

RESEARCH TECHNICAL COMPLETION REPORT  
Project B-037-IDA

APPENDIX



**DECISION ALTERNATIVES FOR USE,  
REGULATION AND CONSERVATION OF THE  
WATER AND RELATED LAND RESOURCES OF  
THE HELLS CANYON REACH OF THE  
SNAKE RIVER**

By

C.C. Warnick  
Professor of Civil Engineering

in cooperation with

D.W. Clapp  
Idaho Department of Water Resources

IDAHO WATER RESOURCES RESEARCH INSTITUTE  
University of Idaho  
Moscow, Idaho

April, 1978

APPENDIX

to

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DETAILED DESCRIPTION OF INTERRELATIONSHIPS OF CONSIDERATIONS  
NOW RECOGNIZED AS IMPORTANT IN ASSESSING  
ALTERNATIVES FOR DEVELOPMENT, CONSERVATION, AND  
MANAGEMENT OF THE WATER AND RELATED LAND RESOURCES OF THE  
HELLS CANYON REACH OF SNAKE RIVER

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This is a subjective description comparing, one with another, each of thirty-seven different considerations that have been identified as important in assessing alternatives for the development, conservation, and management of the water and related land resources of the Hells Canyon reach of the Snake River. An attempt has been made to quantify the interrelationship between considerations by indicating whether the impact of one consideration compared with another is positive, negative, or both. The evaluation has been done to give decision makers and policy makers a better basis on which to make decisions and set policy. A unique graphical matrix has been prepared to summarize all this work evaluation and to give a means of visualizing impacts of each consideration with all of the others. This matrix representation is Figure 3 of the report entitled, "Decision Alternatives for Use, Regulation, and Conservation of the Water and Related Land Resources of the Hells Canyon Reach of the Snake River" by Warnick and Clapp. This detailed information is an appendix to their report. Users of this appendix should carefully read and study the report in order to understand better what the considerations are and to obtain more clarification for interpreting these subjective evaluations.

The letters at the margins are for purposes of making reference to the considerations and the evaluation quantitatively marked in the matrix.

A<sub>1</sub> Series - B Group

A<sub>1</sub>B<sub>1</sub> Scientific and Historic compared with National Recreational Area

The scientific and historical aspects of geology, archaeology and history will be enhanced by the preservation provided by the Hells Canyon National Recreation designation. This is evaluated as a very strong positive influence or impact. However, the increased influx of visitors that will come about by the advertisement provided by the designation of the Hells Canyon National Recreation Area will mean negative impact of vandalism and destruction of some aspects of geology, archaeology and historical aspects. This is considered a minor negative impact.

A<sub>1</sub>B<sub>2</sub> Scientific and Historic compared with Wild and Scenic River Designation

Similar to above. With the restriction in the river corridor.

A<sub>1</sub>B<sub>3</sub> Scientific and Historic compared with Snake River Wild and Scenic River Study

Similar to above A<sub>1</sub>B<sub>2</sub>. Access in the corridor to the stream may govern intensity of visit.

A<sub>1</sub>B<sub>4</sub> Scientific and Historic compared with Reservoir Type Recreation

The increased activity of reservoir type recreation tends to impact negatively in the geologic, archaeological and historic features within an area, on existing impoundments this negative impact has probably already occurred. A very minor positive impact could be the focus of attention that impoundment created and forced some protective measures, or provided access for scientific visitation that was feasible before impoundment.

A<sub>1</sub> Series - C Group

A<sub>1</sub>C<sub>1</sub> Scientific and Historic compared with Navigation Servitude

Scientific and historic has a minor negative impact on navigation servitude in that concern for that may limit navigation improvement and maintenance. However, it would have a minor positive impact on navigation servitude, because keeping the scientific items open for study tends to preserve the navigability of the Hells Canyon reach up to Hells Canyon Dam.

A<sub>1</sub> Series - C Group (continued)

A<sub>1</sub>C<sub>2</sub> Scientific and Historic compared with Navigation Above Asotin

This upstream navigation has afforded access for scientific investigations and visits to historical and archaeological sites such that there is a minor positive impact. Because of lack of protection, there is negative of destruction and vandalism by the increased visitation provided by the navigation of power boats and float boat participants. Commercial upstream navigation has assisted in maintenance of historical values and has been a part of the history itself.

A<sub>1</sub>C<sub>3</sub> Scientific and Historic compared with Navigation Below Asotin

Scientific and Historical consideration in the Canyon has a minor negative impact on navigation below Asotin in that it tends to discourage the navigation extending up to the Hells Canyon Reservoir.

A<sub>1</sub> Series - D Group

A<sub>1</sub>D<sub>1</sub> Scientific and Historical compared with Brownlee Flood Control Operation

Operation of the flood control feature of Brownlee Reservoir by the impoundment of high flows has had a negative impact on the geologic, archaeological and historic features concerned with the reservoir reach of the river. This has afforded a minor positive impact of beneficial protection of some riparian items of historical and scientific significance downstream from the dam that might have been destroyed by high flows.

A<sub>1</sub>D<sub>2</sub> Scientific and Historical compared with Upstream Flood Control Reservoir

Apparently no negative effects but minor beneficial impact of protection of some riparian items through the Hells Canyon reach that would have been damaged by high natural flows.

A<sub>1</sub> Series - E Group

A<sub>1</sub>E<sub>1</sub> Scientific and Historical compared with Existing Canyon Agriculture

The ranching that has developed as mainly grazing operations has had very minor negative effect on the geological and archaeological aspects but has provided a positive impact of historical features that are of interest and significance to the area.

A<sub>1</sub> Series - E Group (continued)

A<sub>1</sub>E<sub>2</sub> Scientific and Historical compared with Existing Upstream Agriculture

Scientific and historical consideration in the canyon has negligible impact on existing upstream agriculture in that it does not change status except that it might have stabilized the flows which is favorable to preservation of geologic, historical and archaeological items.

A<sub>1</sub>E<sub>3</sub> Scientific and Historical compared with Potential Upstream Agriculture

It might have a very minor positive effect of the depletion of flows within the canyon to the point it would discourage visitation and thus indirectly protect geologic, archaeological and historical features.

A<sub>1</sub>E<sub>4</sub> Scientific and Historical compared with Washington and Oregon Agriculture

Scientific and historical consideration and preservation has a minor positive impact on Washington and Oregon Agriculture potential by providing encouragement to allow flow to go through as is and thus benefit downstream agricultural potential in Washington and Oregon.

A<sub>1</sub> Series - F Group

A<sub>1</sub>F<sub>1</sub> Scientific and Historical compared with Hells Canyon's F.P.C. Licensing

The restrictions of flow through Hells Canyon reach as specified by F.P.C. licenses for hydro plants provides for opportunity for navigational access to the area and thus has a minor positive impact of providing access for scientific study, but it also has a minor negative impact of providing that easier access of visitation that results in some vandalism and destruction of archaeological and historical features, but it has by the license mandated much of the upper portion causing a major conflict or loss.

A<sub>1</sub>F<sub>2</sub> Scientific and Historical compared with Existing Power Within Canyon

The impoundment and construction features has had a major negative impact on geological, archaeological and historic features that were inundated or affected by construction excavation within the developed reach. A minor positive effect was the increased access provided to get into study and observe geological, archaeological and historical features.

A<sub>1</sub> Series - F Group (continued)

A<sub>1</sub>F<sub>3</sub> Scientific and Historical compared with Upstream Existing Power

The power production of plants such as C.J. Strike, Anderson Ranch and Palisades power plants has practically no effect on the scientific and historical aspects within the Hells Canyon reach.

A<sub>1</sub>F<sub>4</sub> Scientific and Historical compared with Upstream Potential Power

Same as above.

A<sub>1</sub>F<sub>5</sub> Scientific and Historical compared with Lower Snake Power Dams

Scientific and historical considerations have a minor conflict with Lower Snake River dams in that there has been more visitation and more pressure to develop that stretch of the river where the geology, archaeology and history is under consideration.

A<sub>1</sub>F<sub>6</sub> Scientific and Historical compared with Lower Columbia Power Dams

Scientific and historical consideration has a minor negative impact or conflict with Lower Columbia Power dams because development exerts pressure to develop in the canyon.

A<sub>1</sub>F<sub>7</sub> Scientific and Historical compared with Potential Power Within the Reach

The possibility of rescinding the moratorium of dam building in the reach below Hells Canyon Dam and construction of high-head power dams at sites like the Nez Perce site or High Mountain Sheep site have a very major negative impact on geologic, archaeological and historical aspects of that reach of the river.

A<sub>1</sub>F<sub>8</sub> Scientific and Historical compared with Potential Pumped Storage

The offstream impoundment and conveyance structures of pumped storage could have a minor negative impact on geologic, archaeological and historical aspects.

A<sub>1</sub> Series - G Group

A<sub>1</sub>G<sub>1</sub> Scientific and Historical compared with Anadromous Fishery

The anadromous fishery is really part of the history of the canyon as well as the Indian culture of the area, and so no conflict or negative impact is expected. There appears to be a positive impact that concern for preservation of the anadromous fishery has helped preserve the geologic, archaeological and historic aspects within the canyon reach.

A<sub>1</sub> Series - G Group (continued)

A<sub>1</sub>G<sub>2</sub> Scientific and Historical compared with Resident Fishery

Little effect except that the historical nature of the rare specie of sturgeon has had a positive effect of preserving geologic, archaeological and historic aspects.

A<sub>1</sub>G<sub>3</sub> Scientific and Historical compared with Wildlife

Scientific and historical concern has a positive impact on the wildlife in that concern for the geology, archaeological and history tends to preserve the wildlife and its habitat.

A<sub>1</sub>G<sub>4</sub> Scientific and Historical compared with Idaho Power Co. Mitigation

Concern for scientific and historical items inundated or affected downstream of Hells Canyon Dam may require more mitigation, and so it makes a negative impact on Idaho Power Co. mitigation.

A<sub>1</sub>G<sub>5</sub> Scientific and Historical compared with Lower Snake Mitigation

Concern for scientific and historical in the Hells Canyon Reach really has little to do with Lower Snake mitigation except it may have a tendency to obligate replacement or enhancement in the stretch of Hells Canyon of losses in the Lower Snake.

A<sub>1</sub> Series - H Group

A<sub>1</sub>H<sub>1</sub> Scientific and Historical compared with Water Quality Control

The concern for and implementation of stream quality standard and planning for water quality improvement appears to have minor positive benefit of preserving certain historical aspects of the cultural features within the canyon.

A<sub>1</sub> Series - I Group

A<sub>1</sub>I<sub>1</sub> Scientific and Historical compared with Columbia River Compact Negotiations

It is likely that compact articles will provide a positive benefit to the preservation of archaeological and historical aspects within the Hells Canyon Reach of the river and help to preserve good relations between states.



A<sub>1</sub> Series - I Group (continued)

A<sub>1</sub>I<sub>2</sub> Scientific and Historical compared with Subordination Clause

The clauses in federal acts of not placing a restraint on upstream depletion of flows as contained in the Hells Canyon National Recreation Act and other federal regulations has had a positive effect of preserving the historical aspects within the canyon and make for a considerable political history in the dealing with water in the state of Idaho.

A<sub>1</sub>I<sub>3</sub> Scientific and Historical compared with Idaho State Water Plan

The policy of the Idaho Water Resource Board to maintain and where possible enhance environmental quality as stated in the Objectives of the State Water Plan has a positive benefit toward preserving the geological, archaeological and historical aspects of the Hells Canyon reach of the river.

A<sub>1</sub>I<sub>4</sub> Scientific and Historical compared with Washington State Policy to Snake River Flow

Concern for scientific and historical items such as geology, archaeology and history has a minor positive impact in that it favors keeping flows and conditions through the canyon as is and thus better flow conditions for the state of Washington.

A<sub>1</sub>I<sub>5</sub> Scientific and Historical compared with Oregon State Policy to Snake River Flow

The recent action of state of Oregon policy of reversal from development in Hells Canyon reach to a policy of preservation in the Hells Canyon reach of the river is a major positive effect on the preservation of geologic, archaeological and historic consideration within the Hells Canyon reach of the river.

A<sub>1</sub>I<sub>6</sub> Scientific and Historical compared with Corps of Engineers - CR & T Study

This continuing planning study shows and has had a minor positive effect on the preservation and definition of the geologic, archaeological and historical aspects, but it may have a negative impact in that it restricts various development alternatives the Corps wishes to pursue.

A<sub>1</sub>I<sub>7</sub> Scientific and Historical compared with Pacific Northwest River Basins Commission - CCJP

This special regional planning effort will have a positive effect on the preservation and definition on the geologic, archaeological and historical aspects, but it likewise can have an equal negative impact in restricting alternatives for development under a CCJP.

A<sub>1</sub> Series - I Group (continued)

A<sub>1</sub>I<sub>8</sub> Scientific and Historical compared with Interbasin Transfers

Numerous schemes for interbasin transfer of water such as the Dunn Plan have advocated transfer of water from the Snake River Basin to other points in the Western United States. Plans like the Dunn Plan, a pump-back scheme would have a major negative effect on the geological, archaeological and historic aspects.

A<sub>1</sub>I<sub>9</sub> Scientific and Historical compared with Reservation Doctrine

The contention that federal reserve lands and Indian lands have a claim to the water arising on the lands has been a conflicting policy with regard to waters in the rivers of the west. Implementation of that claim could cause serious changes in water use, but for the consideration of geologic, archaeological and historical aspects within the canyon, it appears to have little or no effect.

B<sub>1</sub> Series - B Group

B<sub>1</sub>B<sub>2</sub> Hells Canyon National Recreation Area compared with Hells Canyon Wild & Scenic River

The act establishing the Hells Canyon National Recreation Area simultaneously established the Hells Canyon Wild and Scenic River and as such has a major positive effect of sustaining the Hells Canyon Wild and Scenic River aspects and intents.

B<sub>1</sub>B<sub>3</sub> Hells Canyon National Recreation Area compared with Snake River Wild and Scenic River Study

The establishment of the HCNRA has a major positive effect on the possible establishment of a wild river reach between Asotin and the HCNRA boundary in National Wild and Scenic River system and simplifies the needs of the study very much.

B<sub>1</sub>B<sub>4</sub> Hells Canyon National Recreation Area compared with Reservoir Recreation

The Hells Canyon National Recreation Area designation has a major negative effect of limiting additional reservoir recreation on the foregone impoundments like High Mountain Sheep Dam and could have a negative effect of overcrowding the recreational capacity of reservoirs like Hells Canyon Reservoir due to more visitation following designation as a national area.

B<sub>1</sub> Series - C Group

B<sub>1</sub>C<sub>1</sub> Hells Canyon National Recreation Area compared with Navigation Servitude

The act establishing the Hells Canyon National Recreation Area provides a positive effect of keeping open the navigation option to Johnson Bar, but future regulations of limitations of motorized boat travel in the river may act negatively to having continued navigation servitude in the Hells Canyon reach of the river.

B<sub>1</sub>C<sub>2</sub> Hells Canyon National Recreation Area compared with Navigation Above Asotin

The provisions of HCNRA Act provides a positive effect of keeping free flowing the stream from the HCNRA boundary to Johnson Bar. A minor negative effect may occur to the commercial navigation for ranch produce supplies and mail due to changing nature of ranch activity in the canyon.

B<sub>1</sub>C<sub>3</sub> Hells Canyon National Recreation Area compared with Navigation Below Asotin

The establishment of the HCNRA has a positive effect on navigation below Asotin in providing opportunity for particularly recreational boats to travel into the Hells Canyon reach of the river.

B<sub>1</sub> Series - D Group

B<sub>1</sub>D<sub>1</sub> Hells Canyon National Recreation Area compared with Brownlee Reservoir Operation for Flood Control

There appears to be very little effect or impact, but even though Section 56 of Hells Canyon National Recreation Area Act specifically prescribes no flow requirements of any kind may be imposed. It is apparent that when pressures for low releases from the Brownlee Reservoir instead of required high release to provide for flood control storage may have a definite negative impact on the flood control operations.

B<sub>1</sub>D<sub>2</sub> Hells Canyon National Recreation Area compared with Upstream Reservoir Operation

Very little apparent impact.

B<sub>1</sub> Series - E Group

B<sub>1</sub>E<sub>1</sub> Hells Canyon National Recreation Area compared with Existing Ranching Within the Canyon

The actions of the Forest Service to acquire lands within the canyon in the HCNRA has tended to decrease the ranching activity within the canyon, thus a negative impact on ranching. Even though the provisions of the act indicate grazing is compatible, it appears public pressure will discourage ranching activities related to grazing. However, there is apt to be a minor positive effect of having improvement in the quality of grazing in some overgrazed areas.

B<sub>1</sub>E<sub>2</sub> Hells Canyon National Recreation Area compared with Existing Upstream Agriculture

Since the Hells Canyon National Recreation Area Act in Sections 6(a) and 6(b) specifically restricts any rules or regulations that would limit present or future use of water upstream from the boundaries of the area, it appears little effect can be recognized except it would appear that just public attitude of interest in keeping flows high in the reach will have a minor negative impact on existing agriculture more as a wirrisome fear to irrigation interest and water users.

B<sub>1</sub>E<sub>3</sub> Hells Canyon National Recreation Area compared with Potential Upstream Agriculture

The public pressure threat and interest in maintaining higher flows through the canyon even though language in the HCNRA Act precludes limiting of flow regulation appears to offer a minor negative impact to potential upstream agriculture because of apprehension that future acts may place some restraints on upstream flow depletion.

B<sub>1</sub>E<sub>4</sub> Hells Canyon National Recreation Area compared with Washington and Oregon Agricultural Potential

In the case of the minor negative impact to upstream agriculture that by its nature accrues as the opposite or minor positive impact to the potential for agricultural use of the water in the downstream states of Oregon and Washington.

B<sub>1</sub> Series - F Group

B<sub>1</sub>F<sub>1</sub> Hells Canyon National Recreation Area compared with Hells Canyon FPC License

B<sub>1</sub> Series - F Group (continued)

The activity and increased public awareness and interest in recreational use in the Hells Canyon reach of the river would appear to offer a minor negative effect on the Hells Canyon FPC license bringing public pressure to ask for changes in the license. This assumes changes in license are negative which is somewhat presumptive.

B<sub>1</sub>F<sub>2</sub> Hells Canyon National Recreation Area compared with Existing Power Within the Canyon

The tendency will be for public pressures to ask for flow regulation of power release that will have a negative impact of existing power production within the canyon.

B<sub>1</sub>F<sub>3</sub> Hells Canyon National Recreation Area compared with Existing Upstream Power

The tendency for public pressure generated through the HCNRA Act to favor keeping flow instream and not to consumptively use the water in irrigation appears to be a minor positive impact on existing upstream power production.

B<sub>1</sub>F<sub>4</sub> Hells Canyon National Recreation Area compared with Upstream Potential Power

The tendency for public pressure generated through the HCNRA Act to favor keeping flow instream and not to consumptively use the water in irrigation appears to be a minor positive impact on upstream potential power.

B<sub>1</sub>F<sub>5</sub> Hells Canyon National Recreation Area compared with Lower Snake Power Dams

Same as Hells Canyon National Recreation Area compared with Washington and Oregon Agricultural Potential.

B<sub>1</sub>F<sub>6</sub> Hells Canyon National Recreation Area compared with Lower Columbia Power Dams

Same as above. (B<sub>1</sub>F<sub>4</sub>)

The effect will be less pronounced because Snake River flow is only a part of Columbia River flow.

B<sub>1</sub>F<sub>7</sub> Hells Canyon National Recreation Area compared with Potential Power Within Canyon Reach

The act by its restraint of not allowing any more dams makes a major negative impact against potential power production within the reach.

B<sub>1</sub> Series - F Group (continued)

B<sub>1</sub>F<sub>8</sub> Hells Canyon National Recreation Area compared with Pumped Storage Potential

The purposes of the act would appear to limit development of pumped storage reservoirs offstream of the canyon and particularly in the Hells Canyon Reservoir reach and make a major negative impact on possibility of developing pumped storage within the reach.

B<sub>1</sub> Series - G Group

B<sub>1</sub>G<sub>1</sub> Hells Canyon National Recreation Area compared with Anadromous Fishery

The Hells Canyon National Recreation Area activity and provisions of the act has a major positive impact on the anadromous fishery of the reach by providing more protection to habitat and to recognize more fully the needs for that fishery.

B<sub>1</sub>G<sub>2</sub> Hells Canyon National Recreation Area compared with Resident Fishery

The Hells Canyon National Recreation Area activity and provisions of the act has a major positive impact on the resident fishery by providing more protection of the habitat and to more fully recognize the needs for that fishery. There may be a minor negative impact that increased visitation may put too much fishing pressure on the resident fishery.

B<sub>1</sub>G<sub>3</sub> Hells Canyon National Recreation Area compared with Wildlife

The Hells Canyon National Recreation Area activity and provisions of the act has a major impact on the wildlife protection and enhancement in the area by providing more protection and more specific management for that purpose. Increased visitation and advertising of the area by designating the area as a National Recreation Area (NRA) may have minor negative impact of over crowding the area with visitations that would be injurious to wildlife.

B<sub>1</sub>G<sub>4</sub> Hells Canyon National Recreation Area compared with Idaho Power Mitigation

The fact that the area receives a designation of "National" may be a positive impact to Idaho Power Mitigation for fish and wildlife losses that might have and are occurring due to Idaho Power's activity in the area. The tendency being to relieve the company of some of the obligation.

B<sub>1</sub> Series - G Group (continued)

B<sub>1</sub>G<sub>5</sub> Hells Canyon National Recreation Area compared with Lower Snake Mitigation

There appears a minor positive impact of the HCNRA activities that will contribute to mitigation in the lower Snake River for those losses that have occurred through federal water development projects in the lower portions of the river. Management regulations within the area would tend to support more concern for fishery, wildlife, and natural habitat that would help mitigate losses claimed under development programs downstream.

B<sub>1</sub> Series - H Group

B<sub>1</sub>H<sub>1</sub> Hells Canyon National Recreation Area compared with Water Quality Control

It appears there would be a positive effect on water quality in the Hells Canyon reach of the Snake River due to provisions of the Hells Canyon National Recreation Area Act in that activities of development that might naturally occur would not occur and cause pollution and the concern for keeping the quality of the water high for the fishery would be enhanced. However, there may be a minor negative impact because increased recreational visitation within the area may cause pollution and some degradation in the quality of the water.

B<sub>1</sub> Series - I Group

B<sub>1</sub>I<sub>1</sub> Hells Canyon National Recreation Area compared with Columbia River Compact Negotiation

The tendency will be that operation of the act and bringing national recognition to the area will have a positive effect on the Columbia River Compact negotiations making it more obvious that decisions on some of the issues should be settled in a suitable manner that will be binding to the states concerned.

B<sub>1</sub>I<sub>2</sub> Hells Canyon National Recreation Area compared with Subordination Clause

The fact that Section 6 provides protective language for present and future uses of water upstream of the boundaries of the area is a major positive effect on sustaining protective purposes of the subordination clause and gives some protection to water uses in areas of origin of the water.

B<sub>1</sub> Series - I Group (continued)

B<sub>1</sub>I<sub>3</sub> Hells Canyon National Recreation Area compared with Idaho State Water Plan

There is a positive effect of the act on the State Water Plan in that it does provide fulfillment to the objectives of the plan, enhance and preserve environment, encourage wild river designation, and protect and enhance recreational opportunities in Idaho; but it has a minor negative effect of placing some of the planning and management decisions more in the hands of the federal government giving less voice to state desires.

B<sub>1</sub>I<sub>4</sub> Hells Canyon National Recreation Area compared with Washington Policy on Stream Maintenance Flows

The act and its operation will have a minor positive effect on the desire of the State of Washington to have a designated stream maintenance flow in the Snake River by focusing attention on the problem and bringing national attention to the issues giving more political power to act against the desires of upstream users. At the same time, there is a negative effect in that language in Section 6b does prohibit the setting of any regulations that would limit upstream use.

B<sub>1</sub>I<sub>5</sub> Hells Canyon National Recreation Area compared with Oregon State Policy for Hells Canyon Preservation

Passage of the act will have a major positive effect in meeting the desires expressed in the changed policy of the state of Oregon to provide protection for the Hells Canyon reach of the river.

B<sub>1</sub>I<sub>6</sub> Hells Canyon National Recreation Area compared with Corps of Engineers Columbia River and Tributary Study

The act has a positive effect on the CRT study in that it defines certain restraints of resource development and makes it simpler to proceed, but it has a minor negative effect in that if the goal of the study is full use of the resources and integration of the various uses it restricts the options the study can pursue.

B<sub>1</sub>I<sub>7</sub> Hells Canyon National Recreation Area compared with Pacific Northwest River Basins Commission's Columbia River Comprehensive Joint Plan

The act has a positive effect on the CRCJP plan in that it defines a resource use pattern and gives a basis to plan from. However, because it left open flow regulation and may in some respects limit options, it has a minor negative effect to study and implementation of a truly comprehensive plan.



B<sub>1</sub> Series - I Group (continued)

B<sub>1</sub>I<sub>8</sub> Hells Canyon National Recreation Area compared with Interbasin Water Transfers

The provisions of the act provides a major negative effect to interbasin transfers of water because it blocks impoundments that were considered necessary in certain pumped back schemes that have been advocated. It has minor positive effect in that Section 6 of the act does not limit upstream future uses which it might of a necessity require interbasin transfer of water.

B<sub>1</sub>I<sub>9</sub> Hells Canyon National Recreation Area compared with Reservation Doctrine

This is apparently positive in effect of support of the federal reservation claim on waters in that it has defined in a sense the use of the resource for a wild and scenic river and does treat an area that is mostly federal land within the canyon.

B<sub>2</sub> Series - B Group

B<sub>2</sub>B<sub>3</sub> Hells Canyon Wild and Scenic River compared with Snake River Wild and Scenic River Study

The provisions of the Hells Canyon Wild and Scenic River designation give a major positive effect to the study of the section of the river to Asotin for inclusion in the National Wild and Scenic River system because it sets a pattern of use and provides protection upstream.

B<sub>2</sub>B<sub>4</sub> Hells Canyon Wild and Scenic River compared with Reservoir Recreation

The designation of wild and scenic river status for a portion of the Hells Canyon reach presents a major negative effect to reservoir recreation by preventing any further impoundments and may cause by increased visitation to the stretch of the river overcrowding on existing reservoirs like Hells Canyon Reservoir.

