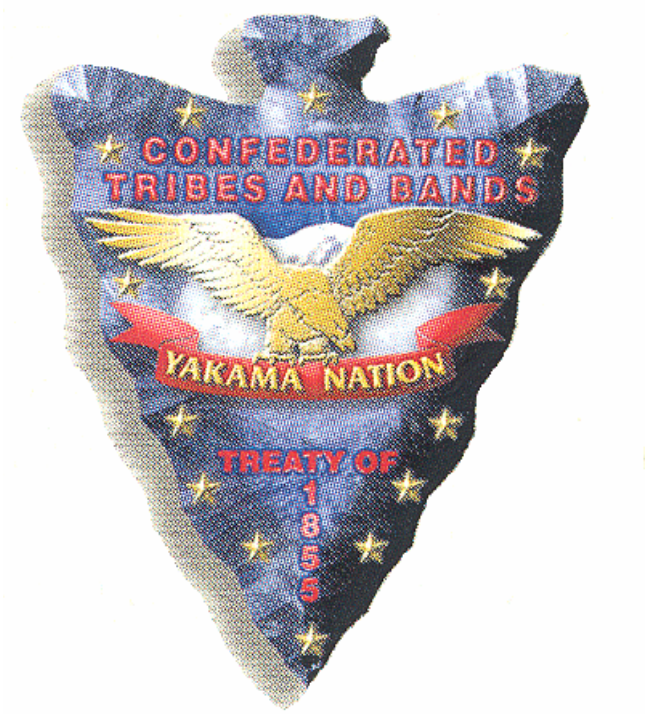
Can BPA Afford Salmon Recovery?



A Report by the Yakama Nation

August 9, 2006

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July 25, 2006

Summary

- Bonneville can incorporate the costs to fully implement the Northwest Power and Conservation Council Program and the FCRPS Biological Opinion and still provide significant benefits to the Northwest economy.

- For FY 2007-2009, BPA rates will be 53 percent below market-based electricity costs. BPA could fund the Tribes' fish and wildlife recommendations and still be 43% to 50% below market rates.

- Current BPA fish and wildlife expenses account for about $5 per month for a consumer served by a utility that buys all of its power from BPA; 90 percent of the consumers in the region pay less.

- The potential rate impacts of additional fish and wildlife measures could range from 44 cents to $4.83 a month for the average public utility consumer. Customers of investor-owned utilities would not experience any rate increase.

- The major causes of BPA's rate increase over the past 25 years are BPA's nuclear costs and its over-commitments of power to utilities and aluminum smelters.

- BPA's current funding for fish and wildlife is inadequate.

- BPA's assumptions about fish and wildlife funding for FY 2007 through FY 2009 and its rate adjustment mechanisms are seriously flawed and do not assure implementation of the Biological Opinion or Council Program.

Power Decisions Foreclosing Salmon Decisions

The tribes, along with other fish and wildlife managers are working with federal agencies to develop a new Federal Columbia River Power System (FCRPS) Biological Opinion that complies with the Endangered Species Act. That effort should produce a science-based plan to protect and recover salmon and steelhead and must include actions that are reasonably certain to occur.

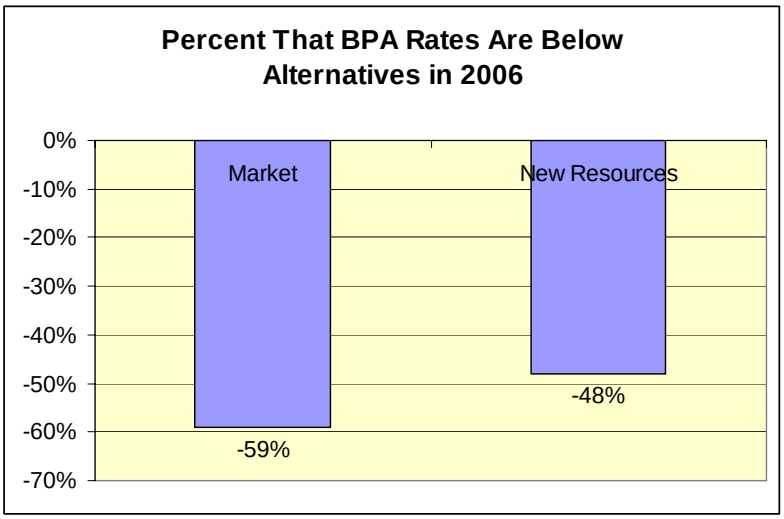
On July 17, 2006, BPA made final decisions on setting its rates for 2007 through 2009. The BPA rates include fish and wildlife funding levels that would force immediate cuts in ongoing fish and wildlife programs and significantly delay full implementation of the subbasin plans developed under the Columbia River Basin Fish and Wildlife Program.

BPA has claimed that it can adjust its rates to accommodate decisions that come out of the biological opinion remand. The treaty tribes have provided extensive evidence in the BPA rate case that BPA's proposal does not allow it to increase its costs and also assure repayment of its debt to the Treasury. In response to the tribes' testimony, BPA added a rate adjustment that would trigger if there are higher costs related to the ESA litigation, but provided not analysis that its rate adjustment mechanisms would allow it to cover higher fish and wildlife costs and still meet its standard for repaying the U.S. Treasury. In the past, when BPA has faced missing a Treasury payment it has deferred salmon recovery actions.

BPA Rates

Current rates

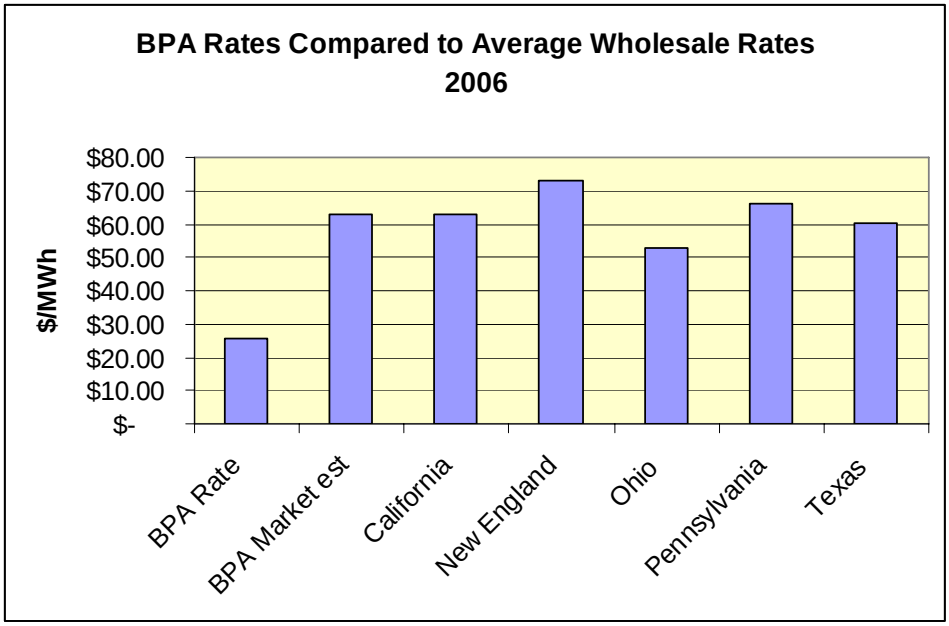
Based on BPA's information used in its rate case, BPA's rates are currently 59 percent below the market rates for FY 2006. BPA's current rates are 48 percent below the BPA new resource rate for 2006.



Averaged over the past ten years, BPA rates have been 27 percent below market rates and 49 percent below the costs of new resources.

BPA compared to other regions

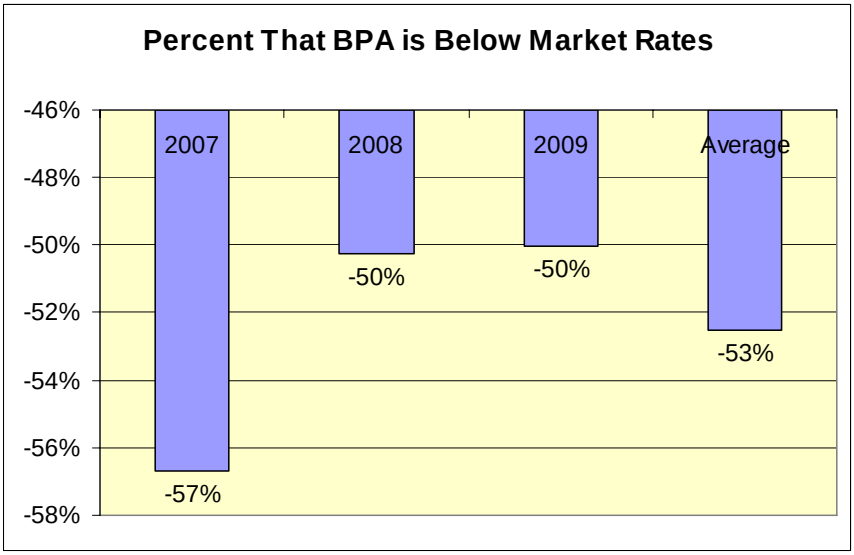
BPA rates are much lower than other wholesale rates in the United States. The figure below is based on data from the U.S. Department of Energy's Energy Information Administration. It shows BPA rates compared to average wholesale market rates in California, New England, Ohio, Pennsylvania, and Texas. BPA rates are 59 percent below California wholesale rates, 65 percent below the rates in New England, 51 percent below Ohio, 61 percent below Pennsylvania, and 57 percent below wholesale rates in Texas.

