

# ***Columbia-Snake River Irrigators Association Information Memorandum***

**Distribution:** FAX and E-Mail  
**DATE:** April 8, 2008  
**TO:** CSRIA Board and Members  
**FROM:** Darryll Olsen, Ph.D., CSRIA Principal Consultant  
**SUBJECT:** Initial Action/Policy Summary: MOAs with Three Columbia River Tribes on Federal Hydro System BiOp Operations and Related Actions

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The proposed Memorandum of Agreements (MOA) between the Federal Hydro System operators (BPA, Corps, USBR) and three Columbia River Treaty Tribes (Umatilla, Warm Springs, and Yakama) contains the following key provisions and implications concerning the proposed Hydro System Biological Opinion (BiOp).

## **The BiOp and Related Litigation:**

- The MOA Tribes will not join in any further BiOp lawsuits with the revisions of the MOA in place, and as long as the measures are being properly implemented.
- The MOA Tribes reserve the right to protect their Federal Tribal Treaty rights; the MOA does not abridge such rights.
- The MOA Tribes will not advocate FCRPS<sup>1</sup> dam breaching, but the MOA does not rescind the Tribes' long-standing policy/legal position on Dam breaching.
- If it is determined that the Snake River ESA-listed fish (and ESUs<sup>2</sup>) are not meeting adequate performance (recovery) standards, then the Tribes may advocate Snake River Dam breaching after 2017.
- The MOA Tribes agreement to the Hydro System BiOp is contingent upon federal agreement to the concurrent Harvest BiOp—with proposed harvest rates in place.<sup>3</sup> The harvest includes ESA-listed fish (like Snake River Fall Chinook).

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<sup>1</sup> Federal Columbia River Power System (FCRPS).

<sup>2</sup> Evolutionary Significant Unit (ESU).

<sup>3</sup> Current rates for ESA-listed Snake Fall Chinook harvest are about 50%, with a 32% harvest rate for the returning adult fish within the Columbia River system.

- The Tribes' current harvest rate is part of the "environmental baseline" of the Hydro BiOp (the hydro system must compensate for harvest). The Tribes' annual catch in 2002-2006 was about 140,000-200,000 fish.<sup>4</sup>

#### Hydro System Operations:

- The existing Federal Hydro System BiOp measures will remain, with some additional actions attached to current measures, affecting operations and capital expenditures.
- The Federal Hydro System operators agree to provide additional protection/measures for non-ESA listed fish (all fish).
- The Federal Hydro System operators agree to a comprehensive review of the measures included in the new BiOp in 2012 and 2015 to evaluate the implementation of the BiOp actions and fish survival performance (each ESA-listed fish and ESU). Additional measures may be pursued at this time per Federal Hydro System operators consent.
- The John Day Pool drawdown to MOP (elevation 262.5 ft. to 257 ft.) will be reassessed in 2012; it is a contingency measure for a potential action decision in 2015.
- The Lake Roosevelt drawdown action is part of a separate MOA with the Colville Tribe (Columbia River Water Management Program).
- The MOA Parties will submit amendments to the Northwest Power Planning Council's Fish and Wildlife Program consistent with the MOA actions.

#### MOA and Fish & Wildlife Program Costs:

- With the MOA in place, the total BPA Fish and Wildlife Program expenditures will increase by about \$900 million over ten years, and likely exceed \$850 million/year<sup>5</sup>. In 2006, the BPA annual expenditures were about \$850 million.
- The total BPA costs include debt-service for exiting and new capital expenditures, foregone hydropower costs from flow augmentation and spill, and annual discretionary program costs for various projects and measures. Total F&W Program costs to BPA will likely be equal to, or more than, \$8.5 billion during the next ten-year period.
- Increased funding will be made available for habitat/hatchery projects, per the terms of the MOA. The MOA Tribes will not ask for additional BPA funding—beyond the MOA additions—during the course of the BiOp period.

<sup>4</sup> See attachment on Columbia River harvest levels.

<sup>5</sup> The numbers released by BPA are still under review, and it is not clear whether the added costs will replace other existing costs. The above is an approximate estimate based on current annual debt-service, power O&M, and discretionary costs (see attachment), with the added MOA costs.



COLUMBIA  
RIVER SALMON AND  
STEELHEAD HARVEST  
1980 TO 2006

by  
John McKern  
for

The Columbia-Snake River Irrigators Association

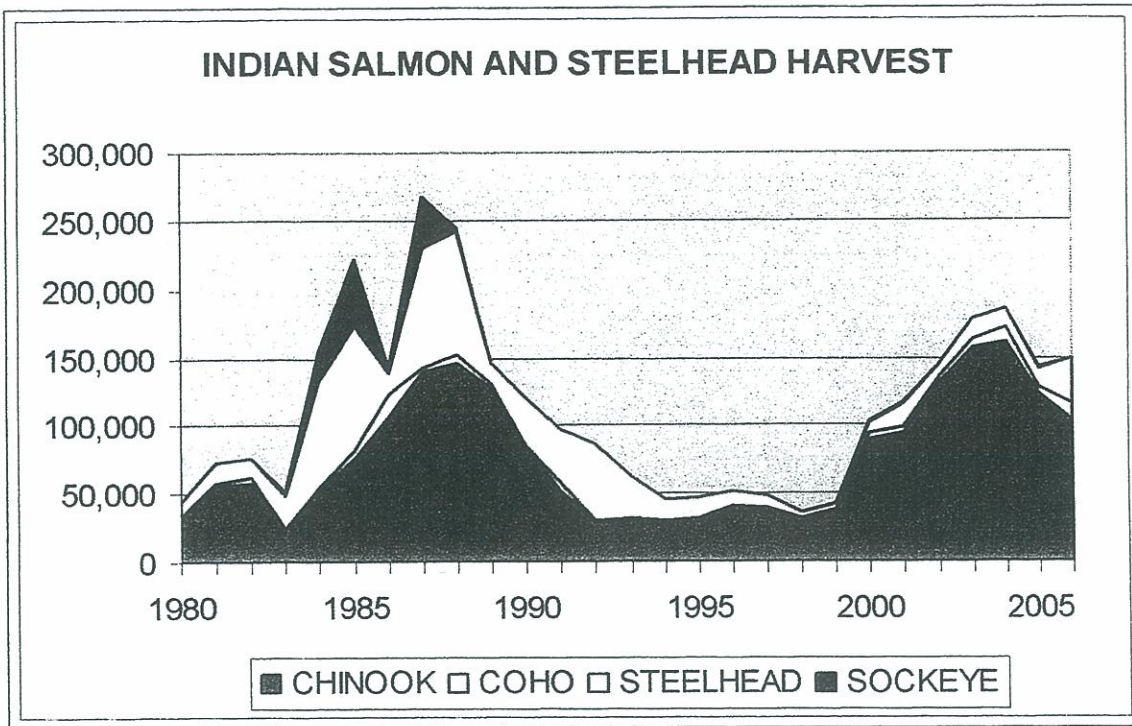


Figure 4. Indian salmon and steelhead harvest in the Columbia Basin from 1980 through 2006 (except chum – too few to show) (Source: WDFW/ODFW Joint Staff Reports).

10. Looking at the Indian Chinook catch by itself, since 1980, most of the catch has been fall Chinook (Figure 6). However, since 2000, strong increases in spring and summer Chinook have allowed increased harvest of those races too.

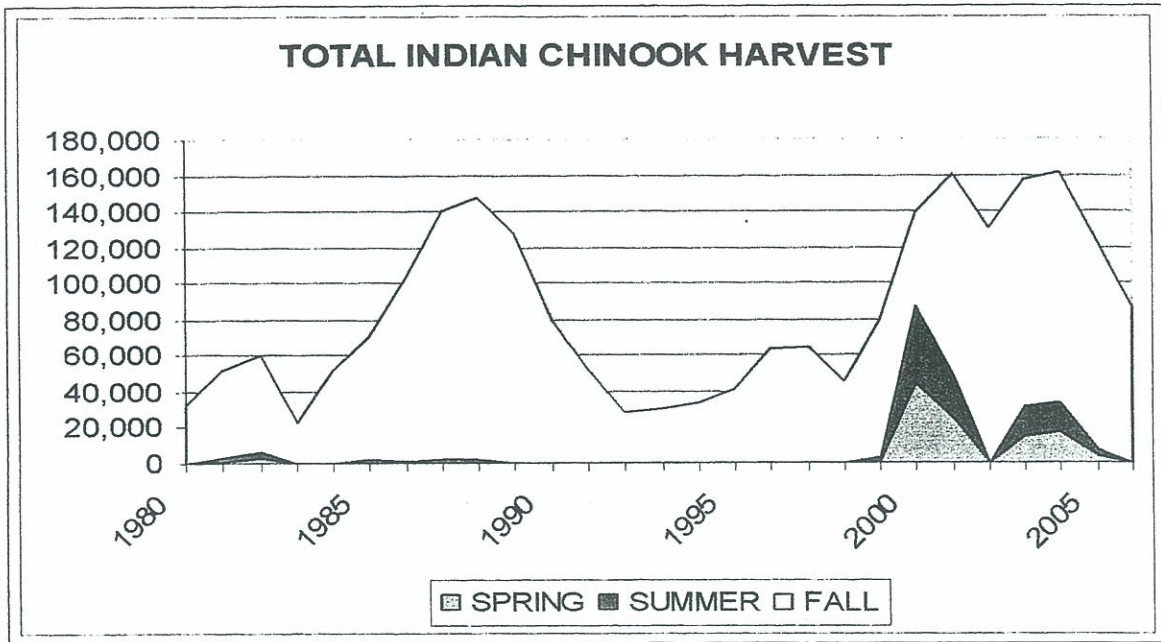


Figure 5. Total Indian spring, summer and fall Chinook salmon harvest reported for the Columbia Basin, 1980 through 2005 (Source: WDFW/ODFW Joint Staff Reports).