B<sub>2</sub> Series - C Group

B<sub>2</sub>C<sub>1</sub> Hells Canyon Wild and Scenic River compared with Navigation Servitude

Designation of wild and scenic river status has a minor positive effect on navigation servitude in that it assures that the river will remain free flowing, but there is also a minor negative impact of the possibility that restriction to use by motorized boats might be implemented thus restricting navigation and limiting the servitude contention in a sense.

B<sub>2</sub> Series - C Group (continued)

B<sub>2</sub>C<sub>2</sub> Hells Canyon Wild and Scenic River compared with Navigation Above Asotin

Designation of wild and scenic river status has a major positive effect of keeping the river free flowing for boat travel, but it has a minor negative effect that restrictions to use of motorized boats might be implemented thus restraining navigation.

B<sub>2</sub>C<sub>3</sub> Hells Canyon Wild and Scenic River compared with Navigation Below Asotin

Designation of wild and scenic river status appears to provide a slight negative effect in that it prevents impoundments and increased storage that could have been used to regulate flows better for navigation in the lower reaches of the river and preclude some exploitation of resources that would have increased shipping in the lower reaches of the river system below Asotin.

B<sub>2</sub> Series - D Group

B<sub>2</sub>D<sub>1</sub> Hells Canyon Wild and Scenic River compared with Brownlee Reservoir Operation

Designation of wild and scenic river status appears to have negative impact to the Brownlee Reservoir flood control operations because manipulating the flows tends to go against the very purposes for which wild rivers are created, but language of the Hells Canyon National Recreation Area Act specifically states the Wild and Scenic River Act cannot impose flow regulations below Hells Canyon Dam thus canceling out the earlier contention.

B<sub>2</sub>D<sub>2</sub> Hells Canyon Wild and Scenic River compared with Upstream Reservoir Operation

Same as above.

There appears to be a minor positive effect of upstream flood control reservoir operation in that it tends to sustain higher minimum flows than would occur naturally and to create within the corridor a more favorable situation for the river enjoyment and for sustaining habitat for wildlife and fish.

B<sub>2</sub> Series - E Group

B<sub>2</sub>E<sub>1</sub> Hells Canyon Wild and Scenic River compared with Existing Ranching Within Canyon

Although existing ranching is not precluded under provisions of wild and scenic rivers status, it appears there would be a minor negative impact of restraints that might limit certain practices being encouraged; likewise, additional visitation within canyon brought about by receiving "National" recognition might interfere with certain grazing practices.

B<sub>2</sub>E<sub>2</sub> Hells Canyon Wild and Scenic River compared with Existing Upstream Agriculture

The designation of wild and scenic river status by gaining public recognition will tend to have a negative effect on existing upstream agriculture because practices that might cause deterioration in water quality would be opposed or conservation of storage of water for irrigation would be opposed to encourage higher flows in the canyon even though no restraint of present use and flow regulation is specified in the Hells Canyon National Recreation Area Act in Section 6.

B<sub>2</sub>E<sub>3</sub> Hells Canyon Wild and Scenic River compared with Potential Upstream Agriculture

Even though the provisions of the Wild and Scenic Rivers Act cannot adopt regulation to limit future use or flow regulation, any depletion of flow through consumptive use for irrigation would tend to be opposed by public proponents for wild and scenic rivers, and thus it would have negative impact on potential upstream agriculture.

B<sub>2</sub>E<sub>4</sub> Hells Canyon Wild and Scenic River compared with Washington and Oregon Agricultural Potential

Designation of wild and scenic river status for a portion of the Hells Canyon reach presents a positive impact on Washington and Oregon agricultural potential to the extent that it discourages the consumptive use in upper portions of the basin and preserves an option for free flowing status to possible uses in agriculture downstream.

B<sub>2</sub> Series - F Group

B<sub>2</sub>F<sub>1</sub> Hells Canyon Wild and Scenic River compared with Hells Canyon F.P.C. License

Designation of wild and scenic river status to a portion of the river below Hells Canyon Dam appears to have a minor negative

B<sub>2</sub> Series - F Group (continued)

impact on the F.P.C. license of the Hells Canyon Dam in that it tends to provide opportunity for more visitation and more exposure to adverse effects of license provision like the 5000 cfs minimum, and bring about pressure for changes on license provisions. Likewise it brings another management agency, the U.S. Forest Service, into the active role of agencies concerned with the water and related land resources.

B<sub>2</sub>F<sub>2</sub> Hells Canyon Wild and Scenic River compared with Existing Power Production Within the Canyon

This will tend to have a negative impact on existing power production in the Canyon in that there will be pressures to not allow as much fluctuation in power releases.

B<sub>2</sub>F<sub>3</sub> Hells Canyon Wild and Scenic River compared with Existing Upstream Power Production

Designation of wild and scenic river status to a portion of the river appears to have a minor negative impact on existing upstream power production above the Hells Canyon dams of Idaho Power Company in that storage releases might be altered adversely to power production, but the public pressure to tend to keep from depleting flows to maintain higher flows may have a minor positive impact on sustaining higher river-run flows in the upstream plants, all this is in face of provisions in the Hells Canyon National Recreation Area Act that specifies no limit of flow or upstream use can be imposed under the Wild and Scenic River Act.

B<sub>2</sub>F<sub>4</sub> Hells Canyon Wild and Scenic River compared with Upstream Potential Power

Same as above.

B<sub>2</sub>F<sub>5</sub> Hells Canyon Wild and Scenic River compared with Lower Snake Power Dams

Designation of wild and scenic river status to a portion of the river appears to have a minor positive impact on Lower Snake power dams tending to give discouragement to upstream depletion and providing more continuity to flow downstream.

B<sub>2</sub>F<sub>6</sub> Hells Canyon Wild and Scenic River compared with Lower Columbia Power Dams

Same as above except the impact is less because Snake River flow is only a part of the Columbia River flows that are utilized for power.

B<sub>2</sub> Series - F Group (continued)

B<sub>2</sub>F<sub>7</sub> Hells Canyon Wild and Scenic River compared with Potential Power Within the Reach

Designation of wild and scenic river status to a portion of the river appears to have a major negative impact to potential power within the reach. This is precluded by the fact that impoundments and dams are prohibited in wild and scenic rivers.

B<sub>2</sub>F<sub>8</sub> Hells Canyon Wild and Scenic River compared with Pumped Storage Potential

Designation of wild and scenic river status to a portion of the river appears to have a major negative impact on pumped storage potential within the reach because it presents further lower level reservoir and likely restricts water transmission across the corridor to upper reservoir sites that would be required of potential pumped storage installations.

B<sub>2</sub> Series - G Group

B<sub>2</sub>G<sub>1</sub> Hells Canyon Wild and Scenic River compared with Anadromous Fishery

Designation of wild and scenic river status to a portion of the river provides a major positive effect on anadromous fishery in that provisions of the Wild and Scenic River Act are specifically for protecting the fishery resource especially one as unique as the Salmon fishery.

B<sub>2</sub>G<sub>2</sub> Hells Canyon Wild and Scenic River compared with Resident Fishery

Designation of wild and scenic river status to a portion of the river provides a major positive effect on the resident fishery throughout the Hells Canyon reach of the river. The provisions of the Wild and Scenic River Act are specifically put forth to protect the fishery.

B<sub>2</sub>G<sub>3</sub> Hells Canyon Wild and Scenic River compared with Wildlife

Designation of wild and scenic river status to a portion of the river provides a major positive effect on the wildlife in the area by protection afforded along the corridor to the wildlife and its supporting habitat. There may be a minor negative impact due to increased visitation that may be generated by designating it a "national" river. The increased visitation being adverse to the wildlife disrupting normal patterns of life and reproduction.

B<sub>2</sub> Series - G Group (continued)

B<sub>2</sub>G<sub>4</sub> Hells Canyon Wild and Scenic River compared with Idaho Power Mitigation

Designation of wild and scenic river status to a portion of the river provides a minor positive effect of obligations of Idaho Power Company mitigation of losses caused by the power dams. This would be due to a tendency to letting the obligation be a national obligation implying less prime power responsibility.

B<sub>2</sub>G<sub>5</sub> Hells Canyon Wild and Scenic River compared with Lower Snake Mitigation

Designation of wild and scenic river status to a portion of the river provides a minor positive effect of obligation on federal water development projects for mitigation of losses caused by projects. The wild and scenic river status should help to maintain an environment conducive to restoration of fish runs and improve habitat in the river corridor.

B<sub>2</sub> Series - H Group

B<sub>2</sub>H<sub>1</sub> Hells Canyon Wild and Scenic River compared with Water Quality Control

Designation of wild and scenic river status to a portion of the river provides a positive effect on water quality control upstream, within the canyon and downstream, in that purpose of the Wild and Scenic River specify that water quality will be maintained and enhanced. There might be a minor negative effect of overcrowding of visitation within the corridor of wild and scenic river occurs due to the area being advertized as a "national" river.

B<sub>2</sub> Series - I Group

B<sub>2</sub>I<sub>1</sub> Hells Canyon Wild and Scenic River compared with Columbia River Compact Negotiations

Designation of wild and scenic river status to a portion of the river should have a minor positive effect on Columbia River Compact Negotiations because it represents a compromise agreed to a considerable extent by the states and the enactment of statute at the federal level. A pattern that must prevail for a successful compact.

B<sub>2</sub> Series - I Group (continued)

B<sub>2</sub>I<sub>2</sub> Hells Canyon Wild and Scenic River compared with Subordination Clause

Designation of wild and scenic river status to a portion of the river should have a minor positive effect in support of subordination clause for protection of areas of origin water in the Snake River system because the Hells Canyon National Recreation Area Act specifically states such protective language in indicating that no limitations of use or flow regulation can be imposed by the Wild and Scenic River Act.

B<sub>2</sub>I<sub>3</sub> Hells Canyon Wild and Scenic River compared with Idaho State Water Plan

Designation of wild and scenic river status to a portion of the river should have positive effect on support of the stated objectives of Idaho State Water Board to maintain and enhance environmental quality where possible and encourage protection and preservation of some streams for wild and scenic river purposes. There appears to be a minor negative impact to water plan in that development of irrigation and power resources is encouraged and establishment of wild and scenic rivers may limit some of that goal. Likewise, a plan for state wild and scenic rivers under state sponsorship may be foreclosed in the case of the Hells Canyon reach of the Snake River.

B<sub>2</sub>I<sub>4</sub> Hells Canyon Wild and Scenic River compared with Washington State Policy on Snake River Flow

Designation of wild and scenic river status to a portion of the river should have a positive impact on the Washington State Policy to maintain certain minimum flows in the Snake River because public pressure in support of maintaining higher flows in the canyon even though no flow regulation is allowed under the Wild and Scenic River Act.

B<sub>2</sub>I<sub>5</sub> Hells Canyon Wild and Scenic River compared with Oregon State Policy Toward Snake River Flow

Designation of wild and scenic river status to a portion of the river should have a positive impact on the policy of preservation of the Hells Canyon as a reversal of earlier development policy that was enunciated by the Oregon State Water Board.

B<sub>2</sub>I<sub>6</sub> Hells Canyon Wild and Scenic River compared with Corps of Engineers CR&T Study

Designation of wild and scenic river status to a portion of the river should have a positive compact relative to Corps of

B<sub>2</sub> Series - I Group (continued)

Engineers Columbia River and Tributaries study in that it defines an alternative that has been defined for use of the river and simplifies need of greater investigation of development opportunities in that reach of the river, but it represents a minor negative impact to provide for integration of other development alternatives toward a more comprehensive development of all water and related land resources.

B<sub>2</sub>I<sub>7</sub> Hells Canyon Wild and Scenic River compared with Pacific Northwest River Basins Commission CCJP Plan

Same as above.

B<sub>2</sub>I<sub>8</sub> Hells Canyon Wild and Scenic River compared with Interbasin Transfers

Designation of wild and scenic river status to a portion of the river has major negative impact on possible interbasin transfers because schemes proposed would require impoundments that are forbidden in the wild and scenic river stretch of the Hells Canyon and would change the natural flow conditions that are fostered under provisions of the Wild and Scenic Rivers Act.

B<sub>2</sub>I<sub>9</sub> Hells Canyon Wild and Scenic River compared with Federal Reservation Doctrine

Designation of wild and scenic river status to a portion of the river has a positive impact toward defining a use of water from lands where majority of land ownership is in federal reserve status and gives status to statutory designation toward control of the water resource in section of the river.

B<sub>3</sub> Series - B Group

B<sub>3</sub>B<sub>4</sub> Snake River Wild and Scenic River Study compared with Reservoir Recreation

Authorization of study status for the lower stretch of the Snake River down to Asotin, Washington, makes a major negative impact on reservoir recreation in preventing development of impoundments in that stretch of the river and may attract more visitors to the area and crowd existing reservoirs such as Lower Granite Reservoir that is close at home.



B<sub>3</sub> Series - C Group

B<sub>3</sub>C<sub>1</sub> Snake River Wild and Scenic River Study compared with Navigation Servitude

Authorization of study status for the lower stretch of the Snake River down to Asotin, Washington, may make a minor negative impact on navigation servitude because it may discourage navigation facilities in that stretch of the river that would be needed for barge type navigation, but it may foster a minor positive effect of preventing development structures such as single purpose power dams and provides support of federal control of navigable streams as fact.

B<sub>3</sub>C<sub>2</sub> Snake River Wild and Scenic River Study compared with Navigation Above Asotin

Authorization of study status for the lower stretch of the Snake River down to Asotin, Washington, makes a negative impact to possibilities of barge type navigation above Asotin because channel modification and development of locks would not be encouraged under wild and scenic river status and discourages investment in necessary exploration of shippable resources like the limestone deposits. It would have a minor positive effect of keeping open the option of free flowing stream for recreation boating up the Hells Canyon stretch of the river.

B<sub>3</sub>C<sub>3</sub> Snake River Wild and Scenic River Study compared with Navigation Below Asotin

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, would have a positive effect on navigation below Asotin in providing an opportunity for further travel above Asotin for recreational boating traffic moving up from communities all the way to Portland, but it would have a negative effect of limiting downriver traffic that might be generated by exploitation of shippable resources above Asotin such as lime deposits.

B<sub>3</sub> Series - D Group

B<sub>3</sub>D<sub>1</sub> Snake River Wild and Scenic River Study compared with Brownlee Reservoir, Flood Control Operation

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, would be a negative effect on flood control operation of Brownlee Reservoir because large unseasonable releases that may be necessary that may not be compatible with purposes of possible wild river status and prohibits developing additional flood storage impoundment in the study reach or even possible study of it.

B<sub>3</sub> Series - D Group (continued)

B<sub>3</sub>D<sub>2</sub> Snake River Wild and Scenic River Study compared with Upstream Flood Control Operation

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, has a minor negative effect on flood control resources because unseasonal releases may be necessary that may not be compatible with purposes of the wild river status even though provisions of the Wild and Scenic Rivers Act has forbidden to impose any flow regulation restraint.

B<sub>3</sub> Series - E Group

B<sub>3</sub>E<sub>1</sub> Snake River Wild and Scenic River Study compared with Existing Ranching in the Canyon

Authorization of study status for the lower stretch of the Snake River down to Asotin, Washington, appears to cause a negative impact to ranching in the canyon reach of the river by causing ranchers to develop scenic easement restraints and to put in a state of question operational programs of the ranches even though ranching and grazing are permitted under provisions of the Wild and Scenic River Act. It provides reasons for justification of condemnation of private lands.

B<sub>3</sub>E<sub>2</sub> Snake River Wild and Scenic River Study compared with Existing Upstream Agriculture

Authorization of study status for the lower stretch of the Snake River down to Asotin, Washington, appears to cause a negative impact to upstream agriculture because it gives more recognition to the downstream use as a wild and scenic river and focus more public attention to any degradation that might be cause to the river by upstream agricultural practices such as increased use of fertilizers and pesticides.

B<sub>3</sub>E<sub>3</sub> Snake River Wild and Scenic River Study compared with Potential Upstream Agriculture

Authorization of study status for the lower stretch of the Snake River down to Asotin, Washington, appears to cause a negative impact to upstream potential agricultural development by recognizing a downstream use or potential use for wild rivers that may be deprived of some wild and scenic river attributes by increasing upstream agricultural use of water.

B<sub>3</sub> Series - E Group (continued)

B<sub>3</sub>E<sub>4</sub> Snake River Wild and Scenic River Study compared with Washington and Oregon Agricultural Potential

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a minor positive impact on potential agricultural development in Washington and Oregon in that it tends to support public pressure to have the flows maintained with a minimum of depletion and fluctuation and leave more options to the states of Washington and Oregon.

B<sub>3</sub> Series - F Group

B<sub>3</sub>F<sub>1</sub> Snake River Wild and Scenic River Study compared with Hells Canyon F.P.C. License

Authorization of study status for the lower stretch of the Snake River down to Asotin, Washington, makes a negative impact in provisions of license because it was the pattern of license that dams would eventually be developed making it less necessary to maintain minimum flows. It likewise will encourage more recreational use throughout the entire stretch of river and focus more public demand to change some provisions for the license.

B<sub>3</sub>F<sub>2</sub> Snake River Wild and Scenic River Study compared with Existing Power Within Canyon

Authorization of study status for the lower stretch of the Snake River down to Asotin, Washington, makes a minor negative impact on existing power within canyon in placing more public pressure for less peaking of power production, even though no flow regulation is specified in the Hells Canyon National Recreation Area Act.

B<sub>3</sub>F<sub>3</sub> Snake River Wild and Scenic River Study compared with Existing Upstream Power

Authorization of study status for the lower stretch of the Snake River down to Asotin, Washington, makes a minor positive impact on existing upstream power in that most of the energy production is run-of-river production that tends to keep flow going on down the river to thus provide better flow conditions through study section of the river.

B<sub>3</sub>F<sub>4</sub> Snake River Wild and Scenic River Study compared with Upstream Potential Power

Authorization of study status for the lower stretch of the Snake River down to Asotin, Washington, makes a minor negative

B<sub>3</sub> Series - F Group (continued)

impact on upstream potential power in that power development upstream may involve storage regulation and change in flow that would be adverse to the wild river needs to maintain this despite the fact that no flow regulation is to be specified in the Hells Canyon National Recreation Area Act.

B<sub>3</sub>F<sub>5</sub> Snake River Wild and Scenic River Study compared with Lower Snake River Dams

Authorization of study status for the lower stretch of the Snake River down to Asotin, Washington, makes a minor negative impact on Lower Snake dams in that it may limit the integration of additional power production to combine with down river dams. It may have a minor positive impact to encourage continued flow that might not occur if the public pressures were not present under wild river concern.

B<sub>3</sub>F<sub>6</sub> Snake River Wild and Scenic River Study compared with Lower Columbia Power Dams

Authorization of study status for the lower stretch of the Snake River down to Asotin, Washington, makes a minor negative impact on the dams and their power output by limiting the integration of additional hydropower production. It may have a minor positive impact to encourage continued flow that might not occur if public pressure were not present under the wild rivers concern.

B<sub>3</sub>F<sub>7</sub> Snake River Wild and Scenic River Study compared with Potential Power Within the Canyon

Authorization of study status for the lower stretch of the Snake River down to Asotin, Washington, makes a major negative impact of preventing the possible development of power within the Hells Canyon reach of the river.

B<sub>3</sub>F<sub>8</sub> Snake River Wild and Scenic River Study compared with Pumped Storage Potential

Authorization of study status for the lower stretch of Snake River down to Asotin, Washington, makes a major negative impact of discouraging and preventing pumped storage hydrodevelopments in the study status reach of the river.

B<sub>3</sub> Series - G Group

B<sub>3</sub>G<sub>1</sub> Snake River Wild and Scenic River Study compared with Anadromous Fishery

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a positive impact on anadromous fishery in the Snake River by helping insure free flowing status and directing the attention of the public for the need to conserve the fishery resource.

B<sub>3</sub>G<sub>2</sub> Snake River Wild and Scenic River Study compared with Resident Fishery

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a positive impact on the resident fishery in the Snake River by helping insure free flowing status. There may be a minor negative impact of directing too much attention to the area and thus pushing more visitors into the area than is good for the fishery resources.

B<sub>3</sub>G<sub>3</sub> Snake River Wild and Scenic River Study compared with Wildlife

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a positive impact on the wildlife and wildlife habitat in that wild river status provides a positive program to preserve and enhance the wildlife characteristics of an area. A minor negative impact may result due to overcrowding with visitors brought in by the study and possible designation of the area for "national" status.

B<sub>3</sub>G<sub>4</sub> Snake River Wild and Scenic River Study compared with Idaho Power Company Mitigation

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a minor positive effect on the Idaho Power Company mitigation because it would tend to assist in their efforts and make a larger impact than if the study were not in force and potential wild river status achieved.

B<sub>3</sub>G<sub>5</sub> Snake River Wild and Scenic River Study compared with Lower Columbia Mitigation

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a minor positive impact on Lower Columbia mitigation in that it will assist other efforts and help focus attention on the needs for enhancing wildlife habitat thus strengthening those aspects of fish and wildlife considerations.

B<sub>3</sub> Series - H Group

B<sub>3</sub>H<sub>1</sub> Snake River Wild and Scenic River Study compared with Water Quality Control

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a positive impact to helping provide better water quality control because the wild rivers act specifies that water quality will be protected and enhanced.

B<sub>3</sub> Series - I Group

B<sub>3</sub>I<sub>1</sub> Snake River Wild and Scenic River Study compared with Columbia River Compact Negotiations

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes for a positive impact to negotiations on the Columbia River Compact in that it brings the federal government into a stronger and more knowledgeable role in that section of the river and places a stronger need for coordinated management of the resource. It might have a slight negative impact in that it brings more agencies into the involvement and may bring some state government resistance.

B<sub>3</sub>I<sub>2</sub> Snake River Wild and Scenic River Study compared with Subordination Clause

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a negative impact on the subordination clause in that it brings public pressure to have continued flow and less depletion and flow manipulation. This is in spite of the restraints in the Hells Canyon National Recreation Act that stipulates no wild river act regulations can restrain or specify flow regulations.

B<sub>3</sub>I<sub>3</sub> Snake River Wild and Scenic River Study compared with Idaho State Water Plan

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a minor positive impact on the Idaho State Water Plan in that the plan calls for study and implementation of wild and scenic rivers, but it also has a minor effect in that it gives fuel to public pressure to regulate flows to have less depletion and less fluctuation.

B<sub>3</sub> Series - I Group (continued)

B<sub>3</sub>I<sub>4</sub> Snake River Wild and Scenic River Study compared with Washington State Policy on Stream Maintenance Flows

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a positive impact on the Washington State policy on maintaining some minimum flow of the Snake River below Clarkston, Washington, because the intent of wild rivers is to maintain free flowing status and to provide for preserving those characteristics that are enhanced by higher minimum flows.

B<sub>3</sub>I<sub>5</sub> Snake River Wild and Scenic River Study compared with Oregon State Policy of Hells Canyon Preservation

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a positive impact on Oregon State's policy of preservation of Hells Canyon in a more natural state. The study status then contributes to that stated Policy.

B<sub>3</sub>I<sub>6</sub> Snake River Wild and Scenic River Study compared with Corps of Engineers Columbia River and Tributaries Review Study (CR&T Study)

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a minor positive effect to the Corps of Engineers CR&T study in that it provides more information and may arrive at a decision that establishes that nothing should be done. However, it may have a minor negative effect in that planning in that section of the river for full utilization of resources and integration with other components of planned development may be foregone.

B<sub>3</sub>I<sub>7</sub> Snake River Wild and Scenic River Study compared with Pacific Northwest River Basins Commission Comprehensive, Coordinated Joint Plan (CCJP)

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a minor positive impact on the CCJP study in that it will provide information for making a decision on the status of the river under study status, namely, the lower stretch down to Asotin, Washington, and may eliminate alternatives that would otherwise need to be investigated. However, it may eliminate certain possibilities for integrated and planned development in the Snake River system and thus have a minor negative effect to the CCJP plan.

B<sub>3</sub> Series - I Group (continued)

B<sub>3</sub>I<sub>8</sub> Snake River Wild and Scenic River Study compared with Interbasin Water Transfers

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a major negative impact on possibilities of interbasin water transfers in that it would tend to eliminate such possibilities, particularly those schemes that would take water out above Asotin.

B<sub>3</sub>I<sub>9</sub> Snake River Wild and Scenic River Study compared with Reservation Doctrine

Authorization of study status for the lower stretch of the Snake River to Asotin, Washington, makes a positive impact on federal reserved rights claim to water because it tends to put the federal government into a stronger role in managing the water resources.

B<sub>4</sub> Series - C Group

B<sub>4</sub>C<sub>1</sub> Reservoir Recreation compared with Navigation Servitude

Provisions and opportunities for reservoir recreation will have a negative impact on navigation servitude because impoundments of the pattern without locks above Asotin tend to limit navigation and make an assignment of use of the river that may not leave an option for navigation use on federal exercise of that right or claim. However, impoundments for navigation such as locks and reservoir at Asotin would have a minor positive effect of exercising navigation servitude.

B<sub>4</sub>C<sub>2</sub> Reservoir Recreation compared with Navigation Above Asotin

Provisions and opportunities for reservoir recreation will have a negative impact on navigation above Asotin in that impoundments that would mainly serve recreational use would tend to present commercial navigation above Asotin and prevent certain types of recreation jet type boating. However, it could provide barge type traffic to the mineral deposits like Lime Point.

B<sub>4</sub>C<sub>3</sub> Reservoir Recreation compared with Navigation Below Asotin

Provisions and opportunities for reservoir recreation will have a negative effect on potential for increased barge traffic that might be curtailed by impoundments and dams above Asotin. However, it could have a positive effect if reservoir storage was



B<sub>4</sub>C<sub>3</sub> (continued)

specifically allocated to improving flow and stage in the lower stretches of the river and provide barge transportation above Asotin by provision for locks or transfer at Asotin over a conventional dam.

B<sub>4</sub> Series - D Group

B<sub>4</sub>D<sub>1</sub> Reservoir Recreation compared with Brownlee Reservoir Operation

Provisions and opportunities for reservoir recreation will have a negative impact on Brownlee Reservoir flood control operation. The need to maintain higher stage in the reservoir for optimum recreational use conflicts with the needs of flood control storage.

