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Lieutenant General Todd T. Semonite  
Commanding  
Headquarters, U.S. Army Corps of Engineers  
441 G Street NW Washington, DC 20314-1000

Re: Saving Money and Creating Wealth by Breaching the Four Lower Snake River Dams to Recover Endangered or Threatened Wild Salmon and Steelhead

Dear Lieutenant General Semonite:

First, let me congratulate you on your new position as the Chief of Engineers. It is an achievement that you well deserve and will find incredibly rewarding. Having served closely with several Chiefs of Engineers among them, Hank Hatch when I was the Chief of the Office of Strategic Initiatives, I can say that most days will be filled with engaging high energy issues of great importance to the future of our nation.

Now retired, I am writing to point out that among that long list of “transition issues” that your new staffs have dutifully assembled, you hopefully will find one regarding the four Lower Snake Dams in eastern Washington. While I can deeply appreciate many of the issues facing our military personnel and national security, I raise this to your attention because it is perhaps one the most important environmental issues you will face as the Chief of Engineers. Given the economics, they too are a matter of national security, since money spent on these costly dams can be put to better use strengthening infrastructure elsewhere in the Federal Columbia River Power System. Since you may not be familiar with these dams or my involvement with them, I will provide a short background.

These four hydropower and navigation dams were first authorized in 1947 only after including disallowable benefits into the benefit cost ratio. Since that time, through their construction completion in 1975, and up to this day, they have been the subject of much controversy and legal actions due to their very detrimental effects on wild salmon and steelhead, not to mention the greater ecosystem of the Pacific Northwest, for which these species are the backbone.

In the early 1990's a federal judge ordered the Corps to undertake a study to determine the best alternatives to recover these endangered or threatened runs. The study was to include dam breaching as an alternative, which it does. This is important, since the study became the EIS that is the working document today. It is entitled the *Lower Snake Feasibility Report/Environmental Impact Statement* (FR/EIS).

After serving 12 years in HQUSACE I became the Deputy District Engineer for Programs at Walla Walla District, as the *Lower Snake Feasibility Report/Environmental Impact Statement* was moving toward the final draft stages. In my position I was to ensure that the report and ultimately the EIS was unbiased, of high quality, timely completed at minimal cost, and that an objective recommendation was rendered based on the content of the report, and nothing else. I must admit that I failed on several counts. While the \$33 million FR/EIS has a vast store of useful information with which the intrepid reader could well conclude that dam breaching offered the best, and now it is clear, the only biological choice to recover the ESA listed salmon and steelhead runs from extinction, that was not the decision rendered by the NWW and NWD commanders.

As one of the few people who actually read the mammoth FR/EIS, it was my conclusion that dam breaching should be pursued. The biology was clear. I also found the economics to have numerous dubious assumptions, omissions, and faulty conclusions that led me to question the claims that breaching the dams would unleash "economic disaster" on Eastern Washington. The facts and data in the FR/EIS indicated that this could not be true. However, my attempts to correct the seemingly predetermined conclusions regarding dam breaching largely were rejected by the commander, on the grounds that it was too late in the study process to make anything but cosmetic corrections.

In 2002 the FR/EIS was completed and the Division Commander signed the Record of Decision. The ROD concluded that despite the science showing that dam breaching through channel bypass was the best option for salmon and steelhead recovery, breaching was not necessary at that time. Breaching would be reserved as a contingency management alternative, depending upon the findings in the 2005 and 2008 check-ins that never happened.

In making the decision not to breach in 2002, the nine involved federal agencies, including NOAA, agreed that EIS Alternative 4, dam breaching, must be considered if implementing the other alternatives did not work. The other alternatives did not work. Wild salmon and steelhead are not recovering, but are in worse shape than when the FR/EIS was prepared. While ten years was the outside time period the federal agencies allowed for results, fourteen years have passed without any consideration given to dam breaching. This is in spite of the fact that over \$800 million has been spent on the two non-breach alternatives, with no improvement in survival or progress toward recovery.

