EAST COLUMBIA BASIN IRRIGATION DISTRICT

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Chairman Cassidy and Council Members:

Thank you for the opportunity to comment on Council document 2002-16, "Draft Mainstem Amendments to the Columbia River Basin Fish and Wildlife Program", October 2002. The East Columbia Basin Irrigation District is one of three irrigation districts operating the Bureau of Reclamation's Columbia Basin Project. The East District supplies water to 152,000 irrigated acres located in the Moses Lake, Warden and Othello areas of Grant and Adams Counties.

The East District views much of what is proposed by the Council in the Draft Mainstem Amendments as a good first step toward restoring balance to management of Columbia River water. In our view the mainstem flow management policies of the past decade or so have followed a region wide blanket approach with little or no regard for site specific circumstances. A result of this monolithic approach has been the "no-net-loss" policy imposed by NOAA Fisheries. Such a restrictive measure may be appropriate and scientifically supportable at some locations but to apply this remedy to the entire region and especially to the entire Snake and Columbia mainstems is needlessly harsh.

The District notes and supports the following statements included in the draft amendments as being indicative of the more balanced site-specific approach being proposed by the Council:

> "Ensure that any changes in water management are premised upon, and proportionate to, scientifically demonstrated fish and wildlife benefits. " (page 13, lines 10-12)
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> "Operations based solely on efforts to achieve the flow targets in the lower Columbia river will adversely affect resident fish while failing to benefit anadromous fish if they do not take into account reasonable storage project operations." (page 13, lines 25-28)
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> "The amount of flow augmentation and the release schedule from storage reservoirs should be based on the best available science for each target species (resident or anadromous) and weighted for the greatest benefit to all species." (page 13, lines 32-34)
>
> "Shift hydrosystem management strategies away from spring flow augmentation to an operational strategy that results in a 95 percent probability of refilling the storage reservoirs to provide for more augmentation capability in the summer months of July through September.
>
> Protect biological production in the rivers and in the storage reservoirs during the most productive period of the year, by drafting each storage reservoir according to elevation limitations that, when combined with projected inflows, results in stable or "flat" outflows in the summer months of July through September and in biologically appropriate reservoir levels throughout the same period." (page 13, lines 37-46)

"Maximize spillway survival by selecting the most biologically effective level of spillway discharge at each specific project while not exceeding interim gas supersaturation standards. Balance spillway survival probabilities against spillway passage efficiency and the efficiency and probabilities of other passage routes in order to determine the passage methods, including spill volumes, that maximize the survival of the fish passing the entire dam and minimize fall back and other effects on adult salmon." (page 15, lines 23-29)

"The 2000 NMFS and USFWS Biological Opinion operations may not be optimal when the needs of fish and wildlife other than listed species are taken into account. Based on the vision, the biological objectives and the overarching strategies stated above, the Council is adopting principles and measures that are also intended to benefit fish and wildlife affected by the hydrosystem other than listed species and meet the biological objectives and vision described above. These principles and measures may require changes in certain operations or priorities under Biological Opinion implementation. The Council is confident that these changes can also be made consistent with the flexibility built into the Biological Opinions and without adverse effects on the listed species, and will lead to a more broad-based, sustainable and cost-effective protection and recovery of fish and wildlife in the Columbia basin. The Council calls on the federal operating agencies and fish and wildlife agencies to consult with the Council, the states and the tribes on the implementation of these measures." (page 20, lines 11-24)

"Because the existence of the dams and reservoirs creates conditions that are not natural, the Council, while seeking to improve inriver conditions, recognizes that there are survival benefits from transportation of migrating juvenile salmon. Therefore, the Council (1) continues to accept juvenile fish transportation as a transitional strategy; (2) will give priority to the funding of research that more accurately measures the effect of improved inriver migration compared to transportation; (3) will recommend increasing inriver migration when research demonstrates that salmon survival would be improved as a result of such migration, vice versa; and (4) endorses the strategy of "spread the risk" until it is determined whether migration inriver or transportation will provide the best levels or survival." (page 24, lines 4-14)

"Spill should be managed according to the most biologically effective spill level at each project .... The goal of this evaluation should be to determine if it is possible to achieve the same or greater levels of survival and biological benefit to migrating fish as currently achieved while reducing the amount of water spilled, thus decreasing the adverse impact on the region's power supply." (page 25, lines 25-45)

"The U.S. Army Corps of Engineers, in consultation with these other entities, should place a priority on designing, testing and evaluating methods and devices, that could produce the same or greater benefit to fish while spilling less water, especially what are known as removable spillway weirs. If these methods and devices produce positive results, implement as soon as is practical to do so." (page 26, lines 19-23)