B<sub>4</sub>D<sub>2</sub> Reservoir Recreation compared with Upstream Reservoir Operation

Provisions and opportunities for reservoir recreation will have a negative impact on upstream reservoir flood control operation in that the need to maintain higher stage in the reservoir for optimum recreation use tends to conflict with needs for flood control storage.

B<sub>4</sub> Series - E Group

B<sub>4</sub>E<sub>1</sub> Reservoir Recreation compared with Existing Ranching Within Canyon

Provisions and opportunities for reservoir recreation will have a minor negative effect in that it tends to encourage more visitation into the canyon which might interfere with grazing use in the canyon. It may have provided a minor positive impact in the stretch above Hells Canyon by providing easier access to land areas used for grazing.

B<sub>4</sub>E<sub>2</sub> Reservoir Recreation compared with Existing Upstream Agriculture

Provisions and opportunities for Reservoir Recreation will have a negative impact on upstream agriculture because operation of reservoirs for recreation above the canyon reach and even for Brownlee Reservoir means limiting the use for irrigation in amount or timing. On a dry year the tendency to store the detriment of a downstream use for recreation is always there.

B<sub>4</sub> Series - E Group (continued)

B<sub>4</sub>E<sub>3</sub> Reservoir Recreation compared with Potential Upstream Agriculture

Provisions and opportunities for reservoir recreation will have negative impact on upstream potential for agricultural development by conflicting with the desire to have a fuller or a constant stage in reservoirs like Brownlee Reservoir.

B<sub>4</sub>E<sub>4</sub> Reservoir Recreation compared with Washington and Oregon Potential Agriculture

Provisions and opportunities for reservoir recreation will have a minor negative effect on agricultural use of the water in Washington or Oregon because holding water for maintaining optimum recreation use level in reservoirs like Brownlee Reservoir may not fit with needs for agricultural use. There is some minor chance that storage for recreation use upstream might occur such as to be advantageous to the downstream users in Washington or Oregon.

B<sub>4</sub> Series - F Group

B<sub>4</sub>F<sub>1</sub> Reservoir Recreation compared with Hells Canyon F.P.C. License

Provisions and opportunities for reservoir recreation will have a negative impact on provisions of the Hells Canyon F.P.C. license in that the tendency would be to alter flow releases to maintain better lands for recreational use provisions of the F.P.C. license are primarily directed toward power releases and downstream flow minimums.

B<sub>4</sub>F<sub>2</sub> Reservoir Recreation compared with Existing Power Within Canyon

Provisions and opportunities for reservoir recreation will have a negative impact on production of energy at existing power dams in the Hells Canyon reach in that to provide optimum recreational benefits there should be minimal fluctuations in reservoir level and holding of Brownlee Reservoir level at high level during recreational season when power flows from natural flow may be down.

B<sub>4</sub>F<sub>3</sub> Reservoir Recreation compared with Existing Upstream Power

Provisions and opportunities for reservoir recreation will have a negative impact on production of energy at existing upstream power dams in that to provide optimum recreational benefits there would be a tendency to keep levels from fluctuating and to maintain reservoir levels during the low flow season.

B<sub>4</sub> Series - F Group (continued)

B<sub>4</sub>F<sub>4</sub> Reservoir Recreation compared with Upstream Power Potential

Provisions and opportunities for reservoir recreation will have a negative impact on upstream power potential in that use for recreation may conflict with power release needs. There may be a minor positive impact that needs to develop new reservoirs to provide for new energy production may provide more reservoir than could have some recreational use that might not be possible otherwise.

B<sub>4</sub>F<sub>5</sub> Reservoir Recreation compared with Lower Snake Power Dams

Provisions and opportunities for reservoir recreation will have a negative impact on energy production from Lower Snake power dams due to the tendency to want to limit power peaking that causes reservoir fluctuation.

B<sub>4</sub>F<sub>6</sub> Reservoir Recreation compared with Lower Columbia Power Dams

Provisions and opportunities for reservoir recreation will have a minor negative impact on energy production from Lower Columbia power dams due to the tendency to want to limit peaking releases that cause reservoir fluctuations; the further downstream the less the impact.

B<sub>4</sub>F<sub>7</sub> Reservoir Recreation compared with Potential Power Within the Reach

Provisions and opportunities for reservoir recreation will have a major positive impact that if impoundment for power development were permitted it would provide some reservoir recreational visitation and use that otherwise would not be at all possible. The use of new power dams for energy production may still interfere with reservoir recreational use.

B<sub>4</sub>F<sub>8</sub> Reservoir Recreation compared with Pumped Storage Development

Provisions and opportunities for reservoir recreation will have a minor negative impact that if new lower reservoirs were developed they would provide some recreational use of reservoir recreation type, but there is generally negative impact that at least upper reservoirs of pumped storage do not permit use of the reservoir for recreational use.

B<sub>4</sub> Series - G Group

B<sub>4</sub>G<sub>1</sub> Reservoir Recreation compared with Anadromous Fishery

Provisions and opportunities for reservoir recreation will

B<sub>4</sub>G<sub>1</sub> (continued)

have a major negative impact on anadromous fishery in that reservoirs tend to limit migration of the anadromous fish.

B<sub>4</sub>G<sub>2</sub> Reservoir Recreation compared with Resident Fishery

Provisions and opportunities for reservoir recreation will have a negative impact on the resident fishery in that spawning habitat may be eliminated and temperature and fluctuation be adverse to the resident fishery. In small streams and in very low flow situations, it is possible to have a positive impact and some reservoirs do produce a new type of fishery that might be productive to recreational use than free flowing streams.

B<sub>4</sub>G<sub>3</sub> Reservoir Recreation compared with Wildlife

Provisions and opportunities for reservoir recreation will have a negative impact on wildlife to the extent of flooding out habitat and often bringing in higher hunting pressure than the resource can stand. However, for waterfowl often the reservoir can provide a definite advantage of providing flatwater and habitat for support of ducks and geese.

B<sub>4</sub>G<sub>4</sub> Reservoir Recreation compared with Idaho Power Company Mitigation

Provisions and opportunities for reservoir recreation will have a minor negative impact to Idaho Power Co. mitigation in that the reservoir recreational use may be contributing to the deterioration of the fish and wildlife resource and thus make it necessary to provide more mitigation. It could be a very minor positive effect of providing new wildlife like wildfowl that are counted positively in accounting for losses and benefits.

B<sub>4</sub>G<sub>5</sub> Reservoir Recreation compared with Lower Snake Mitigation

Provisions and opportunities for reservoir recreation will have a minor negative impact to Lower Snake River mitigation because reservoir recreation may tend to cause deterioration in fish and wildlife in the Lower Snake Reach.

B<sub>4</sub> Series - H Group

B<sub>4</sub>H<sub>1</sub> Reservoir Recreation compared with Water Quality Control

Provisions and opportunities for reservoir recreation will have a negative impact on water quality control usually causing higher temperatures and temperature changes that are adverse to water quality. However, in some cases, reservoirs have actually

B<sub>4</sub>H<sub>1</sub> (continued)

served as purifier and eliminator of certain pollutants and kept them from going on down the river. This might be termed a minor positive impact.

B<sub>4</sub> Series - I Group

B<sub>4</sub>I<sub>1</sub> Reservoir Recreation compared with Columbia River Compact Negotiation

Provisions and opportunities for reservoir recreation will have a minor negative impact on compact negotiations in that it introduces another use that must be accounted for and considered in a compact. It usually brings into play additional management agencies that must be accommodated in a compact.

B<sub>4</sub>I<sub>2</sub> Reservoir Recreation compared with Subordination Clause

Provisions and opportunities for reservoir recreation will have a positive impact on the subordination clause because reservoirs tend to hold back water in higher portions of the watershed providing more options for the people in the upstream places.

B<sub>4</sub>I<sub>3</sub> Reservoir Recreation compared with Idaho State Water Plan

Provisions and opportunities for reservoir recreation will have a positive impact on the Idaho water plan in that the objectives of plan are designed to protect and enhance recreational opportunities in Idaho.

B<sub>4</sub>I<sub>4</sub> Reservoir Recreation compared with Washington State Policy on Stream Maintenance Flow

Provisions and opportunities for reservoir recreation will have a minor positive impact on the Washington State policy on stream maintenance in that reservoirs used for recreational use will tend to preserve and enhance flows that would normally be lower.

B<sub>4</sub>I<sub>5</sub> Reservoir Recreation compared with Oregon State Policy on Hells Canyon Preservation

Provisions and opportunities for reservoir recreation will have a negative impact on Hells Canyon preservation in its more natural state. More reservoirs for recreation on new impoundments within the reach would conflict with the announced Oregon State policy. There may be a minor positive impact that recreational

B<sub>4</sub>I<sub>5</sub> (continued)

reservoir use upstream on reservoirs of Idaho Power Co. dams may take a visitation load off the undammed reach that appears now to be Oregon State's concern. -

B<sub>4</sub>I<sub>6</sub> Reservoir Recreation compared with Corps of Engineers - Columbia River and Tributaries Study

Provisions and opportunities for reservoir recreation will have a positive impact on the Corps of Engineers CR&T study in that it gives a resource use that has developed considerably recently and provides a very viable alternative and benefit to plan for in any future development.

B<sub>4</sub>I<sub>7</sub> Reservoir Recreation compared with Pacific Northwest River Basin Commission's Comprehensive, Coordinated Joint Plan

Provisions and opportunities for reservoir recreation will have a positive impact on the Pacific Northwest River Basin Commission's CCJP plan in that it gives a resource use that has developed considerable demand and provides a very viable alternative and benefit to plan for in any future development.

B<sub>4</sub>I<sub>8</sub> Reservoir Recreation compared with Interbasin Water Transfers

Provisions and opportunities for reservoir recreation will have negative impact to interbasin transfers in that water fluctuations of interbasin transfers are not likely to be compatible with recreational use. However, new impoundments within the Hells Canyon reach would be necessary to implement certain transfer schemes thus providing a possible minor positive impact.

B<sub>4</sub>I<sub>9</sub> Reservoir Recreation compared with Reservation Doctrine

Provisions and opportunities for reservoir recreation will have a negative impact on federal reservation claims to water in that the present recreational use and control of water on reservoirs may be in conflict with future desired uses of water arising on federal reserve lands.

C<sub>1</sub> Series - C Group

C<sub>1</sub>C<sub>2</sub> Navigation Servitude compared with Navigation Above Asotin

A national policy of navigation servitude has a major positive impact on navigation above Asotin because it preserves the option of the federal government in encouraging and providing river use for navigation.

C<sub>1</sub> Series - C Group (continued)

C<sub>1</sub>C<sub>3</sub> Navigation Servitude compared with Navigation Below Asotin

A national policy of navigation servitude has a major positive impact in navigation below Asotin because it preserves the option of the federal government in encouraging and providing river use for navigation.

C<sub>1</sub> Series - D Group

C<sub>1</sub>D<sub>1</sub> Navigation Servitude compared with Brownlee Reservoir Operation

A national policy of navigation servitude has a negative impact on Brownlee Reservoir flood control operation in that on occasions flood control operation may be adverse to claim of navigation servitude. This is minimized by having the Corps of Engineers responsible for both considerations.

C<sub>1</sub>D<sub>2</sub> Navigation Servitude compared with Upstream Reservoir Operation

A national policy of navigation servitude has a minor negative impact on upstream reservoir flood control operations in that on occasions flood control operation may be adverse to claim of navigation servitude having blocked future use for navigation by a flood control structure.

C<sub>1</sub> Series - E Group

C<sub>1</sub>E<sub>1</sub> Navigation Servitude compared with Existing Ranching in the Canyon

A national policy of navigation servitude has a positive impact on existing ranching in the canyon in that exercise of navigation servitude has helped to serve the needs of the ranches through navigation that has been supported to some extent by the federal government.

C<sub>1</sub>E<sub>2</sub> Navigation Servitude compared with Existing Upstream Agriculture

A national policy of navigation servitude has a negative impact in that exercise of navigation servitude may have prevented less expensive damming of rivers in some cases and developing of cheaper crossings of rivers than if the servitude had not been exercised. However, it may contribute a positive impact in exercising the servitude and encouraging water transportation that may permit cheaper transportation of upstream agricultural goods.

C<sub>1</sub> Series - E Group (continued)

C<sub>1</sub>E<sub>3</sub> Navigation Servitude compared with Potential Upstream Agriculture

A national policy of navigation servitude has a negative impact in the exercise of navigation servitude that may prevent less expensive damming or diverting of river waters for irrigation. There could be a positive impact in that exercise of the navigation servitude might provide for cheaper transportation of agricultural goods.

C<sub>1</sub>E<sub>4</sub> Navigation Servitude compared with Washington and Oregon Potential Agriculture

A national policy of navigation servitude has a positive impact on agriculture potential in Washington and Oregon because exercise of navigation servitude has provided a less expensive transportation. It may cause a minor negative impact in that exercise of navigation servitude may be cause for more expensive diversion or river crossing.

C<sub>1</sub> Series - F Group

C<sub>1</sub>F<sub>1</sub> Navigation Servitude compared with Hells Canyon FPC License

A national policy of navigation servitude has a negative impact on the Hells Canyon FPC license because exercise of the navigation servitude may encourage a change or modification in the FPC license.

C<sub>1</sub>F<sub>2</sub> Navigation Servitude compared with Existing Power Within the Canyon

A national policy of navigation servitude has a negative impact on existing power production possibilities within the canyon in that an exercise of the navigation servitude may limit the releases to the detriment of power production.

C<sub>1</sub>F<sub>3</sub> Navigation Servitude compared with Existing Upstream Power

A national policy of navigation servitude has a negative impact on existing upstream power production in that an exercise of the navigation servitude may mean curtailing releases to the detriment of power production.

C<sub>1</sub>F<sub>4</sub> Navigation Servitude compared with Upstream Power Potential

A national policy of navigation servitude has a negative impact on the possible production of power at upstream potential power sites in that exercise of navigation servitude may mean curtailing releases in the river.



C<sub>1</sub> Series - F Group (continued)

C<sub>1</sub>F<sub>5</sub> Navigation Servitude compared with Lower Snake Power Dams

A national policy of navigation servitude has a negative impact on the Lower Snake power dams in that exercise of navigation servitude requires operation of locks to the detriment of power production and requiring more navigational aids.

C<sub>1</sub>F<sub>6</sub> Navigation Servitude compared with Lower Columbia Power Dams

A national policy of navigation servitude has a negative impact on the Lower Columbia power dams in that exercise of navigation servitude requires operation of locks to the detriment of power production and requiring of navigational aids plus maintenance of channel depths in certain reaches.

C<sub>1</sub>F<sub>7</sub> Navigation Servitude compared with Potential Power Within Canyon

A national policy of navigation servitude has a negative impact on potential power within the Hells Canyon undammed reach in that navigation servitude encourages the existing river boat navigation which would not be possible with high head dams for power.

C<sub>1</sub>F<sub>8</sub> Navigation Servitude compared with Pumped Storage Potential

A national policy of navigation servitude has a negative impact on pumped storage development in the Hells Canyon reach of the river in that such operations may fluctuate the flows and cause navigation problems.

C<sub>1</sub> Series - G Group

C<sub>1</sub>G<sub>1</sub> Navigation Servitude compared with Anadromous Fishery

A national policy of navigation servitude has a major negative impact on anadromous fishery in that exercise of encouraging navigation development with locks and dams has caused severe stress on runs of anadromous fish.

C<sub>1</sub>G<sub>2</sub> Navigation Servitude compared with Resident Fishery

A national policy of navigation servitude has a major negative impact on resident fishery in that exercise of encouraging navigation has caused severe stress on resident fishery.

C<sub>1</sub> Series - G Group (continued)

C<sub>1</sub>G<sub>3</sub> Navigation Servitude compared with Wildlife

A national policy of navigation servitude has a negative impact on wildlife in that through navigation servitude that has encouraged navigation use and construction, the wildlife habitat has been stressed.

C<sub>1</sub>G<sub>4</sub> Navigation Servitude compared with Idaho Power Company Mitigation

A national policy of navigation servitude has a negative impact on Idaho Power Company mitigation in that the argument has been that navigation activities and encouragement by the federal government has meant the federal government should provide mitigation, not private power.

C<sub>1</sub>G<sub>5</sub> Navigation Servitude compared with Lower Snake Mitigation

A national policy of navigation servitude has a positive impact on Lower Snake mitigation because the policy of encouraging navigation as exemplified by the navigation servitude has provided mostly federal development and thus placed responsibility for mitigating losses on the federal government.

C<sub>1</sub> Series - H Group

C<sub>1</sub>H<sub>1</sub> Navigation Servitude compared with Water Quality Control

A national policy of navigation servitude has a negative impact on water quality control in that encouragement of navigation and keeping more federal control has resulted in delayed action to work toward better water quality control.

C<sub>1</sub> Series - I Group

C<sub>1</sub>I<sub>1</sub> Navigation Servitude compared with Columbia River Compact Negotiations

A national policy of navigation servitude has a negative impact on Columbia River Compact negotiations in that the servitude has encouraged more federal control and less tendency for the states to try to reach common ground necessary for implementing a compact.

C<sub>1</sub>I<sub>2</sub> Navigation Servitude compared with Subordination Clause

A national policy of navigation servitude has a negative impact on the subordination clause due to the tendency to exercise control of the river through federal action or restraint while the subordination clause is sponsored by local or state entities.

C<sub>1</sub> Series - I Group

C<sub>1</sub>I<sub>3</sub> Navigation Servitude compared with Idaho State Water Plan

A national policy of navigation servitude has a minor negative impact on a state water plan in that it may limit action to project certain plans and objectives due to doubt as state authority to foster certain developments in navigable streams.

C<sub>1</sub>I<sub>4</sub> Navigation Servitude compared with Washington State Policy on Stream Maintenance Flows

A national policy of navigation servitude has a minor negative impact on Washington State policy to maintain certain minimum flows in that keeping open to transportation lower stretches of the Snake River has not permitted storage on the main stems of rivers that would help maintain the minimum flows.

C<sub>1</sub>I<sub>5</sub> Navigation Servitude compared with Oregon State Policy of Preservation of Hells Canyon

A national policy of navigation servitude has a minor negative impact on Oregon State policy of preservation of the Hells Canyon in that navigation servitude tends to provide for holding open the option of navigation.

C<sub>1</sub>I<sub>6</sub> Navigation Servitude compared with Corps of Engineers Columbia River and Tributary Study

A national policy of navigation servitude has a positive impact on Corps of Engineers CR&T study because as the planning agency for navigation it has a stronger hand in what can be done.

C<sub>1</sub>I<sub>7</sub> Navigation Servitude compared with Pacific Northwest River Basins Commission - Comprehensive Coordinated Joint Plan

A national policy of navigation servitude has a positive impact on CCJP plan because it tends to give more reason for the federal government to be active in decisions for planning.

C<sub>1</sub>I<sub>8</sub> Navigation Servitude compared with Interbasin Water Transfers

A national policy of navigation servitude has a negative impact on interbasin water transfers in that holding open options for navigation may conflict with schemes that would divert for interbasin transfers.

C<sub>1</sub>I<sub>9</sub> Navigation Servitude compared with Reservation Doctrine

A national policy of navigation servitude has a positive impact on the federal reserve lands claim to water in that it would give more federal control to waters.

C<sub>2</sub> Series - C Group

C<sub>2</sub>C<sub>3</sub> Navigation Above Asotin compared with Navigation Below Asotin

Navigation above Asotin has a positive impact on navigation below Asotin because it would tend to reinforce and generate greater benefits of river transport.

C<sub>2</sub> Series - D Group

C<sub>2</sub>D<sub>1</sub> Navigation Above Asotin compared with Brownlee Reservoir Operation

Navigation above Asotin has a negative impact on Brownlee Reservoir flood control operation in that navigation may tend to encourage flow releases that are not compatible with flood release from the reservoir.

C<sub>2</sub>D<sub>2</sub> Navigation Above Asotin compared with Upstream Reservoir Operation

Navigation above Asotin has a negative impact on upstream reservoirs' flood control operation in that navigation above Asotin may tend to encourage flow releases that are not compatible with flood release from the upstream reservoirs.

C<sub>2</sub> Series - E Group

C<sub>2</sub>E<sub>1</sub> Navigation Above Asotin compared with Existing Ranching Within Canyon

Navigation above Asotin has a positive impact on existing ranching in the canyon in that it provides an access to the ranches and cheap method of transporting supplies and goods for marketing.

C<sub>2</sub>E<sub>2</sub> Navigation Above Asotin compared with Existing Upstream Agriculture

Navigation above Asotin has a negative impact on existing upstream agriculture in that maintaining high enough flows for navigation may interfere with upstream diversions for irrigation.

C<sub>2</sub>E<sub>3</sub> Navigation Above Asotin compared with Potential Upstream Agriculture

Navigation above Asotin has a negative impact on potential upstream irrigation because maintaining flows for navigation above Asotin will limit the extent to which irrigation diversions upstream can or should be made.

C<sub>2</sub> Series - E Group (continued)

C<sub>2</sub>E<sub>4</sub> Navigation Above Asotin compared with Washington and Oregon Agricultural Potential

Navigation above Asotin has a positive impact on potential agricultural development downstream in Oregon and Washington in that maintaining flows for navigation in the reach of the Snake River above Asotin will tend to provide assurance of higher flows for downstream irrigation use. It would build up flows during natural low periods at the end of summer.

C<sub>2</sub> Series - F Group

C<sub>2</sub>F<sub>1</sub> Navigation Above Asotin compared with Hells Canyon F.P.C. License

Navigation above Asotin has a negative impact on the Hells Canyon F.P.C. license in that requests for higher flows for navigation are being asked for to change the low-flow stipulation allowed under the F.P.C. license.

C<sub>2</sub>F<sub>2</sub> Navigation Above Asotin compared with Existing Power Within Canyon

Navigation above Asotin has a negative impact on existing power production from power plants within the canyon because needs for higher and less fluctuating flow does not provide for best power production releases.

C<sub>2</sub>F<sub>3</sub> Navigation Above Asotin compared with Existing Upstream Power

Navigation above Asotin has a negative impact on existing upstream power production in that requirements navigations may not be compatible with optimum operational pattern for upstream power plants.

C<sub>2</sub>F<sub>4</sub> Navigation Above Asotin compared with Upstream Potential Power

Navigation above Asotin has a negative impact on upstream potential power operations because needs to maintain navigation may not fit in timing and magnitude for the flows to develop new power production.

C<sub>2</sub>F<sub>5</sub> Navigation Above Asotin compared with Lower Snake Power Dams

Navigation above Asotin has a positive impact on Lower Snake power dams, because maintaining higher flows for navigation helps maintain higher flows through the Lower Snake River power plants.

C<sub>2</sub> Series - F Group (continued)

C<sub>2</sub>F<sub>6</sub> Navigation Above Asotin compared with Lower Columbia Power Dams

Navigation above Asotin has a positive impact on lower Columbia power dams in that maintaining higher flows for navigation helps maintain higher flows through the lower Columbia power dams.

C<sub>2</sub>F<sub>7</sub> Navigation Above Asotin compared with Potential Power Within Canyon Reach

Navigation above Asotin has a major negative impact on developing the potential power within the Hells Canyon reach of the river because such prevents building high dams for power and would restrict flows and flow regulation favorable to power production.

C<sub>2</sub>F<sub>8</sub> Navigation Above Asotin compared with Pumped Storage Potential

Navigation above Asotin has a major negative impact on development of pumped storage power in the Hells Canyon reach because it would prohibit developing large lower reservoirs for the pumped storage development or fluctuations in the river would not be compatible with navigation.

C<sub>2</sub> Series - G Group

C<sub>2</sub>G<sub>1</sub> Navigation Above Asotin compared with Anadromous Fishery

Navigation above Asotin has a minor positive impact on anadromous fishery in that it tends to encourage higher flows that are more favorable to fish migration and encourages less fluctuation of flows that are harmful to fish movement. If locks were developed at Asotin, it would have a major negative impact.

C<sub>2</sub>G<sub>2</sub> Navigation Above Asotin compared with Resident Fishery

Navigation above Asotin has a positive impact on resident fishery in that it tends to encourage flows of the river that are more compatible with spawning and fish movement.

C<sub>2</sub>G<sub>3</sub> Navigation Above Asotin compared with Wildlife

Navigation above Asotin has a negative impact on wildlife because it brings more visitation to area that wild creatures may have difficulty living and breeding with excess visitation.

C<sub>2</sub>G<sub>4</sub> Navigation Above Asotin compared with Idaho Power Mitigation

Navigation above Asotin has a minor negative impact on Idaho Power mitigation because it may tend to let the losses and needs

C<sub>2</sub>G<sub>4</sub> (continued)

for mitigation be blamed on navigation. However, a minor positive impact on navigation above may accrue due to navigations claim to being damaged by Idaho Power Company power operations.

C<sub>2</sub>G<sub>5</sub> Navigation Above Asotin compared with Lower Snake Mitigation

Navigation above Asotin has a minor negative impact on Lower Snake mitigation in that activities above Asotin may be blamed for losses and damages in the Lower Snake River, but it could likewise have a minor positive impact of putting pressure to have the mitigation in the Lower Snake River adopted because it is a federal responsibility of navigation.

C<sub>2</sub> Series - H Group

C<sub>2</sub>H<sub>1</sub> Navigation Above Asotin compared with Water Quality Control

Navigation above Asotin has a negative impact on water quality control, because the traffic, development and visitation activity tend to cause some pollution in the river above Asotin. There may be a minor positive impact to water quality control in that navigation demands for higher minimum flows may help to provide better flows and prevent degradation of quality by other water uses.

C<sub>2</sub> Series - I Group

C<sub>2</sub>I<sub>1</sub> Navigation Above Asotin compared with Columbia River Compact Negotiations

Navigation above Asotin has a negative impact on Columbia River Compact negotiations because it introduces another use that must be provided for in allocating water flows and introduces other agencies into the management of the water.

C<sub>2</sub>I<sub>2</sub> Navigation Above Asotin compared with Subordination Clause

Navigation above Asotin has a negative impact on the subordination clause in that the needs for maintaining acceptable navigation flows above Asotin may be in conflict with desires of upstream users.

C<sub>2</sub>I<sub>3</sub> Navigation Above Asotin compared with Idaho State Water Plan

C<sub>2</sub>I<sub>3</sub> (continued)

Navigation above Asotin has a minor negative impact on the Idaho State Water Plan in that needs for maintaining acceptable flows for navigation above Asotin may conflict with indicated possible levels of water development for other purposes upstream of the Hells Canyon reach of the Snake River.