In that same 14 year period Corps, Department of Justice and environmental NGO lawyers have been battling it out in federal court over five failed Biological Opinions that cover the entire Federal Columbia River Power System. This has created a situation that apparently has made the

federal agencies forget that the original FR/EIS for the four lower Snake River dams and the ROD that accompanies it. However, the FR/EIS and ROD remain the documents that cover operating these dams. The only alternative left in the FR/EIS remaining to be implemented is dam breaching. Its consideration by the federal agencies is long overdue. Dam breaching is also the only alternative that will come anywhere near to restoring wild salmon runs. The Biop litigation and decisions are much broader than this EIS and thus only confuse the issue before the Corps and have served as a convenient excuse for NWD to ask for more lawyers and studies (NWW now has more lawyers than fishery biologists in the District HQ, the reverse was true when I was there).

The purported overriding consideration for concluding that breaching was not necessary in 2002 was the alleged low cost of maintaining the dams. This was compared to the alleged high costs of breaching, and the alleged significant loss of economic output that breaching would deliver.

Today, an accounting by an economic firm using the 2002 FR/EIS, P&G for Water Resource Projects and the Corps planning guidance shows the reverse to be the case then and today. It is clear that in reaching its conclusion NWW cherry picked the guidance and data to come up with a positive economic argument. Indeed the BC ratio for keeping the dams is .15 to 1. Yes, that is 15¢ on the dollar. I am sure you well know that the Corps has a fiduciary responsibility to cease operations and decommission any such project.

My review of the breach cost estimates, conducted with Corps' personnel familiar with these four dams, indicate that the cost was overestimated when the decision not to breach was made, by roughly \$500 million. Today's total cost to breach the four lower Snake River dams through channel bypass, the approved method in the 2002 FR/EIS, is roughly \$340 million. You may have heard figures such as \$2-3 billion from pro-dam advocates, but this is based on an inflated cost for full dam removal, i.e., all the concrete, which is not necessary for safe fish passage. The first to be breached, Lower Granite can be breached for less than \$50 million, 98.4% of which should be paid for by BPA. If the Corps were to pay for the 1.6% navigation share, that could come from the Columbia River Fish Mitigation Program

In the process of briefing ASA(CW) and HQUSACE staff two years ago, it was clear that the need to breach was not so much questioned, as was how to get it done. I was given the typical planning guidance for this, "come back in five years when you have a sponsor for a river restoration project." However, my experience and the Corps' policy tell me this is not necessary.

I, in collaboration with Corps and EPA staff and other professionals, have since considered several policy and funding scenarios and have shown that the Corps can do this immediately for the following reasons:

- Given the failed economics reflected in the .15 BCR over the project life, and when all current annual costs, BPA and Corps, are considered, the dams are also likely already operating in the "red." Either of these conditions are enough reason for the Corps to

exercise its inherent responsibility to stop spending money on these projects and decommission them. Note, NWW claims an annual cost of \$62 million, but this is only O&M.

- In this situation, the Corps does not need a new cost-sharing sponsor. And in reality, it already has one, BPA. Furthermore, BPA also can be regarded as a non-federal sponsor should someone want to nitpick since they derive their ultimate source of funding from electric ratepayers, not Congressional appropriations. Given the high cost of producing power from these dams compared to other sources such as wind and even solar, or reducing demand through conservation, all elements noted in the Northwest Power and Conservation Power Plan, it is in the best business interest, indeed a fiduciary responsibility, for BPA to pay the full breach cost as a matter of the most cost effective means of achieving “fish mitigation” and reducing overall system costs.
- As noted above, the Corps expenditures under the Columbia River Fish Mitigation (CRFM) program for the four Lower Snake dams to date are roughly \$800 million for implementing the two non-breach alternatives in the 2002 FR/EIS and ROD. The only remaining RPA for salmon mitigation in the EIS is breaching via channel bypass. Any breaching costs not covered by BPA under the Fish Mitigation authority they derive from the 1980 NW Power and Conservation Act could be covered by remaining CRFM budgets, especially if the current and wasteful cost for upgrading the Juvenile Bypass System is terminated immediately. (I am told by fishery biologists that this is a waste of money and the contract has so many change orders that the going joke in NWW is, which engineer will have to review change request number 666. The cost for this embarrassment is likely to exceed \$150 million.) Based on correcting assumptions in the breach cost estimate, \$255 million versus \$859 million in 1999 dollars, or \$340 million today, and applying the navigation cost share of 8%, Corps obligations for breaching will be less than \$30 million. Indeed for Lower Granite, the dam that should begin breaching later this year, the Corps’ share is only \$832,000. In comparison, just the Corps’ legal fees litigating the last Biological Opinion and countering Judge Simon’s remand decision over the next six months may be more than that. However, based on BPA’s use of “Fish Credits” it follows that they would pay the full costs of the breach and credit their US Treasury Debt for applicable charges in accordance with the 1980 Power and Conservation Act for Fish Mitigation, which dam breaching is since it is the most reasonable alternative remaining in the EIS.
- On top of this and not reflected in the BCR ratios above because of the BPA’s opaque accounting, BPA continues to spend roughly \$700 million a year on fish mitigation of the Corps projects in the Columbia/Snake Basin, at least half of which are within the Snake basin.
- When the wild salmon meet their final demise over the next few years, BPA will no doubt make the case to the ratepayers and the tribes that because it was the Corps’ four Lower Snake dams and reservoirs that negated BPA’s efforts for habitat and hatchery improvements, the Corps should except responsibility for this failure. To a large degree