11. In the 1970s when legal actions curtailed non-Indian commercial harvest in the lower river, Indian harvest increased to take fish allowed to pass above Bonneville Dam. As indicated by Figure 5, there has been a trend of increasing fall chinook harvest as well as the recent increase in spring and summer Chinook harvest (Figure 6).

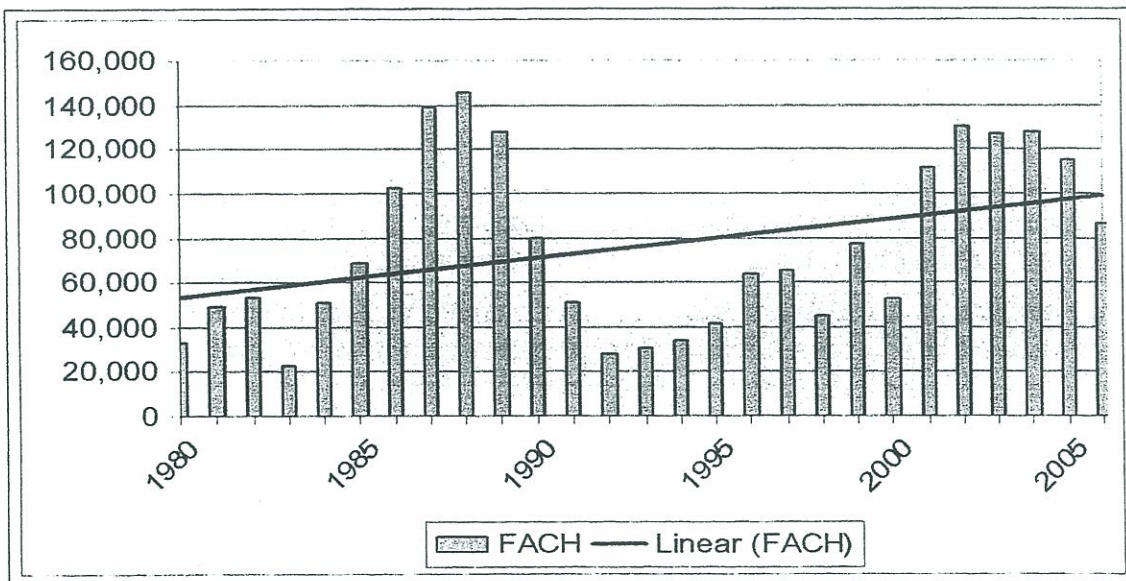


Figure 6: Indian harvest of fall Chinook salmon in the Columbia Basin, 1980 through 2005 (Source: WDFW/ODFW Joint Staff Reports).

# Appendix B: Tables

Table 1A Cumulative and Total Annual Expenditures (continues through next page)

✓ Bonneville Fish and Wildlife Costs

COST ELEMENT	1978-1980	1981	1982	1983	1984	1985	1986	1987	1988
<b>CAPITAL INVESTMENTS <sup>1/</sup></b>									
BPA FISH AND WILDLIFE	-	-	-	-	-	10.2	8.0	4.7	7.7
BPA SOFTWARE DEVELOPMENT COSTS <sup>2/</sup>	30.0	17.9	61.7	55.1	9.0	46.4	9.1	79.6	7.6
ASSOCIATED PROJECTS (FEDERAL HYDRO) <sup>3/</sup>	80.0	17.9	61.7	55.1	9.0	56.6	17.1	89.8	15.3
<b>TOTAL CAPITAL INVESTMENTS</b>	23	23	4.6	9.1	19.6	15.9	19.6	22.2	18.8
<b>PROGRAM EXPENSES</b>									
<b>DIRECT FISH AND WILDLIFE PROGRAM</b>									
SUPPLEMENTAL MITIGATION PROGRAM EXPENSES <sup>4/</sup>									
REIMBURSABLE/DIRECT-FUNDED PROJECTS <sup>5/</sup>	-	0.5	1.0	2.2	3.6	5.4	4.9	5.8	5.1
O & M LOWER SNAKE RIVER HATCHERIES	15.0	9.4	7.6	9.1	10.0	11.4	15.8	20.7	10.5
O & M BUREAU OF RECLAMATION	-	-	-	-	-	-	-	-	-
OTHER (NIP POWER AND CONSERVATION COUNCIL)	-	0.2	2.9	2.9	2.4	3.1	3.0	3.2	3.4
<b>REIMBURSABLE</b>	15.0	6.1	11.5	14.2	16.0	19.9	23.7	29.7	19.0
<b>TOTAL OPERATING EXPENSES</b>	17.3	8.4	16.1	23.3	35.4	35.2	48.9	51.9	37.8
<b>PROGRAM RELATED FIXED EXPENSES <sup>6/</sup></b>									
INTEREST EXPENSE	15.0	6.4	9.2	12.1	12.7	15.3	17.1	22.2	24.3
AMORTIZATION EXPENSE	-	-	-	-	-	0.1	0.9	0.8	1.1
DEPRECIATION EXPENSE	9.0	2.4	3.2	3.8	3.9	4.3	4.5	5.5	5.6
<b>FIXED EXPENSES</b>	24.0	8.8	12.4	15.9	16.6	19.7	22.1	28.5	31.0
<b>GRAND TOTAL PROGRAM EXPENSES</b>	41.3	17.2	28.5	39.2	52.2	55.5	65.4	80.4	68.8
<b>FORGONE REVENUES AND POWER PURCHASES</b>									
FORGONE REVENUES	-	3.0	14.0	1.0	8.0	27.0	19.0	9.0	10.0
BPA POWER PURCHASES	-	-	-	-	12.0	17.0	74.0	11.0	40.0
<b>TOTAL FORGONE REVENUES AND POWER PURCHASES</b>	-	3.0	14.0	1.0	20.0	44.0	93.0	20.0	50.0
<b>TOTAL PROGRAM EXPENSES, FORGONE REVENUES, &amp; POWER PURCHASES</b>	41.3	20.2	42.5	40.2	72.2	99.5	158.4	100.4	118.8
<b>CREDITS</b>									
(b)(1)(C)									
FISH COST CONTINGENCY FUND									
<b>TOTAL CREDITS</b>	-	-	-	-	-	-	-	-	-

This information has been made publicly available by BPA on 03/01/2007.

<sup>1/</sup> Capital Investments include both BPA's direct Fish and Wildlife Program capital investments, funded by BPA's Treasury borrowing, and "Associated Projects", which include capital investments at Corps of Engineers' and Bureau of Reclamation projects, fu  
<sup>2/</sup> Capitalization of PISCES development costs. These costs were previously reflected in the "BPA DIRECT FISH AND WILDLIFE PROGRAM" in years prior to 2006  
<sup>3/</sup> 2006 figure includes \$330 million for the CRFM study costs FAS 71 asset  
<sup>4/</sup> Includes High Priority and Action Plan Expenses and other supplemental programs including PBL contribution to Pitkinnow reward program  
<sup>5/</sup> "Reimbursable/Direct-Funded Projects" include the portion of costs BPA pays to or on behalf of other entities that is determined to be for fish and wildlife purposes, with BPA's direct Fish and Wildlife Program.