C<sub>2</sub>I<sub>4</sub> Navigation Above Asotin compared with Washington State Policy on Stream Maintenance Flows

Navigation above Asotin has a positive impact on the policy of the State of Washington to try to establish some minimum flow in the Snake River below Clarkston in that maintaining acceptable low flows, Asotin is, likewise, supporting higher minimum flows below Clarkston.

C<sub>2</sub>I<sub>5</sub> Navigation Above Asotin compared with Oregon State Policy - Hells Canyon Preservation

Navigation above Asotin has a positive impact on the announced policy of the State of Oregon to protect and preserve in the free flowing state the Hells Canyon portion of the Snake River because in providing higher minimum flows for navigation above Asotin, there is less chance for action that would not preserve Hells Canyon.

C<sub>2</sub>I<sub>6</sub> Navigation Above Asotin compared with Corps of Engineers - Columbia River and Tributaries Review Study

Navigation above Asotin has a positive impact on the Corps of Engineers - Columbia River and Tributaries review study in that it brings into the plan an additional potential use and another alternative for planning. It has minor impact of complicating the study.

C<sub>2</sub>I<sub>7</sub> Navigation Above Asotin compared with Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan

Navigation above Asotin has a positive impact on the Pacific Northwest River Basins Commission CCJP in that it brings into plan an additional potential use of the water. It has a minor negative impact of complicating the study.

C<sub>2</sub>I<sub>8</sub> Navigation Above Asotin compared with Interbasin Water Transfers

Navigation above Asotin has a major negative impact on inter-basin water transfers in that maintaining flows and open water movement above Asotin would conflict with possible interbasin water transfer schemes.



C<sub>2</sub> Series - I Group (continued)

C<sub>2</sub>I<sub>9</sub> Navigation Above Asotin compared with Reservation Doctrine

Navigation above Asotin has a positive impact on federal reservation doctrine in a claim to water arising on federal lands in that support of minimum flows for navigation above Asotin could be identified as a long-time federal use and right that has been exercised.

C<sub>3</sub> Series - D Group

C<sub>3</sub>D<sub>1</sub> Navigation Below Asotin compared with Brownlee Reservoir Operation

Navigation below Asotin has a minor negative impact on Brownlee Reservoir flood control operation in that maintaining acceptable navigation flows may interfere with needed flood control releases from Brownlee Reservoir.

C<sub>3</sub>D<sub>2</sub> Navigation Below Asotin compared with Upstream Reservoir Operation

Navigation below Asotin has a minor negative impact on upstream reservoir flood control operation in that maintaining acceptable navigation flows may interfere with needed flood control releases from upstream reservoirs.

C<sub>3</sub> Series - E Group

C<sub>3</sub>E<sub>1</sub> Navigation Below Asotin compared with Existing Ranching in the Canyon

Navigation below Asotin has a positive impact on existing ranching, because it helps provide a cheaper transportation for goods incoming and outgoing to the ranching.

C<sub>3</sub>E<sub>2</sub> Navigation Below Asotin compared with Existing Upstream Agriculture

Navigation below Asotin has a minor negative impact on the existing upstream agriculture, that above Weiser, in that needs for maintaining suitable flows in the section of the river below Asotin might conflict with the diversion needs for upstream irrigation. This is slight.

C<sub>3</sub>E<sub>3</sub> Navigation Below Asotin compared with Potential Upstream Agriculture

Navigation below Asotin has a negative impact on the potential upstream agriculture that might require higher irrigation diversions in that needs for maintaining suitable flows for navigation below Asotin might be jeopardized.

C<sub>3</sub> Series - E Group (continued)

C<sub>3</sub>E<sub>4</sub> Navigation Below Asotin compared with Washington and Oregon Agricultural Potential

Navigation below Asotin has a positive impact on downstream agricultural potential in Washington and Oregon in that maintaining flows in the stretch of river below Asotin would tend to ensure more flow for agricultural use in Oregon and Washington.

C<sub>3</sub> Series - F Group

C<sub>3</sub>F<sub>1</sub> Navigation Below Asotin compared with Hells Canyon F.P.C. License

Navigation below Asotin has a minor negative impact on the Hells Canyon F.P.C. license in that needs for navigation flow below Asotin may at times be adverse to the flow regulations specified in the Hells Canyon F.P.C. license.

C<sub>3</sub>F<sub>2</sub> Navigation Below Asotin compared with Existing Power Within Canyon

Navigation below Asotin has a negative impact on existing hydropower production within the Hells Canyon reach of the river in that needs for navigation flow below Asotin may at times be adverse to flow needs of fluctuation and quantity needed for power.

C<sub>3</sub>F<sub>3</sub> Navigation Below Asotin compared with Existing Upstream Power

Navigation below Asotin has a minor negative impact on existing upstream power production in that needs for navigation flow below Asotin may at times be adverse to power flow requirements upstream of the Hells Canyon reach of the river.

C<sub>3</sub>F<sub>4</sub> Navigation Below Asotin compared with Upstream Potential Power

Navigation below Asotin has a negative impact on potential upstream power in that needs for navigation flow may be adverse to power flow requirements for new upstream potential power production.

C<sub>3</sub>F<sub>5</sub> Navigation Below Asotin compared with Lower Snake Power Dams

Navigation below Asotin has a minor negative impact on Lower Snake power dams production in that lockages and control for navigation flow causes losses to power production at the Lower Snake power dams.

C<sub>3</sub> Series - F Group (continued)

C<sub>3</sub>F<sub>6</sub> Navigation Below Asotin compared with Lower Columbia Power Dams

Navigation below Asotin has a minor negative impact on Lower Columbia power dam production in that lockages and control for navigation flow causes losses to ultimate possible power at the Lower Columbia power dams. Navigation above Asotin has a positive impact on Lower Columbia power dams production in that maintaining higher minimum flows in the stretch above Asotin tends to keep flows up in the Lower Columbia River and the two uses are compatible.

C<sub>3</sub>F<sub>7</sub> Navigation Below Asotin compared with Potential Power Within Canyon Reach

Navigation below Asotin has a minor negative impact on power production potential in the Hells Canyon reach of the river because maintaining navigation in the stretch above Asotin conflicts with high dams and power fluctuations of flow that might be needed.

C<sub>3</sub>F<sub>8</sub> Navigation Below Asotin compared with Pumped Storage Potential

Navigation below Asotin has a negative impact on pumped storage potential because the need for having large scale lower reservoirs conflicts with keeping the river open to navigation and fluctuation in stage of river or reservoirs would be adverse to navigation above Asotin.

C<sub>3</sub> Series - G Group

C<sub>3</sub>G<sub>1</sub> Navigation Below Asotin compared with Anadromous Fishery

Navigation below Asotin has a negative impact on anadromous fishery in that boating activity generally disturbs the migration in the upper reaches. However, it could have minor positive impact in keeping the option of free flowing stream open above Asotin, making stream conditions better for fish movement.

C<sub>3</sub>G<sub>2</sub> Navigation Below Asotin compared with Resident Fishery

Navigation below Asotin has a negative impact on resident fishery in that boating or movement of river traffic in the stretches above Asotin tend to conflict with spawning and make increased fishing pressure above a desirable limit. There may be a minor positive impact that keeping navigation open to Johnson Bar makes stream conditions better for resident fish.

C<sub>3</sub>G<sub>3</sub> Navigation Below Asotin compared with Wildlife

C<sub>3</sub>G<sub>3</sub> (continued)

Navigation below Asotin has a minor negative impact on the wildlife in that navigation tends to increase visitation of people above Asotin which disturbs wildlife and wildlife habitat. It is a secondary effect that appears to occur.

C<sub>3</sub>G<sub>4</sub> Navigation Below Asotin compared with Idaho Power Mitigation

Navigation below Asotin has a minor positive impact in Idaho Power mitigation in that the navigation development may tend to take the brunt of mitigation for losses even up into the canyon reaches thus easing burden on Idaho Power Company mitigation obligation.

C<sub>3</sub>G<sub>5</sub> Navigation Below Asotin compared with Lower Snake Mitigation

Navigation below Asotin has a major negative impact on Lower Snake mitigation because it is one of the major reasons for development and makes necessary mitigation of losses.

C<sub>3</sub> Series - H Group

C<sub>3</sub>H<sub>1</sub> Navigation Below Asotin compared with Water Quality Control

Navigation below Asotin has a minor negative impact on water quality control in Hells Canyon reach of the Snake River in that traffic generated up river brings some pollution from boats, barges and spillage. However, there is a minor positive impact that navigation flow needs below Asotin tends to keep higher minimum flows that helps water quality control.

C<sub>3</sub> Series - I Group

C<sub>3</sub>I<sub>1</sub> Navigation Below Asotin compared with Columbia River Compact Negotiation

Navigation below Asotin has a negative impact to the Columbia River Compact negotiations in that it brings into play an additional factor of water use that must be accounted for in reaching agreement on management of the resources. It, likewise, brings additional agencies of federal government that must be considered.

C<sub>3</sub>I<sub>2</sub> Navigation Below Asotin compared with Subordination Clause

Navigation below Asotin has a minor negative impact on the subordination clause because this downstream requirement has been

C<sub>3</sub>I<sub>2</sub> (continued)

established and must be met and any upstream depletion attempts will impact on the flows for navigation.

C<sub>3</sub>I<sub>3</sub> Navigation Below Asotin compared with Idaho State Water Plan

Navigation below Asotin has a negative impact on the Idaho State Water Plan in that alternatives that might impinge on the navigation flows downstream of Asotin would be opposed by the navigation users.

C<sub>3</sub>I<sub>4</sub> Navigation Below Asotin compared with Washington State Policy on Stream Maintenance Flow

Navigation below Asotin has a positive impact on the policy of the State of Washington to maintain some minimum stream maintenance flow below Asotin in that navigation flow requirements below Asotin tend to favor keeping higher flows in the Washington portion of the Snake River.

C<sub>3</sub>I<sub>5</sub> Navigation Below Asotin compared with Oregon State Policy for Preservation of Hells Canyon

Navigation below Asotin has a positive impact on the announced policy of the State of Oregon to preserve and enhance the Hells Canyon area in that maintaining navigation downstream at high levels with less diversion tends to allow high flows through the canyon.

C<sub>3</sub>I<sub>6</sub> Navigation Below Asotin compared with Corps of Engineers - Columbia River and Tributary Study

Navigation below Asotin has a positive impact on the Columbia River and Tributaries study in that navigation still remains a strong purpose for any future use of the river below Asotin and plays an important role in any planning effort.

C<sub>3</sub>I<sub>7</sub> Navigation Below Asotin compared with Pacific Northwest River Basins Comprehensive Coordinated Joint Plan - CCJP

Navigation below Asotin has a positive impact on the Pacific Northwest River Basins CCJP in that it is important use of the river that must be acknowledged and accounted for in a plan.

C<sub>3</sub>I<sub>8</sub> Navigation Below Asotin compared with Interbasin Water Transfers

Navigation below Asotin has a major negative impact on interbasin water transfers in that maintaining navigation flows makes it difficult for any transfers through or from the Snake River.

C<sub>3</sub> Series - I Group (continued)

C<sub>3</sub>I<sub>9</sub> Navigation Below Asotin compared with Reservation Doctrine

Navigation below Asotin has a positive impact on the federal reserve doctrine of water rights because navigation use is normally controlled federally and makes for more federal control of the waters.

D<sub>1</sub> Series - D<sub>2</sub> Group

D<sub>1</sub>D<sub>2</sub> Brownlee Reservoir Operation compared with Upstream Reservoir Operation

Flood control operation of Brownlee Reservoir has a positive impact on upstream reservoir flood control operations in that it supports control of the river and provides more operation to prevent any downstream flood damage.

D<sub>1</sub> Series - E Group

D<sub>1</sub>E<sub>1</sub> Brownlee Reservoir Operation compared with Existing Ranching Within Canyon

Flood control operation of Brownlee Reservoir has a positive impact on existing ranching within the canyon in that it allows better control of floods through the Hells Canyon reach of the river.

D<sub>1</sub>E<sub>2</sub> Brownlee Reservoir Operation compared with Existing Upstream Agriculture

Flood control operation of Brownlee Reservoir has a minor positive impact on existing upstream agriculture because upstream storage reservoirs can be operated to serve irrigation use and not have to furnish storage for floods.

D<sub>1</sub>E<sub>3</sub> Brownlee Reservoir Operation compared with Potential Upstream Agriculture

Flood control operation of Brownlee Reservoir has a minor positive impact on potential upstream agriculture because more storage upstream can be devoted to agricultural purposes.

D<sub>1</sub> Series - E Group

D<sub>1</sub>E<sub>4</sub> Brownlee Reservoir Operation compared with Washington and Oregon Agricultural Potential

Flood control operation of Brownlee Reservoir has a positive impact on potential agricultural development in Washington and Oregon in that flood storage does help store water that can be used in downstream potential agricultural development. A minor negative impact could occur by forcing releases for flood control that might be used for irrigation releases later in the season.

D<sub>1</sub> Series - F Group

D<sub>1</sub>F<sub>1</sub> Brownlee Reservoir Operation compared with Hells Canyon F.P.C. License

Flood control operation of Brownlee Reservoir has a negative impact on the Hells Canyon F.P.C. license in that needs for flood control would interfere with power generation and flexibility of reservoir operation is hampered by the F.P.C. license restraints.

D<sub>1</sub>F<sub>2</sub> Brownlee Reservoir Operation compared with Existing Power Within Canyon

Flood control operation of Brownlee Reservoir has a negative impact on existing power production within the canyon because flood release at times do not allow for optimum power production.

D<sub>1</sub>F<sub>3</sub> Brownlee Reservoir Operation compared with Existing Upstream Power

Flood control operation of Brownlee Reservoir has a minor impact on existing upstream power in that restraints for filling Brownlee Reservoir may demand that flow releases be held back in storage upstream that would decrease power production at existing upstream power dams.

D<sub>1</sub>F<sub>4</sub> Brownlee Reservoir Operation compared with Upstream Power Potential

Flood control operation of Brownlee Reservoir has a minor negative impact on potential upstream power in that holding back in storage of upstream reservoirs to facilitate flood releases at Brownlee Reservoir would jeopardize upstream power production.

D<sub>1</sub>F<sub>5</sub> Brownlee Reservoir Operation compared with Lower Snake Power Dams

Flood control operation of Brownlee Reservoir has a positive impact on Lower Snake power dams in that storage for flood control

D<sub>1</sub>F<sub>5</sub> (continued)

does prolong and keep up low season flows that would come naturally. A minor negative impact might occur when higher releases from Brownlee Reservoir for flood control may raise tailwater at Lower Snake power dams and cause small decrease in power output.

D<sub>1</sub>F<sub>6</sub> Brownlee Reservoir Operation compared with Lower Columbia Power Dams

Same as above.

D<sub>1</sub>F<sub>7</sub> Brownlee Reservoir Operation compared with Potential Power Within Canyon

Flood control operation of Brownlee Reservoir has a positive impact to potential power within the reach in that storage in Brownlee would help make better power production than if no storage was possible at Brownlee.

D<sub>1</sub>F<sub>8</sub> Brownlee Reservoir Operation compared with Pumped Storage Potential

Flood control operation of Brownlee Reservoir has a positive impact on pumped storage potential in that it forms an existing reservoir for pumping from and provides flow regulation potential to keep water going into the other reservoirs at Oxbow and Hells Canyon.

D<sub>1</sub> Series - G Group

D<sub>1</sub>G<sub>1</sub> Brownlee Reservoir Operation compared with Anadromous Fishery

Flood control operation of Brownlee Reservoir has a negative impact on anadromous fishery in that release and fluctuation of flows for flood control and degradation of water quality of stored water may interfere with fish movement.

D<sub>1</sub>G<sub>2</sub> Brownlee Reservoir Operation compared with Resident Fishery

Flood control operation of Brownlee Reservoir has a negative impact on resident fishery in that releases and fluctuations of flows for flood control would be adverse to fish rearing and movement. A minor positive impact may occur in developing a reservoir fishery that is valuable.

D<sub>1</sub>G<sub>3</sub> Brownlee Reservoir Operation compared with Wildlife

Flood control operation of Brownlee Reservoir has a major negative impact on wildlife and wildlife habitat because it



D<sub>1</sub>G<sub>3</sub> (continued)

decreases some riparian vegetation and food sources and interferes with wintering areas of game animals. It has a minor positive impact that has helped wildfowl in providing more flat water and lake like resting areas.

D<sub>1</sub>G<sub>4</sub> Brownlee Reservoir Operation compared with Idaho Power Mitigation

Flood control operation of Brownlee Reservoir has a positive impact on the Idaho Power Co. mitigation in that it places some of the obligation for mitigation of losses on the function of flood control thus lessening the impact on Idaho Power Company's obligation.

D<sub>1</sub>G<sub>5</sub> Brownlee Reservoir Operation compared with Lower Snake Mitigation

Flood control operation of Brownlee Reservoir has a minor positive impact on the Lower Snake mitigation in that some of the obligation for correcting losses in the Lower Snake can be transferred to Brownlee operations.

D<sub>1</sub> Series - H Group

D<sub>1</sub>H<sub>1</sub> Brownlee Reservoir Operation compared with Water Quality Control

Flood control operation of Brownlee Reservoir has a negative impact on water quality control in that the impounding of water in Brownlee Reservoir tends to cause degradation in water quality. However, there is positive impact in that releases for flood control does sometimes provide dilution of pollutants downstream and a lagoon effect may help improve water quality.

D<sub>1</sub> Series - I Group

D<sub>1</sub>I<sub>1</sub> Brownlee Reservoir Operation compared with Columbia River Compact Negotiation

Flood control operation of Brownlee Reservoir has a negative impact on Columbia River Compact negotiations in that the additional function of river use and stipulations for flood control operation by the federal government makes it harder to reach a common ground for reaching agreement.

D<sub>1</sub> Series - I Group (continued)

D<sub>1</sub>I<sub>2</sub> Brownlee Reservoir Operation compared with Subordination Clause

Flood control operation of Brownlee Reservoir has a minor negative impact on the subordination clause because the federal government has control of flood control operations and can dictate to some degree the upstream regulation of flow.

D<sub>1</sub>I<sub>3</sub> Brownlee Reservoir Operation compared with Idaho State Water Plan

Flood control operation of Brownlee Reservoir has a positive impact on the Idaho water plan in that the flood control storage provides flexibility in multipurpose use of water in the Hells Canyon reach and upstream.

D<sub>1</sub>I<sub>4</sub> Brownlee Reservoir Operation compared with Washington State Policy on Stream Maintenance Flows

Flood control operation of Brownlee Reservoir has a positive impact on Washington State policy of maintaining some minimum stream maintenance flow in that the storage releases can be used to regulate and maintain a higher minimum flow.

D<sub>1</sub>I<sub>5</sub> Brownlee Reservoir Operation compared with Oregon State Policy on Hells Canyon Preservation

Flood control operation of Brownlee Reservoir has a minor positive impact on Oregon State policy on Hells Canyon preservation in that it enhances chances of maintaining better flows through the canyon.

D<sub>1</sub>I<sub>6</sub> Brownlee Reservoir Operation compared with Corps of Engineers Columbia River and Tributaries Study

Flood control operation of Brownlee Reservoir has a positive impact on the Corps of Engineers CR&T study in that it takes care of one of the planning needs in providing reasonably well for flood control below Hells Canyon and provides some flexibility in river control that is desirable for other purposes.

D<sub>1</sub>I<sub>7</sub> Brownlee Reservoir Operation compared with Pacific Northwest River Basins Commission Comprehensive Coordinated Joint Plan

Flood control operation of Brownlee Reservoir has a positive impact because flood control operations at Brownlee takes care of one of the more common water resources needs. It provides for ways of fluctuating flows that might be necessary in a joint plan of the Snake River.

D<sub>1</sub> Series - I Group (continued)

D<sub>1</sub>I<sub>8</sub> Brownlee Reservoir Operation compared with Interstate Water Transfers

Flood control operation of Brownlee Reservoir has a positive impact on interbasin transfers in that the reservoir presents a possibility for part of a pump-back scheme and storage gives better chance to provide regulation to a transfer conveyance of water.

D<sub>1</sub>I<sub>9</sub> Brownlee Reservoir Operation compared with Reservation Doctrine

Flood control operation of Brownlee Reservoir has a positive impact on the federal reservation claim to water in that federal reservation claim to water in that federal control is already exercised in the flood control function as administered by the U.S. Corps of Engineers.

D<sub>2</sub> Series - E Group

D<sub>2</sub>E<sub>1</sub> Upstream Reservoir Operation compared with Existing Ranching Within Canyon

Flood control operation of upstream reservoirs has a minor positive impact on existing ranching within the canyon in that it causes less disruptive flows in the canyon and helps keep better transportation into the Hells Canyon area.

D<sub>2</sub>E<sub>2</sub> Upstream Reservoir Operation compared with Existing Upstream Agriculture

Flood control operation of upstream reservoirs has a major positive impact on existing upstream agricultural use because it provides protection from floods and storage is sometimes helpful to irrigation. It has minor negative impact in that releases for flood control may jeopardize use of water for irrigation.

D<sub>2</sub>E<sub>3</sub> Upstream Reservoir Operation compared with Potential Upstream Agriculture

Flood control operation of upstream reservoir has a minor positive impact on potential upstream agriculture in that flood control storage can be used for new irrigation. It has a minor negative impact that releases for flood control space may jeopardize use of that water for irrigation.

D<sub>2</sub>E<sub>4</sub> Upstream Reservoir Operation compared with Washington and Oregon Agricultural Potential

D<sub>2</sub>E<sub>4</sub> (continued)

Flood control operation of upstream reservoirs has a positive impact on potential for agricultural development of irrigation in the river system in Oregon and Washington in that flood storage can be later used for irrigation downstream in Oregon and Washington.

D<sub>2</sub> Series - F Group

D<sub>2</sub>F<sub>1</sub> Upstream Reservoir Operation compared with Hells Canyon FPC License

Flood control operation of upstream reservoirs has a negative impact on the Hells Canyon FPC license in that flood control operations may need to be altered and it may necessitate an operation that could require change or waiver of the FPC license. This was true in 1977 when flood control operations were changed.

D<sub>2</sub>F<sub>2</sub> Upstream Reservoir Operation compared with Existing Power Within Canyon

Flood control operation of upstream reservoirs has a negative impact on existing power within the canyon in that flood control operations of upstream reservoirs would tend to increase flow releases when power may not be needed.

D<sub>2</sub>F<sub>3</sub> Upstream Reservoir Operation compared with Existing Upstream Power

Flood control operation of upstream reservoirs has a minor negative impact on upstream power production in that release for flood control would not in general be in phase with needs for power releases.

D<sub>2</sub>F<sub>4</sub> Upstream Reservoir Operation compared with Upstream Power Potential

Flood control operation of upstream reservoirs has a minor negative impact on upstream power potential in that flood control releases would tend to draw down reservoirs and decrease head when power head might need to be kept at a high level. However, a minor positive advantage might accrue that more storage capacity for power might provide storage capacity that would help flood control.

D<sub>2</sub>F<sub>5</sub> Upstream Reservoir Operation compared with Lower Snake Power Dam

Flood control operation of upstream reservoir has a minor negative impact in Lower Snake River power dams in that high flow releases may come at inopportune times for use in the Lower Snake power units.

D<sub>2</sub> Series - F Group (continued)

D<sub>2</sub>F<sub>6</sub> Upstream Reservoir Operation compared with Lower Columbia Power Dams

Flood control operation of upstream reservoirs has a minor negative impact on Lower Columbia River power dams in that high flow releases may come at inopportune times for use in Lower Columbia power dams.

D<sub>2</sub>F<sub>7</sub> Upstream Reservoir Operation compared with Potential Power in Hells Canyon

Flood control operation of upstream reservoirs has a minor negative impact on potential power in the Hells Canyon reach of the Snake River in that flood control releases may be at inopportune times for potential power developments in the Hells Canyon.

D<sub>2</sub>F<sub>8</sub> Upstream Reservoir Operation compared with Pumped Storage Potential

Flood control operation of upstream reservoirs has a negligible impact on pumped storage potential in the Hells Canyon reach of the Snake River.

D<sub>2</sub> Series - G Group

D<sub>2</sub>G<sub>1</sub> Upstream Reservoir Operation compared with Anadromous Fishery

Flood control operation of upstream reservoirs has a minor negative impact on the anadromous fishery in that the flood release may be causing flow levels that will discourage migration of fish.

D<sub>2</sub>G<sub>2</sub> Upstream Reservoir Operation compared with Resident Fishery

Flood control operation of upstream reservoirs has a minor negative impact on resident fishery in that releases may come at times and levels unfavorable to the fish.

D<sub>2</sub>G<sub>3</sub> Upstream Reservoir Operation compared with Wildlife

Flood control operation of upstream reservoir has a negligible impact on wildlife within the Hells Canyon reach of the Snake River.

D<sub>2</sub>G<sub>4</sub> Upstream Reservoir Operation compared with Idaho Power Mitigations

Flood control operation of upstream reservoirs has a negligible impact on Idaho Power mitigation obligations.

D<sub>2</sub> Series - G Group (continued)

D<sub>2</sub>G<sub>5</sub> Upstream Reservoir Operation compared with Lower Snake Mitigation

Flood control operation of upstream reservoirs has a negligible impact on Lower Snake mitigation.

D<sub>2</sub> Series - H Group

D<sub>2</sub>H<sub>1</sub> Upstream Reservoir Operation compared with Water Quality Control

Flood control operation of upstream reservoirs has a minor positive impact on water quality in the Hells Canyon reach of the Snake River in that flows will be higher during periods when normal flows are low. The higher flows improve dilution effect on any pollution

D<sub>2</sub> Series - I Group

D<sub>2</sub>I<sub>1</sub> Upstream Reservoir Operation compared with Columbia River Compact Negotiations

Flood control operation of upstream reservoirs has a minor negative impact on Columbia River Compact negotiations in that flood control operations upstream mean some differences in downstream and upstream desires for the flow regulations that must be arbitrated.

D<sub>2</sub>I<sub>2</sub> Upstream Reservoir Operation compared with Subordination Clause

Flood control operation of upstream reservoirs has a minor positive impact on subordination clause in that it gives some storage control space in the area of origin or upper region of the basin.

