



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
1201 NE Lloyd Boulevard, Suite 1100
PORTLAND, OREGON 97232-1274

April 18, 2014

Elliot E. Mainzer
Administrator
Bonneville Power Administration
905 N.E. 11th Avenue
Portland, OR 97232

Brigadier General John S. Kem
Commander and Division Engineer
U.S. Army Corps of Engineers
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Lorri Lee
Pacific Northwest Regional Director
U.S. Bureau of Reclamation
1150 North Curtis Road, Suite 100
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Subject: Typographical errors in the 2014 Supplemental FCRPS Biological Opinion

Dear Mr. Mainzer, Brigadier General Kem and Ms. Lee:

In the course of assembling our administrative record we observed typographical errors in the citation of literature in our 2014 Supplemental FCRPS Biological Opinion, which we would now like to correct as shown in the attached Errata Sheet. We are organizing the Literature Cited portion of our administrative record to follow the changes on the Errata Sheet.

We also found important errors in Table 1.3-1 (p. 39) and Table 3.3 (p. 347) of the Biological Opinion. For Ice Harbor Dam, the transition from spring to summer spill operations (45 kcfs/Gas Cap) occurs on July 13th; these tables incorrectly indicate that the transition occurs on June 13th.



None of these typographical errors change the underlying data on which our determinations were based, nor do they affect our ESA determinations.

Sincerely,



Barry A. Thom
Deputy Regional Administrator

Cc: Sarah McNary, Bonneville Power Administration
Rock Peters, U.S. Army Corps of Engineers
Kathryn Puckett, U.S. Bureau of Reclamation

Attachment

**ENDANGERED SPECIES ACT SECTION 7(A)(2) BIOLOGICAL OPINION
SUPPLEMENTAL CONSULTATION ON REMAND FOR OPERATION OF THE FEDERAL COLUMBIA RIVER POWER SYSTEM**

LITERATURE CITED—ERRATA

Section/Page (First Occurrence)	As Printed in Lit Cited	Correction/Problem
3.4.3.1 Effects on Reproductive Success and Fitness P. 392	Anderson, J. H., P. L. Faulds, W. I. Atlas, and T. P. Quinn. 2012b. Reproductive success of captivity bred and naturally spawned Chinook salmon colonizing newly accessible habitat. <i>Evolutionary Applications</i> 6: 165–179.	Anderson, J. H., P. L. Faulds, W. I. Atlas, and T. P. Quinn. 2013. Reproductive success of captivity bred and naturally spawned Chinook salmon colonizing newly accessible habitat. <i>Evolutionary Applications</i> 6: 165–179. <i>Incorrect year.</i>
3.11.1 Relevance of RPA Implementation to Interior Columbia Basin Salmon and Steelhead P. 449	Beechie et al. 2013	Beechie, T. J., D. A. Sear, J. D. Olden, G. R. Pess, J. M. Buffington, H. Moir, P. Roni, M. M. Pollock. 2010. Process-based principles for restoring river ecosystems. <i>BioScience</i> 60:209–222. <i>Incorrect year.</i>
3.3.4 Snake River Steelhead Kelt Management Plan P. 383	BPA (Bonneville Power Administration) and USACE (U.S. Army Corps of Engineers). 2011. Snake River Kelt Management Plan Update 2011–2018. Supplement to the Draft Kelt Management Plan. Final report. Bonneville Power Administration, Portland, Oregon, 6/1/2012.	BPA (Bonneville Power Administration) and USACE (U.S. Army Corps of Engineers). 2012. Snake River Kelt Management Plan Update 2011–2018. Supplement to the Draft Kelt Management Plan. Final report. Bonneville Power Administration, Portland, Oregon, 6/1/2012. <i>Incorrect year.</i>
3.3.4 Snake River Steelhead Kelt Management Plan P. 383	BPA (Bonneville Power Administration) and USACE (U.S. Army Corps of Engineers) (eds.). 2012c. 2012–2013 Kelt Management Plan. Bonneville Power Administration, Portland, Oregon.	BPA (Bonneville Power Administration) and USACE (U.S. Army Corps of Engineers) (eds.). 2013b. 2012–2013 Kelt Management Plan. Bonneville Power Administration, Portland, Oregon. <i>Incorrect year.</i>
3.2.1.3.1 New Scientific Information and the SBU Scoring Process P. 327	BPA (Bonneville Power Administration) and USACE (U.S. Army Corps of Engineers). 2013a. Role of Science and Process for the Expert Regional Technical Group to Assign Survival Benefit units for Estuary Habitat Restoration Projects.	BPA (Bonneville Power Administration) and USACE (U.S. Army Corps of Engineers). 2013a. Science and the evaluation of habitat restoration projects in the Columbia River Estuary 2012-2017; The Expert Regional Technical Group. Bonneville Power Administration, Portland, Oregon, 2/1/2013. <i>Incorrect title and incomplete citation.</i>
N/A	BPA (Bonneville Power Administration) and USACE (U.S. Army Corps of Engineers). 2013b. 2013 Snake River Kelt Management Plan update.	Not cited in Final 2014 Supplemental FCRPS BiOp