Source: Bonneville Power Administration

Table 1A Cumulative and Total Annual Expenditures (continued from previous page)

Bonneville Fish and Wildlife Costs

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	
	8.3	16.2	17.7	11.2	17.3	20.5	32.5	26.0	28.1	22.0	14.7	13.9	16.5	6.1	11.6	6.9	12.2	35.4	0.9
	5.3	4.5	4.0	0.9	65.8	39.4	39.3	45.1	(42.6)	-	14.1	47.0	6.2	8.8	68.4	75.9	53.8	360.0	
	<b>13.6</b>	<b>20.7</b>	<b>21.7</b>	<b>12.1</b>	<b>108.1</b>	<b>59.9</b>	<b>71.8</b>	<b>71.1</b>	<b>(14.5)</b>	<b>22.0</b>	<b>28.8</b>	<b>60.9</b>	<b>22.7</b>	<b>14.9</b>	<b>80.0</b>	<b>84.4</b>	<b>66.0</b>	<b>396.3</b>	
	23.0	32.8	33.0	67.0	49.6	55.9	71.4	68.5	82.2	104.9	106.2	108.2	101.1	137.1	140.7	137.9	135.6	137.9	
													2.9	7.1	6.5	7.8	0.0	0.0	
	7.6	8.3	8.7	11.2	11.2	12.4	12.7	11.5	11.8	11.4	13.0	12.4	12.7	14.9	15.1	17.3	17.2	20.1	
	12.3	11.5	11.8	13.3	14.0	16.9	17.8	18.2	18.9	18.5	19.9	19.7	23.1	28.2	30.3	32.3	32.5	31.8	
	-	-	-	-	1.2	1.3	1.3	1.5	1.5	2.7	2.6	1.8	3.0	3.0	3.1	3.9	3.9	4.5	
	3.7	3.6	3.8	3.9	4.1	4.3	4.3	4.2	3.7	3.7	3.4	3.7	3.7	4.0	4.0	3.7	4.3	4.3	
	<b>23.6</b>	<b>29.4</b>	<b>24.3</b>	<b>28.4</b>	<b>30.5</b>	<b>34.9</b>	<b>36.1</b>	<b>35.4</b>	<b>35.9</b>	<b>36.4</b>	<b>38.9</b>	<b>37.6</b>	<b>42.5</b>	<b>50.9</b>	<b>52.6</b>	<b>57.2</b>	<b>57.9</b>	<b>60.7</b>	
	<b>46.6</b>	<b>56.2</b>	<b>57.8</b>	<b>95.4</b>	<b>80.1</b>	<b>90.8</b>	<b>107.9</b>	<b>108.9</b>	<b>118.1</b>	<b>141.3</b>	<b>147.1</b>	<b>148.8</b>	<b>146.8</b>	<b>195.1</b>	<b>199.8</b>	<b>202.9</b>	<b>193.7</b>	<b>196.6</b>	
	24.5	26.0	29.2	31.4	40.6	46.1	44.9	51.1	52.4	48.9	49.4	48.4	49.1	48.5	49.9	53.3	56.4	53.4	
	1.7	2.4	3.6	4.8	5.5	6.8	8.5	10.6	12.4	14.1	15.3	16.1	16.8	17.2	17.4	17.5	17.4	17.4	
	5.7	5.9	5.4	5.7	7.5	8.4	10.2	11.4	11.5	11.1	11.4	11.8	12.3	12.5	13.2	14.6	15.9	16.7	
	<b>81.9</b>	<b>94.3</b>	<b>88.2</b>	<b>41.9</b>	<b>58.6</b>	<b>61.8</b>	<b>69.6</b>	<b>78.1</b>	<b>76.3</b>	<b>74.1</b>	<b>76.1</b>	<b>76.8</b>	<b>78.2</b>	<b>78.2</b>	<b>80.5</b>	<b>85.4</b>	<b>89.7</b>	<b>87.5</b>	
	<b>78.5</b>	<b>90.5</b>	<b>95.5</b>	<b>137.3</b>	<b>138.7</b>	<b>182.1</b>	<b>171.1</b>	<b>177.0</b>	<b>194.4</b>	<b>215.4</b>	<b>223.2</b>	<b>222.1</b>	<b>224.7</b>	<b>273.3</b>	<b>280.3</b>	<b>283.3</b>	<b>283.4</b>	<b>286.1</b>	
	15.0	15.0	15.0	23.0	45.0	62.0	71	81.7	107.8	116.5	197.8	193.1	115.9	12.6	79.2	21.7	182.1	397.4	
	40.0	40.0	40.0	59.0	104.0	111.7	63.5	-	5.4	47.6	47.6	64.8	1,389.6	147.8	171.1	191.0	110.8	168.2	
	<b>55.0</b>	<b>55.0</b>	<b>55.0</b>	<b>82.0</b>	<b>149.0</b>	<b>173.7</b>	<b>70.6</b>	<b>81.7</b>	<b>107.8</b>	<b>121.9</b>	<b>248.4</b>	<b>257.9</b>	<b>1,505.5</b>	<b>160.4</b>	<b>250.3</b>	<b>212.7</b>	<b>292.9</b>	<b>565.6</b>	
	<b>189.5</b>	<b>145.5</b>	<b>150.5</b>	<b>219.8</b>	<b>282.7</b>	<b>325.8</b>	<b>241.7</b>	<b>258.7</b>	<b>802.2</b>	<b>387.3</b>	<b>468.6</b>	<b>480.0</b>	<b>1,780.2</b>	<b>488.7</b>	<b>580.6</b>	<b>501.0</b>	<b>576.3</b>	<b>851.7</b>	
							(45.2)	(25.5)	(29.7)	(35.7)	(46.0)	(50.4)	(336.6)	(66.4)	(96.2)	(77.6)	(57.7)	(76.4)	
													(246.5)	-	(78.7)			0.0	
							(48.2)	(25.5)	(29.7)	(35.7)	(46.0)	(50.4)	(583.1)	(66.4)	(174.9)	(77.6)	(57.7)	(76.4)	

Source: Bonneville Power Administration

**Table 2 Expenditures by Species, 1978-2006**

Fiscal Year	Anadromous Fish	Resident Fish	Wildlife	Total
1978	\$400,000	\$0	\$0	\$400,000
1979	\$979,628	\$0	\$0	\$979,628
1980	\$1,232,775	\$0	\$0	\$1,232,775
1981	\$1,512,801	\$251,000	\$0	\$1,763,801
1982	\$5,349,333	\$335,930	\$0	\$5,685,263
1983	\$7,222,161	\$1,441,440	\$789,026	\$9,452,627
1984	\$16,675,925	\$1,263,895	\$589,066	\$18,528,886
1985	\$19,945,958	\$3,571,308	\$553,022	\$24,070,288
1986	\$22,208,357	\$3,779,463	\$1,009,667	\$26,997,487
1987	\$26,560,517	\$691,182	\$1,149,655	\$28,301,354
1988	\$15,848,972	\$6,389,391	\$1,040,601	\$23,278,964
1989	\$25,225,428	\$3,016,827	\$2,053,497	\$30,295,752
1990	\$27,737,779	\$7,795,641	\$1,058,418	\$36,591,838
1991	\$36,973,827	\$2,028,859	\$2,530,970	\$43,533,656
1992	\$53,119,662	\$3,550,209	\$12,847,109	\$69,516,980
1993	\$51,129,495	\$5,457,600	\$8,936,699	\$65,523,794
1994	\$51,044,466	\$7,072,137	\$16,090,951	\$74,207,554
1995	\$49,894,315	\$8,692,253	\$10,206,415	\$68,792,983
1996	\$83,789,352	\$7,962,544	\$14,815,773	\$106,567,669
1997	\$66,524,626	\$12,944,597	\$16,615,431	\$96,084,654
1998	\$85,533,382	\$20,991,620	\$12,675,870	\$119,200,872
1999	\$82,415,426	\$14,850,466	\$13,443,429	\$110,709,321
2000	\$80,591,738	\$15,808,570	\$6,022,069	\$102,422,377
2001	\$86,707,688	\$12,348,834	\$12,117,082	\$111,173,614
2002	\$103,474,620	\$17,568,123	\$9,413,746	\$130,456,489
2003	\$105,384,293	\$22,764,723	\$7,670,918	\$135,819,935
2004	\$86,206,585	\$18,899,368	\$10,659,908	\$115,765,860
2005	\$101,172,351	\$20,236,591	\$13,278,339	\$134,687,281
2006	\$106,630,937	\$25,688,291	\$26,842,908	\$173,276,548
<b>Total</b>	<b>\$1,413,492,398</b>	<b>\$245,300,861</b>	<b>\$202,410,679</b>	<b>\$1,875,318,250</b>

\* Totals for 2001-03 include program support and other costs, as indicated below. These costs were not separately reported by Bonneville before 2001.