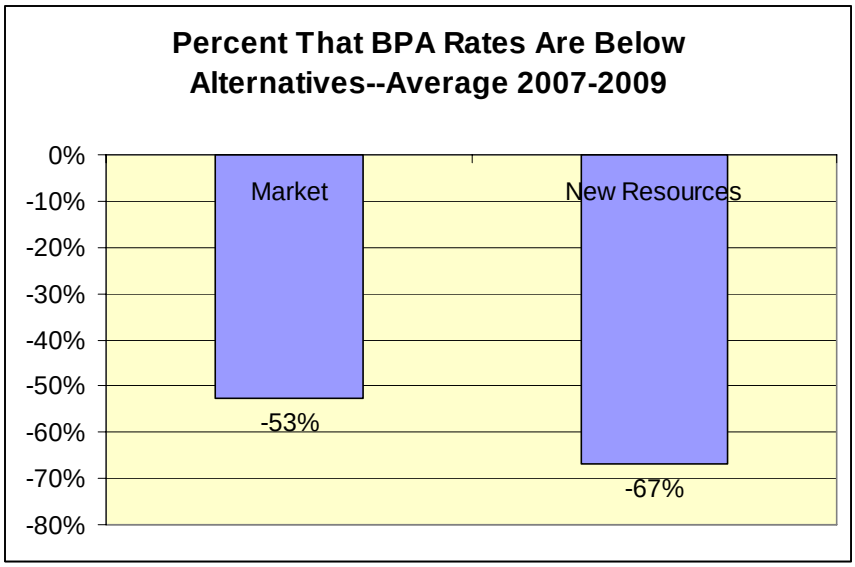


BPA rates 2007-2009

In the current rate case, BPA has assumed that market rates will decline by approximately 20 percent between 2006 and 2009. BPA's assumption about a reduction in market costs makes BPA's proposed rates for 2007 through 2009 slightly closer to market rates. Using BPA's assumptions, its rates would be 53 percent below market rates on average over the next rate period.

In BPA's final rate decision, it has increased its New Resources rate for FY 2007 through FY 2009. Based on these new rates, BPA's standard rates will be 67 percent below its cost for new resources.





The Impact of Salmon Recovery on BPA Rates

This section describes the potential impacts of two alternatives for salmon recovery on BPA's rates. It is important to note that these costs will not necessarily cause a rate increase. For example, in 2005, BPA projected that additional spill at several dams to protect salmon would increase rates; however, BPA actually decreased its rates by 1.6 percent that year because of other factors. The assumptions for the additional fish and wildlife costs are summarized here and detailed later in this paper. For Illustrative purposes, the following analysis assumes that BPA adds fish and wildlife costs to its rates and that the other costs and revenues are as forecasted in BPA's rate testimony.

Low Case: This scenario is based on the costs of implementing the subbasin plans developed for the Northwest Power and Conservation Council Fish and Wildlife Program and the FCRPS Biological Opinion. The costs were prepared by a workgroup convened by the Columbia Basin Fish and Wildlife Authority. This case also assumes that the river operations ordered by the District Court as part of the FCRPS Biological Opinion Remand for 2006 would continue through 2009; this would reduce BPA's revenue from the sale of electricity. We have subtracted the credit that BPA would receive for these additional costs[1].The scenario assumes total added costs would be $72 million in 2007, $89 million in 2008, and $99 million in 2009.

High Case: The high case assumes the additional integrated fish and wildlife costs above plus $70 million per year to cover the added costs if BPA does not use its borrowing authority for land and water acquisitions to improve habitat. The high case also assumes the river operations recommended by the plaintiffs in the FCRPS

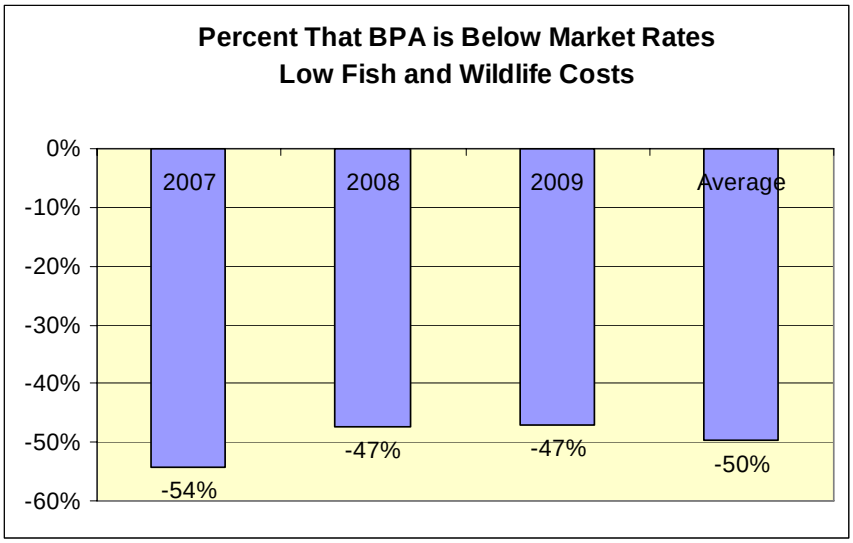
[1] Under Section 4(h)(10)(C) of the Northwest Power Act, the non-hydro costs of the integrated program, capital, and power purchases are credited against BPA's payment to the Treasury.

Biological Opinion litigation. The high scenario assumes net total added costs would be $292 million in 2007, $282 million in 2008, and $281 million in 2009.

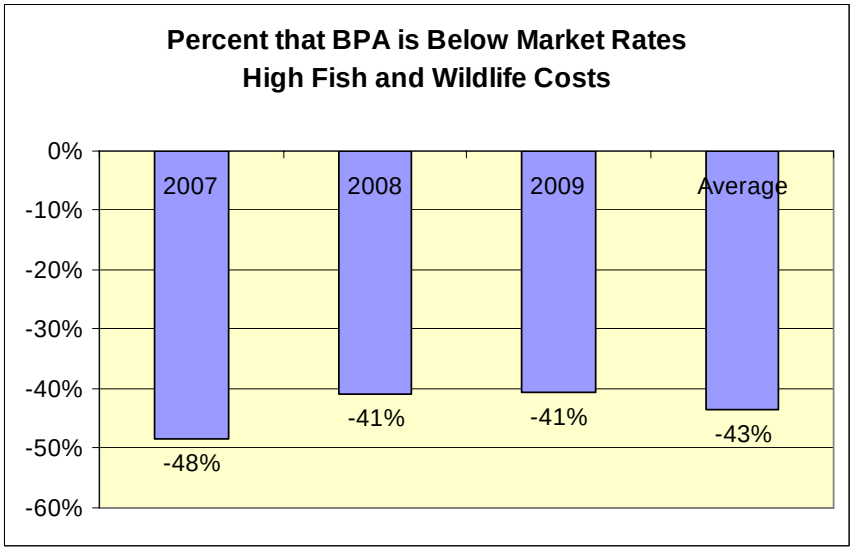
The FCRPS biological opinion remand process is likely to identify different activities and different costs. We believe it is likely that these costs will fall within the range of costs described above.

BPA would be significantly below market rates

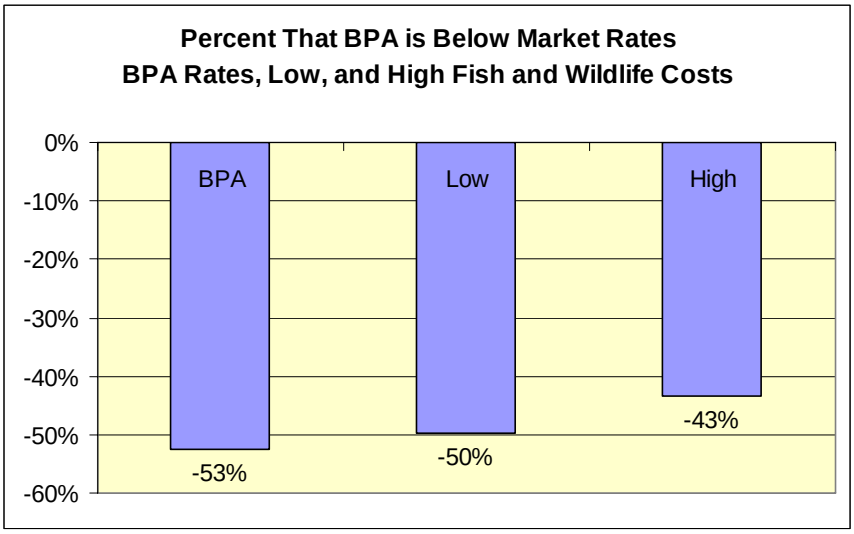
If these additional fish and wildlife costs are added to BPA's rates, BPA would be 50 percent below market rates on average over the next rate period in the low case.