this is and will continue to be true since there is ever more prime spawning and rearing habitat in Idaho that is not utilized by salmon and steelhead, largely due to the four dams' obstruction of the migration corridor, both downriver and upriver. Without sufficient numbers of wild salmon returning, with all the ocean derived nutrients they embody, ecosystem function of these spawning areas is spiraling down in a feedback cycle that further adversely impacts wild salmon and steelhead and the Columbia Basin ecosystem as a whole.

- Will continued decimation of salmonids be yet another reimbursement the Corps and federal taxpayers willingly take on? In your tenure as Chief you likely will miss the legal and accounting calculations necessary to pay Northwest Indian tribes for failing to meet treaty obligations for fish, since the estimated range is \$20-30 billion. Nevertheless, with this amount of money at stake, you and the Corps will no doubt make headlines and all that goes with that on Capital Hill.
- Given the simple method available for breaching the earthen portion of each dam to establish channel bypass of the concrete structures, the cost is kept to a minimum and little design is required. The breach has three basic phases: mechanical removal of the top 60 feet of material by dozer to the downstream side of the embankment, while dewatering over the spillway and turbines; controlled (via turbine wicket gates) hydraulic breaching of the remaining 40 feet; and channel alignment and armoring around the structure and bridge piers/road embankments, if necessary. Thus, the contract is little more than a time and materials or rental contract for four to five pieces of equipment at any one time. This approach is essentially the same as in the FR/EIS. We have however, updated and corrected, in collaboration with field personal in NWW and EPA, the Natural River Drawdown Engineering Appendix. See link in attachment. Thus, scheduling drawdown is a matter of urgency to fit into the next fish window. This would mean that drawdown of the Lower Granite pool should begin between 1 November and 15 December of this year, with the hydraulic breach occurring approximately 60 days later. Coincidentally the Corps has scheduled a 100 day lock outage for repairs at Lower Granite beginning in early December of this year. Farmers already are preparing to redirect their fall grain harvest to rail or ship. Needless to say, the money for the expensive structural repairs should go to more important needs within the Corps' Navigation Program.

Moreover, there is an immediate crisis on the lower Snake River today. The warm slack water reservoirs created by the dams have caused the crisis. Only breaching the dams can remedy the reservoir problems. This year reservoir temperatures are exceeding averages once again, as predicted by NOAA, but largely ignored in any meaningful way. This situation occurred last year killing 98% of the Idaho Sockeye run, in addition to untold mortality of juveniles of all species. The only meaningful remedy for the fish-killing high water temperatures is drawing down the reservoir behind Lower Granite dam as soon as possible. This can be done. The fish ladders at Lower Granite have watering equipment. The existing FR/EIS can be used if the drawdown is done early, but as part of the breach plan noted above. With some simple

modifications, you have a contractor on site that could do this now. Using the existing FR/EIS for breaching, this solution to prevent another salmon disaster is in your hands.