"Until the cumulative effects of high levels of spill are better understood the Council recommends that the region continue to monitor and evaluate spill strategies." (page 26, lines 34-36)

"To provide passage for juvenile fish that most closely approximates natural physical and biological conditions, and to increase the energy produced by the hydrosystem, the U.S. Army Corps of Engineers should:

(1) continue testing and developing surface bypass systems, taking into account the widest range of biological diversity as described in the biological objectives and overarching strategies, utilizing an expedited approach to prototype development, and ensuring full evaluation the developmental phase;

(2) relocate bypass outfalls in those circumstances where there are problems with predation and juvenile fish injury and mortality;

(3) modify turbines to improve juvenile survival; and

(4) conduct research on fish diseases at fish passage facilities." (page 28, lines 5-16)

> "Assure that any changes in water management are premised upon, and proportionate to, fish and wildlife benefits, while assuring the region an adequate, efficient, economical, and reliable power supply." (page 29, lines 9-12)
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> "Systemwide water management, including flow augmentation from storage reservoirs, should balance the needs of anadromous species with those of resident fish species in the river and upstream storage reservoirs, and the needs of migrating fish with those of spawning and rearing fish, so that actions taken to advantage one species do not unnecessarily come at the expense of other species." (page 29, lines 37-41)
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> "The Council recognizes the continuing controversies over (a) the nature and extent of the flow-survival relationship for migrating salmon and steelhead, especially in the spring; (b) over the consistency between the flow targets and the flow measures; and (c) over flow augmentation in general, with these implications:
>
> > The Council does not support the National Marine Fisheries Service's 2000 Biological Opinion spring and summer flow targets due to lack of evidence that they are related to survival within the range of the operating agencies' control given reservoir and other system constraints.
> >
> > The Council continues to call on Bonneville, in consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service, to prepare an annual report based on scientific research for review by the Independent Scientific Advisory Board that documents the flow augmentation actions taken, the benefits of flow augmentation for fish survival, and the precise attributes of flow that may make it beneficial." (page 30, lines 6-21)
>
> "Research has not validated the predicted benefits of flow augmentation from upstream storage reservoirs. Focus research on hydrosystem operations on the relative costs and benefits to native fish throughout the Columbia watershed." (page 31, lines 9-12)

The supposed goal of mainstem flow augmentation and the spring and summer flow targets was to aid the downstream migration of juvenile anadromous fish. The District supports the Council's goal in the draft mainstem amendments to focus on site specific, more proven measures to aid juvenile migration such as removable spillway weirs, surface bypass systems, turbine retrofits, "spread the risk" barging and biologically effective spills and to move away from so much reliance on flow augmentation.

Mainstem flow augmentation, institutionalized through the various biological opinions and the "no-net-loss" policy, has essentially choked off any opportunities for water dependent economic growth in the northwest. The District notes and appreciates the following footnote from the draft mainstem amendments:

> "a No provision of this amendment may, by recommendation of the Council, propose to "(1) affect the rights or jurisdictions of the United States, the States, Indian tribes, or other entities over waters of any river or stream or over any groundwater resource, (2) alter, amend, repeal, interpret modify or be in conflict with any interstate compact made by the States, or (3) otherwise be construed to alter, or establish the respective rights of States, the United States, Indian tribes, or any person with respect to any water or water related right." Northwest Power Act, §10(i), 94 Stat. 2735." (Bottom of page 35)

However, the flow augmentation program has had the effect of overriding state water law by implication and/or intimidation. The State of Washington, until just recently, has refused to permit even the most deminimus new withdrawals from the Columbia for fear of the federal "no-net-loss" policy.

With an expanding population, the northwest's economy must be able to grow and some of that growth will be water dependent. The new direction being proposed by the Council in the draft mainstem amendments will hopefully facilitate some relaxation of the federal "no-net-loss" policy and make some new water available on a site-specific or area-specific basis.

Since the Columbia Basin Project's source of irrigation water and irrigation pumping energy is Grand Coulee Dam, the East District has an obvious interest in the Council's proposals in the draft mainstem amendments regarding changes in operations for Grand Coulee Dam and Lake Roosevelt. Proposals to carry Lake Roosevelt fuller, longer would tend to support the CBP's irrigation benefit. Since CBP is a multiple purpose federal reclamation project improved benefits to resident fish and hydropower (both federal and district) resulting from the proposed changes would be desirable.