D<sub>2</sub>I<sub>3</sub> Upstream Reservoir Operation compared with Idaho State Water Plan

Flood control operation of upstream reservoir has a positive impact on the State Water Plan in that floods will tend to be depreciated in magnitude and storage of water will make for chance to make later uses for other beneficial purposes.

D<sub>2</sub>I<sub>4</sub> Upstream Reservoir Operation compared with Washington State Policy on Stream Maintenance Flow

Flood control operation of upstream reservoirs has a minor positive impact on Washington State policy on stream maintenance

D<sub>2</sub>I<sub>4</sub> (continued)

flows in that flood control release will tend to cause overall higher minimum flows distributing high stage flows to period of low flow.

D<sub>2</sub>I<sub>5</sub> Upstream Reservoir Operation compared with Oregon State Policy - Hells Canyon Preservation

Flood control operation of upstream reservoirs has a negligible impact on the policy of Oregon to preserve the Hells Canyon reach of the Snake River.

D<sub>2</sub>I<sub>6</sub> Upstream Reservoir Operation compared with Corps of Engineers - Columbia River and Tributary Review Study

Flood control operation of upstream reservoirs has a positive impact on the Corps of Engineers Columbia River and Tributary review study in that it gives more opportunity for control of water for additional planned use and conservation.

D<sub>2</sub>I<sub>7</sub> Upstream Reservoir Operation compared with Pacific Northwest River Basins Commission Comprehensive Coordinated Joint Plan

Flood control operation of upstream reservoirs has a positive impact on the Pacific Northwest River Basins Commission comprehensive coordinated joint plan in that it gives more opportunity for water control and provides opportunity for planned opportunities for water use.

D<sub>2</sub>I<sub>8</sub> Upstream Reservoir Operation compared with Interbasin Water Transfers

Flood control operation of upstream reservoirs has a minor positive impact in that storage and possible diversion of that storage to other basins would tend to keep high flow impact at a minimum.

D<sub>2</sub>I<sub>9</sub> Upstream Reservoir Operation compared with Reservation Doctrine

Flood control operation of upstream reservoir has a minor positive impact of fostering federal reservation doctrine because nominally the Corps of Engineers as a federal entity controls the water, and water rights have not been defined on the flood waters.

E<sub>1</sub> Series - E Group

E<sub>1</sub>E<sub>2</sub> Existing Ranching Within Canyon compared with Existing Upstream Agriculture

Existing ranching within the canyon has a minor positive impact on existing upstream agriculture in that range livestock

E<sub>1</sub>E<sub>2</sub> (continued)

provides support to feeding operation and related agricultural activity.

E<sub>1</sub>E<sub>3</sub> Existing Ranching Within Canyon compared with Potential Upstream Agriculture

Existing ranching within the canyon has a minor positive impact on potential upstream agriculture in providing range livestock for feeding and diversification in agriculture throughout the state.

E<sub>1</sub>E<sub>4</sub> Existing Ranching Within Canyon compared with Washington and Oregon Agricultural Potential

Existing ranching within the canyon has a minor positive impact on Washington's and Oregon's agricultural potential in providing range livestock for feeding and sales opportunities in the downstream states.

E<sub>1</sub> Series - F Group

E<sub>1</sub>F<sub>1</sub> Existing Ranching Within Canyon compared with Hells Canyon FPC License

Existing ranching within the canyon has a negligible minor negative impact on the Hells Canyon FPC license in that ranching interest tend to favor higher flows for access into the ranches.

E<sub>1</sub>F<sub>2</sub> Existing Ranching Within Canyon compared with Existing Power Within Canyon

Existing ranching within the canyon has a minor negative impact on existing power within the canyon in that ranchers tend to favor less fluctuating of flows that are sometimes desirable for power peaking operations.

E<sub>1</sub>F<sub>3</sub> Existing Ranching Within Canyon compared with Existing Upstream Power

Existing ranching within the canyon has a negligible impact on existing upstream power production.

E<sub>1</sub>F<sub>4</sub> Existing Ranching Within Canyon compared with Upstream Potential Power

Existing ranching within the canyon has a negligible impact on upstream potential power.



E<sub>1</sub> Series - F Group (continued)

E<sub>1</sub>F<sub>5</sub> Existing Ranching Within Canyon compared with Lower Snake Power Dams

Existing ranching within the canyon has a negligible impact on power production at the Lower Snake power dams.

E<sub>1</sub>F<sub>6</sub> Existing Ranching Within Canyon compared with Lower Columbia Power Dams

Existing ranching within the canyon has a negligible impact on power production at the Lower Columbia power dams.

E<sub>1</sub>F<sub>7</sub> Existing Ranching Within Canyon compared with Potential Power Within Canyon

Existing ranching within the canyon has a major negative impact on potential power within the Hells Canyon reach of Snake River in that the base of operations access points to range holdings would be flooded out.

E<sub>1</sub>F<sub>8</sub> Existing Ranching Within Canyon compared with Pumped Storage Potential

Existing ranching within the canyon has a minor negative impact on pumped storage potential in that some rangelands would be flooded out.

E<sub>1</sub> Series - G Group

E<sub>1</sub>G<sub>1</sub> Existing Ranching Within Canyon compared with Anadromous Fishery

Existing ranching within the canyon has a negative impact on anadromous fishery in that existing ranching creates some pollution and visitation pressures.

E<sub>1</sub>G<sub>2</sub> Existing Ranching Within Canyon compared with Resident Fishery

Existing ranching within the canyon has a negative impact on resident fishery in that ranching creates some pollution and visitation pressure.

E<sub>1</sub>G<sub>3</sub> Existing Ranching Within Canyon compared with Wildlife

Existing ranching within the canyon has a major negative impact on wildlife because range livestock are competing for food and habitat.

E<sub>1</sub> Series - G Group (continued)

E<sub>1</sub>G<sub>4</sub> Existing Ranching Within Canyon compared with Idaho Power Mitigation

Existing ranching within the canyon has a minor positive impact on Idaho Power's mitigation in that existing ranching can be blamed for some of the loss of wildlands and wildlife habitat.

E<sub>1</sub>G<sub>5</sub> Existing Ranching Within Canyon compared with Lower Snake Mitigation

Existing ranching within the canyon has a minor positive impact on Lower Snake mitigation obligation in that existing ranching can be blamed for some of the losses of habitat and wildlife.

E<sub>1</sub> Series - H Group

E<sub>1</sub>H<sub>1</sub> Existing Ranching Within Canyon compared with Water Quality Control

Existing ranching within the canyon has a minor negative water quality control in that some wastes do enter from ranching operations.

E<sub>1</sub> Series - I Group

E<sub>1</sub>I<sub>1</sub> Existing Ranching Within Canyon compared with Columbia River Compact Negotiations

Existing ranching within the canyon has a minor negative impact on Columbia River Compact negotiations in that the activities of the ranchers and their desires complicate the negotiations as to stage and timing of flow releases.

E<sub>1</sub>I<sub>2</sub> Existing Ranching Within Canyon compared with Subordination Clause

Existing ranching within the canyon has a minor positive impact on the subordination clause in that ranchers tend to favor upstream control and reservation of water.

E<sub>1</sub>I<sub>3</sub> Existing Ranching Within Canyon compared with Idaho State Water Plan

Existing ranching within the canyon has a minor positive impact on the Idaho State Water Plan in that the plan favors sustaining the existing agriculture.

E<sub>1</sub> Series - I Group (continued)

E<sub>1</sub>I<sub>4</sub> Existing Ranching Within Canyon compared with Washington State Policy on Stream Maintenance Flows

Existing ranching within the canyon has a positive impact on the Washington State policy on stream channel maintenance flows in that ranchers desire keeping flows up and at flow suitable to easy boat access to ranch farmsteads.

E<sub>1</sub>I<sub>5</sub> Existing Ranching Within Canyon compared with Oregon State Policy - Hells Canyon Preservation

Existing ranching within the canyon has a positive impact on the Oregon State policy for preservation of Hells Canyon in that both want ranches to persist within the canyon.

E<sub>1</sub>I<sub>6</sub> Existing Ranching Within Canyon compared with Corps of Engineers - Columbia River and Tributaries Review Study

Existing ranching within the canyon has a minor negative impact on the Corps of Engineers - Columbia River and tributaries study in that it makes a minor interest conflict with some ideas for large dams and more regulation of flow.

E<sub>1</sub>I<sub>7</sub> Existing Ranching Within Canyon compared with Pacific Northwest River Basins Commission Comprehensive Coordinated Joint Plan

Existing ranching within the canyon has a minor negative impact on Pacific Northwest River Basins Commission CCJP study because it introduces a group of people whose desires must be coordinated and complicates the planning for that minor need.

E<sub>1</sub>I<sub>8</sub> Existing Ranching Within Canyon compared with Interbasin Water Transfers

Existing ranching within the canyon has a negative impact on interbasin water transfer schemes in that such diversion might involve pump back schemes that would flood out ranching access and base operations.

E<sub>1</sub>I<sub>9</sub> Existing Ranching Within Canyon compared with Reservation Doctrine

Existing ranching within the canyon has a minor negative impact on federal reservation doctrine in that claims for water or water access may be weakened by federal reserve land claims in the area.

E<sub>2</sub> Series - E Group

E<sub>2</sub>E<sub>3</sub> Existing Upstream Agriculture compared with Potential Upstream Agriculture

Existing upstream agriculture has a negative impact on potential upstream agriculture in that it desires to keep control of water and minimize competition in marketing of products.

E<sub>2</sub>E<sub>4</sub> Existing Upstream Agriculture compared with Washington and Oregon Potential Agriculture

Existing upstream agriculture has a negative impact on Washington and Oregon potential agricultural development in that it provides market competition and upstream claim and control of water to an extent.

E<sub>2</sub> Series - F Group

E<sub>2</sub>F<sub>1</sub> Existing Upstream Agriculture compared with Hells Canyon FPC License

Existing upstream agriculture has a negative impact on the Hells Canyon FPC license in that it constitutes one of the reasons for providing for protection of upstream claims.

E<sub>2</sub>F<sub>2</sub> Existing Upstream Agriculture compared with Existing Power Within Canyon

Existing upstream agriculture has a positive impact on existing power within the canyon in that it tends to stabilize the low flows.

E<sub>2</sub>F<sub>3</sub> Existing Upstream Agriculture compared with Existing Upstream Power

Existing upstream agriculture has a minor negative impact on existing upstream power in that flow releases are not always compatible.

E<sub>2</sub>F<sub>4</sub> Existing Upstream Agriculture compared with Upstream Potential Power

Existing upstream agriculture has a negative impact on potential upstream power production in that flow releases are not always compatible.

E<sub>2</sub>F<sub>5</sub> Existing Upstream Agriculture compared with Lower Snake Power Dams

Existing upstream agriculture has a positive impact on the Lower Snake power production in that it raises the minimum flows.

E<sub>2</sub> Series - F Group

E<sub>2</sub>F<sub>6</sub> Existing Upstream Agriculture compared with Lower Columbia Power Dams

Existing upstream agriculture has a minor positive impact on the Lower Columbia power production in that it tends to raise the minimum flows.

E<sub>2</sub>F<sub>7</sub> Existing Upstream Agriculture compared with Potential Power Within Canyon

Existing upstream agriculture has a minor positive impact on potential power within the canyon in that it tends to provide higher minimum flows.

E<sub>2</sub>F<sub>8</sub> Existing Upstream Agriculture compared with Pumped Storage Potential

Existing upstream agriculture has a negligible impact on pumped storage potential other than providing loads from sprinkler irrigation that might provide peaking loads.

E<sub>2</sub> Series - G Group

E<sub>2</sub>G<sub>1</sub> Existing Upstream Agriculture compared with Anadromous Fishery

Existing upstream agriculture has a negative impact on anadromous fishery in that storage for upstream development has eliminated some runs and causes some pollution.

E<sub>2</sub>G<sub>2</sub> Existing Upstream Agriculture compared with Resident Fishery

Existing upstream agriculture has a negative impact on resident fishery in that it produces some pollution. However, it may produce a minor positive impact of increasing minimum flows.

E<sub>2</sub>G<sub>3</sub> Existing Upstream Agriculture compared with Wildlife

Existing upstream agriculture has a minor negative impact on wildlife in that it has generated more visitation and possible pollution.

E<sub>2</sub>G<sub>4</sub> Existing Upstream Agriculture compared with Idaho Power Mitigation

Existing upstream agriculture has a minor positive impact on Idaho Power mitigation because it produces spring flows that make possible Idaho Power Co. support of hatchery operation.

E<sub>2</sub> Series - G Group (continued)

E<sub>2</sub>G<sub>5</sub> Existing Upstream Agriculture compared with Lower Snake Mitigation

Existing upstream agriculture has a minor positive impact on Lower Snake mitigation in that some of the obligation for mitigation losses of flow conditions, water quality degradation and habitat can be blamed on effects of upstream agriculture and may help stabilize flows for betterment of conditions in the lower reaches.

E<sub>2</sub> Series - H Group

E<sub>2</sub>H<sub>1</sub> Existing Upstream Agriculture compared with Water Quality Control

Existing upstream agriculture has a negative impact on water quality control in that some degradation in water quality does occur due to upstream agriculture in the form higher concentrations of dissolved solids and nutrients.

E<sub>2</sub> Series - I Group

E<sub>2</sub>I<sub>1</sub> Existing Upstream Agriculture compared with Columbia River Compact Negotiations

Existing upstream agriculture has a negative impact on Columbia River compact negotiations in that it puts forth pressures for retention of upstream demands over downstream uses.

E<sub>2</sub>I<sub>2</sub> Existing Upstream Agriculture compared with Subordination Clause

Existing upstream agriculture has a major positive impact on the claims of subordination clause for protection of the upstream depletions and uses. It is one of the main purposes for having such a subordination.

E<sub>2</sub>I<sub>3</sub> Existing Upstream Agriculture compared with Idaho State Water Plan

Existing upstream agriculture has a positive impact on the State Water Plan in that the plan does project continued support for irrigation. There might be a slight negative impact in that it favors more efficiency in water use for upstream agriculture.

E<sub>2</sub>I<sub>4</sub> Existing Upstream Agriculture compared with Washington State Policy on Stream Maintenance Flow

Existing upstream agriculture has a negative impact on Washington State policy on stream maintenance flows in that it might

E<sub>2</sub>I<sub>4</sub> (continued)

reduce flows in dry years below downstream desires. However, it has had minor positive impact of reducing minimum flows by providing groundwater storage in the Snake River aquifer.

E<sub>2</sub>I<sub>5</sub> Existing Upstream Agriculture compared with Oregon State Policy - Hells Canyon Preservation

Existing upstream agriculture has a minor negative impact on Oregon State policy of preservation of the Hells Canyon area in that it might deplete flows that would cause problems in flows through the canyon.

E<sub>2</sub>I<sub>6</sub> Existing Upstream Agriculture compared with Corps of Engineers - Columbia River Tributary Review Study

Existing upstream agriculture has a minor positive impact on the Columbia River tributary review study in that it is an impact that is present and must be considered in any planning.

E<sub>2</sub>I<sub>7</sub> Existing Upstream Agriculture compared with Pacific Northwest River Basins Commission Comprehensive Coordinated Joint Plan

Existing upstream agriculture has a minor positive impact on the Pacific Northwest River Basins Commission CCJP study in that it is an integral and important water use that must be considered. In a sense it complicates the study and it might be termed a negative impact in that case.

E<sub>2</sub>I<sub>8</sub> Existing Upstream Agriculture compared with Interbasin Water Transfers

Existing upstream agriculture has a negative impact on inter-basin water transfers in that the agricultural uses in the upper Snake River provide little encouragement for developing water transfer schemes.

E<sub>2</sub>I<sub>9</sub> Existing Upstream Agriculture compared with Reservation Doctrine

Existing upstream agriculture has a negative impact on the federal reservation doctrine in that these upstream agricultural uses may have preempted any exercise of federal reservation claims to water in the Upper Snake River.

E<sub>3</sub> Series - E Group

E<sub>3</sub>E<sub>4</sub> Potential Upstream Agriculture compared with Washington and Oregon Agricultural Potential

E<sub>3</sub>E<sub>4</sub> (continued)

Potential upstream agriculture has a negative impact on Washington and Oregon agricultural potential in that water use in upstream agriculture is not available for downstream use in Washington and Oregon.

E<sub>3</sub> Series - F Group

E<sub>3</sub>F<sub>1</sub> Potential Upstream Agriculture compared with Hells Canyon FPC License

Potential upstream agriculture has a negative impact on the Hells Canyon FPC license because it will deplete flows through Hells Canyon and even though the license does not allocate water for power over upstream irrigation, the tendency is to try to help production up.

E<sub>3</sub>F<sub>2</sub> Potential Upstream Agriculture compared with Existing Power Within Canyon

Potential upstream agriculture has a negative impact on existing power within the canyon because it will diminish flows for power.

E<sub>3</sub>F<sub>3</sub> Potential Upstream Agriculture compared with Existing Upstream Power

Potential upstream agriculture has a negative impact on existing upstream power in that diversions for more agriculture will make less available for power upstream of Hells Canyon.

E<sub>3</sub>F<sub>4</sub> Potential Upstream Agriculture compared with Upstream Potential Power

Potential upstream agriculture has a negative impact on upstream potential power in that diversions for agriculture will make less available for potential upstream development.

E<sub>3</sub>F<sub>5</sub> Potential Upstream Agriculture compared with Lower Snake Power Dams

Potential upstream agriculture has a negative impact on power production from Lower Snake power dams in that less will be coming down the river.

E<sub>3</sub>F<sub>6</sub> Potential Upstream Agriculture compared with Lower Columbia Power Dams

Potential upstream agriculture same as above.



E<sub>3</sub> Series - F Group (continued)

E<sub>3</sub>F<sub>7</sub> Potential Upstream Agriculture compared with Potential Power Within Canyon

Potential upstream agriculture has a negative impact on potential power production in the Hells Canyon reach in that upstream agricultural development will diminish flow through the canyon.

E<sub>3</sub>F<sub>8</sub> Potential Upstream Agriculture compared with Pumped Storage Potential

Potential upstream agriculture has a minor positive impact on pumped storage potential because it will mean higher peaks and would tend to encourage pumped storage developments.

E<sub>3</sub> Series - G Group

E<sub>3</sub>G<sub>1</sub> Potential Upstream Agriculture compared with Anadromous Fishery

Potential upstream agriculture has a negative impact on anadromous fishery in that upstream consumptive use for agriculture would mean less water for fish passage at certain seasons.

E<sub>3</sub>G<sub>2</sub> Potential Upstream Agriculture compared with Resident Fishery

Potential upstream agriculture has a minor negative impact on resident fishery because it would cause lower flows during period important to resident fish populations.

E<sub>3</sub>G<sub>3</sub> Potential Upstream Agriculture compared with Wildlife

Potential upstream agriculture has a minor negative impact on wildlife in the Hells Canyon habitat and may be harmed by lower flows and using up other habitat in the Upper Snake River Basin.

E<sub>3</sub>G<sub>4</sub> Potential Upstream Agriculture compared with Idaho Power Mitigation

Potential upstream agriculture has a minor positive impact on Idaho Power Co. mitigation in that it spreads the obligation to additional water users.

E<sub>3</sub>G<sub>5</sub> Potential Upstream Agriculture compared with Lower Snake Mitigation

Potential upstream agriculture has a minor positive impact on the Lower Snake mitigation because it might spread the obligation to upstream users.

E<sub>3</sub> Series - H Group

E<sub>3</sub>H<sub>1</sub> Potential Upstream Agriculture compared with Water Quality Control

Potential upstream agriculture has a negative impact on water quality control in that it would tend to introduce more pollution and diminish flows affecting dilution possibilities.

E<sub>3</sub> Series - I Group

E<sub>3</sub>I<sub>1</sub> Potential Upstream Agriculture compared with Columbia River Compact Negotiations

Potential upstream agriculture has a negative impact on the Columbia River Compact negotiations in that it introduces more consumptive use that will not be accepted easily by downstream desires.

E<sub>3</sub>I<sub>2</sub> Potential Upstream Agriculture compared with Subordination Clause

Potential upstream agriculture has a major positive impact on the subordination clause because it shows more justification for the subordination clause and supports the very principle.

E<sub>3</sub>I<sub>3</sub> Potential Upstream Agriculture compared with Idaho State Water Plan

Potential upstream agriculture has a positive impact on the Idaho State Water Plan in that the plan encourages and designates quotas of land to be developed.

E<sub>3</sub>I<sub>4</sub> Potential Upstream Agriculture compared with Washington State Policy on Stream Maintenance Flow

Potential upstream agriculture has a major negative impact on the Washington State policy on maintaining stream maintenance flows at some minimum level. The upstream use means direct decrease in flows downstream.

E<sub>3</sub>I<sub>5</sub> Potential Upstream Agriculture compared with Oregon State Policy - Hells Canyon Preservation

Potential upstream agriculture has a minor negative impact on Oregon State policy to preserve Hells Canyon and minimize the degradation of the environmental characteristics of the canyon.

E<sub>3</sub>I<sub>6</sub> Potential Upstream Agriculture compared with Corps of Engineers - Columbia River and Tributaries Review Study

Potential upstream agriculture has a minor positive impact on the Corps of Engineers CRT study in that it provides for more comprehensive development. Perhaps it has minor impact in that it complicates the CRT study.

E<sub>3</sub> Series - I Group (continued)

E<sub>3</sub>I<sub>7</sub> Potential Upstream Agriculture compared with Pacific Northwest River Basins Commission Comprehensive Coordinated Joint Plan

Potential upstream agriculture has a minor positive impact on the Pacific Northwest River Basins Commission's CCJP study in that it provides for more comprehensive development. However, it has a minor negative impact in that it complicates the study.

E<sub>3</sub>I<sub>8</sub> Potential Upstream Agriculture compared with Interbasin Water Transfers

Potential upstream agriculture has a negative impact on interbasin transfers in that developing more upstream irrigation makes it less likely to have water available for interbasin diversion.

E<sub>3</sub>I<sub>9</sub> Potential Upstream Agriculture compared with Reservation Doctrine

Potential upstream agriculture has a negative impact on the federal reservation doctrine's claim for water in that it will make less available for uses that might be claimed for federal reserve lands.

E<sub>4</sub> Series - F Group

E<sub>4</sub>F<sub>1</sub> Washington and Oregon Agricultural Potential compared with Hells Canyon FPC License

Washington and Oregon agricultural potential has a minor negative impact on the Hells Canyon FPC license in that the license has set minimum flows that are not encouraging to Washington and Oregon's potential irrigation use.

E<sub>4</sub>F<sub>2</sub> Washington and Oregon Agricultural Potential compared with Existing Power Within Canyon

Washington and Oregon agricultural potential has a minor positive impact in that flow release for power production within the canyon at high values tend to make water available downstream.

E<sub>4</sub>F<sub>3</sub> Washington and Oregon Agricultural Potential compared with Existing Upstream Power

Washington and Oregon agricultural potential has a minor negative impact on existing upstream power in that release may not be the best timing for the downstream agricultural use.

E<sub>4</sub> Series - F Group (continued)

E<sub>4</sub>F<sub>4</sub> Washington and Oregon Agricultural Potential compared with Upstream Power Potential

Washington and Oregon agricultural potential has a minor positive impact in that upstream power production will be compatible with downstream irrigation development in that storage may be necessary and releases would likely be favorable to irrigation.

E<sub>4</sub>F<sub>5</sub> Washington and Oregon Agricultural Potential compared with Lower Snake Power Dams

Washington and Oregon agricultural potential has a positive impact on Lower Snake power dams because releases for agricultural use would tend to be favorable to power production downstream. Not much diversion for irrigation in Lower Snake.

E<sub>4</sub>F<sub>6</sub> Washington and Oregon Agricultural Potential compared with Lower Columbia Power Dams

Washington and Oregon agricultural potential has a minor positive impact on Lower Columbia power production because releases for agriculture would tend to be favorable to Lower Columbia power use except a minor negative impact would occur on lower dams due to consumptive use for lands in Oregon and Washington.

E<sub>4</sub>F<sub>7</sub> Washington and Oregon Agricultural Potential compared with Potential Power Within Canyon

Washington and Oregon agricultural potential has a minor positive impact in that favorable power releases within the Canyon would tend to be favorable to downstream agriculture.

E<sub>4</sub>F<sub>8</sub> Washington and Oregon Agricultural Potential compared with Pumped Storage Potential

Washington and Oregon agricultural potential has a minor positive impact in that pumped storage might provide cheaper peaking power for irrigation peak pumping. It might cause a minor negative impact in that fluctuating flows might not be efficiently used and controlled for downstream irrigation.

E<sub>4</sub> Series - G Group

E<sub>4</sub>G<sub>1</sub> Washington and Oregon Agricultural Potential compared with Anadromous Fishery

E<sub>4</sub>G<sub>1</sub> (continued)

Washington and Oregon agricultural potential has a minor negative impact on anadromous fishery in that return flows would tend to degrade water quality and may be a problem to keep fish from going to diversion points.

E<sub>4</sub>G<sub>2</sub> Washington and Oregon Agricultural Potential compared with Resident Fishery

Washington and Oregon agricultural potential has a minor positive impact to resident fishery in the canyon in that it is an encouragement to keep flows at higher minimums.

E<sub>4</sub>G<sub>3</sub> Washington and Oregon Agricultural Potential compared with Wildlife

Washington and Oregon agricultural potential has a minor positive impact to wildlife in the canyon reach and on new lands in that it would preserve riparian habitat by keeping flows at higher levels.

E<sub>4</sub>G<sub>4</sub> Washington and Oregon Agricultural Potential compared with Idaho Power Mitigation

Washington and Oregon agricultural potential has a minor positive impact on Idaho Power Company mitigation obligation in that it might keep flows more favorable to wildlife and fishery for which losses are being charged. Likewise it might obligate downstream irrigation to help mitigate losses.

E<sub>4</sub>G<sub>5</sub> Washington and Oregon Agricultural Potential compared with Lower Snake Mitigation

Washington and Oregon agricultural potential has a positive impact on Lower Snake mitigation in that a portion of the charge for losses could then be spread to the new users of water for irrigation. It might actually enhance wildfowl game habitat in the more arid regions.