FY	External Program Support <sup>1</sup>	BPA Program Support <sup>2</sup>	Other <sup>3</sup>
2000	\$2,797,207	\$16,356,411	\$566,751
2001	\$1,215,601	\$5,207,617	\$21,425
2002	\$1,699,568	\$11,096,041	
2003	\$4,460,374	\$12,041,388	
2004	\$10,019,553	\$10,648,717	
2005	\$2,354,004	\$10,590,758	\$19,143
2006	\$3,212,963	\$10,901,449	
<b>Total</b>	<b>\$25,699,269</b>	<b>\$77,242,380</b>	<b>\$607,319</b>

- 1 External Program Support includes tasks such as data management that support all programs
- 2 BPA Program Support includes contracted tasks such as program review and independent analysis, as well as BPA internal overhead such as personnel costs
- 3 Expenses not otherwise categorized

Source: Bonneville Power Administration

**Table 3 Expenditures by Category, 2003-2006 Excluding Action-Plan and High-Priority Projects**

General Purpose	FY 2003	FY 2004	FY 2005	FY 2006
Coordination	\$6,403,568	\$5,760,114	\$6,594,675	\$7,126,067
Data Management	\$236,896	\$558,731	\$906,578	\$160,439
Habitat	\$39,500,655	\$40,306,108	\$44,898,740	\$67,286,171
Harvest	\$1,957,396	\$2,686,015	\$4,112,685	\$2,865,380
Mainstem Survival	\$3,639,242	\$3,228,871	\$18,008,894	\$22,117,979
Monitoring	\$20,930,630	\$17,189,343	\$33,085,526	\$36,009,557
Production	\$34,939,205	\$32,185,268	\$27,683,912	\$28,087,509
Research and Evaluation	\$32,672,718	\$33,890,947	\$10,990,758	\$9,627,446*
BPA Program Support	\$12,041,388	\$10,648,717	158,184	
Other				
<b>Total</b>	<b>\$152,321,697</b>	<b>\$146,434,130</b>	<b>\$148,051,186</b>	<b>\$173,276,548</b>

Source: Bonneville Power Administration

\* Does not include program support for monitoring and evaluation.

**Table 4 Expenditures by Province, 1978-2006**

Province	1978-2005	2003	2004	2005	2006
Systemwide	\$688,088,727	\$41,021,491	\$42,375,167	\$39,508,689	\$40,307,651
Columbia Plateau	\$470,870,841	\$28,530,634	\$25,395,810	\$27,057,089	\$29,160,066
Mountain Snake	\$229,071,527	\$20,023,083	\$17,908,414	\$17,167,162	\$17,847,701
Intermountain	\$104,513,786	\$12,884,976	\$13,116,278	\$16,225,072	\$21,657,550
Mountain Columbia	\$89,080,066	\$8,049,476	\$6,897,321	\$7,004,651	\$22,062,063
Blue Mountain	\$68,012,973	\$9,399,860	\$6,895,057	\$8,236,701	\$9,390,167
Columbia Gorge	\$54,123,708	\$6,487,780	\$4,947,368	\$5,103,954	\$5,336,398
Columbia Cascade	\$41,420,769	\$3,454,315	\$5,153,736	\$4,546,526	\$5,634,292
Lower Columbia	\$39,575,193	\$4,205,860	\$6,006,986	\$3,374,505	\$3,719,790
Columbia Estuary	\$29,527,952	\$3,289,408	\$5,008,417	\$4,295,766	\$4,323,443
Upper Snake	\$19,591,601	\$1,064,601	\$345,252	\$659,919	\$653,051
Middle Snake	\$21,108,519	\$1,877,824	\$1,735,608	\$1,585,370	\$1,782,938
<b>Total</b>	<b>\$1,772,005,662</b>	<b>\$140,280,309</b>	<b>\$135,765,413</b>	<b>\$136,737,413</b>	<b>\$162,375,100</b>
Program Support	\$63,808,985	\$12,041,388	\$10,648,717	\$10,990,758	\$10,901,449

Source: Bonneville Power Administration



Table 5A Expenditures by Prime Contractor - 1978-2005

Contractor Type	Prime Contractor	1979-2005	Contractor Type	Prime Contractor	1979-2005		
FEDERAL	NATIONAL MARINE FISHERIES SVC	\$112,757,626	TRIBE	NEZ PERCE TRIBE	\$120,908,028		
	NON-CONTRACTED BPA OVERHEAD	\$102,466,466		YAKAMA INDIAN NATION	\$115,578,367		
	FISH & WILDLIFE SERVICE	\$70,252,285		UMATILLA CONFEDERATED TRIBES	\$53,203,928		
	BUREAU OF RECLAMATION	\$44,655,717		COLVILLE CONFEDERATED TRIBES	\$40,896,401		
	CORP OF ENGINEERS	\$25,878,299		WARM SPRINGS TRIBES	\$32,336,247		
	DEPARTMENT OF ENERGY	\$29,934,347		KOOTENAI TRIBE OF IDAHO	\$23,465,457		
	FOREST SERVICE	\$25,881,772		SPOKANE TRIBE OF INDIANS	\$22,607,606		
	OTHER	\$25,315,289		SHOSHONE-BANNOCK TRIBES	\$21,211,832		
	US GEOLOGICAL SURVEY	\$9,161,792		KALISPEL TRIBE OF INDIANS	\$16,538,235		
	TOTAL	\$446,303,594		COEUR D'ALENE TRIBE OF IDAHO	\$14,121,672		
					COLUMBIA RIVER INTERTRIBAL FISH COMMISSION	\$13,566,142	
					SHOSHONE-PAIUTE TRIBES	\$9,378,008	
					BURNS PAIUTE TRIBE	\$8,618,562	
					SALISH-KOOTENAI TRIBES	\$4,491,425	
					POINT NO POINT TRIBE	\$11,960	
			TULALUP TRIBE	\$4,988			
			KLAMATH TRIBE / CHEHALIS INDIAN TRIBE	\$4,512			
			CHEHALIS INDIAN TRIBE	\$2,082			
			SQUAXIN ISLAND TRIBE	\$1,304			
			TOTAL	\$496,966,756			
			INTERSTATE COMPACT Pacific States Marine Fisheries Commission		\$178,261,176		
			UNIVERSITY	University	\$48,857,807		
			OTHER	Private/Other	\$144,624,542		
				Local/Semi governmental	\$54,185,351		
				Utility	\$24,804,622		
				COLUMBIA BASIN FISH & WILDLIFE FDN	\$22,444,005		
				Not Specified (Land)	\$13,163,259		
				NATIONAL FISH & WILDLIFE FOUNDATION	\$6,658,199		
				TOTAL	\$295,711,855		
				GRAND TOTAL	\$1,881,978,553		
STATE	OREGON DEPARTMENT OF FISH & WILDLIFE	\$180,222,001	UNIVERSITY	University	\$120,993,229		
	OREGON STATE POLICE - FISH & WILDLIFE	\$3,480,962		OTHER	Private/Other	\$86,713,503	
	OREGON WATER TRUST	\$1,004,400			Local/Semi governmental	\$6,077,932	
	OREGON DEPARTMENT OF ENERGY	\$193,707			Utility	\$3,445,738	
	OREGON DEPARTMENT OF TRANSPORTATION	\$106,422			COLUMBIA BASIN FISH & WILDLIFE FDN	\$694,411	
	OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY	\$186,618			WASHINGTON DEPARTMENT OF ECOLOGY	\$542,633	
	OREGON DEPARTMENT OF PARKS & RECREATION	\$5,367			WASHINGTON STATE ENERGY OFFICE	\$242,857	
	Subtotal	\$185,199,466			WASHINGTON DEPARTMENT OF TRANSPORTATION	\$101,700	
					WASHINGTON DEPARTMENT OF NATURAL RESOURCES	\$5,000	
					Subtotal	\$97,823,775	
					IDAHO DEPARTMENT OF FISH & GAME		\$33,692,166
					IDAHO SOIL & WATER CONSERVATION COMMISSION		\$8,000,606
					IDAHO STATE OFFICE OF SPECIES CONSERVATION		\$41,692,772
					IDAHO STATE HISTORICAL SOCIETY		\$31
			Subtotal		\$120,993,229		
			WASHINGTON DEPARTMENT OF FISH & WILDLIFE		\$86,713,503		
			WASHINGTON DEPARTMENT OF ECOLOGY		\$6,077,932		
			WASHINGTON WILDLIFE COALITION MEMBERS		\$3,445,738		
			WASHINGTON STATE CONSERVATION COMMISSION		\$694,411		
			WASHINGTON DEPARTMENT OF ECOLOGY		\$542,633		
			WASHINGTON STATE ENERGY OFFICE		\$242,857		
			WASHINGTON DEPARTMENT OF TRANSPORTATION		\$101,700		
			WASHINGTON DEPARTMENT OF NATURAL RESOURCES		\$5,000		
			Subtotal		\$97,823,775		
			MONTANA DEPARTMENT OF FISH & WILDLIFE		\$33,692,166		
			MONTANA FISH, WILDLIFE & PARKS		\$8,000,606		
			Subtotal		\$41,692,772		
			TOTAL		\$445,709,243		

Source: Bonneville Power Administration

**BONNEVILLE POWER ADMINISTRATION**  
**ADMINISTRATOR'S RECORD OF DECISION**

**2008 COLUMBIA BASIN FISH ACCORDS**

**1.0 INTRODUCTION**

To improve fish survival and habitat, and to advance fish recovery in the Columbia River Basin, the Bonneville Power Administration (BPA) has decided to enter into unprecedented agreements with four tribes, two states, and two other federal agencies. The agreements address fish affected by federal dams of the Federal Columbia River Power System (FCRPS), with a focus on salmon and steelhead fish listed under the Endangered Species Act. These agreements will result in numerous new projects and dedicated funding for certain on-going projects (such as watershed restoration programs) throughout the Columbia River Basin for the next 10 years. The agreements also mark a turning point for the parties, ushering in a collaborative partnership rather than continuing with an adversarial relationship.