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5.1.1 Updates to Abundance and Productivity P. 481	Center for Whale Research. 2012. Photo identification of Southern Resident Killer Whales.	Center for Whale Research. 2013. Untitled Website article beginning "As of September, 2013, the SRKW population totaled 81." Accessed from www.whaleresearch.com . <i>Incorrect citation.</i>
3.4.3.1 Effects on Reproductive Success and Fitness P. 391	Christie, M. R., M. L. Marine, R. A. French, and M. S. Blouin. 2011. Genetic adaptation to captivity can occur in a single generation. Proceedings of the National Academy of Sciences 109:238-242.	Christie, M. R., M. L. Marine, R. A. French, and M. S. Blouin. 2012a. Genetic adaptation to captivity can occur in a single generation. Proceedings of the National Academy of Sciences 109:238-242. <i>Incorrect year.</i>
N/A	Gooney, J. 2012. Email from Tom Gooney (NMWFS) to Chris Toole (NMFS)-re: abundance level thresholds. February 2012. Colotelo et al. 2012	<i>Not cited in Final 2014 Supplemental FCRPS BiOp</i>
3.3.4.1 Measures to increase the inriver survival of migrating kelts P. 384	Colotelo et al. 2012	Colotelo, A. H., B. W. Jones, R. A. Hammish, G. A. McMichael, K. D. Ham, Z. D. Deng, G. M. Squeocho, R. S. Brown, M. A. Welland, G. R. Poskey, X. Li, and T. Fu. 2013. Passage distribution and Federal Columbia River Power System survival for steelhead kelts tagged above and at Lower Granite Dam. Final report. Prepared by Battelle Pacific for U.S. Army Corps of Engineers, Walla Walla District, Walla Walla, Washington. <i>Incorrect year.</i>
3.3.4.3 Potential for long-term reconditioning as a tool to increase the number of viable females on the spawning grounds P. 385	Colotelo et al. 2012	Colotelo, A. H., B. W. Jones, R. A. Hammish, G. A. McMichael, K. D. Ham, Z. D. Deng, G. M. Squeocho, R. S. Brown, M. A. Welland, G. R. Poskey, X. Li, and T. Fu. 2013. Passage distribution and Federal Columbia River Power System survival for steelhead kelts tagged above and at Lower Granite Dam. Final report. Prepared by Battelle Pacific for U.S. Army Corps of Engineers, Walla Walla District, Walla Walla, Washington. <i>Incorrect year.</i>
2.1.4.1.6 Freshwater Temperatures P. 165	Crozier, L. 2013a. Lower Columbia and Snake River temperature data. Communication to C. Toole (NMFS) RE: temp data. 12/2/2013.	<i>Omitted from Lit Cited, but supports reference to December 2, 2013, email from L. Crozier to C. Toole in Footnote 41 on p. 165 of 2014 Supplemental FCRPS BiOp.</i>
2.1.4.5 Biological Effects of Climate Change on Salmonids P. 177	Crozier, L. 2013. Impacts of climate change on Columbia River salmon. Review of the scientific literature published in 2012. Prepared by L. Crozier (NMFS) for Bonneville Power Administration, Portland, Oregon. Document available in Appendix D.1 in the 2014 Supplemental FCRPS BiOp.	<i>Omitted from Lit Cited, but supports "Crozier 2013" citations in Section 2.1.4.5 of 2014 Supplemental FCRPS BiOp.</i>