BPA's rates would 43 percent below market rates in the high case.



The figure below compares the percent that BPA would be below market prices, on average, under its proposed fish and wildlife funding level and the low and high fish and wildlife funding scenarios described above.



Conclusion

Given that Bonneville's rates are significantly below market rates and lower than most other parts of the country, it appears that Bonneville can incorporate the costs to fully implement the Council Program and the Biological Opinion and still provide significant benefits the Northwest economy. BPA could fully fund salmon recovery and be 40 to 50 percent below market-based rates; BPA would clearly be competitive with other alternatives.

Can Consumers Afford Salmon Recovery?

Current fish and wildlife costs in consumer rates

Using the information from BPA's Power Function Review (the most detailed information BPA has assembled) the total fish and wildlife costs (expenses, reimbursements, and capital repayment) for FY 2007-FY 2009 is projected to be about $339 million per year. This does not include "lost revenue". BPA gets a credit of about $40 million a year to offset part of these costs. BPA total revenues are about $4 billion, so the fish and wildlife costs are about 7.5 percent of BPA's total revenue.

This current fish and wildlife funding level would translate into about $0.005 per kilowatt hour[2]. For a customer that is served by a utility that buys all of its power from BPA this cost translates to about $5 per month—7.6 percent of a retail bill. However, 90% of the customers in the region would pay much less. For example, a customer served by a utility that purchases 70 percent of its power from BPA pays about $3.50 per month—five percent of the total bill—for fish and wildlife costs. A

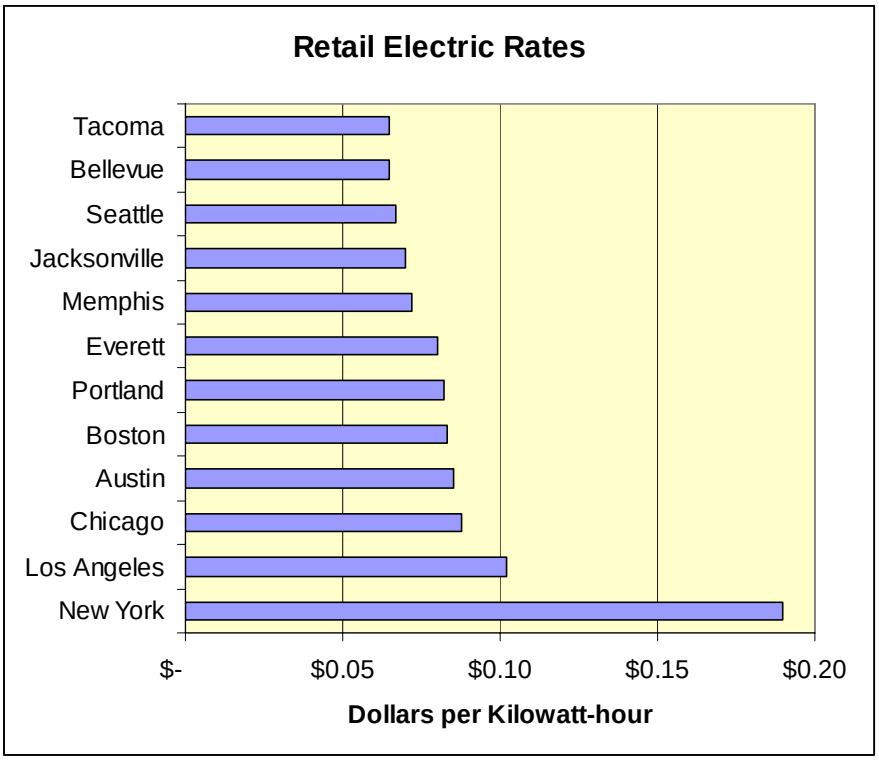
[2] BPA uses a rule of thumb that each $59 million dollars equals about $0.001 per megawatt-hour.

customer served by a utility that purchases only 30 percent of its power from BPA pays less than $1.50 per month for BPA's fish and wildlife expenses. Because of a complex agreement for customers of investor-owned utilities, the impact would be less than $1 per month.

BPA Rate Impacts on Retail Customers			
Fish and Wildlife Expenses and Credits			
Power from BPA	**Cost per kWh**	**Monthly Cost**	**Percent**
100%	$0.0051	$5.06	7.6%
70%	$0.0051	$3.54	5.3%
30%	$0.0051	$1.52	2.3%
Investor-owned		$0.80	1.2%

The Integrated Fish and Wildlife Program for FY 2007-FY2009 is $143 million—after the credit the net effect is $103 million or 2.6 percent of BPA's revenues. This would translate into about $1.75 per month—2.6 percent of a retail bill—for a customer that is served by a utility that buys all of its power from BPA—90% of the customers in the region pay much less.

While no one wants to pay higher electricity rates, the rate impacts of BPA fish and wildlife expenses on retail customers is small. Electricity rates in the Pacific Northwest are significantly lower than most other parts of the country. For example, retail customers in New York pay about $0.19 per kilowatt hour while customers in Seattle pay about $0.07 per kilowatt hour. See the figure below.



Lost revenues

Some parties also include approximately $350 million a year for hydro system operations when calculating BPA's fish and wildlife costs. For example, BPA counts power purchases and the revenue foregone from operating the FCRPS to meet the requirements of the Endangered Species Act, the Northwest Power Act, the Clean Water Act, and other laws and regulations as a part of these costs. BPA currently get a credit of $45 million per year to offset the cost of power purchases, but does not include this credit in reporting the impact of river operations.

Section 16 U.S.C. 839b(h)(6)(E) of the Northwest Power Act requires the Northwest Power and Conservation Council to include measures in the Program that:

(i) provide for improved survival of such fish at hydroelectric facilities located in the Columbia River system; and

(ii) provide flows of sufficient quality and quantity between such facilities to improve production, migration, and survival of such fish as necessary to meet sound biological objectives.

The current NPCC Program includes these measures.

In addition, the FCRPS Biological Opinion requires specific flow and spill operation to ensure that the operation of the FCRPS does not jeopardize the continued existence of listed species under the ESA.

It is important to note that the flow targets in the Program and Biological Opinion are constrained by the current configuration of the hydroelectric system. Average spring flows in the Columbia before the dams were 450,000 cubic feet per second. The current target is roughly 200,000 cubic feet per second—less than half the historical average. Federal agencies have failed to meet the Columbia and Snake River flow targets 53 percent of the time between 1995 and 2005.

No other business or government agency calculates the revenues or profits that it could have made if it had violated Federal laws, regulations, or court orders as a part of foregone revenue and "costs".

Other federally-mandated actions limit the ability to generate electricity and reduce BPA's potential revenue. For example, the NPCC has calculated that the 14.4 million acre-feet withdrawn for irrigation could generate an additional 625 average megawatts if the water remained in the river—about five percent of the total output of the BPA system. At BPA's rates, this additional power would be worth $170 million per year. At the market prices for the summer of 2005, the lost revenue associated with irrigation withdrawals was over $380 million. BPA does not count these "costs."

Rate impacts from additional recovery actions would be small

The potential rate impacts for residential customers would range from zero to $1.47 per month in the low case and zero to $4.83 per month in the high case.

Under a settlement agreement, customers served by investor-owned utilities would not pay any of the potential increase. As a result, all of the additional fish and wildlife cost must be allocated to a smaller group of customers and the impacts are more significant than the allocation in the 2002 rate case.

Based on our analysis, we found that the high case for additional fish and wildlife actions described above would result in a potential rate impact of $0.0048 per kilowatt hour. For an average customer of a utility that purchases all of its electricity from Bonneville, this could result in an increase of $4.83 per month—an increase of approximately 7 percent.

Bonneville serves approximately 40 percent of the region's power, so the impact on most ratepayers would be less. We analyzed three other cases: a utility that purchase 70 percent of its power from Bonneville, a utility that purchase 30 percent of its power from Bonneville (for example, Seattle City Light), and investor-owned utilities. In the high case, the average customer of a utility that purchases 70 percent of its power from Bonneville could pay an additional $3.38 per month. A customer served by a utility that purchases 30 percent of its power from Bonneville could pay $1.45 per month.

In the low case, the average consumer that is served by a utility that that purchase all of its power from Bonneville could pay an additional $1.47 per month. If the utility purchased 70 percent from Bonneville, the monthly impact could be $1.03. Consumers served by a utility that purchases 30 percent of its power from BPA could pay an additional $0.44 per month.