Through these agreements, BPA commits funding on a long-term basis to tribal and state fish and wildlife managers to implement projects for the benefit of fish in the Basin, recognizing their role as co-managers of the fishery resource. These parties are agreeing to projects that will have biological benefits that will make a meaningful difference for the fish. These agreements will be known collectively as “the 2008 Columbia Basin Fish Accords” (the Accords). Specifically, the Accords consist of:

(1) An agreement between BPA, the U.S. Army Corps of Engineers, and the U.S. Bureau of Reclamation (together, the three federal agencies are known as the “Action Agencies”) and the:

- Confederated Tribes of the Umatilla Indian Reservation,
- Confederated Tribes of the Warm Springs Reservation,
- Confederated Tribes and Bands of the Yakama Nation, and
- Columbia River Inter-Tribal Fish Commission (CRITFC).

These Tribes and CRITFC are collectively referred to as the “Three Treaty Tribes.” This agreement is referred to as the “Three Treaty Tribes MOA.”

(2) An agreement between the Action Agencies and the Confederated Tribes of the Colville Indian Reservation. This agreement is referred to as the “Colville MOA.”

(3) An agreement between the Action Agencies and the State of Idaho. This agreement is referred to as the “Idaho MOA.”

(4) An agreement between the Action Agencies and the State of Montana. This agreement is referred to as the “Montana MOA.”

The purpose of this Record of Decision is to describe the backdrop that lead to these agreements, what the agreements contain, and why BPA has decided to enter into them.<sup>1</sup> This Record of Decision also documents BPA’s consideration of the National Environmental Policy Act (NEPA) in entering into the Accords.<sup>2</sup>

## **2.0 BACKGROUND**

### **2.1 Litigation Leads to Collaborative Remand**

Litigation over the impacts of the FCRPS on threatened and endangered fish species has engulfed the Action Agencies and regional interests for well over a decade. Under the Endangered Species Act (ESA),<sup>3</sup> the Action Agencies consult with the National Oceanic and Atmospheric Administration (NOAA) regarding the effects of the FCRPS on listed salmon and steelhead. NOAA evaluates the Action Agencies’ proposed operations and mitigation actions, and issues a Biological Opinion (BiOp) addressing whether or not the Action Agencies are avoiding jeopardy to the species and avoiding destruction or adverse modification of their critical habitat. Lawsuits over the BiOps have invariably followed.

The origins of the most recent litigation can be traced to a challenge to the 2000 BiOp issued by NOAA. In that case, plaintiff environmental organizations challenged the sufficiency of the 2000 BiOp. The federal district court in Oregon found the 2000 BiOp flawed because it relied on mitigation actions, such as improvements to habitat, hatcheries, and harvest, that were not reasonably certain to occur, and because the action area had been too narrowly defined.<sup>4</sup> The court remanded the BiOp to NOAA for more work. The Action Agencies had already adopted and were implementing the measures contained in the 2000 BiOp, including Reasonable and Prudent Alternative (RPA) actions that would modify the proposed action to protect the listed species. As a result, the Action Agencies decided that rather than re-analyzing the proposed action considered in the 2000 BiOp, they would update the 2000 BiOp RPA by developing an Updated Proposed Action (UPA). The 2004 UPA described current and planned future operations of the FCRPS, including most of the 2000 RPA actions identified in the 2000 BiOp, as well as a more focused approach to mitigation. The UPA was analyzed by NOAA in a BiOp released in November 2004.

The 2004 BiOp was challenged by the same plaintiffs. In May 2005 the court found the 2004 BiOp flawed and ordered NOAA to prepare a new Biological Opinion. Further, the

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<sup>1</sup> The terms “Accords,” “agreements” and “MOAs” are used interchangeably throughout this Decision; the Accords are available at [www.salmonrecovery.gov](http://www.salmonrecovery.gov).

<sup>2</sup> 42 U.S.C. § 4321 *et seq.*

<sup>3</sup> 16 U.S.C. § 1531 *et seq.*

<sup>4</sup> *Nat'l Wildlife Fed'n. v. NMFS*, 254 F. Supp. 2d 1196 (D. Or. 2003).

court ordered NOAA, the Corps, and the Bureau of Reclamation to collaborate with sovereign states and tribes to develop items to include in the FCRPS proposed action, clarify policy issues, and reach agreement or narrow the areas of disagreement on scientific and technical information.

The parties to this FCRPS remand collaboration process were NOAA, the Action Agencies, four states (Idaho, Montana, Oregon, and Washington), and seven tribes (the Confederated Tribes of the Colville Reservation, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, the Confederated Tribes and Bands of the Yakama Indian Nation, the Kootenai Tribe of Idaho, the Nez Perce Tribe, and the Spokane Tribe of Indians). NOAA and the Action Agencies filed quarterly status reports developed with the input of the states and tribes with the court throughout the remand period.

A goal of the collaborating sovereign parties was to identify actions for salmon recovery to be used by the Action Agencies in developing a new proposed RPA. This collaboration effort included extensive meetings among sovereign parties managed by a Policy Working Group (PWG).

## **2.2 Collaboration Leads to Negotiations**

One of the benefits of the collaboration process for the BiOp remand was the development of a closer working relationship amongst the sovereigns, despite their conflicting litigation views. As the sovereign parties' policy, technical and legal staff worked together, common goals and interests were more readily identified. Beginning in 2006 several of the sovereign parties began to explore the potential for resolving their mutual issues through negotiations. The parties recognized that years of litigation focused attention in the courtroom and directed attention away from the mutual work on the ground for the benefit of fish that all are engaged in. In addition, the litigation has been a tremendous drain on parties and their staffs, taking up time and resources that might be better spent working together.

By the middle of 2007, negotiations were underway in earnest. The parties sought to resolve outstanding issues, to resolve litigation matters, and to set forth long-term mutual commitments between them for the benefit of fish and wildlife in the region. The parties sought to keep discussions confidential in order to be as candid as possible and to produce the best outcome. The Action Agencies approached all of the sovereigns in the collaborative remand, but not all the sovereigns expressed an interest in or need for negotiations.<sup>5</sup> The parties explored whether negotiations could develop with all sovereigns at a single negotiating table, but that proved unworkable. As a result, the negotiations for each Accord were conducted separately, although the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs

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<sup>5</sup> The State of Washington was supportive of the MOAs in concept, but did not view an MOA as necessary to address its concerns. Similarly, the Kootenai Tribe of Idaho indicated it did not view an MOA as necessary to address its concerns. The Spokane Tribe did not move forward with agreement negotiations.

Reservation of Oregon, the Confederated Tribes and Bands of the Yakama Indian Nation, the Nez Perce Tribe, and the Columbia River Inter-Tribal Fish Commission joined together in negotiations with the Action Agencies. Ultimately, negotiations were successful with the parties to these Accords. BPA remains open to discussions with the other tribes and states for future agreements based on the same objectives as the Accords.

### **3.0 MUTUAL COMMITMENTS OF THE ACCORDS**

Under the terms of the Accords, the parties are committing to implement projects for the benefit of fish affected by the FCRPS, to be funded primarily by BPA. The focal point of the agreements is to provide actions to help ocean-going (anadromous) fish listed under the Endangered Species Act. The agreements also provide actions to help other fish in the Basin, including non-ocean-going (resident) stocks in Montana such as the listed bull trout, as well as for non-listed anadromous and resident species in the Basin, such as Pacific Lamprey. The agreements are intended to work in concert with draft Biological Opinions for the FCRPS and Upper Snake developed by NOAA Fisheries and released for public review on October 31, 2007, and with the final versions of those Biological Opinions set for release on May 5, 2008. Although the focus of mitigation in the Accords is on fish, the agreements also contain several commitments for the benefit of wildlife impacted by the FCRPS. In addition, projects for the benefit of fish often carry wildlife benefits. As a result, although named the "Fish Accords," the Accords should be considered of benefit to wildlife species as well.