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2.1.4.5 Biological Effects of Climate Change on Salmonids P. 177	Crozier, L. 2013. Slides for Chris Jan 7 2013. Powerpoint file emailed to C. Toole, January 7, 2013.	Crozier, L. 2013b. Comments on text drafted for 2014 Supplemental FCRPS BiOp. Communication to C. Toole RE: New Draft Climate Sections of BiOp. 12/24/2013. <i>Incorrect title and source in Lit Cited; supports statement "Preliminary information indicates unusually low survival of adult SR sockeye salmon through the FCRPS in 2013" on p. 177 of 2014 Supplemental FCRPS BiOp.</i>
7.4.2 Effects of FCRPS Operations on the Hydrograph of the Columbia River Footnote 157 on P. 552	DFO (Canadian Department of Fisheries and Oceans). 2012. Spawner estimates and the spawning stock biomass index for the Fraser River of 120 metric tons at 9.9 fish per pound results in an estimated 2,381,391 fish for a DPS spawner estimate of 41,881,391 fish; accessed at http://www.pac.dfo-mpo.gc.ca/science/species-especies/pelagic-pelagique/herring-hareng/herspawn/pages/river1-eng.htm .	DFO (Canadian Department of Fisheries and Oceans). 2013. Fraser River eulachon egg/larval abundance surveys. Department of Fisheries and Oceans Canada. Web article accessed from http://www.pac.dfo-mpo.gc.ca/science/species-especies/pelagic-pelagique/herring-hareng/herspawn/pages/river1-eng.htm . 8/1/2013. <i>Incorrect year, title of article omitted.</i>
N/A	ERTG (Expert Regional Technical Group)-2012b-ERTG uncertainties-ERTG Dec-# 2012-02-Final version-6/4/9/42-Regional Release-5/4/2012.	Not cited in Final 2014 Supplemental FCRPS BiOp; available in Appendix G.
3.3.3.5 System Survival P. 381	N/A	Faulkner, J. R. 2013. NOAA Fisheries unpublished analyses. Northwest Fisheries Science Center, Seattle, Washington. <i>Supports statement "There is evidence that conventional and surface spill pass a greater proportion of fish for a fixed spill percentage at lower flows than at higher flows."</i>
2.1.4.1.5 Freshwater Stream Flow P. 161	Ferguson 1995	Ferguson, J. W., G. M. Matthews, R. L. McComas, R. F. Absolon, D. A. Brege, M. H. Gessel, and L. G. Gilbreath. 2005. Passage of adult and juvenile salmonids through Federal Columbia River Power System dams. U.S. Dept. of Commerce, NOAA Tech. Memo., NMFS-NWFSC-64, 160 p. <i>Incorrect author list and year.</i>
5.2.1.2 Prey Quantity P. 485	Ford, J. K. B., G. M. Ellis, P. F. Olesik and K. C. Balcomb. 2009. Linking killer whale survival and prey abundance: food limitation in the oceans' apex predator? Biology Letters 6:139-142.	Ford, J. K. B., G. M. Ellis, P. F. Olesik and K. C. Balcomb. 2010x. Linking killer whale survival and prey abundance: food limitation in the oceans' apex predator? Biology Letters 6:139-142. <i>Incorrect year.</i>