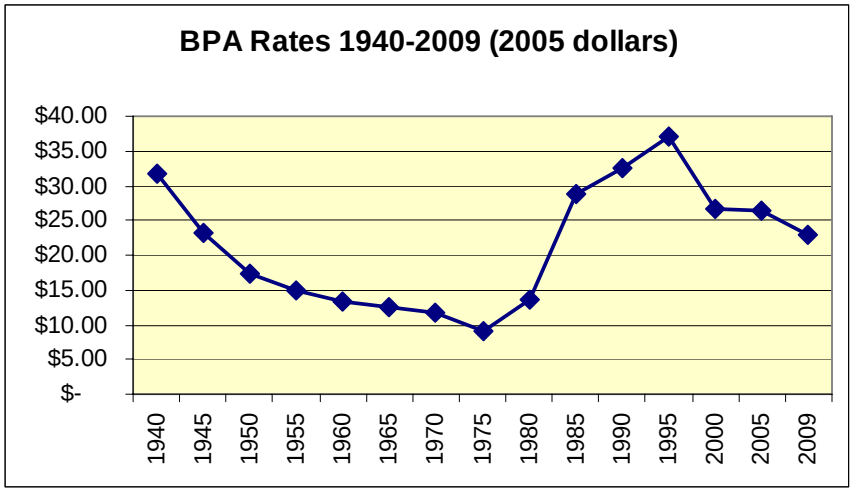
Potential Rate Impacts			
High Cost Alternative			
Power from BPA	**Cost per kWh**	**Monthly Cost**	**Increase**
100%	$0.0048	$4.83	7.3%
70%	$0.0048	$3.38	5.1%
30%	$0.0048	$1.45	2.2%
Investor-owned	0	0	0%
Low Cost Alternative			
Power from BPA	**Cost per kWh**	**Monthly Cost**	**Increase**
100%	$0.0015	$1.47	2.2%
70%	$0.0015	$1.03	1.5%
30%	$0.0015	$0.44	0.7%
Investor-owned	0	0	0%

The Causes of BPA Rate Increases

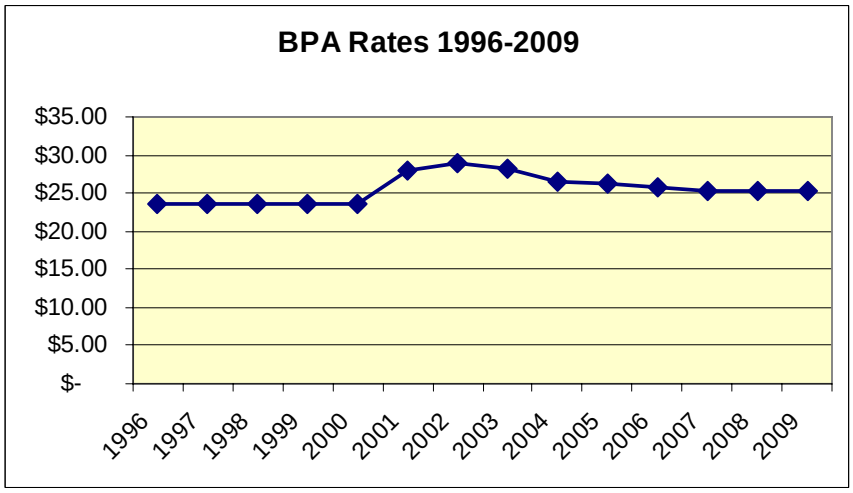
BPA customers are concerned that BPA's rates have increased over the years; much of the utility concern has focused on fish and wildlife costs. This section analyzes the history of BPA rates, the major causes of rate the increases, and the relative costs of various categories.

BPA rate history

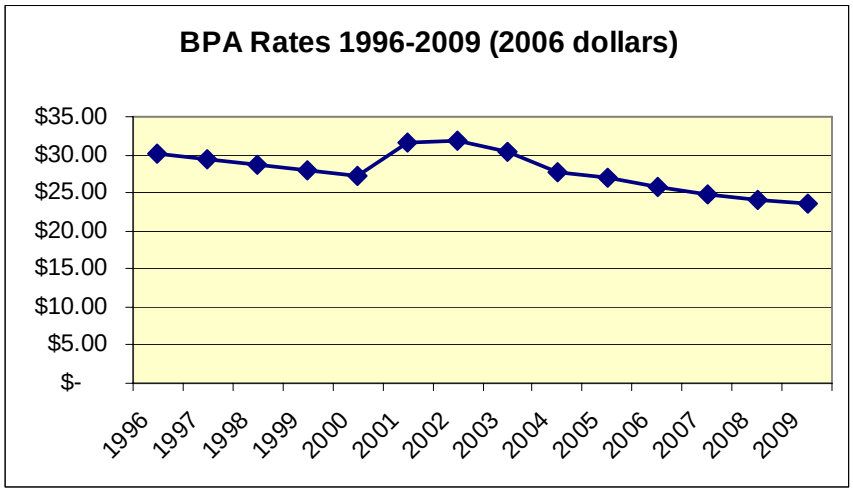
BPA rates declined, adjusted for inflation, between 1937 and 1975 as new federal dams were build in the Columbia basin. In October, 1980, BPA implemented an 88 percent rate increase, primarily to address the costs of three nuclear plants being build by what was then called the Washington Public Power Supply System (WPPSS).



The BPA webpage provides yearly rate information beginning in 1996. The figure below shows that between 1996 and the rates for 2009, BPA rates will have increased by 8 percent in nominal dollars—about 0.6 percent per year.



When BPA's rates are adjusted for inflation, the analysis shows that they have actually declined in real terms by about 20 percent over this period.



Causes of BPA's rate increases

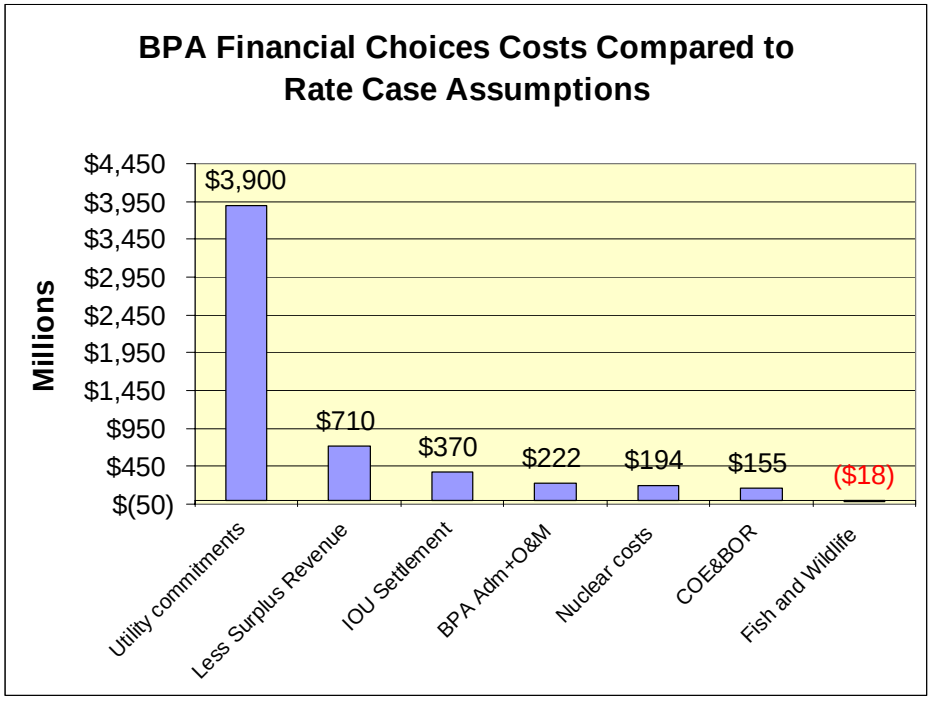
Even adjusting for inflation, the rates show a significant increase from 2001 to 2003. The primary cause of this increase was the cost of serving additional load that BPA committed to in 2001. In addition, BPA used optimistic assumptions about how much revenue it would receive from selling surplus electricity and underestimated a number of costs it would face.

The figure below shows the major categories that increased BPA's rates. In 2001, BPA decided that it would serve the entire load that its customers wanted to place on the agency. BPA committed to serve 3,400 average megawatts more power than it had available. It assumed that it could purchase additional power at market rates, which were then about $30 per megawatt-hour. The manipulation of the California energy market by Enron and other energy providers increased market rates. BPA reported that it paid an average of $185 per megawatt-hour to serve the additional load. **The total cost of the over-commitment was $3.9 billion**[3].