I must point out that the tarnish imbued by the folly of these four lower Snake River dams on the Corps' reputation over the last 50 years, has turned to rust and ruin that is about to become a failure of historic proportions. This failure is not a result of unsound policy on the Corps' part. It is the result of the regional politics of the Pacific Northwest, especially Washington and Idaho, and the actions of the regional leadership of the Corps, Bonneville Power Administration and NOAA Fisheries. The politics of elected officials is well understood and part and parcel to the Corps culture, history and, indeed, means of appropriations. What is not excusable is the supreme degree by which these regional leaders have misled our elected officials, higher headquarters, the White House and the American people. Of course, a few politicians did lay a heavy hand at times on federal and state employees. I know first hand the pressure one can receive from a senator or congressman. Thankfully, most are gone. This pressure became especially apparent in 2000 when the Draft NOAA BiOp and the Corps' Lower Snake Feasibility Report and Environmental Impact Statement had breaching as a reasonable and preferred alternative, yet it was not chosen.

As a result, the reward system for government employees, tribes, contractors and even the environmental organizations that claim to support salmon recovery by dam breaching, rewards those that can master the art of working the political fringes of breaching these four dams while steadfastly holding tight the mindset that no matter what some of our true public servants, data and reports say about the high costs to society, individuals, and the ecosystem, we will always keep these dams. NWD and NWW habitually default to NOAA Fisheries and BPA as if they must do what they say. They have also been entrapped by the legal process for so many years that they have grown culturally comfortable with the lawyers protecting the status quo. And the lawyers are trapped by their legal history and precedents that they can't reverse.

At the end of the day, the last vestiges of wild salmon will disappear into the depths of the Pacific, never to return. All the fingers of these advisors and consultants will point to the Corps and blame it for the failure. They will be right. It is the Corps responsibility to insure the economic, environmental and societal needs of the nation and tribes are properly accounted for and integrated into sustainable solutions. That cannot happen in the Northwest, and leaves only one place left for leadership to manifest a solution and monumental legacy for the Corps.

However, there is a different vision, one that you may have seen. In that vision, the lower Snake is a free flowing river that has pre-dam salmon and steelhead abundance levels. The vision includes vineyards, orchards and what amounts to a "Napa Valley" of eastern Washington that sustains itself alongside diverse riparian areas in which birds and other creatures flourish, without the need for government mitigation. In this vision, Lewiston, Idaho no longer cowers behind 30 foot navigation levees, but is a true river front town with all the beauty and vibrancy that a free flowing, accessible river brings. Restored fisheries and lands allow tribes to reconnect

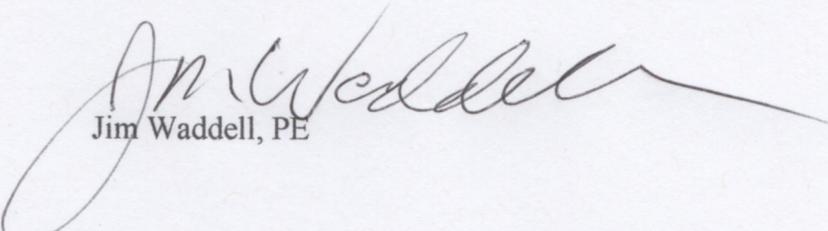
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with their historic places and practices along the 140 miles of cooling river waters. In the vision, all economic outcomes, including existing agriculture, reap the synergistic effects that come part and parcel with the solution to what otherwise would be an unforgivable tragedy. What then will be your legacy for the Corps and the nation?

No doubt the first staffer to scan this letter to determine who should work it, will send it to the NWD Regional Integration Team, who in their busy way, will task it to NWD/NWW for a response. That of course will lead to more delay, misleading information and failure. While there are a few staff in NWD/NWW that can help if asked, I surely hope you realize the issue of breaching the four Lower Snake dams only can be addressed and solved by you and Assistant Secretary Darcy. The opportunity exists for this Administration to support you with an immediate breach implementation. It likely will be a very different story next year and challenge for your next three years as Chief

Given the amount of information bearing on this action, I am available and request a meeting with you at the soonest possible time. The urgency of such a meeting should be evident. Even better would be the observable act of directing the immediate drawdown and December 2016 breach of Lower Granite Dam.

The attached page contains a list of links to the letters, documents and reports addressing this matter. All have been provided previously to various offices of government and are assembled here for the convenience of those you may charge to assist you quickly in this action. They also are a ready source of much of the material needed to expedite an update/supplement of the existing EIS, should that be required



Jim Waddell, PE

Copy Furnished: Mindy Simmons, HQUSACE

One Attachment: Links to Supporting Documents