E<sub>4</sub> Series - H Group

E<sub>4</sub>H<sub>1</sub> Washington and Oregon Agricultural Potential compared with Water Quality Control

Washington and Oregon agricultural potential has a negative impact on water quality in the lower reaches of the river due to degradation from return flows but it would have a minor positive effect upstream of Lewiston in that higher flows might be maintained and provide more dilution.

E<sub>4</sub> Series - I Group

E<sub>4</sub>I<sub>1</sub> Washington and Oregon Agricultural Potential compared with Columbia River Compact Negotiations

Washington and Oregon agricultural potential has a minor positive impact on Columbia River Compact negotiations in that it provides a benefit to downstream that might be more compatible to a compromise of water use allocation between states.

E<sub>4</sub>I<sub>2</sub> Washington and Oregon Agricultural Potential compared with Subordination Clause

Washington and Oregon agricultural potential has a major negative impact in that it provides a use and allocation of water downstream that is in opposition to the very purpose of the subordination clause that has been supported in the past.

E<sub>4</sub>I<sub>3</sub> Washington and Oregon Agricultural Potential compared with Idaho State Water Plan

Washington and Oregon agricultural potential has a negative impact on Idaho State Water Plan in that it may not permit Idaho to make as great a depletion as the plan calls for, at least there would be apprehension on the topic.

E<sub>4</sub>I<sub>4</sub> Washington and Oregon Agricultural Potential compared with Washington State Policy on Stream Maintenance Flows

Washington and Oregon agricultural potential has a positive impact on the Washington State policy of maintaining minimum stream maintenance flows in that it would obligate higher flows for the minimum flow periods which would be better for agriculture. It might have a minor negative impact and conflict in lower portions of the river of depleting flows for the irrigation consumptive use.

E<sub>4</sub>I<sub>5</sub> Washington and Oregon Agricultural Potential compared with Oregon State Policy of Hells Canyon Preservation

Washington and Oregon agricultural potential has a minor positive impact on Oregon State policy of Hells Canyon preservation in that desires to maintain higher flows for downstream use helps maintain the higher desirable flows in the canyon reach of the Snake River.

E<sub>4</sub>I<sub>6</sub> Washington and Oregon Agricultural Potential compared with Corps of Engineers Columbia River and Tributary Review Study

Washington and Oregon agricultural potential has a positive impact on the Corps of Engineers CR&T study in that it gives support to a more comprehensive use of the resource and provides more options in planning. In a sense it has minor negative impact in that it complicates the CR&T study.

E<sub>4</sub> Series - I Group (continued)

E<sub>4</sub>I<sub>7</sub> Washington and Oregon Agricultural Potential compared with Pacific Northwest River Basins Commission Comprehensive Coordinated Joint Plan

Same effect as above.

E<sub>4</sub>I<sub>8</sub> Washington and Oregon Agricultural Potential compared with Inter-basin Water Transfers

Washington and Oregon agricultural potential has a negative impact on interbasin water transfers in that use for agriculture of water makes it more difficult to develop any justification for interbasin transfers.

E<sub>4</sub>I<sub>9</sub> Washington and Oregon Agricultural Potential compared with Reservation Doctrine

Washington and Oregon agriculture potential has a minor negative impact on the federal reservation of water rights in that it would encourage downstream water rights that might be in jeopardy if the reservation doctrine was aggressively applied.

F<sub>1</sub> Series - F Group

F<sub>1</sub>F<sub>2</sub> Hells Canyon FPC License compared with Existing Power Within Canyon

Hells Canyon FPC license has a positive impact on existing power in the canyon in that it allows for power a definitive role and specifies powers claim to streamflow. However, it has a minor negative impact that it restrains some peaking operations.

F<sub>1</sub>F<sub>3</sub> Hells Canyon FPC License compared with Existing Upstream Power

Hells Canyon FPC license has a minor positive impact on upstream power in that it defines flow restraints that do very little harm to upstream power operation; it helps to keep power production coordinated to a small degree.

F<sub>1</sub>F<sub>4</sub> Hells Canyon FPC License compared with Upstream Power Potential

Hells Canyon FPC license has a minor negative impact on upstream power potential in that changes in flow regulation for maximizing upstream power production may cause problems with need to modify flows through canyon.

F<sub>1</sub> Series - F Group

F<sub>1</sub>F<sub>5</sub> Hells Canyon FPC License compared with Lower Snake Power Dams

Hells Canyon FPC license has a minor positive impact on Lower Snake power production in that restraints of flow regulation sometimes may make it less fluctuating and easier to accommodate in operating downstream power plants.

F<sub>1</sub>F<sub>6</sub> Hells Canyon FPC License compared with Lower Columbia River Power Dams

Hells Canyon FPC license has a minor positive impact on Lower Columbia power production in that restraints of flow regulation may at sometimes make it less fluctuating and easier to accommodate in operating downstream power plants.

F<sub>1</sub>F<sub>7</sub> Hells Canyon FPC License compared with Potential Power Within Canyon

Hells Canyon FPC license has a negative impact on potential power within the reach in that maintaining flow minimums specified by the license limits capability to provide maximum peaking capability of the plants that are there and new ones that might be developed.

F<sub>1</sub>F<sub>8</sub> Hells Canyon FPC License compared with Pumped Storage Potential

Hells Canyon FPC license has a positive impact on pumped storage potential in that a license already granted in the area that provides access and transmission enhances the possibility of pumped storage development. Likewise, it might provide a means of minimizing fluctuations in flow that are adverse to other uses.

F<sub>1</sub> Series - G Group

F<sub>1</sub>G<sub>1</sub> Hells Canyon FPC License compared with Anadromous Fishery

Hells Canyon FPC license has a major negative impact on anadromous fishery in that granting the license interrupted the run of fish and fluctuations permitted under the license may not always be compatible with the needs of the fish.

F<sub>1</sub>G<sub>2</sub> Hells Canyon FPC License compared with Resident Fishery

Hells Canyon FPC license has a negative impact on resident fishery in that fluctuation permitted under the license may interfere with needs of the resident fishery. It may have minor positive impact in that the provisions of the dam made some conditions more favorable for resident fishery like holding in reservoirs some of the adverse pollutants.



F<sub>1</sub> Series - G Group (continued)

F<sub>1</sub>G<sub>3</sub> Hells Canyon FPC License compared with Wildlife

Hells Canyon FPC license has a negative impact on wildlife in that granting of the license interfered with habitat and winter range for wildlife.

F<sub>1</sub>G<sub>4</sub> Hells Canyon FPC License compared with Idaho Power Company Mitigation

Hells Canyon FPC license has a positive impact on Idaho Power Company mitigation in that it provides the legal mechanism to force the mitigation to be done.

F<sub>1</sub>G<sub>5</sub> Hells Canyon FPC License compared with Lower Snake Mitigation

Hells Canyon FPC license has a positive impact on Lower Snake mitigation in that it provides a legal mechanism to provide for mitigating losses caused in the Lower Snake reach of the river.

F<sub>1</sub> Series - H Group

F<sub>1</sub>H<sub>1</sub> Hells Canyon FPC License compared with Water Quality Control

Hells Canyon FPC license has a negative impact on water quality control in that the license provides for the impoundment which may cause warming of water; however, there is likely a minor positive impact to water quality in that some regulation might be possible of dilution and impoundment may hold back some pollutants adverse to downstream use.

F<sub>1</sub> Series - I Group

F<sub>1</sub>I<sub>1</sub> Hells Canyon FPC License compared with Columbia River Compact Negotiations

Hells Canyon FPC license has a minor negative impact in that it is one more legal restraint that must be considered in negotiations and involves another federal entity, the FPC.

F<sub>1</sub>I<sub>2</sub> Hells Canyon FPC License compared with Subordination Clause

Hells Canyon FPC license has a major positive impact to the subordination clause in that provisions in the license tend to support the subordination clause if needed to preserve upstream options.

F<sub>1</sub> Series - I Group

F<sub>1</sub>I<sub>3</sub> Hells Canyon FPC License compared with Idaho State Water Plan

Hells Canyon FPC license has a positive impact on the Idaho State Water Plan in that it tends to utilize the provisions of the license and encourage upstream use. However, there is a negative impact of making it more difficult to meet the minimum flow restraints specified by the license.

F<sub>1</sub>I<sub>4</sub> Hells Canyon FPC License compared with Washington State Policy on Stream Maintenance Flows

Hells Canyon FPC license has a minor positive impact on Washington State policy on stream maintenance flows in that it prescribes a minimum flow below Hells Canyon. However, it has a minor negative impact in that it appears not to obligate that minimum if flow into Brownlee Reservoir is less than the minimum.

F<sub>1</sub>I<sub>5</sub> Hells Canyon FPC License compared with Oregon State Policy - Hells Canyon Preservation

Hells Canyon FPC license has a negative impact in that it has allowed impoundment in the canyon but has a minor positive impact in that it specifies a minimum flow to be maintained below the Hells Canyon Dam and restrains rate of fluctuating the stage.

F<sub>1</sub>I<sub>6</sub> Hells Canyon FPC License compared with Corps of Engineers Columbia River and Tributary Review Study

Hells Canyon FPC license has a minor negative impact on the Corps of Engineers CR&T study in that it places a restraint that must be complied with in any future planning and alternatives proposed.

F<sub>1</sub>I<sub>7</sub> Hells Canyon FPC License compared with Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan

Hells Canyon FPC license has a minor negative impact on the Pacific Northwest River Basins Commission's CCJP study in that it places a restraint that must be complied with in any future plan formulation.

F<sub>1</sub>I<sub>8</sub> Hells Canyon FPC License compared with Interbasin Water Transfers

Hells Canyon FPC license has a negative impact on interbasin water transfers in that it specifies a use of water that might conflict with pump back schemes or restrict flow depletion.

F<sub>1</sub> Series - I Group (continued)

F<sub>1</sub>I<sub>9</sub> Hells Canyon FPC License compared with Reservation Doctrine

Hells Canyon FPC license has a minor positive impact on the federal reservation doctrine of claim to water rights; it gives one more case of federal authority over river might be used, a claim that the federal use would preempt or have priority over later uses.

F<sub>2</sub> Series - F Group

F<sub>2</sub>F<sub>3</sub> Existing Power Within Canyon compared with Existing Upstream Power

Existing power within the canyon has a minor negative impact on upstream power in that flows favorable for release in the existing power plants in the canyon may not be favorable to releases for upstream power plants. However, some storage releases upstream could give minor positive impact to existing production in the canyon.

F<sub>2</sub>F<sub>4</sub> Existing Power Within Canyon compared with Upstream Potential Power

Existing power within the canyon has a minor negative and minor positive impact, the same as pointed out above in F<sub>2</sub>F<sub>3</sub>.

F<sub>2</sub>F<sub>5</sub> Existing Power Within Canyon compared with Lower Snake Power Dams

Existing power within the canyon has a minor negative impact on Lower Snake power dams in that releases may not always be compatible with Lower Snake power dam needs and desires.

F<sub>2</sub>F<sub>6</sub> Existing Power Within Canyon compared with Lower Columbia Power Dams

Existing power within the canyon has a minor negative impact on Lower Columbia power dams in that releases may not always be compatible with Lower Columbia River dams needs and desires.

F<sub>2</sub>F<sub>7</sub> Existing Power Within Canyon compared with Potential Power Within Canyon

Existing power within the canyon has a positive impact on potential power within the canyon in that it would provide more flexibility to operations in the entire power complex. However, if a new high dam were developed at Hells Canyon site, it might flood out existing production making a minor negative impact of losses during construction period.

F<sub>2</sub> Series - F Group (continued)

F<sub>2</sub>F<sub>8</sub> Existing Power Within Canyon compared with Pumped Storage Potential

Existing power within the canyon has a major positive impact on pumped storage potential in that the impoundments provide the lower reservoir that makes a more attractive pumped storage possibility.

F<sub>2</sub> Series - G Group

F<sub>2</sub>G<sub>1</sub> Existing Power Within Canyon compared with Anadromous Fishery

Existing power within the canyon has a major negative impact on the anadromous fishery in that flow fluctuation and impoundment interfere with the anadromous fishery.

F<sub>2</sub>G<sub>2</sub> Existing Power Within Canyon compared with Resident Fishery

Existing power within the canyon has a negative impact on the resident fishery in that impoundment and flow fluctuations interfere with migration spawning and accessibility to fishing. It can have a minor positive impact of providing for some resident reservoir fishery that was not there.

F<sub>2</sub>G<sub>3</sub> Existing Power Within Canyon compared with Wildlife

Existing power within the canyon has a negative impact on wildlife in that impoundments for high dams floods out habitat and flow fluctuations are negative to riparian vegetation.

F<sub>2</sub>G<sub>4</sub> Existing Power Within Canyon compared with Idaho Power Company Mitigation

Existing power within the canyon has a negative impact on Idaho Power Company mitigation in that it makes necessary the mitigation is the reason for the losses incurred.

F<sub>2</sub>G<sub>5</sub> Existing Power Within Canyon compared with Lower Snake Mitigation

Existing power within the canyon has a minor negative impact on Lower Snake River mitigation in that it is part of the reason for mitigating losses caused by water development.

F<sub>2</sub> Series - H Group

F<sub>2</sub>H<sub>1</sub> Existing Power Within Canyon compared with Water Quality Control

F<sub>2</sub>H<sub>1</sub> (continued)

Existing power within the canyon has a negative impact on water quality below Hells Canyon in that impoundments may warm up the water and cause some pollution downstream. However, there has been minor positive impact that the power dam impoundments may have reduced some pollutants and improved water quality to a small degree

F<sub>2</sub> Series - I Group

F<sub>2</sub>I<sub>1</sub> Existing Power Within Canyon compared with Columbia River Compact Negotiations

Existing power within the canyon has a minor negative impact on Columbia River Compact negotiations in that considerations of the existing power complicate the allocating of water between states.

F<sub>2</sub>I<sub>2</sub> Existing Power Within Canyon compared with Subordination Clause

Existing power within the canyon has a minor negative impact on the subordination clause in that it projects and use at a lower down station in the river that might be thought of as an area of origin of the water.

F<sub>2</sub>I<sub>3</sub> Existing Power Within Canyon compared with Idaho State Water Plan

Existing power within the canyon has a minor negative impact on the Idaho State Water Plan in that the power releases to meet continued production of power may be reduced by recommendation for depletions for irrigation suggested in the Idaho State Water Plan.

F<sub>2</sub>I<sub>4</sub> Existing Power Within Canyon compared with Washington State Policy on Stream Maintenance Flows

Existing power within the canyon has a negative impact on the Washington State policy on stream maintenance flows.

F<sub>2</sub>I<sub>5</sub> Existing Power Within Canyon compared with Oregon State Policy - Hells Canyon Preservation

Existing power within the canyon has a negative impact on the policy of the State of Oregon to preserve Hells Canyon in that it impounds water and blocks fish runs. This policy was enunciated recently after dams were completed.

F<sub>2</sub> Series - I Group (continued)

F<sub>2</sub>I<sub>6</sub> Existing Power Within Canyon compared with Corps of Engineers - Columbia River and Tributaries Review Study

Existing power within the canyon has a minor positive impact on the Corps of Engineers CR&T study in that it is a use that has been defined and the extent operated long enough to know the general impact on the system. It is a multipurpose use that is prescribed to be considered by Corps of Engineers planners.

F<sub>2</sub>I<sub>7</sub> Existing Power Within Canyon compared with Pacific Northwest River Basins Commission Comprehensive Coordinated Joint Plan

Existing power within the canyon has a minor positive impact on the Pacific Northwest River Basins Commission's CCJP study in that it is an identified use and meets the multipurpose objectives of good state and regional planning efforts.

F<sub>2</sub>I<sub>8</sub> Existing Power Within Canyon compared with Interbasin Water Transfers

Existing power within the canyon has a negative impact on interbasin water transfers in that continued power production might be jeopardized if interbasin water transfers were permitted. There may be a minor positive advantage of providing reservoirs for pump back efforts.

F<sub>2</sub>I<sub>9</sub> Existing Power Within Canyon compared with Reservation Doctrine

Existing power within the canyon has a minor positive impact on provisions of reservation of water rights in that the power is a federal power project and decisions appear to be to support federal interest in the water.

F<sub>3</sub> Series - F Group

F<sub>3</sub>F<sub>4</sub> Existing Upstream Power compared with Upstream Potential Power

Existing upstream power has a minor positive impact on upstream power potential in that power production might be more flexible in meeting needs especially in local areas of growing new demands.

F<sub>3</sub>F<sub>5</sub> Existing Upstream Power compared with Lower Snake Power Dams

Existing upstream power has a minor positive impact on Lower Snake power productions in that releases and storages for power upstream would tend to be compatible with Lower Snake power production.

F<sub>3</sub> Series - F Group (continued)

F<sub>3</sub>F<sub>6</sub> Existing Upstream Power compared with Lower Columbia Power Dams

Existing upstream power has a minor positive impact on Lower Columbia power production in that release and storage for power are normally compatible with the lower stream production.

F<sub>3</sub>F<sub>7</sub> Existing Upstream Power compared with Potential Power Within Canyon

Existing upstream power has a minor positive impact on potential power within the reach in that releases and storage for power upstream could be compatible with production in the Hells Canyon reach.

F<sub>3</sub>F<sub>8</sub> Existing Upstream Power compared with Pumped Storage Potential

Existing upstream power has a minor positive impact on pumped storage potential in that existing upstream power production could be integrated and operated more efficiently if pumped storage power was produced.

F<sub>3</sub> Series - G Group

F<sub>3</sub>G<sub>1</sub> Existing Upstream Power compared with Anadromous Fishery

Existing upstream power has a minor positive impact on anadromous fishery in that releases from upstream power dam help maintain higher minimum flows and aid in fish migration.

F<sub>3</sub>G<sub>2</sub> Existing Upstream Power compared with Resident Fishery

Existing upstream power has a minor positive impact on resident fishery in that releases from upstream power dams help maintain higher minimum flows that are favorable to the resident fishery in Hells Canyon reach of the Snake River.

F<sub>3</sub>G<sub>3</sub> Existing Upstream Power compared with Wildlife

Existing upstream power has a minor positive impact on wildlife in the Hells Canyon reach by tending to keep flows at higher minimum and acting as slight deterrent to consumptive uses upstream.

F<sub>3</sub>G<sub>4</sub> Existing Upstream Power compared with Idaho Power Mitigation

Existing upstream power has a minor positive impact on Idaho Power Company mitigation obligations in that power production upstream helps spread the cost of mitigation. The Upper Snake dams could help pay the obligation.

F<sub>3</sub> Series - G Group (continued)

F<sub>3</sub>G<sub>5</sub> Existing Upstream Power compared with Lower Snake Mitigation

Existing upstream power has a negligible impact on Lower Snake mitigation.

F<sub>3</sub> Series - H Group

F<sub>3</sub>H<sub>1</sub> Existing Upstream Power compared with Water Quality Control

Existing upstream power has a minor positive impact on water quality control in the Hells Canyon reach of the Snake River in that flow releases for power tend to help maintain higher minimum flows and help mitigate pollution impact.

F<sub>3</sub> Series - I Group

F<sub>3</sub>I<sub>1</sub> Existing Upstream Power compared with Columbia River Compact Negotiations

Existing upstream power has a minor negative impact on Columbia River Compact negotiations in that upstream power represents different entities of public and private power and needs of upstream power must be considered in a compact.

F<sub>3</sub>I<sub>2</sub> Existing Upstream Power compared with Subordination Clause

Existing upstream power has a positive impact on the subordination supporting it as an upstream use and showing a definite beneficial use to the resource.

F<sub>3</sub>I<sub>3</sub> Existing Upstream Power compared with Idaho State Water Plan

Existing upstream power has a positive impact on the Idaho State Water Plan in that the plan encourages power development and sustaining existing uses. There may be a minor negative impact that existing upstream power may be restrained if all consumptive use irrigation contemplated in the Idaho State Water Plan were developed.

F<sub>3</sub>I<sub>4</sub> Existing Upstream Power compared with Washington State Policy on Stream Maintenance Flows

Existing upstream power has a positive impact on Washington State policy of maintaining some minimum stream maintenance flow because power releases tend to keep the minimum flows at higher levels and discourage using more water consumptively.



F<sub>3</sub> Series - I Group

F<sub>3</sub>I<sub>5</sub> Existing Upstream Power compared with Oregon State Policy of Hells Canyon Preservation

Existing upstream power has a positive impact on Oregon State policy of preservation of Hells Canyon in that power releases tend to keep minimum flows at higher levels and discourages consumptive use of the water.

F<sub>3</sub>I<sub>6</sub> Existing Upstream Power compared with Corps of Engineers Columbia River and Tributary Review Study

Existing upstream power has a minor positive impact on the Corps of Engineers Columbia River and Tributary review study in that the existing upstream power use is defined and does not need to be analyzed in a study.

F<sub>3</sub>I<sub>7</sub> Existing Upstream Power compared with Pacific Northwest River Basins Commission Comprehensive Coordinated Joint Plan

Existing upstream power has a minor positive impact on the Pacific Northwest River Basins Commission CCJP study in that the existing use is defined and makes simpler any future planning in that the existing use could by its very nature be sustained.

F<sub>3</sub>I<sub>8</sub> Existing Upstream Power compared with Interbasin Water Transfers

Existing upstream power has a minor negative impact on interbasin transfers in that obligation of water use has already been made and rights obtained that would preclude certain types and locations of interbasin water transfers.

F<sub>3</sub>I<sub>9</sub> Existing Upstream Power compared with Reservation Doctrine

Existing upstream power has a minor negative impact on federal reservation claims to water rights because the water use has already been made and licensed under FPC rules. It would be different to stop the existing use.

F<sub>4</sub> Series - F Group

F<sub>4</sub>F<sub>5</sub> Upstream Potential Power compared with Lower Snake Power Dams

Upstream potential power has a minor positive impact on Lower Snake power dams in that releases, storage, and integration in production tend to be compatible and provide more total benefits in meeting energy needs.

F<sub>4</sub> Series - F Group (continued)

F<sub>4</sub>F<sub>6</sub> Upstream Potential Power compared with Lower Columbia Power Dams

Upstream potential power has a minor positive impact on Lower Columbia power dams in that releases, storage, and integration in productions tend to be compatible and provide more total benefits in meeting energy needs.

F<sub>4</sub>F<sub>7</sub> Upstream Potential Power compared with Potential Power Within Canyon

Upstream potential power has a positive impact on potential power production within the reach in that more favorable releases, storage, and integration in meeting loads is likely to occur and provide more benefits.

F<sub>4</sub>F<sub>8</sub> Upstream Potential Power compared with Pumped Storage Potential

Upstream potential power has a minor positive impact on pumped storage potential in that more favorable releases, storage, and integration of production of power can be accomplished.

F<sub>4</sub> Series - G Group

F<sub>4</sub>G<sub>1</sub> Upstream Potential Power compared with Anadromous Fishery

Upstream potential power has a minor positive impact on anadromous fishery in that releases for power will tend to keep higher minimum flows and sustain a more stable flow in the Snake River where anadromous fish are active.

F<sub>4</sub>G<sub>2</sub> Upstream Potential Power compared with Resident Fishery

Upstream potential power has a minor positive impact on resident fishery in that releases for power will tend to keep higher minimum flows and sustain more stable flows in the Hells Canyon reach of the river.

F<sub>4</sub>G<sub>3</sub> Upstream Potential Power compared with Wildlife

Upstream potential power has a minor positive impact on wildlife in the Hells Canyon reach of the Snake River by tending to keep higher minimum with more stable flows.

F<sub>4</sub>G<sub>4</sub> Upstream Potential Power compared with Idaho Power Mitigation

Upstream potential power has a negligible impact on Idaho Power mitigation other than increased or new production by Idaho Power in the Upper Snake might help in sharing the cost of mitigation measures.

F<sub>4</sub> Series - G Group (continued)

F<sub>4</sub>G<sub>5</sub> Upstream Potential Power compared with Lower Snake Mitigation

Upstream potential power has a negligible impact on Lower Snake mitigation obligations.

F<sub>4</sub> Series - H Group

F<sub>4</sub>H<sub>1</sub> Upstream Potential Power compared with Water Quality Control

Upstream potential power has a minor positive impact on water quality control in the Hells Canyon reach of the Snake River in that higher minimum flows are likely to be maintained and less pollution will be generated by the power use than other alternative uses of the water.

F<sub>4</sub> Series - I Group

F<sub>4</sub>I<sub>1</sub> Upstream Potential Power compared with Columbia River Compact Negotiations

Upstream potential power has a minor positive impact on Columbia River Compact negotiations in that upper basin interest gets favorable benefit and yet water is nonconsumptively used and lower basin interest would accept the use because it does not deplete streamflow as much as other uses.

F<sub>4</sub>I<sub>2</sub> Upstream Potential Power compared with Subordination Clause

Upstream potential power has a minor positive impact on the subordination clause in that upper basin interest receives some energy benefits but it can also have a minor negative benefit in that developing upstream power may preclude some irrigation use in the upper basin area.

F<sub>4</sub>I<sub>3</sub> Upstream Potential Power compared with Idaho State Water Plan

Upstream potential power has a positive impact on the Idaho State Water Plan in that the plan supports hydropower development as planned use in the upper basin.

F<sub>4</sub>I<sub>4</sub> Upstream Potential Power compared with Washington State Policy on Stream Maintenance Flow

Upstream potential power has a positive impact on Washington State policy on stream maintenance flow in that the development for power tend to bring pressure for continued higher minimum flow in the lower stretches of the Snake River.

F<sub>4</sub> Series - I Group (continued)

F<sub>4</sub>I<sub>5</sub> Upstream Potential Power compared with Oregon State Policy - Hells Canyon Preservation

Upstream potential power has a positive impact on the Oregon State policy to preserve Hells Canyon in a near natural state because flows are likely to be more favorable for keeping Hells Canyon in a natural state.

F<sub>4</sub>I<sub>6</sub> Upstream Potential Power compared with Corps of Engineers Columbia River and Tributary Review Study

Upstream potential power has a positive impact on the Corps of Engineers CR&T study in that it gives support to multipurpose planning and utilization of resources that Corps of Engineers plan supports.

F<sub>4</sub>I<sub>7</sub> Upstream Potential Power compared with Pacific Northwest River Basins Commission Comprehensive Coordinated Joint Plan

Upstream potential power has a positive impact on the Pacific Northwest River Basins Commission - CCJP study in that developing an unused resource is compatible with goals of the commission.