BPA had also overestimated it revenue from surplus sales of electricity; a more realistic estimate prepared for BPA's Financial Choices process in 2003 reduced BPA revenues by $710 million. BPA entered into a settlement with investor-owned utilities that set the amount of subsidy for the residential and small-farm customers of these utilities; the settlement added $370 million to BPA's costs. BPA had also used optimistic assumptions about its own administration and operating costs; in the 2003 Financial Choices process, BPA estimated that these costs would be approximately $220 million higher than it originally had assumed. BPA also underestimated the costs of operating the Columbia Generating Station (the one nuclear plant that is operating) by $194 million and the Corps of Engineers and Bureau of Reclamation

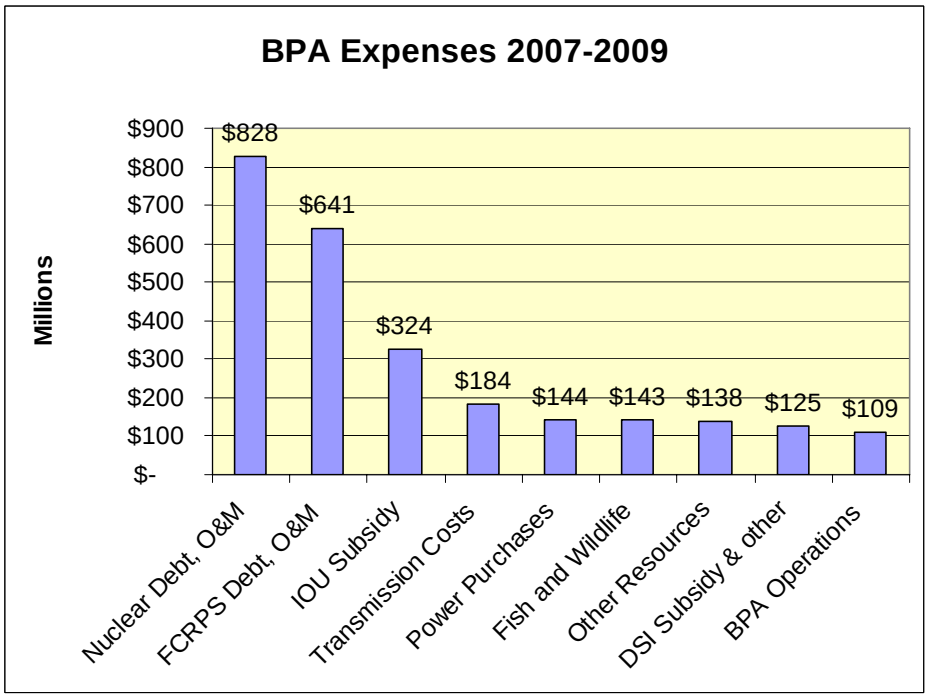
[3] What Led to the Current BPA Financial Crisis? A BPA Report to the Region, April 2003.

costs for operating the federal dams by $155 million. During the Financial Choices process, the integrated fish and wildlife program was below budget by $18 million.



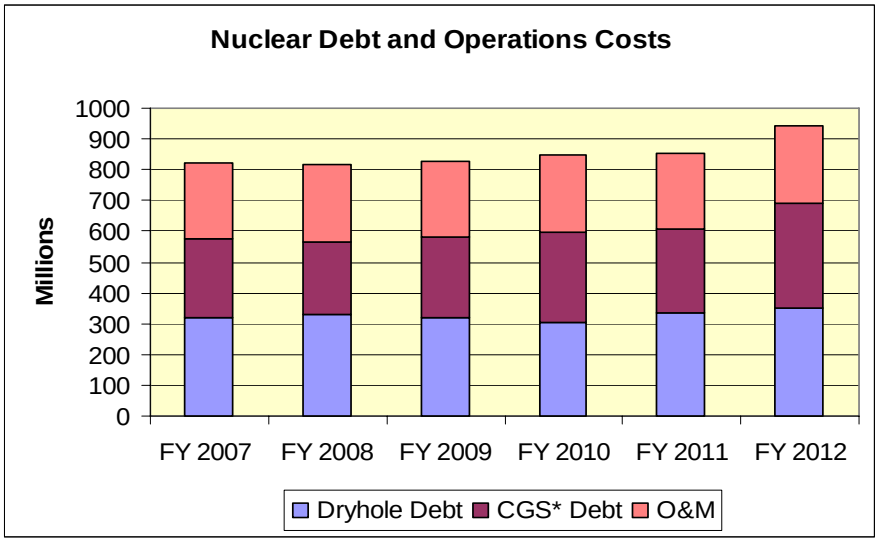
BPA future costs

This section summarizes the major categories for BPA proposed costs for 2007-2007.



Nuclear costs

Of the $828 million in annual costs for 2007-2009, $250 million goes to operate the Columbia Generating Station, $275 million to repay the debt on that plant, and $325 million to repay the debt on two nuclear plants that were never completed.

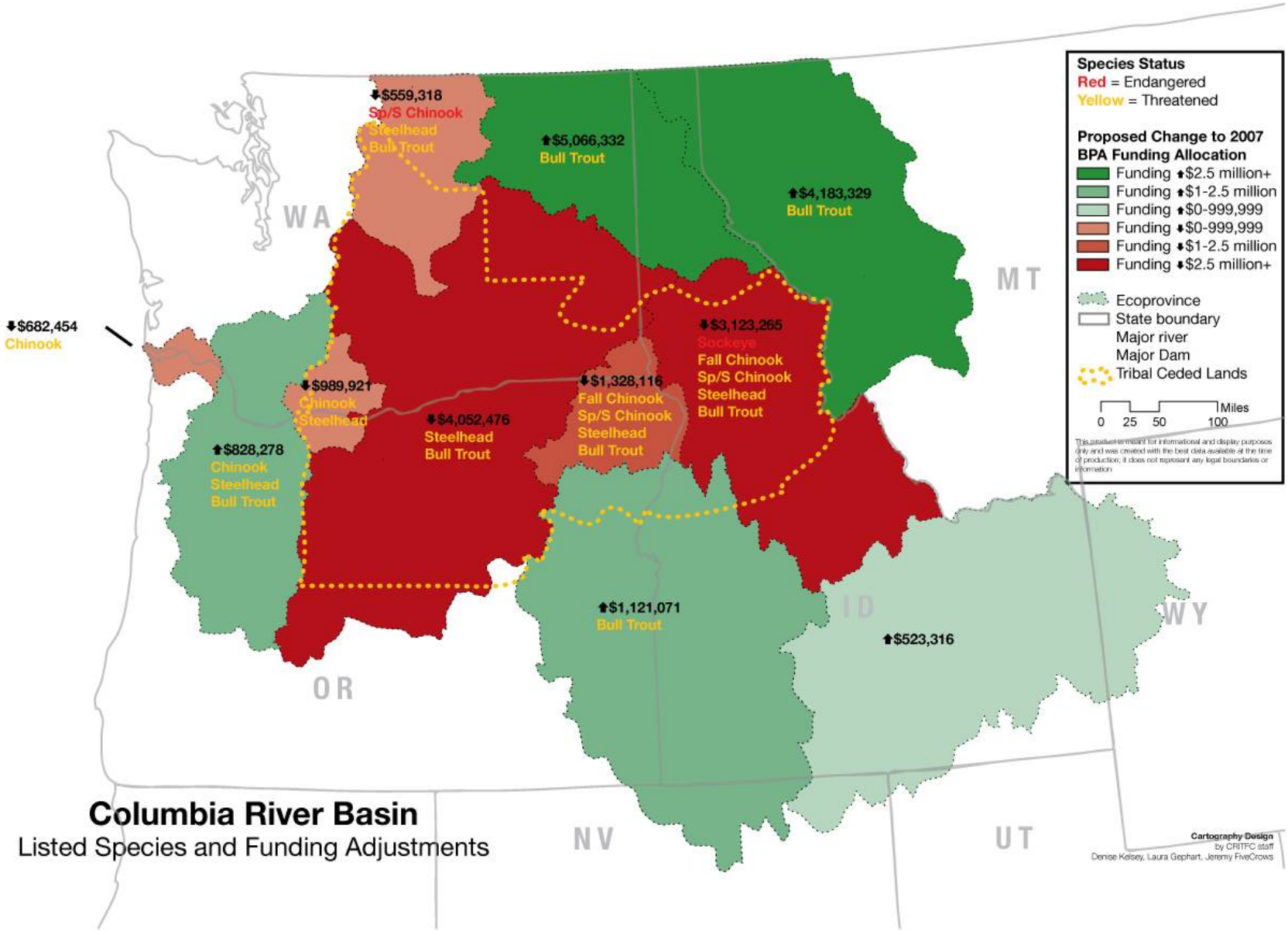


The Current Fish and Wildlife Funding Problem

The NPCC and BPA are currently making decisions on fish and wildlife projects. for 2007-2009. The figure below shows the reallocation proposed for FY 2007-2009 compared to the average for the Council's recommendation in FY 2004-2006. The reduction for areas with listed salmon and steelhead is $11.96 million per year.