In general, each agreement has four components: (1) a statement of the purpose and guiding principles; (2) mutual commitments regarding hydrosystem operations and related efforts, including research, monitoring and evaluation; (3) mutual commitments regarding habitat, hatchery, and harvest actions; and (4) mutual commitments with respect to legal matters. The agreements were negotiated independent of each other, and so while each agreement reflects some common core commitments (in similar if not identical language), each also contains commitments unique to the agreement to reflect the different interests of the participating parties. The agreements were made available for public review. The purpose here is not to describe the agreements in detail, but to summarize some of the key provisions, including provisions unique to each agreement. When describing "parties" throughout, BPA is referring to the parties entering into the agreement or agreements being discussed.

#### **3.1 Purpose and Principles**

In the introductory sections of the agreements, the parties describe the intent of the agreements to address direct and indirect effects of the construction, inundation, operation and maintenance of fourteen hydropower projects of the FCRPS and Reclamation's Upper Snake Projects on fish resources of the Columbia River Basin for a period of ten years. In addition, the agreements aim to resolve issues between the implementing parties regarding compliance by the federal agencies under specific

statutes—the Northwest Power Act,<sup>6</sup> the ESA, and the Clean Water Act,<sup>7</sup> and to address the parties' mutual concerns for certainty and stability in funding for implementation of projects. The agreements are also intended to foster a cooperative and partnership-like relationship in implementation of the mutual commitments. In the Colville MOA and the Montana MOA, additional agreement principles were identified, reflecting those upper river sovereigns' interests in affirming that the Action Agencies will consider operations and mitigation holistically.<sup>8</sup>

### ✓ 3.2 Hydro Commitments

#### 3.2.1 *Performance standards and adaptive management*

Under the agreements, the parties confirm and concur in the use of hydro performance standards, targets and metrics as described in the draft FCRPS BiOp.<sup>9</sup> This includes, for example, juvenile dam survival as the overarching performance standard for operation of the system—96% dam passage survival for yearling Chinook and steelhead and 93% for subyearling Chinook, based on empirical survival data.<sup>10</sup> The MOAs go further, however, and clarify how the hydro performance standards will be considered in relation to other performance indicators, such as spill passage efficiency and delay. This additional information will be gathered and considered in the performance check-ins.

The parties also acknowledge and support the adaptive management approach proposed by the Action Agencies in their August 2007 Biological Assessment and in their draft FCRPS and Upper Snake BiOps. This adaptive management includes two comprehensive reviews of the status and performance of each evolutionarily significant unit (ESU). The parties will participate in the design and analysis of those comprehensive reviews. If performance is not on track, the parties will discuss options for corrective action. Also, as part of the Three Treaty Tribes MOA, the Action Agencies have affirmed that modifying John Day operations to lower the reservoir to the minimum operating pool is a contingency—a possible operation to address performance problems—as a product of the second comprehensive review and diagnostic evaluation of any performance issues.<sup>11</sup>

#### 3.2.2 *Research, monitoring, and evaluation*<sup>12</sup>

The parties also acknowledge the importance of maintaining and improving research, monitoring, and evaluation (RM&E) programs to make informed decisions on population

<sup>6</sup> Pacific Northwest Electric Power Planning and Conservation Act, 16 U.S.C. § 839 *et seq.*

<sup>7</sup> Federal Water Pollution Control Act, 33 U.S.C. § 1251 *et seq.*

<sup>8</sup> See, e.g., Section I.D of the Colville MOA and Section II.D.2 of the Montana MOA.

<sup>9</sup> Section II.A.1 and II.A.2 of the Three Treaty Tribes, Idaho, and Montana MOAs and Section II.A.1.a, and Section II.1A.1.b of the Colville MOA.

<sup>10</sup> See Attachment A to Three Treaty Tribes MOA.

<sup>11</sup> Section II.A.2, "John Day Pool Operations," of the Three Treaty Tribes MOA.

<sup>12</sup> See Section II.A.3 of the Three Treaty Tribes, Idaho, and Montana MOAs, and Section II.A.1.c of the Colville MOA.

As another example, in the Three Treaty Tribes MOA, BPA will fund the Yakama Nation an average of \$404,000 annually to implement seven new projects to improve habitat quality for the Entiat populations of Upper Columbia steelhead and spring Chinook. These projects will help the Action Agencies' meet their commitment for habitat improvements for these populations of 8 and 22 percent, respectively.<sup>87</sup> Other actions committed to in the MOAs that provide greater specificity include, for example, habitat improvement actions in other subbasins, hydro performance standards and metrics, efforts to improve and evaluate water management, and Snake River sockeye production.

The agreements also add new efforts to those included in the draft BiOps, providing additional insurance for listed species. For example, BPA is currently implementing projects to improve habitat in an area used by the Middle Fork John Day River populations of Mid-Columbia steelhead. BPA expects that the habitat quality improvement objectives for this population will be fully met in 2009 with the implementation of existing projects. Under the Three Treaty Tribes MOA, however, BPA will continue to fund approximately \$2.3 million per year for the Confederated Tribes of the Warm Springs Reservation to implement five projects that will improve habitat used by this population. The continuation and expansion of habitat quality improvement actions in this watershed provided by the MOA will provide additional benefits to this population, above and beyond the implementation required in the BiOp. Other examples of additional actions that exceed draft BiOp targets include Snake River kelt reconditioning to improve steelhead productivity, conservation law enforcement to aid fish survival for multiple stocks, and changes in summer spill triggers and fish transportation protocols. Additional actions like these provided for in the agreements will improve the probability of success for future regional recovery efforts.

**3.8 Funding Commitments for BPA, and relationship to ratemaking**

(New Funding)

A summary of the approximate total funding commitments BPA is making in entering into these agreements is displayed in Table 1, below.

Table 1. BPA Funding Commitments, Total, Over Term of Agreements, in millions of dollars

	EXPENSE	CAPITAL	TOTAL
THREE TRIBE	\$516	\$132	\$648
COLVILLE	\$158	\$46	\$204
IDAHO	\$52	\$13	\$65
MONTANA	\$0.05	\$16	\$16
<b>TOTAL</b>	<b>\$726</b>	<b>\$207</b>	<b>\$933</b>

This summary was developed by “rolling up” and rounding the annual BPA funding totals identified in the MOAs and associated project spreadsheets (it does not supersede

<sup>87</sup> *Id.*

# 2007 BPA Facts

Unless otherwise noted, information is for fiscal year 2007.

## Profile

The Bonneville Power Administration is a federal agency based in the Pacific Northwest. Although BPA is under the U.S. Department of Energy, it is self-funding and covers its costs by selling its products and services at cost. BPA markets wholesale electrical power from 31 federal hydro projects in the Columbia River Basin, one nonfederal nuclear plant and several other small nonfederal power plants. About one-third of the electric power used in the Northwest comes from BPA.

BPA also operates and maintains about three-fourths of the high-voltage transmission in its service territory. BPA's service territory includes Idaho, Oregon, Washington, western Montana and small parts of eastern Montana, California, Nevada, Utah and Wyoming.

As part of its responsibilities, BPA promotes energy efficiency, renewable resources and new technologies. The agency also funds regional efforts to protect and rebuild fish and wildlife populations affected by hydropower development in the Columbia River Basin.

BPA is committed to providing public service and seeks to make its decisions in a manner that provides opportunities for input from all stakeholders. In its vision statement, BPA dedicates itself to providing high system reliability, low rates consistent with sound business principles, environmental stewardship and accountability.

## General Information

BPA established	1937
Service area size (square miles)	300,000
Pacific Northwest population	12,100,101
Transmission line (circuit miles)	15,190
BPA substations	259 <sup>1/</sup>
Employees (FTE)	2,896

<sup>1/</sup> This number now includes shared substations in which BPA owns a major portion of the equipment and land.

## BPA customers

Cooperatives	57
Municipalities	42
Public utility districts	29
Federal agencies	7
Investor-owned utilities	6
Direct-service industries	4
Port districts	1
Tribal	2
Total	148
Power marketers	87
Transmission customers	339

## BPA Mission

The Bonneville Power Administration's mission as a public service organization is to create and deliver the best value for our customers and constituents as we act in concert with others to assure the Pacific Northwest:

- an adequate, efficient, economical and reliable power supply;
- a transmission system that is adequate to the task of integrating and transmitting power from federal and nonfederal generating units, providing service to BPA's customers, providing interregional interconnections, and maintaining electrical reliability and stability; and
- mitigation of the Federal Columbia River Power System's impacts on fish and wildlife.

BPA is committed to cost-based rates and public and regional preference in its marketing of power. BPA will set its rates as low as possible consistent with sound business principles and the full recovery of all of its costs, including timely repayment of the federal investment in the system.