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7.3.1 Biological Requirements of Eulachon within the Action Area P. 517	Craig, J. A., and R. L. Hacker. 1940. The history and development of the fisheries of the Columbia River. Bull. U.S. Bur. Fish. 49:132-216.	Craig, J. A., and R. L. Hacker. 1940. The history and development of the fisheries of the Columbia River. Bulletin No. 32. Bulletin of the U.S. Bureau of Fisheries 49:132-216. <i>Incorrect author list.</i>
3.9.4 Mainstem Hydropower Mitigation to Address Climate Change P. 441	Hague, M. J., M. R. Ferrari, J. R. Miller, D. A. Patterson, G. Russell, A. P. Farrell, and S. G. Hinch. 2010. Modelling the future hydroclimatology of the lower Fraser River and its impacts on the spawning migration survival of sockeye salmon. Global Change Biology 17:87-98.	Hague, M. J., M. R. Ferrari, J. R. Miller, D. A. Patterson, G. L. Russell, A. P. Farrell, and S. G. Hinch. 2011. Modelling the future hydroclimatology of the lower Fraser River and its impacts on the spawning migration survival of sockeye salmon. Global Change Biology 17:87-98. <i>Incorrect year.</i>
6.1.1 Background P. 491	<i>Lindley et al. 2011, but incorrectly cited as Lindley et al. 2013 on p. 491.</i>	Lindley, S. T., D. L. Erickson, M. L. Moser, G. Williams, O. P. Langness, B. W. McCovey Jr., M. Belchik, D. Vogel, W. Pinnix, J. T. Kelly, J. C. Heublein, and A. P. Klimley. 2011. Electronic tagging of green sturgeon reveals population structure and movement among estuaries. Transactions of the American Fisheries Society 140:108-122. <i>Incorrectly cited in the text (p. 491) as Lindley et al. 2013.</i>
3.5.2 Terns and Cormorants P. 409	Lyons, D. E., K. Collis, D. D. Roby, D. P. Craig, and G. H. Visser. 2011. Quantifying the effect of predators on endangered species using a bioenergetics approach: Caspian terns and juvenile salmonids in the Columbia River estuary.	Lyons, D. E., D. D. Roby, A. F. Evans, N. J. Hostetter, and K. Collis. 2011. Benefits to Columbia River anadromous salmonids from potential reductions in avian predation on the Columbia Plateau. Final report. Prepared for U.S. Army Corps of Engineers, Walla Walla District, Walla Walla, Washington, 9/7/2011. <i>Incorrect report identified.</i>
3.1.2.3.6 RME Findings for Snake River Spring/Summer Chinook ESU P. 298	McCullough, D. A., C. Justice, S. White, R. Sharma, D. Kelsey, D. Graves, N. Tursich, R. Lessard, and H. Franzoni. 2011. Annual Report: Monitoring Recovery Trends in Key Spring Chinook Habitat (Columbia River Inter-Tribal Fish Commission). BPA Project Number: 2009-004-00.	McCullough, D. A., C. Justice, S. White, R. Sharma, D. Kelsey, D. Graves, N. Tursich, R. Lessard, and H. Franzoni. 2012. Annual Report (2011): Monitoring recovery trends in key spring Chinook habitat: Columbia River Inter-Tribal Fish Commission. BPA Project Number: 2009-004-00. Prepared by Columbia River Inter-Tribal Fish Commission, Portland, Oregon. <i>Incorrect year.</i>

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7.3.1 Biological Requirements of Eulachon within the Action Area <i>P. 517</i>	Mistano, D. A. 1977. Species composition and relative abundance of the Columbia River Estuary, 1973. Fish. Bull., U.S. 75(1):218–222.	Mistano, D. A. 1977. Species composition and relative abundance of larval and post-larval fishes in the Columbia River Estuary, 1973. Fishery Bulletin 75:218–222. <i>Incorrect (incomplete) title.</i>
2.1.4.3 Updated Climate Change Information Since 2010 Supplemental BiOp <i>P. 173</i>	Mote et al. 2009	Mote, P., A. Petersen, S. Reeder, H. Shipman, and L. Whitley Binder. 2008. Sea level rise in the coastal waters of Washington state. University of Washington Climate Impacts Group and Washington Dept. of Ecology. University of Washington, Seattle, Washington, 1/1/2008. <i>Incorrectly cited in text (p. 173) as Mote et al. 2009.</i>
2.1.4.3 Updated Climate Change Information Since 2010 Supplemental BiOp <i>P. 172</i>	Mote, P. W., D. Gavin, and A. Huyer. 2009. Climate change in Oregon's land and marine environments. p. 1–45 In: K.D. Dello and P.W. Mote (eds), Oregon Climate Assessment Report: Oregon Climate Change Research Institute, College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, OR.	Mote, P. W., D. Gavin, and A. Huyer. 2010. Climate change in Oregon's land and marine environments. Pages 1–45 in K.D. Dello and P.W. Mote (editors). Oregon climate assessment report. Oregon Climate Change Research Institute, College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, Oregon, 12/1/2010. <i>Incorrect year.</i>
3.9.4 Mainstem Hydropower Mitigation to Address Climate Change <i>P. 441</i>	Muir, W. D., and J. G. Williams. 2011. Improving connectivity between freshwater and marine environments for salmon migrating through the lower Snake and Columbia River hydropower system. Ecological Engineering, 48:19–24.	Muir, W. D., and J. G. Williams. 2012. Improving connectivity between freshwater and marine environments for salmon migrating through the lower Snake and Columbia River hydropower system. Ecological Engineering, 48:19–24. <i>Incorrect year.</i>
<i>Not cited in Final 2014 Supplemental FCRPS BiOp</i>	NMFS (National Marine Fisheries Service). 2006c. Metrics and other information that NOAA Fisheries will consider in conducting the jeopardy analysis: Memorandum to the FCRPS BiOp Remand PMWG (Policy Work Group) (NWF v. NMFS Remand) from D.R. Lohn. NMFS, Portland, Oregon. September 11.	N/A
2.1.1.1.1 Method of Evaluating Continuing Relevance of Base Period Population-Level Jeopardy Indicator Metrics <i>P. 53</i>	NMFS (National Marine Fisheries Service). 2007a. Upper Columbia spring Chinook salmon and steelhead recovery plan. UCSR, Wenatchee, Washington, 8/1/2007.	Upper Columbia Salmon Recovery Board. 2007a. Upper Columbia spring Chinook salmon and steelhead recovery plan. Upper Columbia Salmon Recovery Board, Wenatchee, Washington, 8/1/2007. <i>Incorrect author.</i>