Province	2004 - 2006 Average *	2007 - 2009 Reallocation**	Difference	Listed Salmon/Steelhead ESU
Blue Mountain	$8,455,644	$7,127,528	($1,328,116)	Sn R Stlhd, Fall, Spr, Su Chk
Columbia Cascade	$3,560,981	$3,001,663	($559,318)	Upper Col Spr Chk & Stlhd
Columbia Estuary	$4,344,944	$3,662,490	($682,454)	Yes
Columbia Gorge	$6,302,475	$5,312,554	($989,921)	Mid Col Stlhd
Columbia Plateau	$25,800,679	$21,748,203	($4,052,476)	Mid Col Stlhd
Intermountain	$10,181,773	$15,248,105	$5,066,332	No
Lower Columbia	$1,664,584	$2,492,862	$828,278	Yes
Middle Snake	$2,253,008	$3,374,079	$1,121,071	No
Mountain Columbia	$8,407,208	$12,590,537	$4,183,329	No
Mountain Snake	$19,884,724	$16,761,459	($3,123,265)	Snake Stlhd, Fall, Spr, Su Chk, Sockeye
Upper Snake	$1,051,706	$1,575,022	$523,316	No
Systemwide ***	$47,280,186	$46,055,498	($1,224,688)	Yes
Basinwide	$0	$32,644,160		
Multi Province	$0	$13,411,338		
Total	**$139,187,912**	**$138,950,000**		
Salmon & Steelhead			**-$11,960,238**	

* Council recommendations based on September 29, 2005 NPCC memo from O'Toole & Ogan
** Based on October 21, 2005 letter from Marker and Delwiche
*** BPA average expense from Tom Iverson


Species Status
Red = Endangered
Yellow = Threatened
Proposed Change to 2007
BPA Funding Allocation
Funding ⬆$2.5 million+
Funding ⬆$1-2.5 million
Funding ⬆$0-999,999
Funding ⬇$0-999,999
Funding ⬇$1-2.5 million
Funding ⬇$2.5 million+
Ecoprovince
State boundary
Major river
Major Dam
Tribal Ceded Lands
Miles
0 25 50 100
⬇$559,318
Sp/S Chinook
Steelhead
Bull Trout
⬆$5,066,332
Bull Trout
⬆$4,183,329
Bull Trout
⬇$682,454
Chinook
⬇$989,921
Chinook
Steelhead
⬇$4,052,476
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Fall Chinook
Sp/S Chinook
Steelhead
Bull Trout
⬇$3,123,265
Sockeye
Fall Chinook
Sp/S Chinook
Steelhead
Bull Trout
⬆$828,278
Chinook
Steelhead
Bull Trout
⬆$1,121,071
Bull Trout
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WY
NV
UT
Columbia River Basin
Listed Species and Funding Adjustments
Cartography Design
by CRITFC staff
Denise Kelsey, Laura Gephart, Jeremy FiveCrows

All of the areas that will lose funding have listed salmon and/or steelhead. Based on this reallocation, the funding available to implement projects under the remand will be cut significantly.

The fish and wildlife managers developed detailed recommendations for projects that are needed for FY 2007-2009. The figure below shows the fish and wildlife managers' recommendations for annual funding for ongoing and new projects in each province compared to the Council's proposed funding level. The proposed funding levels will require cuts in ongoing projects and significantly limit new projects. This will require significant cuts in ongoing projects that affect listed species.

CBFWA Annual Project Cost Information

Province	FY07 Ongoing	FY07 New	Council	Difference
Blue Mountain	$18,642,311	$7,191,785	$7,127,528	($18,706,568)
Columbia Cascade	$10,610,100	$15,559,446	$3,001,663	($23,167,883)
Columbia Estuary	$4,022,648	$1,909,738	$3,662,490	($2,269,896)
Columbia Gorge	$14,603,364	$3,316,245	$5,312,554	($12,607,055)
Columbia Plateau	$37,922,502	$14,898,988	$21,748,203	($31,073,287)
Intermountain	$25,066,194	$6,637,735	$15,248,105	($16,455,824)
Lower Columbia	$7,843,307	$15,692,749	$2,492,862	($21,043,194)
Middle Snake	$4,677,822	$7,684,883	$3,374,079	($8,988,626)
Mountain Columbia	$17,598,441	$1,824,154	$12,590,537	($6,832,058)
Mountain Snake	$24,421,465	$28,748,557	$16,761,459	($36,408,563)
Upper Snake	$2,696,379	$1,265,100	$1,575,022	($2,386,457)
Systemwide	$57,608,224	$23,740,672	$46,055,498	($35,293,398)
Subtotal	$225,712,757	$128,470,052		
Total	**$354,182,809**		**$131,822,472**	**($222,360,337)**

The tribes expect that the FCRPS remand will result in a significant increase in the projects needed to "fill the survival gap" and recover listed salmon, steelhead, and sockeye. These efforts will increase funding needs. Given the inability to fund ongoing projects and the cuts proposed for provinces with listed species, it is not clear how the remand process will result in recovery actions that are reasonably likely to occur.

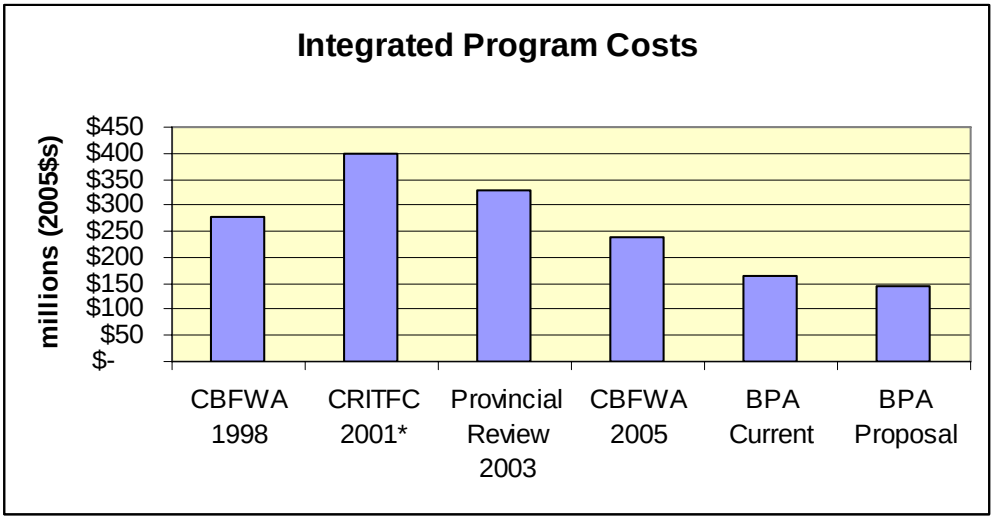
BPA has not fully funded salmon recovery

Fish and wildlife managers have developed several estimates of fish and wildlife costs. The first was prepared by the Columbia Basin Fish and Wildlife Authority (CBFWA) in 1998 as part of the Multi-Year Implementation Plan. This effort developed costs for implementing all of the elements of the Council Program and FCRPS Biological Opinion. The annual costs projections at the time were $200 to $225 million—this would be approximately $275 million today, adjusted for inflation.

In January of 2001, CRITFC, the Oregon NPCC office, and the Yakama Nation also developed estimates of the costs of implementing the 2000 FCRPS Biological Opinion and NPCC Program. This estimate was based on more aggressive habitat restoration activities to implement the "Aggressive Non-Breach Alternative" in the Biological Opinion and had an annual cost of $356 million (approximately $400 million adjusted for inflation to 2005 dollars). This figure assumed that all of the costs would be expensed; if CRITFC had assumed that some of the costs would be capitalized, the estimate would be similar to the BFWA costs.

In 2003, CBFWA and the Council conducted the Provincial Review to determine the costs of implementing projects that had been approved by the fish and wildlife managers, the Council, and the Independent Science Review Panel. The Provincial Review identified BPA revenue requirements (capital, reimbursable costs, and direct program) of $310 million per year for FY 2003 through FY 2006 ($329 million adjusted for inflation).

The following figure has been adjusted for inflation and shows that BPA has never provided funding at the levels recommended by the fish and wildlife managers.



FY 2007-2009 Biological Opinion and Program cost estimates

The Columbia Basin Fish and Wildlife Authority formed a workgroup comprised of federal, state, and tribal fish and wildlife managers to prepare detailed estimates of the costs of implementing the subbasin plans and other Columbia River Basin Fish and Wildlife Program measures.

The subbasin plans were the produce of a multi-year, $13 million effort involving fish and wildlife managers, local stakeholders, and other interested parties. This effort developed plans for all of the subbasins in The Columbia River Basin. These plans assessed the current conditions in each watershed, the desired population levels, and the key limiting factors. The plans also included specific strategies and management

plans to achieve the biological objectives for each subbasin. Each plan addressed the requirements of the Council's Program (See the Columbia River Basin Fish and Wildlife Program, pages 39 to 43). The Council formed technical and policy level groups to oversee the development of the subbasin plans and the plans were reviewed by the Independent Science Advisory Board.