## BPA Vision

BPA will be an engine of the Northwest's economic prosperity and environmental sustainability. BPA's actions advance a Northwest power system that is a national leader in providing:

- high reliability;
- low rates consistent with sound business principles;
- responsible environmental stewardship; and
- accountability to the region.

We deliver on these public responsibilities<sup>2/</sup> through a commercially successful business.

<sup>2/</sup> Our public responsibilities are defined by the four characteristics listed above.

## BPA Rates

### Wholesale power rates<sup>3/</sup> (10/1/07-9/30/08)

Non-Slice Priority Firm (average, <sup>4/</sup> undelivered)	2.73 cents/kWh
Priority Firm Exchange (average, undelivered)	5.12 cents/kWh
New Resources (flat, undelivered)	7.70 cents/kWh

<sup>3/</sup> The rates shown do not include the cost of transmission. They also do not include the application of the Conservation Rate Credit.

<sup>4/</sup> The actual rate paid by an individual customer will vary according to the shape of the load and the products and services purchased.

### Transmission rates<sup>5/</sup> (FYs 2008-2009)

<b>Network rates:</b>	
Firm	\$15.576/kW/yr
Nonfirm	.374 cents/kWh
<b>Southern intertie rates:</b>	
Firm	\$15.516/kW/yr
Nonfirm	.372 cents/kWh

<sup>5/</sup> Reflects the rates for point-to-point transmission service. All short-term firm and nonfirm rates are downwardly flexible.

## 2007 Financial Highlights

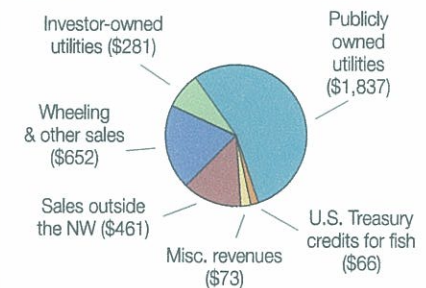
For the Federal Columbia River Power System  
(\$ in thousands)

Total operating revenues	\$3,268,640
Total operating expenses	2,574,685
Net operating revenues	693,955
Net interest expense	236,747
Net revenues	\$457,208
SFAS 133 derivative mark-to-market	\$ 6,519
Nonfederal debt management actions	(246,421)
Modified net revenues	\$ 217,306 <sup>6/</sup>

<sup>6/</sup> Management has determined that modified net revenues are a better representation of the outcomes of normal operations during periods of debt management actions and fluctuations in derivative market prices. See BPA's 2007 Annual Report for more information.

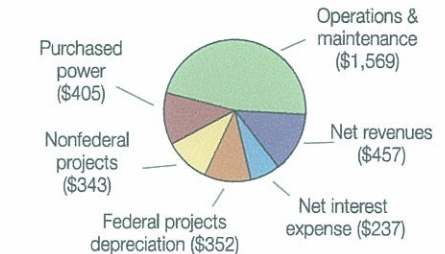
### Sources of revenue<sup>7/</sup>

(\$ in millions)



### Disposition of revenue<sup>7/</sup>

(\$ in millions)



<sup>7/</sup> These revenues do not reflect bookouts of (\$95) million. In addition, the sources of revenues do not reflect SFAS 133 derivative mark-to-market of (\$7) million.

## Transmission System

Operating voltage	Circuit miles
1,000 kV	264 <sup>8/</sup>
500 kV	4,734
345 kV	570
287 kV	227
230 kV	5,300
161 kV	119
138 kV	50
115 kV	3,557
below 115 kV	367
Total	15,190 <sup>9/</sup>

<sup>8/</sup> BPA's portion of the PNW/PSW direct-current intertie. The total length of this line from The Dalles, Ore., to Los Angeles is 846 miles.

<sup>9/</sup> Line miles vary slightly from last year due to better data. In addition, several lines were sold during the year.





## Federal Hydro Projects

Name	River, state	In service	Nameplate rating
Albeni Falls	Pend Oreille, ID	1955	43 MW
Anderson Ranch	Boise, ID	1950	40 MW
Big Cliff	Santiam, OR	1953	18 MW
Black Canyon	Payette, ID	1925	10 MW
Boise River Diversion	Boise, ID	1912	3 MW
Bonneville	Columbia, OR/WA	1938	1,077 MW
Chandler	Yakima, WA	1956	12 MW
Chief Joseph	Columbia, WA	1958	2,458 MW
Cougar	McKenzie, OR	1963	25 MW
Detroit	Santiam, OR	1953	100 MW
Dexter	Willamette, OR	1954	15 MW
Dworshak	Clearwater, ID	1973	400 MW
Foster	Santiam, OR	1967	20 MW
Grand Coulee <sup>10/</sup>	Columbia, WA	1942	6,795 MW
Green Peter	Santiam, OR	1967	80 MW
Green Springs	Emigrant Crk, OR	1960	16 MW
Hills Creek	Willamette, OR	1962	30 MW
Hungry Horse	Flathead, MT	1953	428 MW
Ice Harbor	Snake, WA	1962	603 MW
John Day	Columbia, OR/WA	1971	2,160 MW
Libby	Kootenai, MT	1975	525 MW
Little Goose	Snake, WA	1970	810 MW
Lookout Point	Willamette, OR	1953	120 MW
Lost Creek	Rogue, OR	1977	49 MW
Lower Granite	Snake, WA	1975	810 MW
Lower Monumental	Snake, WA	1969	810 MW
McNary	Columbia, OR/WA	1952	980 MW
Minidoka	Snake, ID	1909	28 MW
Palisades	Snake, ID	1958	176 MW
Roza	Yakima, WA	1958	11 MW
The Dalles	Columbia, OR/WA	1957	1,808 MW
Total (31 dams)			20,460 MW

Owned and operated by the U.S. Army Corps of Engineers (21 dams)  
Owned and operated by the Bureau of Reclamation (10 dams).

10/ Includes pump generation.

## BPA Resources<sup>11/</sup>

(for OY 2008 under 1937 water conditions)

### Sustained 1-hour peak capacity (January) 13,934 MW

Hydro: 12,475 MW (89.5%)  
Nuclear: 1,150 MW (8.3%)  
Firm contracts & other resources: 309 MW (2.2%)

### Firm energy (12-month annual avg.) 8,607 aMW

Hydro: 6,949 aMW (80.7%)  
Nuclear: 1,030 aMW (12.0%)  
Firm contracts & other resources: 628 aMW (7.3%)

## Regional Resources<sup>11/</sup>

(for OY 2008 under 1937 water conditions)

### Sustained peak capacity (January) 41,528 MW

Hydro: 23,790 MW (57.3%)  
Coal: 5,871 MW (14.1%)  
Combustion turbines: 5,154 MW (12.4%)  
Cogeneration: 2,481 MW (6.0%)  
Imports: 1,777 MW (4.3%)  
Nuclear: 1,150 MW (2.8%)  
Non-utility generation: 1,171 MW (2.8%)  
Other miscellaneous resources: 134 MW (0.3%)

### Firm energy (12-month annual avg.) 26,254 aMW

Hydro: 11,797 aMW (45.0%)  
Coal: 5,178 aMW (19.7%)  
Combustion turbines: 3,227 aMW (12.3%)  
Cogeneration: 2,191 aMW (8.3%)  
Imports: 1,201 aMW (4.6%)  
Nuclear: 1,030 aMW (3.9%)  
Non-utility generation: 1,309 aMW (5.0%)  
Other miscellaneous resources: 321 aMW (1.2%)

11/ Forecast figures from BPA's "2007 Pacific Northwest Loads & Resources Study." Firm resource projections before adjustment for reserves, maintenance and transmission losses. The hydro capacity is reduced by an operational peaking adjustment to estimate the monthly maximum operational capability that is available to meet the 1-hour peak load for 1937 critical-water conditions. For January 2008, the reduction is -8,659 peak MW.

## Federal Generation (FY 2007)

Hydro generation	8,132 aMW
Total generation	9,130 aMW
60-min. hydro peak generation	15,821 MW
60-min. total peak generation	16,964 MW
All-time 60-min. total peak generation record (June 2002)	18,139 MW

## Fish & Wildlife Investments

(\$ in millions)

	FY 2007
BPA F&W program expense <sup>12/</sup> (does not include \$36 million capital)	\$140
Direct Funded/Reimbursable	.60
Capital investment/Fixed Expense	113
Direct costs	\$313
Operational impacts:	
Replacement power purchases	\$121
Estimated foregone power revenues	282
Total F&W Investments for FY 2007	\$716

BPA has spent more than \$9.4 billion since 1978 to support Northwest fish and wildlife recovery.

12/ Integrated program and action plan/high priority.