F<sub>4</sub>I<sub>8</sub> Upstream Potential Power compared with Interbasin Water Transfers

Upstream potential power has a negative impact on interbasin water transfers in that use for power tends to make it difficult for interbasin water transfers in that use for power tends to make it difficult for interbasin water transfers to exist.

F<sub>4</sub>I<sub>9</sub> Upstream Potential Power compared with Reservation Doctrine

Upstream potential power has a negative impact on the federal reservation claim to water in that use for upstream potential power would tend to hold that water under a designated use.

F<sub>5</sub> Series - F Group

F<sub>5</sub>F<sub>6</sub> Lower Snake Power Dams compared with Lower Columbia Power Dams

Lower Snake power dams have a positive impact on Lower Columbia power production in providing more possibility for meeting loads and operational demands and tend to encourage more favorable releases through Hells Canyon.

F<sub>5</sub>F<sub>7</sub> Lower Snake Power Dams compared with Potential Power Within Canyon

Lower Snake power dams have a positive impact on potential power within the reach in that flow releases of power development

F<sub>5</sub>F<sub>7</sub> (continued)

will tend to be favorable to Lower Snake power production and provide more flexibility in meeting energy loads.

F<sub>5</sub>F<sub>8</sub> Lower Snake Power Dams compared with Pumped Storage Potential

Lower Snake power dams have a positive impact on pumped storage potential in that pumped storage could provide more flexibility to releases in Hells Canyon and could integrate power production to make for better operation of power system.

F<sub>5</sub> Series - G Group

F<sub>5</sub>G<sub>1</sub> Lower Snake Power Dams compared with Anadromous Fishery

Lower Snake power dams have a major negative impact on the anadromous fishery that proceeds through the Hells Canyon reach of the Snake River in that it impedes movement and there are losses in both upstream and downstream migration of the fish.

F<sub>5</sub>G<sub>2</sub> Lower Snake Power Dams compared with Resident Fishery

Lower Snake power dams have a minor negative impact on resident fishery in that spawning and migration may have been impaired at the upstream points of the dams and more fishing visitation generated.

F<sub>5</sub>G<sub>3</sub> Lower Snake Power Dams compared with Wildlife

Lower Snake power dams have a minor negative impact in that more hunting pressure may have been generated by the dam development, especially in the vicinity of Lewiston.

F<sub>5</sub>G<sub>4</sub> Lower Snake Power Dams compared with Idaho Power Mitigation

Lower Snake power dams have a minor positive impact on Idaho Power mitigation because some of the losses in the Snake River can be blamed in the Lower Snake power development.

F<sub>5</sub>G<sub>5</sub> Lower Snake Power Dams compared with Lower Snake Mitigation

Lower Snake power dams have a major negative impact on Lower Snake mitigation in that the Lower Snake dam developments are the very reason for mitigation.

F<sub>5</sub> Series - H Group

F<sub>5</sub>H<sub>1</sub> Lower Snake Power Dams compared with Water Quality Control

Lower Snake power dams have a negligible impact on the water quality control in the Middle Snake reach of the river except as impoundment at Lower Granite might impact on the stretch of the river nearest Asotin. Really, Lower Snake dams are downstream happenings.

F<sub>5</sub> Series - I Group

F<sub>5</sub>I<sub>1</sub> Lower Snake Power Dams compared with Columbia River Compact Negotiations

Lower Snake power dams have a positive impact on the Columbia River Compact negotiations in that the development represents a decision that has been made and little controversy can arise on that issue. The development being basically favorable to downstream interest makes for more acceptability to any compromises that will need to be made.

F<sub>5</sub>I<sub>2</sub> Lower Snake Power Dams compared with Subordination Clause

Lower Snake power dams have a minor negative impact to the subordination clause in that concern and releases favorable to the Lower Snake River dams will have the tendency to encourage higher releases for downstream uses and less upstream depletion.

F<sub>5</sub>I<sub>3</sub> Lower Snake Power Dams compared with Idaho State Water Plan

Lower Snake power dams have a minor negative impact on the Idaho State Water Plan in that the plan has to consider what depletion does to downstream power production, especially increased consumptive use depletion.

F<sub>5</sub>I<sub>4</sub> Lower Snake Power Dams compared with Washington State Policy on Stream Maintenance Flow

Lower Snake power dams have a positive impact on the Washington State policy on stream maintenance flow in that the developments for power tend to bring pressure for continued higher minimums in the lower stretches of the Snake River.

F<sub>5</sub>I<sub>5</sub> Lower Snake Power Dams compared with Oregon State Policy on Hells Canyon Preservation

Lower Snake power dams have a minor positive impact on the Oregon State policy to preserve Hells Canyon in that it supports desires to maintain higher flow in the lower reaches which helps

F<sub>5</sub>I<sub>5</sub> (continued)

maintain the Hells Canyon in a preservation status. Since most of the advantages to Oregon exist downstream, it has a slight positive impact. However, a minor negative impact exists to Oregon's upstream desires.

F<sub>5</sub>I<sub>6</sub> Lower Snake Power Dams compared with Corps of Engineers Columbia River and Tributary Review Study

Lower Snake power dams have a minor positive impact to the Corps of Engineers CR&T review study in that decisions for the Lower Snake River development has been made and thus simplifies the planning the Corps of Engineers has to do.

F<sub>5</sub>I<sub>7</sub> Lower Snake Power Dams compared with Pacific Northwest River Basins Commission Comprehensive Coordinated Joint Plan

Lower Snake power dams have a minor positive impact on the Pacific Northwest River Basins Commission CCJP study in that it simplifies the planning that needs to be done on development of the water resources of the Lower Snake River.

F<sub>5</sub>I<sub>8</sub> Lower Snake Power Dams compared with Interbasin Water Transfers

Lower Snake power dams have a negative impact on interbasin water transfers in that the need to maintain undepleted flows in the Lower Snake will dictate no diversions from the river system above the power dams.

F<sub>5</sub>I<sub>9</sub> Lower Snake Power Dams compared with Reservation Doctrine

Lower Snake power dams have a minor positive impact on the federal reserve water rights doctrine in that federal desires to high flows might claim. Since the dams are federal dams, the water from federal lands is needed to maximize production at federal power dams. The two considerations tend to be compatible.

F<sub>5</sub> Series - F Group

F<sub>6</sub>F<sub>7</sub> Lower Columbia Power Dams compared with Potential Power Within Canyon

Lower Columbia power dams have a minor positive impact on potential power within the Hells Canyon reach of the Snake River in that power production would be enhanced in amount. Flexibility and releases from Hells Canyon would be favorable to downstream power use.

F<sub>6</sub> Series - G Group

F<sub>6</sub>G<sub>1</sub> Lower Columbia Power Dams compared with Anadromous Fishery

Lower Columbia power dams have a major negative impact on the anadromous fishery in that the dams have caused problems with both upstream and downstream migration.

F<sub>6</sub>G<sub>2</sub> Lower Columbia Power Dams compared with Resident Fishery

Lower Columbia power dams have a minor negative impact on the resident fishery in that the dams may have generated growth that has made for greater fishing pressure and visitation than would have been without development.

F<sub>6</sub>G<sub>3</sub> Lower Columbia Power Dams compared with Wildlife

Lower Columbia power dams have a minor negative impact on wildlife in that dam development has pushed hunting pressures and visitation into the Hells Canyon reach of the Snake River.

F<sub>6</sub>G<sub>4</sub> Lower Columbia Power Dams compared with Idaho Power Mitigation

Lower Columbia power dams have a minor positive impact on Idaho Power mitigation in that some of the burden of losses in the Hells Canyon reach might be borne by the Lower Snake power dams.

F<sub>6</sub>G<sub>5</sub> Lower Columbia Power Dams compared with Lower Snake Mitigation

Lower Columbia power dams have a minor positive impact on Lower Snake mitigation in that some of the burden of losses in the Lower Snake caused by power dam development can be charged to the Lower Columbia power development.

F<sub>6</sub> Series - H Group

F<sub>6</sub>H<sub>1</sub> Lower Columbia Power Dams compared with Water Quality Control

Lower Columbia power dams have a negligible impact on the water quality control in the Hells Canyon reach of Snake River because development is downstream that might impair water quality.

F<sub>6</sub> Series - I Group

F<sub>6</sub>I<sub>1</sub> Lower Columbia Power Dams compared with Columbia River Compact Negotiations



F<sub>6</sub>I<sub>1</sub> (continued)

Lower Columbia power dams have a positive impact on Columbia River Compact negotiations in that the development decision has been made and benefits to respective parties of a compact can be better identified. Downstream entities have these benefits assured.

F<sub>6</sub>I<sub>2</sub> Lower Columbia Power Dams compared with Subordination Clause

Lower Columbia power dams have a minor negative impact on the subordination clause in that the demand to continue favorable releases for downstream power production are already expressed in the pressures of present practice. The tendency will be to continue to try to keep flow releases favorably high and minimize consumptive upstream depletion.

F<sub>6</sub>I<sub>3</sub> Lower Columbia Power Dams compared with Idaho State Water Plan

Lower Columbia power dams have a minor negative impact on Idaho State Water Plan in that development of all consumptive irrigation as proposed in the Idaho Water Plan may not be possible when pressures develop to continue high power releases in Lower Columbia power dams.

F<sub>6</sub>I<sub>4</sub> Lower Columbia Power Dams compared with Washington State Policy on Stream Maintenance Flows

Lower Columbia power dams have a positive impact on the expressed policy of the State of Washington to maintain higher minimums of instream flows. This helps keep favorable releases for Lower Columbia power production.

F<sub>6</sub>I<sub>5</sub> Lower Columbia Power Dams compared with Oregon State Policy - Hells Canyon Preservation

Lower Columbia power dams have a minor positive impact on Oregon State policy to preserve Hells Canyon in that maintaining higher flows for Lower Columbia power dams tends to keep higher flows favorable to preservation of the canyon.

F<sub>6</sub>I<sub>6</sub> Lower Columbia Power Dams compared with Corps of Engineers - Columbia River and Tributary Review Study

Lower Columbia power dams have a minor positive impact on the Corps of Engineers CR&T study in that the development has been made and thus simplifies the necessary planning.

F<sub>6</sub>I<sub>7</sub> Lower Columbia Power Dams compared with Pacific Northwest River Basins Commission Comprehensive Coordinated Joint Plan

Lower Columbia power dams have a minor positive impact on the

F<sub>6</sub>I<sub>7</sub> (continued)

Pacific Northwest River Basins Commission CCJP study in that the development has been made and thus simplifies the necessary coordinating draft planning.

F<sub>6</sub>I<sub>8</sub> Lower Columbia Power Dams compared with Interbasin Water Transfers

Lower Columbia power dams have a negative impact on interbasin water transfers in that holding power releases at high level for Lower Columbia power production makes for conflict with any interbasin diversions that would decrease the power releases except in flood stage.

F<sub>6</sub>I<sub>9</sub> Lower Columbia Power Dams compared with Reservation Doctrine

Lower Columbia power dams have a minor positive impact on the federal reservation doctrine of water rights in that federal claims might be made to maintain flows for power production at the Lower Columbia dams.

F<sub>7</sub> Series - F Group

F<sub>7</sub>F<sub>8</sub> Potential Power Within Canyon compared with Pumped Storage Potential

Potential power within the reach has a positive impact on pumped storage potential in that impoundments for potential power within the reach would make possible more lower reservoirs for pumped storage sites.

F<sub>7</sub> Series - G Group

F<sub>7</sub>G<sub>1</sub> Potential Power Within Canyon compared with Anadromous Fishery

Potential power within the reach has a major negative impact on anadromous fishery in that development of power would cause fish runs trouble in migrating up the river. It would likely eliminate the runs above that point.

F<sub>7</sub>G<sub>2</sub> Potential Power Within Canyon compared with Resident Fishery

Potential power within the reach has a major negative impact on resident fishery in that it would eliminate sturgeon and cause problems for spawning and rearing of some resident fishery. It could support a reservoir fishery that is not there now, giving a minor positive impact.

F<sub>7</sub> Series - G Group (continued)

F<sub>7</sub>G<sub>3</sub> Potential Power Within Canyon compared with Wildlife

Potential power within the reach has a major negative impact on wildlife in the reach of the river in that development of power dams and access would cause much stress in canyon habitat and bring in great hunter pressure.

F<sub>7</sub>G<sub>4</sub> Potential Power Within Canyon compared with Idaho Power Mitigation

Potential power within the reach has a minor positive impact in that potential power development could help stand the mitigation cost decreasing the burden to the Idaho Power Company complex of development.

F<sub>7</sub>G<sub>5</sub> Potential Power Within Canyon compared with Lower Snake Mitigation

Potential power within the reach has a minor positive impact on Lower Snake River mitigation in that the potential power development could share in the mitigation costs and stand some of the obligation.

F<sub>7</sub> Series - H Group

F<sub>7</sub>H<sub>1</sub> Potential Power Within Canyon compared with Water Quality Control

Potential power within the reach has a minor negative impact on water quality control in the Hells Canyon reach of Snake River in that fluctuation and impoundments would tend to cause temperature changes that are adverse to some downstream uses.

F<sub>7</sub> Series - I Group

F<sub>7</sub>I<sub>1</sub> Potential Power Within Canyon compared with Columbia River Compact Negotiations

Potential power within the reach has a minor positive impact on Columbia River Compact negotiations in that it would provide a benefit that would accrue within the region and respective states could take advantage of those benefits. Idaho particularly may realize some advantages.

F<sub>7</sub>I<sub>2</sub> Potential Power Within Canyon compared with Subordination Clause

Potential power within the reach has a positive impact on subordination clause claims of upstream interests in that power

F<sub>7</sub>I<sub>2</sub> (continued)

development in the Hells Canyon reach would be recognizing one more use in upriver use. It may also have a minor negative impact in that upstream consumptive uses may be limited to keep favorable release for power.

F<sub>7</sub>I<sub>3</sub> Potential Power Within Canyon compared with Idaho State Water Plan

Potential power within the reach has a positive impact on the Idaho State Water Plan in that the plan favors hydroelectric development and has made provision to allow such development.

F<sub>7</sub>I<sub>4</sub> Potential Power Within Canyon compared with Washington State Policy on Stream Maintenance Flow

Potential power within the reach has a minor positive impact on the expressed policy of the State of Washington to maintain stream maintenance flows in the Snake River in that power releases through the canyon will tend to encourage higher flows and more uniform flows in the Lower Snake River.

F<sub>7</sub>I<sub>5</sub> Potential Power Within Canyon compared with Oregon State Policy - Hells Canyon Preservation

Potential power within the reach has a major positive impact on the Oregon State policy to preserve Hells Canyon in that developing the potential power in the Hells Canyon reach of the river would destroy much of canyon's unique nature and be counter to Oregon's expressed policy.

F<sub>7</sub>I<sub>6</sub> Potential Power Within Canyon compared with Corps of Engineers Columbia River and Tributary Review Study

Potential power within the reach has a minor positive impact on the Corps of Engineers CR&T review study in that it provides a more comprehensive use of the resource and provides for more positive control of river flows.

F<sub>7</sub>I<sub>7</sub> Potential Power Within Canyon compared with Pacific Northwest River Basins Comprehensive Coordinated Joint Plan

Potential power within the reach has a minor positive impact on the Pacific Northwest River Basins Commission's CCJP study in that it does provide a more complete use of the resource and encourages another viable alternative.

F<sub>7</sub>I<sub>8</sub> Potential Power Within Canyon compared with Interbasin Water Transfers

Potential power within the reach has a negative impact on interbasin water transfers in that the transfers would reduce

F<sub>7</sub>I<sub>8</sub> (continued)

power capability and would reduce releases. A minor positive impact might accrue if a pump back scheme were initiated in that power dams could provide pool to pool upstream pumping system.

F<sub>7</sub>I<sub>9</sub> Potential Power Within Canyon compared with Reservation Doctrine

Potential power within the reach has a minor positive impact on federal reservation doctrine in that federal rights for power might be exercised in that federal reserves for power sites have been expressed.

F<sub>8</sub> Series - G Group

F<sub>8</sub>G<sub>1</sub> Pumped Storage Potential compared with Anadromous Fishery

Pumped storage potential has a negative impact on anadromous fishery in that schemes for lower reservoirs would eliminate more free flowing stretches and rapid fluctuations from pumped storage releases would be adverse to anadromous fish movement.

F<sub>8</sub>G<sub>2</sub> Pumped Storage Potential compared with Resident Fishery

Pumped storage potential has a negative impact on resident fishery in that schemes for lower reservoirs in the canyon would eliminate more free flowing stretches and rapid fluctuation. Both reservoirs would be adverse to resident fish.

F<sub>8</sub>G<sub>3</sub> Pumped Storage Potential compared with Wildlife

Pumped storage potential has a negative impact on wildlife in the canyon areas where pumped storage reservoirs would be located in that some habitat would be flooded and wildfowl would not experience favorable habitat on rapidly fluctuating reservoirs.

F<sub>8</sub>G<sub>4</sub> Pumped Storage Potential compared with Idaho Power Mitigation

Pumped storage potential has a minor positive impact on Idaho Power Company mitigation obligations in that pumped storage could share in the cost of mitigation measures.

F<sub>8</sub>G<sub>5</sub> Pumped Storage Potential compared with Lower Snake Mitigation

Pumped storage potential has a minor positive impact on Lower Snake mitigation obligations in that mitigation costs could be shared and contributed to by the pumped storage developments.

F<sub>8</sub> Series - H Group

F<sub>8</sub>H<sub>1</sub> Pumped Storage Potential compared with Water Quality Control

Pumped storage potential has a minor negative impact on water quality control in that pumped storage operations may degrade the water quality, particularly temperatures.

F<sub>8</sub> Series - I Group

F<sub>8</sub>I<sub>1</sub> Pumped Storage Potential compared with Columbia River Compact Negotiations

Pumped storage potential has a positive impact on the Columbia River Compact negotiations in that it represents another output of benefit from the water resource that could accrue to interests and static involved in negotiations.

F<sub>8</sub>I<sub>2</sub> Pumped Storage Potential compared with Subordination Clause

Pumped storage potential has a minor positive impact in that it tends to show another upstream use if the developments occur in the upper reaches of Hells Canyon stretch of the river.

F<sub>8</sub>I<sub>3</sub> Pumped Storage Potential compared with Idaho State Water Plan

Pumped storage potential has a minor positive impact on the Idaho State Water Plan in that it would provide more energy from production of renewable resources and help make the state more energy sufficient which was policy projected by the plan.

F<sub>8</sub>I<sub>4</sub> Pumped Storage Potential compared with Washington State Policy on Stream Maintenance Flows

Pumped storage potential has a minor negative impact on Washington State policy to maintain minimum stream maintenance flows in that losses would be increased in reservoir operations and fluctuation in flow might be more pronounced.

F<sub>8</sub>I<sub>5</sub> Pumped Storage Potential compared with Oregon State Policy - Hells Canyon Preservation

Pumped storage potential has a negative impact on Oregon State policy to preserve Hells Canyon in the natural state. The pumped storage development would destroy natural environments in the canyon and tend to push more visitation than would be good for the delicate natural balance of plants and animals.

F<sub>8</sub> Series - I Group (continued)

F<sub>8</sub>I<sub>6</sub> Pumped Storage Potential compared with Corps of Engineers - Columbia River and Tributary Review Study

Pumped storage potential has a minor positive impact on the Corps of Engineers CR&T study in that it represents another planning alternative and would provide more flexibility in energy production in the hydrosystem.

F<sub>8</sub>I<sub>7</sub> Pumped Storage Potential compared with Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan

Pumped storage potential has a minor positive impact on the Pacific Northwest River Basins CCJP study in that it represents another planning alternative and would provide more flexibility in energy production in the hydrosystems.

F<sub>8</sub>I<sub>8</sub> Pumped Storage Potential compared with Interbasin Water Transfers

Pumped storage potential has a minor positive impact on interbasin water transfers in that it might provide flexibility in low cost pumping schemes that would make possible pumpback schemes.

F<sub>8</sub>I<sub>9</sub> Pumped Storage Potential compared with Reservation Doctrine

Pumped storage potential has a minor positive impact on federal reservation doctrine in that federal resource hydrosites might be enhanced by pumped storage approaches. If power was developed under federal authority, it might claim water rights from federal reserve lands.

G<sub>1</sub> Series - G Group

G<sub>1</sub>G<sub>2</sub> Anadromous Fishery compared with Resident Fishery

Anadromous fishery has a minor negative impact on the resident fishery in that the water resource to support anadromous fishery cannot always be compatible with resident fish requirements.

G<sub>1</sub>G<sub>3</sub> Anadromous Fishery compared with Wildlife

Anadromous fishery has a positive impact on the wildlife in that water resources favorable to support of anadromous fishery tends to be favorable to the wildlife.

G<sub>1</sub> Series - G Group (continued)

G<sub>1</sub>G<sub>4</sub> Anadromous Fishery compared with Idaho Power Mitigation

Anadromous fishery has a major impact on the Idaho Power mitigation in that the losses that were needful of mitigation were the losses to the anadromous fishery.

G<sub>1</sub>G<sub>5</sub> Anadromous Fishery compared with Lower Snake Mitigation

Anadromous fishery has a major negative impact on the Lower Snake mitigation in that the losses in the anadromous fish runs are the condition that needed to be rectified or compensated for.

G<sub>1</sub> Series - H Group

G<sub>1</sub>H<sub>1</sub> Anadromous Fishery compared with Water Quality Control

Anadromous fishery has a positive impact on water quality control in that maintaining water conditions favorable for anadromous fishery helps assure better quality water in the Hells Canyon reach and below.

G<sub>1</sub> Series - I Group

G<sub>1</sub>I<sub>1</sub> Anadromous Fishery compared with Columbia River Compact Negotiations

Anadromous fishery has a minor negative impact on the Columbia River Compact negotiations in that it creates a mixing of problems concerned with another compact and makes difficult definition of jurisdictional responsibilities.

G<sub>1</sub>I<sub>2</sub> Anadromous Fishery compared with Subordination Clause

Anadromous fishery has a negative impact on the subordination clause in that although language in acts indicate no flow regulation can be specified, there is an obvious pressure to provide higher and better quality release to support the anadromous fish runs.

G<sub>1</sub>I<sub>3</sub> Anadromous Fishery compared with Idaho State Water Plan

Anadromous fishery has a negative impact on the Idaho State Water Plan in that providing favorable water resource conditions for the anadromous fish runs in Idaho and downstream anadromous fish runs in Idaho and downstream tends to limit the options open to the state plan.



G<sub>1</sub> Series - I Group (continued)

G<sub>1</sub>I<sub>4</sub> Anadromous Fishery compared with Washington State Policy on Stream Maintenance Flows

Anadromous fishery has a positive impact on the Washington State policy to maintain minimum stream maintenance flows in that maintaining favorable higher magnitude and quality of flows for anadromous fishery provides the same for Washington section of the river system.

G<sub>1</sub>I<sub>5</sub> Anadromous Fishery compared with Oregon State Policy on Preservation of Hells Canyon

Anadromous fishery has a positive impact on Oregon State's policy to preserve the uniqueness of Hells Canyon in that preserving higher and more natural flows for anadromous fish also preserves the uniqueness in the canyon.

G<sub>1</sub>I<sub>6</sub> Anadromous Fishery compared with Corps of Engineers - Columbia River and Tributaries Review Study

Anadromous fishery has a minor negative impact in that providing water resource conditions favorable to anadromous fishery restricts the alternatives of other uses of the water resources.

G<sub>1</sub>I<sub>7</sub> Anadromous Fishery compared with Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan

Anadromous fishery has a minor negative impact on the Commission's CCJP study in that providing water resources conditions favorable to anadromous fishery restricts the alternatives for other uses that could be considered in the CCJP study.

G<sub>1</sub>I<sub>8</sub> Anadromous Fishery compared with Interbasin Water Transfers

Anadromous fishery has a negative impact on interbasin water transfers in that providing water resource conditions for anadromous fishery would limit the possibility of making interbasin transfers anywhere in the river system.

G<sub>1</sub>I<sub>9</sub> Anadromous Fishery compared with Reservation Doctrine

Anadromous fishery has a minor positive impact on the reservation doctrine in that the water resources from federal reservation lands could be identified as needed and having a beneficial use for sustaining anadromous fish runs.

G<sub>2</sub> Series - G Group

G<sub>2</sub>G<sub>3</sub> Resident Fishery compared with Wildlife

Resident fishery has a positive impact on the wildlife in the canyon in that it maintains water flows in magnitude and quality that supports resident fishery; likewise helps the wildlife situation.

G<sub>2</sub>G<sub>4</sub> Resident Fishery compared with Idaho Power Mitigation

Resident fishery has a major negative impact on the Idaho Power mitigation in that providing for losses of resident fishery is one of the main reasons for requiring the mitigation at the level it is requested.

G<sub>2</sub>G<sub>5</sub> Resident Fishery compared with Lower Snake Mitigation

Resident fishery has a minor negative impact on the Lower Snake mitigation in that the effect of resident fishery extends on downstream and opts for raising the level of mitigation that is needed.

G<sub>2</sub> Series - H Group

G<sub>2</sub>H<sub>1</sub> Resident Fishery compared with Water Quality Control

Resident fishery has a positive impact on the water quality control in that maintaining the resident fishery helps assure a favorable water quality bringing balance to stream and the fish that live in it.

G<sub>2</sub> Series - I Group

G<sub>2</sub>I<sub>1</sub> Resident Fishery compared with Columbia River Compact Negotiations

Resident fishery has a minor negative impact on the Columbia River Compact negotiations in that taking into consideration the fish problem brings the compact into the realm of another controversy of compact on fishery in the river system.

G<sub>2</sub>I<sub>2</sub> Resident Fishery compared with Subordination Clause

Resident fishery has a negative impact on the subordination clause in that providing flow regulation and quality control for the resident fishery weakens the claim for subordination for upstream depletion.

G<sub>2</sub> Series - I Group (continued)

G<sub>2</sub>I<sub>3</sub> Resident Fishery compared with Idaho State Water Plan

Resident fishery has a minor negative impact on the Idaho State Water Plan in that providing water resource conditions favorable to resident fishery in the Hells Canyon reach of the river may preclude certain options for use as recommended by the plan.

G<sub>2</sub>I<sub>4</sub> Resident Fishery compared with Washington State Policy on Stream Maintenance Flows

Resident fishery has a positive impact on the Washington State policy to maintain certain minimum stream maintenance flows in that providing water resource conditions of flow and quality for resident fishery helps insure higher and better flows in the Washington section of the Snake River.