The CBFWA workgroup coordinated the efforts of the Columbia Basin fish and wildlife managers in the development of detailed budgets to implement the subbasin plans. The CBFWA workgroup effort was based on the detailed analysis of the fish and wildlife managers of the production and habitat costs associated with implementing the Council Program and the FCRPS Biological Opinion. The workgroup compiled the cost estimates for 30 subbasins into province level costs; where costs were not available for a subbasin, the workgroup extrapolated costs from similar subbasins based on land area.

The workgroup incorporated the production and habitat costs into the other costs estimates that had been developed by the Council and Bonneville to develop an overall budget for the Integrated Fish and Wildlife Program. The CBFWA workgroup circulated its draft report in beginning in January of 2005 to the fish and wildlife managers, the Council, Bonneville, utilities, and others. The workgroup incorporated all of the comments it received and the review process improved the quality of the analysis. The workgroup specifically requested comments on whether there were any better assumptions or costs for the report. We did not receive any analysis from Bonneville or its utility customers that provided alternative costs for implementing the subbasin plans and other elements in the Program and Biological Opinion.

The CBFWA workgroup report is the most detailed estimate of the costs of implementing the Council Fish and Wildlife Program and the FCRPS Biological Opinions available. In fact, it is the most detailed estimate ever produced on this issue. The Yakama Nation provided this report to BPA staff several times, including in our April 29, 2005 comments on the PFR and attached the CBFWA workgroup report.

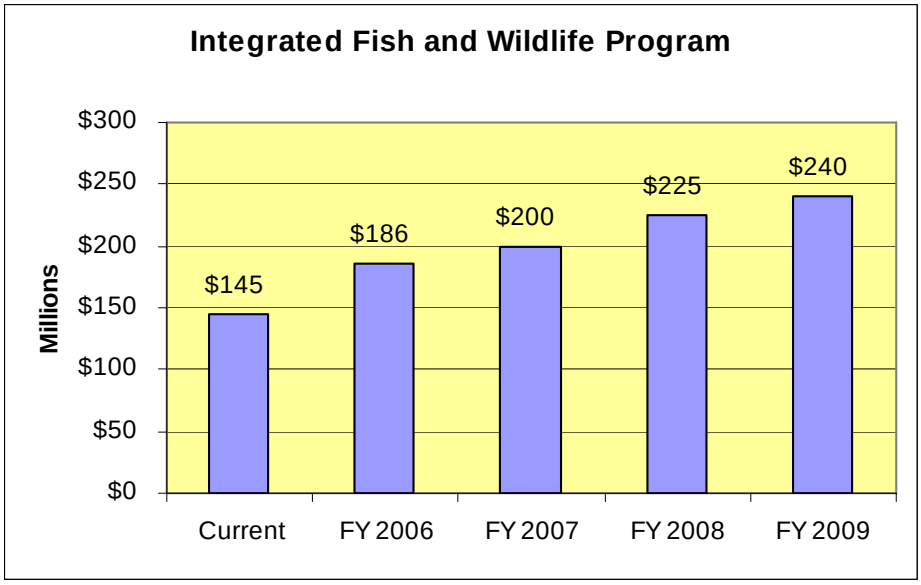
The CBFWA workgroup found that implementing the habitat and production activities and other measures in the Council's Program had a total cost of $1.5 billion and the cost of wildlife mitigation was $300 million over the next ten years. Based on this work, CBFWA wrote to BPA and the NPCC on March 16, 2005 to support adequate funding for fish and wildlife in the next rate case. The letter states:

> While CBFWA Members are continuing to review the detailed costs, the analysis completed to date provides a strong basis for increasing the funding for BPA's Integrated Program in the next rate case period to at least $240 million per year. This figure assumes that BPA would use its borrowing authority for new production facilities and the acquisition of land and water to protect habitat. It also does not include a comprehensive assessment of costs

> for mainstem measures beyond those contemplated in the Updated Proposed Action or the NPCC Program. Additional mainstem measures are necessary to protect, recover, and restore anadromous fish impacted by the federal hydrosystem…
>
> Based on our work to date, it is clear that the current spending levels are inadequate to protect, mitigate, and enhance fish and wildlife under the Northwest Power Act. Our analysis shows that at the current spending levels, it would take over 100 years to implement all the measures contemplated in the NPCC Program.

A key issue was the pace of implementation for the habitat and production activities. The workgroup developed realistic recommendations for implementation that would increase funding for implementation over the next four years. This would provide time to build the necessary staffing, programs, and other infrastructure for implementing the strategies in the NPCC Program.

The workgroup recommended that FY 2006 funding should be $186 million—this is the level originally assumed in the 2002 Rate Case; we also understand that it is the approximate planning target being used by the BPA fish and wildlife division. We further recommended that funding should ramp up to $200 million in FY 2007, $225 million in FY 2008, and $240 million in FY 2009. The figure below shows this ramp up.



This funding level would put the region on a path to implement the subbasin plans in about ten years. This pace of implementation would have much lower biological risk to listed species and offers some hope of progress on restoring the treaty fisheries of the Columbia Basin Indian tribes.

These recommendations would also minimize the biological risk to species in the Columbia River Basin; BPA should implement actions to provide the habitat conditions that these species need to survive as soon as possible. Many of the ESUs listed under the ESA have growth rates (lambdas) that are less than 1.0—that means these populations are not replacing themselves and will continue to decline toward extinction.

The costs of acquiring or leasing land and water to protect and enhance habitat will continue to increase as human population grows. We project that these costs will increase significantly faster than inflation, especially the acquisition of land in riparian areas to protect habitat.

Therefore, we concluded that a ten-year implementation schedule for the subbasin plans has the lowest biological risk and the lowest long-term costs. Completing the subbasin plans as quickly as possible will provide a good start to the long-term habitat work that is likely to be needed to meet our goals.

Bonneville has not incorporated these estimates in setting its budget for the Integrated Program. At the current pace of implementation, it would take 40 to 80 years to implement the Council Program and FCRPS Biological Opinion. BPA's estimate is not based on the costs of implementing the subbasin plans or meeting the goals and objectives of the Columbia River Basin Fish and Wildlife Program. The Bonneville budget uses unrealistic assumptions about inflation, and the funding needed to implement the Program and Biological Opinion.

Costs could be higher

The CBFWA workgroup identified a number of uncertainties that could increase Bonneville's total system costs.

The CBFWA workgroup cost analysis assumed that other branches of the Federal government would provide contributions. For example, the costs for implementing plans in several subbasins (notably those in the Intermountain Province) assume funding from the federal land management agencies that may or may not be forthcoming. If additional Federal appropriations are not available, the region will need to address how to accomplish this work.

The remand of the current Biological Opinions will result in significant changes in required fish and wildlife activities, and will likely increase costs or affect revenues. We expect that other river operation, habitat, and monitoring and evaluation activities will be identified in the remand process.

NOAA Fisheries is developing recovery plans for salmon and steelhead listed under the Endangered Species Act. The recovery plans are likely to include more actions than are currently identified in the subbasin plans and therefore the costs of implementation are likely to be higher. We base this judgment on the fact that the subbasin plans were developed by fish and wildlife managers and stakeholders in

each of the watersheds through a consensus process. In some cases, local landowners objected to some of the habitat and water quality actions identified by the fishery managers; as a result, measures that will be needed to recover listed species were not included in the final subbasin plans.

The prospect of shifting the cost of the Mitchell Act hatcheries to BPA is a substantial uncertainty, considering Congress's previous interest in this issue and increasing pressures on the federal budget.

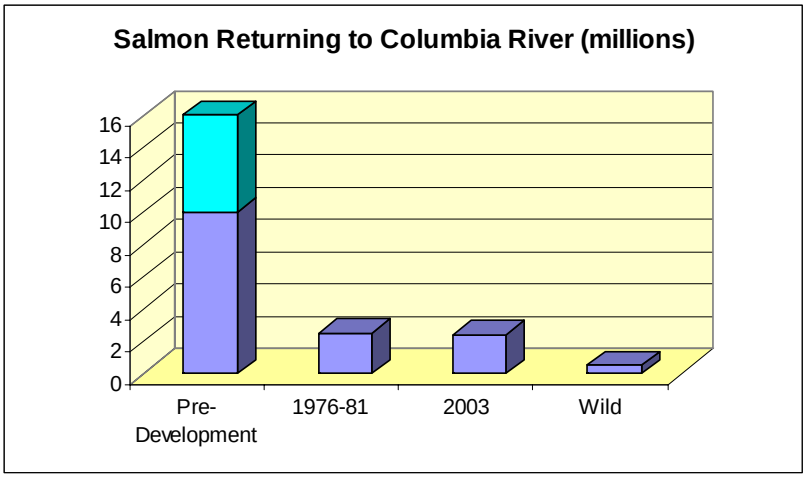
Given this analysis, the Tribes are concerned that the BPA assumptions about the Integrated Fish and Wildlife Program are not adequate to implement the Council Program and the Biological Opinions. Failure to make adequate progress could increase the risk of extinction for listed species and makes it unlikely that the region will achieve the fish and wildlife rebuilding goals in the Council's Program.
All of these uncertainties point to the likelihood of increasing costs for Bonneville to meet its fish and wildlife responsibilities during the FY 2007 through FY 2009 rate period.