## Conservation

(\$ in millions)

	FY 2007	Total <sup>13/</sup>
Total BPA expenses	\$50	\$2,284

### Megawatts saved

Residential programs	13.4 aMW	262.2 aMW
Commercial programs	9.4 aMW	188.1 aMW
Industrial programs	6.2 aMW	117.7 aMW
Agricultural programs	4.2 aMW	20.8 aMW
Multi-sector programs	0.1 aMW	107.5 aMW
Programs subtotal	33.3 aMW	696.3 aMW
Improved building codes	0 aMW	188.5 aMW
Market transformation	24.9 aMW	109.8 aMW
Total aMW saved	58.1 aMW	994.6 aMW

13/ Cumulative total since 1981. Adjustments to savings and dollars have been applied.

DOE/BP-3891 • May 2008

## Points of Contact

### General BPA offices & Web sites

**BPA Headquarters** — 905 N.E. 11th Ave., P.O. Box 3621, Portland, OR 97208 • (503) 230-3000 • Web site [www.bpa.gov](http://www.bpa.gov)

**Public Information Center** — 905 N.E. 11th Ave., P.O. Box 3621, Portland, OR 97208 • (503) 230-7334 • (800) 622-4520

**Public Involvement** — P.O. Box 14428, Portland, OR 97293-4428 • (503) 230-3478 • (800) 622-4519

**Washington, D.C. Office** — Forrestal Bldg., Room 8G-061, 1000 Independence Ave., S.W., Washington, DC 20585 • (202) 586-5640

**Crime Witness Program** — To report crimes to BPA property or personnel • (800) 437-2744

### Transmission Services

**Transmission Services Headquarters** — P.O. Box 491, Vancouver, WA 98666-0491 • (360) 418-2000

**Eugene Regional Office** — 86000 Hwy. 99 S., Eugene, OR 97405 • (541) 988-7403

**Idaho Falls Regional Office** — 1350 Lindsay Blvd., Idaho Falls, ID 83402 • (208) 612-3100

**Olympia Regional Office** — 5240 Trosper Rd. S.W., Olympia, WA 98512-5623 • (360) 570-4305

**Redmond Regional Office** — 3655 S.W. Highland Ave., Redmond, OR 97756 • (541) 548-4015, ext. 3225

**Snohomish Regional Office** — 914 Ave. D, Snohomish, WA 98290 • (360) 563-3600

**Spokane Regional Office** — 2410 E. Hawthorne Rd., Mead, WA 99021 • (509) 358-7376

**Walla Walla Regional Office** — 3404 Swallow Ave., Pasco, WA 99301 • (509) 542-5430

### Power Services

**Bend Customer Service Center** — 1011 S.W. Emkay Dr., Suite 211, Bend, OR 97702 • (541) 318-1680

**Burley Customer Service Center** — 2700 Overland, Burley, ID 83318 • (208) 678-9481

**Eastern Area Customer Service Center** — 707 W. Main Ave., Suite 500, Spokane, WA 99201 • (509) 625-1305

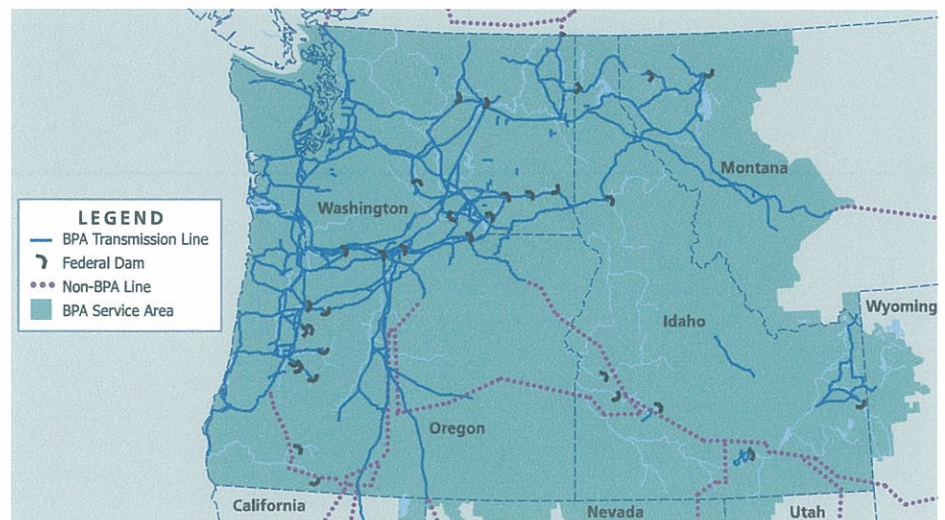
**Montana Customer Service Center** — P.O. Box 140, Dayton, MT 59914 • (406) 849-5034

**Richland Customer Service Center** — Kootenai Bldg., Room 215, North Power Plant Loop, P.O. Box 968, Richland, WA 99352 • (509) 372-5088

**Seattle Customer Service Center** — 909 First Ave., Suite 380, Seattle, WA 98104-3636 • (206) 220-6759

**Western Area CSC** — 905 N.E. 11th Ave., P.O. Box 3621, Portland, OR 97208 • (503) 230-3584

## Transmission System and Federal Dams



# factsheet

Fish and Wildlife

January 2006

## BPA fish and wildlife investments

Since 1978, the Bonneville Power Administration has contributed over \$7 billion to the fish and wildlife effort, of that, over \$4 billion since 1997. The chart on the right shows the amount BPA invested in FY 2005.

BPA's funding for fish and wildlife has five main components:

### Expense or direct program

BPA funds 350 fish and wildlife projects in the Columbia Basin (habitat restoration, research, hatcheries, land acquisitions, predator control, culvert replacement).

### Reimbursable

BPA reimburses the U.S. Army Corps of Engineers and the Bureau of Reclamation for a portion of those operation and maintenance costs related to improvements at the dams for fish passage and the U.S. Fish and Wildlife Service for hatchery operations.

### Capital repayment

BPA reimburses the U.S. Treasury, principal and interest, for constructing capital projects such as hatcheries and fish passage projects at the dams.

### F&W investments for FY 2005

BPA F&W program expense <sup>1</sup>	\$ 135.8
(does not include \$12.2 million in capital expenditures)	
Reimbursable	\$ 57.9
Repayment for capital investments	\$ 89.7
Program expenses subtotal	\$283.4
Hydro operations:	
Power purchases	\$ 110.8
Lost opportunity costs	\$182.1
Hydro operations subtotal	\$292.9
<b>Total F&amp;W Investments</b>	<b>\$576.3</b>

<sup>1</sup> Integrated program and action plan/high priority.

### Power purchases

BPA is obligated to provide its customers with electricity, and if fish operations limit electricity generated at the dams, BPA must purchase power elsewhere to supply customer demand. Cost varies depending on power market prices and water volume.

### Lost opportunity costs

The water that is spilled over the dams for fish represents "lost" electricity and money that could have been generated if the water had passed through the turbines. Cost varies depending on power market prices and water volume.

What BPA spent for fish and wildlife 1997–2005<sup>1</sup> (\$ in millions)

Cost category	1997	1998	1999	2000	2001	2002	2003	2004	2005
Expense or direct	\$ 82.2	\$104.9	\$108.2	\$108.2	\$ 104.0	\$ 144.2	\$147.2	\$145.7	\$135.8
Reimbursable	35.9	36.4	38.9	37.6	42.5	50.9	52.6	57.2	57.9
Capital repayment	76.3	74.1	76.1	76.3	78.2	78.2	80.5	85.4	89.7
Power purchases	0.0	5.4	47.6	64.8	1,389.6	147.8	171.1	191.0	110.8
Lost opportunity costs	107.8	116.5	197.8	272.2 <sup>2</sup>	115.9	12.6	79.2	21.7	182.1
<b>TOTAL</b>	<b>\$302.2</b>	<b>\$337.3</b>	<b>\$468.6</b>	<b>\$559.1</b>	<b>\$1,730.2</b>	<b>\$ 433.7</b>	<b>\$530.6</b>	<b>\$501.0</b>	<b>\$576.3</b>

<sup>1</sup> For purposes of this presentation, this financial information has been made publicly available by BPA in January 2006 and is consistent with the financial system of record used in preparation of the audited financial statements for the respective period reported.

<sup>2</sup> This includes an estimated cost to BPA of \$79.1 million for an energy-shaping agreement with Idaho Power Company (IPC). FY 2000 was the final year of this contract. As IPC released water from its reservoir on the Snake River for fish flow augmentation, it delivered energy associated with the additional release to BPA. BPA subsequently returned the energy (MWh for MWh) plus energy to repay head losses Idaho suffered while its reservoir was lowered. The additional energy for head losses and the differences in market values of energy between the time BPA received it and delivered the energy back to IPC caused the cost.

www.bpa.gov