The Pump Generating Plant at Grand Coulee Dam has six 65,000 horsepower conventional pumps and six 67,500 horsepower reversible pump-generators. Lake Roosevelt water levels affect the pumping capacity and efficiency of these twelve units. The best water level scenarios from an irrigation pumping perspective is for Lake Roosevelt to be at or near full pool, 1290' and for Banks Lake to be within its top five feet, 1565' to 1570'. The six reversible pump-generators are not designed to pump to Banks Lake when Lake Roosevelt is below 1240'. It takes more than six units to supply CBP at peak irrigation times and/or at periods when Columbia River water is being transferred to Potholes Reservoir. Those scenarios vary in their timing from year to year but can occur anytime during the May to August period. Extreme flood control drawdowns, extreme low water years or excessive mainstem flow augmentation can all **conceivably** compromise the 1240' elevation during the May to August period.

The Council's proposals in the draft mainstem amendments all exceed the 1240' threshold and likely tend to enhance the multiple purpose authorization of the Columbia Basin Project. The District notes and supports the following statements included in the draft

amendments that pertain to the operations of Grand Coulee Dam and Lake Roosevelt and, by implication, Banks Lake:

> "Contribute to providing the conditions necessary to protect spawning and rearing habitat for fish in and adjacent to Lake Roosevelt so as to build fish populations to levels capable of supporting harvest consistent with the goals set forth in the management and mitigation plans and the recommendations of the Spokane and Colville Tribes." (page 18, lines 6-9)
>
> "Develop and implement actions that create littoral habitat and fish structures along the shores of Lake Roosevelt to diversify food available to fish and provide additional rearing habitat." (page 22, lines 6-8)
>
> "As a highest priority at Hungry Horse, Libby, Grand Coulee and Dworshak dams, assure a 95 percent probability that these storage reservoirs refill by the end of June (Libby in late July), so that the reservoirs have the maximum amount of water available during the summer." (page 32, lines 30-33)
>
> **"Grand Coulee Dam.** Operate Grand Coulee Dam in the winter and spring (from January through June) in the following manner:
>
> > Meet the following minimum monthly elevation targets in Lake Roosevelt while attempting to maintain the minimum monthly mean retention times as follows, until fisheries evaluation information indicates a change in these objectives:

Period	Minimum Elevation	Minimum Mean Retention Time
January	1270 feet above sea level	45 days
February	1260	40 days
March-April 15	1250	30 days
April 16	1255	30 days
May	1265	35 days
June	fill to 1290	40-60 days or maximum historically achievable for the month

March to May elevations are minimums, with the understanding that flood control operations will determine the actual upper elevation.

Manage the reservoir and dam discharges to produce steady flows across each season and each day to minimize reservoir fluctuations and ramping rates." (page 34, lines 4-25)

"Operate **Grand Coulee Dam** from June through December in the following manner: Fill to elevation 1290 feet by the end of June

Draft evenly from Lake Roosevelt to elevation 1283 feet by the end of August.

From September through December, maintain a minimum elevation of 1283 feet, to maximize water retention times and to protect kokanee access and spawning.

Maximize water retention times from June to December of 40 to 60 days or the maximum historically achievable for each month.

Manage the reservoir and dam discharges to produce steady flows across each seasons and each day to minimize reservoir fluctuations and ramping rates." (page 37, lines 11-26)

It is clear that one of the purposes of the Council's proposals regarding the operations of Grand Coulee Dam and Lake Roosevelt is to increase water retention times in Lake Roosevelt to improve food and habitat conditions for resident fish. Longer retention times could **conceivably** also provide a downstream water quality benefit if the longer retention times result in more temperature stratification in the reservoir and if cold water releases at Grand Coulee are possible. The Council may want to consider this possibility as part of the research associated with its draft mainstem amendments.

While the District supports the Council's Grand Coulee proposals, the District also cautions the Council that full implementation of these proposals may be adverse to federal hydropower. Over the years, Grand Coulee has become the main peaking plant for the region. This peaking ability is very advantageous to the region and is possible because of the combined capacity and flexibility of Grand Coulee Dam and the Columbia Basin Project. One element of this peaking ability is simply the rapidity with which the 27 generators in Grand Coulee's three powerhouses can be switched off and on. Another element is the pump generating plant and Banks Lake. Irrigation pumping is maximized during periods of low power demand, typically nights and weekends. During high power demand periods, typically weekdays, irrigation pumping is reduced to less than CBP irrigation demands and the p/g units are reversed to the generate mode. This "load factoring" operation normally results in Banks Lake slowly drafting down to the 1565' to 1567' range during the week then refilling to about 1569' or 1570' over the weekend. River flows downstream of Grand Coulee fluctuate because of these peaking power and "load factoring" operations.