G<sub>2</sub>I<sub>5</sub> Resident Fishery compared with Oregon State Policy on Preservation of Hells Canyon

Resident fishery has a positive impact on Oregon State policy to preserve the unique nature of Hells Canyon in that preserving the resident fishery is one of conditions the Oregon State policy opts for the present.

G<sub>2</sub>I<sub>6</sub> Resident Fishery compared with Corps of Engineers - Columbia River and Tributaries Review Study

Resident fishery has a minor negative impact on the Corps of Engineers - CR&T study in that providing water flow and water quality favorable to the resident fishery limits the options for other uses that the CR&T plan might want to specify.

G<sub>2</sub>I<sub>7</sub> Resident Fishery compared with Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan

Resident fishery has a minor negative impact on the Commission's CCJP study in that providing water flow and quality for the resident fishery limits the options for other uses of the river that the CCJP plan might want to specify.

G<sub>2</sub>I<sub>8</sub> Resident Fishery compared with Interbasin Water Transfers

Resident fishery has a negative impact on interbasin water transfers in that providing desirable flows and water quality implies that water could not be available for transfer at least above Lewiston.

G<sub>2</sub> Series - I Group (continued)

G<sub>2</sub>I<sub>9</sub> Resident Fishery compared with Reservation Doctrine

Resident fishery has a positive impact on the federal reservation doctrine in that the lands are mostly federal reserve lands and the water need could be identified as supporting fishery needs.

G<sub>3</sub> Series - G Group

G<sub>3</sub>G<sub>4</sub> Wildlife compared with Idaho Power Mitigation

Wildlife has a negative impact on Idaho Power Company mitigation in that wildlife preservation is a loss that has to be mitigated and thus is cause of the mitigation.

G<sub>3</sub>G<sub>5</sub> Wildlife compared with Lower Snake Mitigation

Wildlife has a minor negative impact on the Lower Snake mitigation in that wildlife in the Hells Canyon and hunting makes for impact on the downstream habitat and wildlife and thus increases.

G<sub>3</sub> Series - H Group

G<sub>3</sub>H<sub>1</sub> Wildlife compared with Water Quality Control

Wildlife has a minor positive impact on water quality control in the Hells Canyon reach in that preservation and enhancement of the wildlife and the habitat tends to help keep water quality at better level.

G<sub>3</sub> Series - I Group

G<sub>3</sub>I<sub>1</sub> Wildlife compared with Columbia River Compact Negotiations

Wildlife has a minor positive impact on the Columbia River Compact negotiations in that enhancement of the wildlife helps bring accord from both upstream and downstream interests and state versus federal desires.

G<sub>3</sub>I<sub>2</sub> Wildlife compared with Subordination Clause

Wildlife has a negative impact on the subordination clause in that recognition of the needs of higher flows and better stream

G<sub>3</sub>I<sub>2</sub> (continued)

quality in support of wildlife agrees for less upstream development and opts for some kind of regulation of flows that is counter to the subordination clause.

G<sub>3</sub>I<sub>3</sub> Wildlife compared with Idaho State Water Plan

Wildlife has a minor negative impact on the Idaho Water Plan in that meeting the needs of wildlife in Hells Canyon may limit the degree of development recommended in the State Water Plan. A minor positive impact on the State Water Plan is the recommendation for enhancement of wildlife where possible.

G<sub>3</sub>I<sub>4</sub> Wildlife compared with Washington State Policy on Stream Maintenance Flows

Wildlife has a minor positive impact on the Washington State policy to maintain minimum stream maintenance flows in the Lower Snake River in that wildlife enhancement and preservation of the habitat argue for higher and better quality flows through the canyon.

G<sub>3</sub>I<sub>5</sub> Wildlife compared with Oregon State Policy on Preservation of Hells Canyon

Wildlife has a major positive impact on the Oregon State policy of preservation of the uniqueness of Hells Canyon in that support and enhancement of wildlife and the habitat is a major consideration in preserving the canyon's uniqueness.

G<sub>3</sub>I<sub>6</sub> Wildlife compared with Corps of Engineers - Columbia River and Tributaries Review Study

Wildlife has a negative impact on the Corps of Engineers CR&T study in that providing for wildlife habitat will limit some of the alternatives for water resource development.

G<sub>3</sub>I<sub>7</sub> Wildlife compared with Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan

Wildlife has a negative impact on the Commission's CCJP study in that providing for wildlife enhancement and preservation in the Hells Canyon reach limits the alternatives for full development of other uses of the water resource.

G<sub>3</sub>I<sub>8</sub> Wildlife compared with Interbasin Water Transfers

Wildlife has a minor negative impact on interbasin water transfers in that protecting and providing for wildlife enhancement in Hells Canyon would be incompatible with pumpback schemes and the need to deplete flows if diversion were made upstream of Lewiston.

G<sub>3</sub> Series - I Group (continued)

G<sub>3</sub>I<sub>9</sub> Wildlife compared with Reservation Doctrine

Wildlife has a minor positive impact in that wildlife needs being on federal reserve lands would indicate that providing flows and quality of flows in the Hells Canyon is tacit recognition of the need or use of flow and flow regulation for that need.

G<sub>4</sub> Series - G Group

G<sub>4</sub>G<sub>5</sub> Idaho Power Mitigation compared with Lower Snake River Mitigation

Idaho Power Company mitigation has a minor positive impact on Lower Snake River mitigation in that mitigation upstream supports and compliments mitigation requirements below and probably reduces amount of mitigation necessary downstream.

G<sub>4</sub> Series - H Group

G<sub>4</sub>H<sub>1</sub> Idaho Power Mitigation compared with Water Quality Control

Idaho Power Company mitigation has a positive impact on water quality control in the Hells Canyon reach of the river in that mitigation measures help to reduce adverse impact of pollution or compensate for it.

G<sub>4</sub> Series - I Group

G<sub>4</sub>I<sub>1</sub> Idaho Power Mitigation compared with Columbia River Compact Negotiations

Idaho Power Company mitigation has a minor positive impact on Columbia River Compact negotiations in that decisions on mitigation have been made and losses identified thus making issues for the compact easier to arbitrate.

G<sub>4</sub>I<sub>2</sub> Idaho Power Mitigation compared with Subordination Clause

Idaho Power Company mitigation has a negligible impact on the subordination clause in that mitigation is for activities in the Hells Canyon development region and the subordination clause is really applicable to more upstream irrigation development and depletion.

G<sub>4</sub> Series - I Group (continued)

G<sub>4</sub>I<sub>3</sub> Idaho Power Mitigation compared with Idaho State Water Plan

Idaho Power Company mitigation has a minor positive impact on the Idaho State Water Plan in that the mitigation claims have been defined and thus are known quantities to the plan helping to make clearer the alternatives that can be undertaken in the stretch of the river and upstream consequences.

G<sub>4</sub>I<sub>4</sub> Idaho Power Mitigation compared with Washington State Policy on Stream Maintenance Flows

Idaho Power Company mitigation has a minor positive impact on the Washington State policy to maintain minimum stream maintenance flows in the lower portion of the river system in that mitigation requirements tend to enhance both quality and quantity downstream which supports Washington State policy.

G<sub>4</sub>I<sub>5</sub> Idaho Power Mitigation compared with Oregon State Policy on Preservation of Hells Canyon

Idaho Power Company mitigation has a positive impact on Oregon State policy to preserve Hells Canyon in its unique state in that mitigation tends to restore losses and prevents further degradation of the unique environmental values.

G<sub>4</sub>I<sub>6</sub> Idaho Power Mitigation compared with Corps of Engineers - Columbia River and Tributaries Review Study

Idaho Power Company mitigation has a minor positive impact on the Corps of Engineers - CR&T study in that it defines one element of water resource use that need not be an unknown in the future plans of the CR&T study.

G<sub>4</sub>I<sub>7</sub> Idaho Power Mitigation compared with Pacific Northwest River Basins Commission's - Comprehensive Coordinated Joint Plan

Idaho Power Company mitigation has a minor positive impact on the Commission's CCJP study in that the mitigation has been defined and does not leave that as task or decision variable in future planning.

G<sub>4</sub>I<sub>8</sub> Idaho Power Mitigation compared with Interbasin Water Transfers

Idaho Power Company mitigation has a minor negative impact on interbasin water transfers in that mitigation is defined without depletions that would result in the case of water transfers and would then open up questions as to how to handle losses.

G<sub>4</sub> Series - I Group (continued)

G<sub>4</sub>I<sub>9</sub> Idaho Power Mitigation compared with Reservation Doctrine

Idaho Power Company mitigation has a minor positive impact on the federal reservation doctrine in that the mitigation is called for under federal rulings of FPC and represents an action that defines a federal say in water resources.

G<sub>5</sub> Series - H Group

G<sub>5</sub>H<sub>1</sub> Lower Snake Mitigation compared with Water Quality Control

Lower Snake mitigation has a minor negative impact on water quality control in the Hells Canyon reach of the river in that mitigation efforts may be substituted for control efforts upstream.

G<sub>5</sub> Series - I Group

G<sub>5</sub>I<sub>1</sub> Lower Snake Mitigation compared with Columbia River Compact Negotiations

Lower Snake mitigation has a minor positive impact on Columbia River Compact negotiations in that the mitigation solves one problem and defines obligations that then do not have to be decided in a compact.

G<sub>5</sub>I<sub>2</sub> Lower Snake Mitigation compared with Subordination Clause

Lower Snake mitigation has a minor negative impact on the subordination clause in that there is a tendency to impose in the mitigation conditions that require higher and more consistent flows in the Lower Snake River thus weakening the subordination clause.

G<sub>5</sub>I<sub>3</sub> Lower Snake Mitigation compared with Idaho State Water Plan

Lower Snake mitigation has a minor negative impact on the Idaho State Water Plan in that the mitigation has a tendency to impose conditions that require quality and quantity conditions that may limit some of the Idaho State Water Plan recommendations.

G<sub>5</sub>I<sub>4</sub> Lower Snake Mitigation compared with Washington State Policy on Stream Maintenance Flows

Lower Snake mitigation has a positive impact on the Washington State policy on stream maintenance flow in that it adds another pressure to keep higher flows and maintain better water quality.



G<sub>5</sub> Series - I Group (continued)

G<sub>5</sub>I<sub>5</sub> Lower Snake Mitigation compared with Oregon State Policy on Preservation of Hells Canyon

Lower Snake mitigation has a minor positive impact on the Oregon State policy to preserve Hells Canyon in its unique natural state in that mitigation tends to opt for higher flows and better water quality and preservation of the Hells Canyon reach assists in that goal.

G<sub>5</sub>I<sub>6</sub> Lower Snake Mitigation compared with Corps of Engineers - Columbia River and Tributary Review Study

Lower Snake mitigation has a minor positive impact on the Corps of Engineers CR&T study in that aspect of a plan has been addressed and requirements already defined thus simplifying the study effort.

G<sub>5</sub>I<sub>7</sub> Lower Snake Mitigation compared with Pacific Northwest River Basins Commission's - Comprehensive Coordinated Joint Plan

Lower Snake mitigation has a minor positive impact on the Commission's CCJP study in that the definition of the mitigation has been considered and decisions arrived at that would simplify the effort to be expended on the CCJP study.

G<sub>5</sub>I<sub>8</sub> Lower Snake Mitigation compared with Interbasin Water Transfers

Lower Snake mitigation has a negative impact on interbasin water transfers in that mitigation needs have been worked out without any consideration that depletions from interbasin water transfers might cause and thus it would be argued that interbasin transfers would negate mitigation as now planned.

G<sub>5</sub>I<sub>9</sub> Lower Snake Mitigation compared with Reservation Doctrine

Lower Snake mitigation has a minor positive impact on the federal reservation doctrine because it supports a federal action and thus indicates a use accommodation that must be met. It might be said that it has a minor positive negative impact in that federal developments are primarily those developments that are being mitigated and compensatory action is being forced on the federal entities.

H<sub>1</sub> Series - I Group

H<sub>1</sub>I<sub>1</sub> Water Quality Control compared with Columbia River Compact Negotiations

H<sub>1</sub>I<sub>1</sub> (continued)

Water quality control has a positive impact on Columbia River Compact negotiations in that controlling water quality in the Hells Canyon reach makes for simpler agreement between states on water problems and claims for amount and quality of flows.

H<sub>1</sub>I<sub>2</sub> Water Quality Control compared with Subordination Clause

Water quality control has a negative impact on the subordination clause in that subordination implies less restraint on upstream depletion and water quality control will tend to opt for higher flows to keep pollution effect at lower level.

H<sub>1</sub>I<sub>3</sub> Water Quality Control compared with Idaho State Water Plan

Water quality control has a minor negative impact on the Idaho State Water plan in that water quality control in the Hells Canyon reach will imply certain demands to keep higher flows for dillution which may conflict with intents of the plan.

H<sub>1</sub>I<sub>4</sub> Water Quality Control compared with Washington State Policy on Stream Maintenance Flows

Water quality control has a positive impact on the Washington State policy on maintaining minimum stream maintenance flows in that water quality control in Hells Canyon will opt for higher minimum flows through the canyon.

H<sub>1</sub>I<sub>5</sub> Water Quality Control compared with Oregon State Policy on Preservation of Hells Canyon

Water quality control has a major positive impact on Oregon State policy to preserve the uniqueness of Hells Canyon in that water quality control in the canyon will help preserve the primitive and naturalness of the river and its riparian land and life.

H<sub>1</sub>I<sub>6</sub> Water Quality Control compared with Corps of Engineers Columbia River and Tributaries Review Study

Water quality control has a minor negative impact on the Corps of Engineers CR&T study in that it places a restraint that may limit certain alternatives for use. It could have also minor positive impacts in that it would make simpler the task of planning by defining certain decision variables in more explicit terms.

H<sub>1</sub>I<sub>7</sub> Water Quality Control compared with Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan

Water quality control has a minor negative and a minor positive impact in that it limits some options for use but at the same time defines the guidelines for certain decisions in more explicit ways.

H<sub>1</sub> Series - I Group (continued)

H<sub>1</sub>I<sub>8</sub> Water Quality Control compared with Interbasin Water Transfers

Water quality control has a minor negative impact on interbasin water transfers in that demand for higher flows for water quality control through the canyon reach would make more positive the limit to divert water at least upstream of Hells Canyon. It may make more available downstream of Hells Canyon for interbasin diversion.

H<sub>1</sub>I<sub>9</sub> Water Quality Control compared with Reservation Doctrine

Water quality control has a positive impact on the reservation doctrine in that federal claims might be made for maintaining higher flows for water quality through the canyon.

I<sub>1</sub> Series - I Group

I<sub>1</sub>I<sub>2</sub> Columbia River Compact Negotiations compared with Subordination Clause

Columbia River compact negotiations has a negative impact on the subordination clause in that the tendency would be to place less emphasis on the claim of upper basin interests to have that subordinate clause recognized.

I<sub>1</sub>I<sub>3</sub> Columbia River Compact Negotiations compared with Idaho State Water Plan

Columbia River compact negotiations has a positive impact on the Idaho State Water Plan in that the plan speaks favorably to having a compact and would make firmer the assurance that planned uses and recommendations would be acceptable.

I<sub>1</sub>I<sub>4</sub> Columbia River Compact Negotiations compared with Washington State Policy on Stream Maintenance Flows

Columbia River compact negotiations has a positive impact on the Washington State policy on stream maintenance flows in that it represents a logical way to proceed to get agreement on flow minimums that would be recognized by all states.

I<sub>1</sub>I<sub>5</sub> Columbia River Compact Negotiations compared with Oregon State Policy on Preservation of Hells Canyon

Columbia River compact negotiations has a positive impact on the Oregon State policy on preservation of Hells Canyon in that it is one way of getting agreement to possible restraints different states might want to exercise.

I<sub>1</sub> Series - I Group (continued)

I<sub>1</sub>I<sub>6</sub> Columbia River Compact Negotiations compared with Corps of Engineers - Columbia River and Tributaries Review Study

Columbia River compact negotiations has a positive impact on the Corps of Engineers - CR&T study in that it would give more assurance that plans developed would be accepted and implemented. The negotiations would bring closer harmony to planning efforts.

I<sub>1</sub>I<sub>7</sub> Columbia River Compact Negotiations compared with Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan

Columbia River compact negotiations has a positive impact on the Pacific Northwest River Basins Commission's CCJP study in that it would bring states closer to agreement on alternatives for use and define certain restraints of allowable depletions that could be used as bases for plans that would be more likely to be implemented.

I<sub>1</sub>I<sub>8</sub> Columbia River Compact Negotiations compared with Interbasin Water Transfers

Columbia River compact negotiations has a negative impact on interbasin water transfers in that negotiation would make stronger claims for use within the basin and likely put legal restraints to any schemes that might suggest interbasin diversion.

I<sub>1</sub>I<sub>9</sub> Columbia River Compact Negotiations compared with Reservation Doctrine

Columbia River compact negotiations has a negative impact on federal reservation doctrine in that it tends to recognize the states rights to existing use and the right to negotiate on essentially an equal footing with the federal government.

I<sub>2</sub> Series - I Group

I<sub>2</sub>I<sub>3</sub> Subordination Clause compared with Idaho State Water Plan

The subordination clause has a major positive impact on the Idaho State Water Plan in that it gives support to planned uses and gives protection to future implementation of the planned uses.

I<sub>2</sub>I<sub>4</sub> Subordination Clause compared with Washington State Policy on Stream Maintenance Flows

The subordination clause has a major negative impact on the Washington State policy on minimum stream maintenance flows in that it allows for greater upstream depletion than might suit Washington State desires.

I<sub>2</sub> Series - I Group (continued)

I<sub>2</sub>I<sub>5</sub> Subordination Clause compared with Oregon State Policy - Hells Canyon Preservation

The subordination clause has a negative impact on the Oregon State policy on preservation of Hells Canyon in that it would allow and support lowering minimums through the canyon.

I<sub>2</sub>I<sub>6</sub> Subordination Clause compared with Corps of Engineers - Columbia River and Tributaries Review Study

The subordination clause has a minor negative impact on the Corps of Engineers CR&T study in that it restrains options for planning and places a burden to study with that restraint considered.

I<sub>2</sub>I<sub>7</sub> Subordination Clause compared with Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan

The subordination clause has a minor negative impact on the Pacific Northwest River Basins CCJP study in that it restrains options for planned uses and places a burden of possibilities of getting good federal-state cooperation.

I<sub>2</sub>I<sub>8</sub> Subordination Clause compared with Interbasin Water Transfers

The subordination clause has a negative impact on interbasin transfers in that recognition is given to areas of origin and would thus discount any claim by outside users.

I<sub>2</sub>I<sub>9</sub> Subordination Clause compared with Reservation Doctrine

The subordination clause has a minor positive impact on the federal reservation doctrine in that the federal reserved lands in many cases are the headwaters and source of high water yield and claims to make other downstream uses subordinate. It may at the same time have a minor negative impact in that federal statutes have expressed the clause and given support to existing nonfederal appropriated uses.

I<sub>3</sub> Series - I Group

I<sub>3</sub>I<sub>4</sub> Idaho State Water Plan compared with Washington State Policy on Stream Maintenance Flows

The Idaho State Water Plan has a negative impact on the Washington State policy on minimum stream maintenance flows in that proposed land development and depletion recommended in the Idaho State Water Plan would jeopardize keeping higher stream maintenance flows.

I<sub>3</sub> Series - I Group (continued)

I<sub>3</sub>I<sub>5</sub> Idaho State Water Plan compared with Oregon State Policy - Preservation of Hells Canyon

The Idaho State Water Plan has a minor negative impact on the Oregon State policy of preservation of Hells Canyon in that meeting recommendations for allowable river depletion upstream of Hells Canyon will cause less desirable flows through the canyon.

I<sub>3</sub>I<sub>6</sub> Idaho State Water Plan compared with Corps of Engineers - Columbia River and Tributaries Review Study

The Idaho State Water Plan has a positive impact on the Corps of Engineers CR&T study in that it defines certain planning limits and provides for input into the CR&T study.

I<sub>3</sub>I<sub>7</sub> Idaho State Water Plan compared with Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan

The Idaho State Water Plan has a positive impact on the Commission's CCJP study in that it defines certain planning limits and support the idea of federal-state planning effort.

I<sub>3</sub>I<sub>8</sub> Idaho State Water Plan compared with Interbasin Water Transfers

The Idaho State Water Plan has a negative impact on interbasin water transfers in that it shows the unavailability of water from within the state to be utilized for transfer.

I<sub>3</sub>I<sub>9</sub> Idaho State Water Plan compared with Reservation Doctrine

The Idaho State Water Plan has a negative impact on federal reservation doctrine in that it specifies water use that would not allow use on federal projects and commits future use that would not allow exercising any federal claim to water.

I<sub>4</sub> Series - I Group

I<sub>4</sub>I<sub>5</sub> Washington State Policy on Stream Maintenance Flow compared with Oregon State Policy - Hells Canyon Preservation

Washington State policy on stream maintenance flow has a positive impact on the Oregon State policy of preservation of Hells Canyon in that both reinforce each other to favor higher releases through the canyon and to downstream use or maintenance of higher flows.

I<sub>4</sub> Series - I Group (continued)

I<sub>4</sub>I<sub>6</sub> Washington State Policy on Stream Maintenance Flow compared with Corps of Engineers - Columbia River and Tributaries Review Study

Washington State policy on stream maintenance flow has a minor negative impact on the Corps of Engineers CR&T study in that it puts a restraint on flows that may not be compatible with other planning alternatives or resource uses.

I<sub>4</sub>I<sub>7</sub> Washington State Policy on Stream Maintenance Flow compared with Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan

Washington State policy on stream maintenance flow has a minor negative impact on the Pacific Northwest River Basins Commission's CCJP study in that it puts a restraint on flows that might not be compatible with other planning alternatives or more comprehensive resource uses.

I<sub>4</sub>I<sub>8</sub> Washington State Policy on Stream Maintenance Flow compared with Interbasin Water Transfers

Washington State policy on stream maintenance flow has a negative impact on interbasin water transfers in that the goal is to keep higher flows in the Lower Snake River and that is counter to the idea of interbasin transfers. It might have a minor positive impact in that interbasin water transfers from the Lower Columbia would point to availability of the water for interbasin transfers.

I<sub>4</sub>I<sub>9</sub> Washington State Policy on Stream Maintenance Flow compared with Reservation Doctrine

Washington State policy on stream maintenance flow has a minor negative impact on the federal reservation doctrine in that a state policy for higher stream maintenance flow would be competitive with possible defined federal reservation needs.

I<sub>5</sub> Series - I Group

I<sub>5</sub>I<sub>6</sub> Oregon State Policy - Hells Canyon Preservation compared with Corps of Engineers - Columbia River and Tributaries Review Study

Oregon State policy on preservation of Hells Canyon has a minor negative impact on the Corps of Engineers - CR&T study in that it restricts certain development opportunities that might be considered in planning comprehensive use of the water resources of entire Columbia River system.

I<sub>5</sub> Series - I Group (continued)

- I<sub>5</sub>I<sub>7</sub> Oregon State Policy - Hells Canyon Preservation compared with Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Study

Oregon State policy on preservation of Hells Canyon has a minor negative impact on the Pacific Northwest River Basins Commission's CCJP study in that it restricts certain development alternatives and opportunities that might be considered in a CCJP study and planning effort.

- I<sub>5</sub>I<sub>8</sub> Oregon State Policy - Hells Canyon Preservation compared with Interbasin Water Transfers

Oregon State policy on preservation of Hells Canyon has a negative impact on interbasin water transfers because impoundments in Hells Canyon for pumpback schemes like the Dunn plan would be prohibited.

- I<sub>5</sub>I<sub>9</sub> Oregon State Policy - Hells Canyon Preservation compared with Reservation Doctrine

Oregon State policy on preservation of Hells Canyon has a negligible impact on the reservation doctrine in that nondevelopment in the canyon still leaves options open to possible state or federal control of water.

I<sub>6</sub> Series - I Group

- I<sub>6</sub>I<sub>7</sub> Corps of Engineers - Columbia River & Tributary Review Study compared with Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan

The Corps of Engineers - Columbia River & tributary review study has a minor positive impact on the Pacific Northwest River Basins Commission's CCJP study in that it generates useful data and generates alternatives. It might be slightly negative in that it is competitive with the CCJP study.

- I<sub>6</sub>I<sub>8</sub> Corps of Engineers - Columbia River & Tributary Review Study compared with Interbasin Water Transfers

The Corps of Engineers - Columbia River & tributary review study has a minor negative impact on interbasin water transfers in that the CR&T study works within the constraints of a region and does not try to consider water use outside the basin.



I<sub>6</sub> Series - I Group (continued)

I<sub>6</sub>I<sub>9</sub> Corps of Engineers - Columbia River & Tributary Review Study compared with Reservation Doctrine

The Corps of Engineers - Columbia River & tributary review study has a minor positive impact on the federal reservation doctrine in that it is a federal study and may tend to favor federal control; development and jurisdiction especially in its role in navigation and flood control.

I<sub>7</sub> Series - I Group

I<sub>7</sub>I<sub>8</sub> Pacific Northwest River Basins Commission - Columbia River Comprehensive Joint Plan compared with Interstate Water Transfers

The Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan has a minor negative impact on interbasin transfers in that the plan does not envision interbasin transfers only on a limited in-region basis. Commission policy has opposed transfer out of Columbia River Basin.

I<sub>7</sub>I<sub>9</sub> Pacific Northwest River Basins Commission - Columbia River Comprehensive Joint Plan compared with Reservation Doctrine

The Pacific Northwest River Basins Commission's Comprehensive Coordinated Joint Plan has a negligible impact on the federal reservation doctrine in that it is federal-state effort which has tried to eliminate a supremacy of state or federal approaches.

I<sub>8</sub> Series - I Group

I<sub>8</sub>I<sub>9</sub> Interbasin Water Transfers compared with Reservation Doctrine

Interbasin water transfers have a minor positive impact on the reservation doctrine with regard to water rights in that to exercise such a doctrine, greater flexibility in use and location of use would need to be exercised such as transfer across state lines which implies federal control and jurisdiction.

I<sub>9</sub> is the last consideration and ends the comparisons with itself.

FIGURE 1. Detailed Map of Significant Features of Hells Canyon Reach of Snake River.