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3.1.2.3.4 Yankee Fork Population P. 295	N/A	NMF'S (National Marine Fisheries Service), 2010a. Endangered Species Act Section 7(a)(2) Consultation, Supplemental Biological Opinion on Remand for Operation of the Federal Columbia River Power System, 11 Bureau of Reclamation Projects in the Columbia Basin and ESA Section 10(a)(1)(A) Permit for Juvenile Fish Transportation Program. National Marine Fisheries Service, Portland, Oregon, 5/20/2010. <i>Omitted from Lit Cited; incorrectly referenced as "NOAA AR Supplement S.31" on p. 295.</i>
7.2. Current Rangewide Status of the Species and Designated Critical Habitat P. 511	N/A	NMF'S (National Marine Fisheries Service), 2010x. Endangered and threatened wildlife and plants: Threatened status for southern Distinct Population Segment of eulachon. Federal Register 52:13012-13024. <i>Omitted from Lit Cited.</i>
2.2.4.1 New Predation Environmental Baseline Effects P. 199	NMF'S (National Marine Fisheries Service), 2011d. NOAA Fisheries California Sea Lion U.S. Stock Assessment 2011.	Carretta, J. V., K. A. Forney, E. Oleson, K. Martien, M. M. Muto, M. S. Lowry, J. Barlow, J. Baker, B. Hanson, D. Lynch, L. Carswell, R. L. Brownell, Jr., J. Robbins, D. K. Mattila, K. Ralls, and M. C. Hill. 2011. California Sea Lion (<i>Zalophus californianus</i>): U.S. Stock, pp. 1-4. In: U.S. Pacific Marine Mammal Stock Assessments: 2011. U.S. Dept. of Commerce, NOAA Tech. Memo., NOAA-TM-NMFS-SWFS-488. <i>Incorrect author list.</i>
2.2.6.1 New Harvest Environmental Baseline Effects P. 208	NMF'S (National Marine Fisheries Service), 2011e. Consultation on a Fisheries Management and Evaluation Plan (FMEP) for SR steelhead in Southeast Washington tributaries submitted by the WDFW.	NMF'S (National Marine Fisheries Service), 2011e. Biological Opinion on the Effects of Washington's State Steelhead and Miscellaneous Fisheries in Washington's Portion of the Snake River and the Grande Ronde and Tucannon Rivers on Snake River Steelhead and Chinook Salmon Species Listed Under the Endangered Species Act. National Marine Fisheries Service, Portland, Oregon, 4/18/2011. <i>Incorrect title.</i>