The Council's proposals for fuller and more stable Lake Roosevelt elevations and for steadier drafts from Lake Roosevelt will likely diminish or eliminate Grand Coulee peaking ability. That peaking ability will have to somehow be replaced if the Council's draft mainstem amendments scenario for Grand Coulee is implemented.

A proposal contained in the draft mainstem amendments which causes concern for the District is:

> "Evaluate the feasibility of reintroducing anadromous fish into blocked areas, including above Chief Joseph and Grand Coulee dams." (page 21, lines 44-45)

At the very least this proposal is premature considering all the effort and expense the region is putting into anadromous fish management and recovery for streams where they presently exist. Until the ultimate success of all that work is better assured, efforts and resources should not be diverted to reintroduce anadromous fish to blocked areas. The District recommends that a prerequisite to such reintroduction should be federal and state legislation codifying "safe harbor" and "no surprises" protections into the Endangered Species Act to prevent adverse legal consequences in cases of reintroductions that go bad.

While the District has no expertise in the area of fish hatcheries, the District does note and support the following hatchery related goal of the draft mainstem amendments:

> "With regard to hatchery populations of salmon and steelhead, prioritize mainstem protection and support to those hatchery populations that provide the most significant contribution to the rebuilding of naturally spawning populations in areas of program habitat investments, or that provide the most significant contributions to harvest while ensuring the least detrimental impacts on the survival of native fish species." (page 19, lines 25-30)

This statement is further evidence of the Council's attempt to bring a more balanced approach to the recovery of listed anadromous fish. The northwest has been too focused on wild fish to the exclusion of hatchery stocks. The Endangered Species Act recognizes artificial propagation and it is being used as a recovery tool for listed fish in the Colorado River basin. The northwest should begin to recognize hatchery fish as an asset.

In the October 28, 2002 letter inviting public comment on the draft mainstem amendments Chairman Cassidy requested comments on 12 specific issues. The District offers the following responses to several of those:

1. Changes in storage reservoir operations, in general.

The District supports the Council's strategy to de-emphasize spring and summer flow targets and to focus more on maintaining stable upriver reservoir elevations and to make reservoir releases in a more steady pattern. The District agrees with the Council's goal that such reservoir operations will better balance the needs of anadromous and resident fish, reduce the discrimination against non-listed fish in favor of listed fish, better balance water needs between fish and hydropower and reduce the costs (direct and foregone generation) being caused by flow augmentation.

Please refer to the District's more in-depth and specific comments regarding Grand Coulee Dam reservoir operations (pages 4-6). The District supports the Council's proposed general strategy to maintain more stable and fuller upriver reservoir elevations and to release water in a steadier pattern.

2. Changes in storage reservoir operations - alternative that preserves status quo operations while evaluations are pending.

Please refer to the District's response to 1. (above) and to the District's comments regarding Grand Coulee Dam operations. The District recommends that the status quo not be preserved and that the Council encourage expeditious implementation of the proposed changes in reservoir operations with provisions to adjust actions as experience is gained.

3. Changes in storage reservoir operations - elimination of April 10 flood control elevation target.

Please refer to the District's comments regarding Grand Coulee Dam reservoir operations (pages 4-6). The District supports the filling schedule and minimum elevation targets proposed by the Council in the draft mainstem amendments.

4. **Changes in storage reservoir operations - summer** flows.

Please refer to the District's comments regarding flow augmentation (pages 1-4). The District supports the Council's proposals in the draft mainstem amendments to de-emphasize spring and summer flow targets.

5. Changes in storage reservoir operations - alternative that calls for allocating more water to meeting or exceeding Biological Opinion flow targets.

The District does not support this alternative.

9. Juvenile fish transportation.

The District agrees that the "spread the risk" strategy of transporting part of the juvenile fish and leaving part to migrate in river to be logical and prudent. This strategy should be periodically reviewed as improvements such as removable spillway weirs, surface bypass systems and turbine retrofits are implemented.

12. Criteria and procedures for emergency operations.

The District agrees that the Council should give some forethought to threshold criteria that would constitute a power emergency and to what mainstem actions should be taken during such an emergency. However, the District recommends that such pre-planning should be kept somewhat general and shouldn't be viewed as mandatory during the next emergency.

Each emergency, power or otherwise, tends to be somewhat unique and each emergency needs its own uniquely appropriate responses. Emergency planning should establish a process to deal with an emergency and leave most of the specific emergency responses to be developed through that process. There are so many players in the mainstem that trying to pre-plan everything about a future emergency doesn't seem practical or reasonably achievable.

Thank you again for the opportunity to comment.

Sincerely,

Richard L. Erickson
Secretary-Manager

RLE:jd