fawning areas and wintering areas.
- D. Developed and instituted protective zoning of critical mule deer migratory routes, fawning areas and wintering areas identified by the Washington State Department of Game.
- E. Adopted changes to current land use codes (zoning, platting, SEPA, Shorelines Management, etc.) bringing the codes into conformance with state enabling legislation.
- F. Developed an agreement with the eventual hill developer whereby an admissions tax of two and one-half percent is imposed by ordinance and, in accordance with Chapter 36. 38.010 Revised Code of Washington, on ticket sales and whereby a negotiated amount not to exceed two and one-half percent is donated to a foundation established for the purpose of addressing community goals and needs. Or alternatively, enact an ordinance in accordance with the aforementioned R.C.W. which places an admissions tax of five percent on lift ticket sales.
- G. During the review of hill development and possible base area development plans, an agreement shall be developed between the developer and the government of Okanogan County for the purpose of reimbursing Okanogan County agencies for current and projected costs relating to the examination of applications, plans and the conduct of public hearings up to and including the time of final action by the Okanogan County Board of Commissioners.



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wils.gov  
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Early winters alpine winter sports study



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