BPA Funding Issues

Is BPA responsible for funding the Council Program?

In the mid 1980s, the Northwest Power Planning Council (now called the Northwest Power and Conservation Council) conducted an exhaustive study of the historical size and current status of salmon and steelhead populations. The Council also made policy decisions on what share of the losses were the responsibility of the hydroelectric system. The Council also set a goal for the Fish and Wildlife Program.

The study examined all of the historical information on salmon runs and concluded that ten to fourteen million salmon and steelhead used to return to the mouth of the Columbia River every year. In 1976 to 1981, an average of about two and a half million fish returned to the Columbia, five hundred thousand were naturally spawning fish—eighty percent of the runs came from hatcheries.



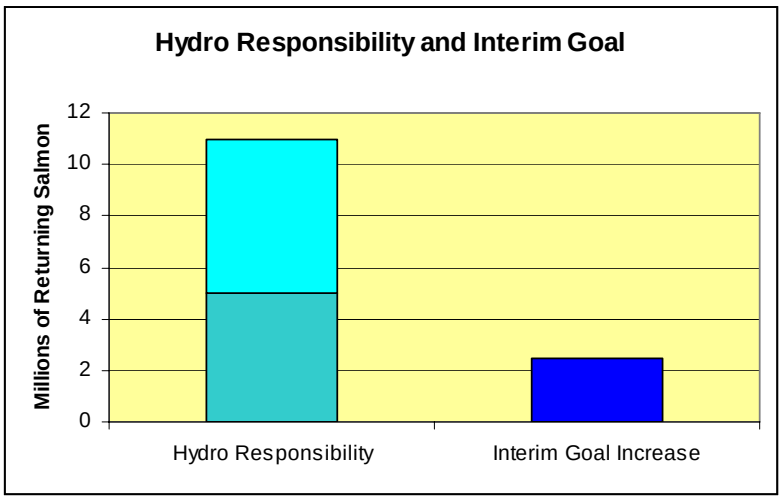
The study concluded that salmon and steelhead populations had declined by seven to fourteen million and that natural salmon runs were less than five percent of historical levels.

The Council concluded that the dams were responsible for five to eleven million of the fish losses. As part of the rationale for the conclusion, the study found that about four million fish had used the habitat that had been blocked by the dams and that the operations of the dams accounted for the loss of another four million salmon. The Council noted it did "not take into account the accumulation of hydropower-related losses of salmon and steelhead year by years since hydropower development started. Such cumulative losses would be far greater than 5 to 11 million adult fish."[4]

In 1987, the Council set an interim goal of "doubling the runs." According to the NPCC, "Doubling means increasing the current run size of about 2.5 million adult fish to a run size of about 5 million adult fish, as a result of implementation of this Program. The current run size was based on the five year average prior to the NPCC's first Program in 1982[5].

The Council's program relies heavily on off-site habitat and hatchery measures to mitigate for the damage caused by the dams. The Northwest Power Act gave BPA statutory authority to fund these off-site measures to implement the NPCC Program.

The figure below shows that this interim goal was designed to rebuild salmon and steelhead runs to about one-half of the low end of the range of the hydrosystem's responsibility. The Council said it would reevaluate a higher goal once the interim target was achieved[6].



[4] See 1987 Columbia River Basin Fish and Wildlife Program, page 39.
[5] Id., page 35.
[6] Id. Page 39.

The tribes viewed the Program's 1987 doubling goal as a compromise that would allow BPA to focus on an achievable interim goal and leave BPA's ultimate responsibility to a future decision process.

Biological Objectives of the Council Program

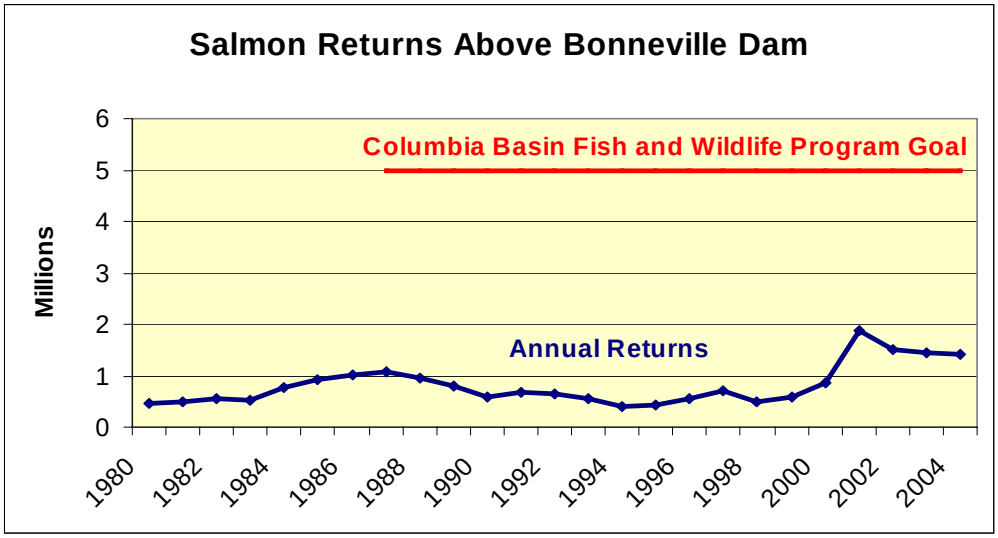
In the NPCC 2000 Program the goal was revised to include three milestones.

- First, stop the decline of salmon and steelhead populations above Bonneville Dam by 2005.
- Second, restore the widest possible set of healthy naturally reproducing populations of salmon and steelhead in each relevant province by 2012.
- And third, increase returning salmon and steelhead to an average of five million adults returning above Bonneville Dam by 2025 in a manner that supports tribal and non-tribal harvest[7].

The ultimate goal for the Federal government should be to address the requirements of the Endangered Species Act, the Northwest Power Act, and the Treaties, Executive Orders, and other commitments made to Indian tribes in the Columbia Basin. In the case of salmon and steelhead, we seek to implement the dual goals of recovery and delisting of species listed under provisions of the ESA and the restoration of salmon populations to levels that provide a sustainable harvest sufficient to allow for a meaningful exercise of tribal fishing rights.

Progress in meeting the Biological Objectives

The figure below shows that many salmon and steelhead populations actually declined in the 1990s—the average run size during the past twenty years was 1.5 million fish. The runs size in 2003 was about the same as the average between 1976 and 1981.



[7] See of the 2000 Columbia River Basin Fish and Wildlife Program, page 16 and 17.

Based on the analysis of total runs size and the status of ESA listed stocks, the Federal agencies responsible for implementing the NPCC Program (BPA, the Corps of Engineers, the Bureau of Reclamation, and the Federal Energy Regulatory Commission) have not achieved the goals set in the 1987 and 2000 Programs.

Given the lack of progress in meeting the Council's biological objectives, BPA can fully fund the subbasin plans and FCRPS Biological Opinion during FY 2007 through FY 2009 without exceeding the five million fish goal.

Cost effectiveness

Some parties have suggested that BPA needs to do a cost-effectiveness analysis of all the fish and wildlife measures. The tribes support efforts to restore fish and wildlife as quickly and effectively as possible. However, it is important to recognize that cost-effectiveness is a function of the cost of a measure and its ability to produce a given result, compared to other measures in achieving a specified objective. The standard in Section 4(h)(6)(C) requires the Northwest Power and Conservation Council to "utilize, where equally effective alternative means of achieving the same sound biological objective exist, the alternative with the minimum economic cost."

In analyzing cost-effectiveness, all available measures should be displayed on a supply curve. If the results, in this case additional fish and wildlife, exceed the goal (for example, five million fish returning above Bonneville Dam) then cost-effectiveness analysis would select the least-costly measures needed to achieve the goal.

At this point, neither BPA nor the Council has demonstrated that the measures in Program, including the subbasin plans, will achieve or exceed the biological objective of the five million fish established in the 1987 and 2000 Columbia River Basin Fish and Wildlife Program, pursuant to the Northwest Power Act. Therefore, there are not equally effective means to achieve the same sound biological objective and it is not appropriate to eliminate measures based on cost-effectiveness analysis.

Recommendations

1. Federal agencies should work with the fish and wildlife managers to develop a science-based plan that will protect and recover listed salmon species and rebuild salmon runs to sustainable, harvestable levels.

2. The federal agencies should work with the fish and wildlife managers to develop a detailed workplan to implement these efforts. The plan should include:
    - An aggressive schedule,
    - A detailed budget,
    - An allocation of responsibility, and
    - Funding commitments.

3. Federal power decisions should not foreclose salmon decisions.