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2.2.6.1 New Harvest Environmental Baseline Effects P. 208	NMFs (National Marine Fisheries Service). 2011f. FMEP for SR spring/summer Chinook salmon for the Salmon River basin submitted by the (IDFG) Idaho Department of Fish and Game.	NMFs (National Marine Fisheries Service). 2011f. National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Consultation Biological Opinion And Magnuson-Stevens Act Essential Fish Habitat Consultation. Biological Opinion on the effects of the NOAA's National Marine Fisheries Service's (NMFs) approval of two (2) Fishery Management and Evaluation Plans (FMEP) describing recreational fisheries proposed by the Idaho Department of Fish and Game. National Marine Fisheries Service, Portland, Oregon, 9/26/2011. <i>Incorrect title.</i>
2.1.1.3. Results—5-Year Status Review (2011) P. 70	N/A	NMFs (National Marine Fisheries Service). 2011x. Endangered and threatened species; 5-year reviews for 17 Evolutionarily Significant Units and Distinct Population Segments of Pacific salmon and steelhead. Federal Register 76:50448-50449. <i>Omitted from Lit Cited.</i>
7.2 Current Rangelwide Status of the Species and Designated Critical Habitat P. 511 & 515	N/A	NMFs (National Marine Fisheries Service). 2011y. Endangered and threatened species; designation of critical habitat for the southern Distinct Population Segment of eulachon. Federal Register 76:65324-65352. <i>Omitted from Lit Cited.</i>
2.2.4.1 New Predation Environmental Baseline Effects P. 199	N/A	NMFs (National Marine Fisheries Service). 2013x. Endangered and threatened species; delisting of the Eastern Distinct Population Segment of Steller sea lion under the Endangered Species Act; amendment to special protection measures for endangered marine mammals. Federal Register 78:66140-66199. <i>Omitted from Lit Cited.</i>

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<p>2.2.6.1 New Harvest Environmental Baseline Effects P. 209</p>	<p>NMFS (National Marine Fisheries Service). 2013g. Consultation on a Tribal Resource Management Plan submitted by the Shoshone-Bannock Tribes for spring/summer Chinook salmon fisheries in the Salmon River basin.</p>	<p>NMFS (National Marine Fisheries Service). 2013g. Endangered Species Act (ESA) Section 7 Consultation Biological Opinion and Magnuson-Stevens Act Essential Fish Habitat Consultation. Biological Opinion on effects of the Shoshone-Bannock Tribes' Tribal Resource Management Plan on Snake River Chinook salmon and steelhead species listed under the Endangered Species Act. National Marine Fisheries Service, Portland, Oregon, 1/4/2013. <i>Incorrect title.</i></p>
<p>2.2.6.1 New Harvest Environmental Baseline Effects P. 209</p>	<p>NMFS (National Marine Fisheries Service). 2013h. Consultation on a package of spring/summer Chinook salmon fishery proposals for the Grande Ronde and Imnaha rivers.</p>	<p>NMFS (National Marine Fisheries Service). 2013h. Endangered Species Act (ESA) Section 7 Consultation Biological Opinion and Magnuson-Stevens Act Essential Fish Habitat Consultation. Biological Opinion on effects of three Tribal Resource Management Plans and two Fishery Management and Evaluation Plans on Snake River Chinook salmon and steelhead species listed under the Endangered Species Act. National Marine Fisheries Service, Portland, Oregon, 6/25/2013. <i>Incorrect title.</i></p>
<p>3.1.1.8.3 Refinements in Tributary Habitat Research, Monitoring, and Evaluation P. 262</p>	<p>N/A</p>	<p>NPCC (Northwest Power and Conservation Council). 2011. Review of research, monitoring and evaluation and artificial production projects, recommendations of the Council. Final decision document dated June 10, 2011, with July, 2011, addition of completed Part 4. Northwest Power and Conservation Council, Portland, Oregon, 7/1/2011. <i>Omitted from Lit Cited.</i></p>
<p>2.2.4.1 New Predation Environmental Baseline Effects P. 198</p>	<p>Porter et al. 2011, but incorrectly cited as Porter et al. 2010 on pgs. 198, 430, & 431 of the 2014 BIOP.</p>	<p>Porter, R. 2011. Report on the predation index, predator control fisheries and program evaluation for the Columbia River basin experimental northern pikeminnow management program. 2011 Annual Report. Prepared by Pacific States Marine Fisheries Commission in Cooperation with Oregon Department of Fish and Wildlife Washington Department of Fish and Wildlife for Bonneville Power Administration, Portland, Oregon. <i>Incorrect author list and year.</i></p>

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3.1.1.8.1 Refinements to Expert Panels P. 258	Roni et al. 2002, but incorrectly cited as Roni et al. 2003 on p. 258.	Roni, P., T. J. Beechie, R. E. Bily, F. E. Leonetti, M. M. Pollock, and G. R. Pess. 2002. A review of stream restoration techniques and a hierarchical strategy for prioritizing restoration in Pacific Northwest watersheds. North American Journal of Fisheries Management 22:1–20. <i>Incorrect year.</i>
2.1.4.1.5 Freshwater Stream Flow P. 160	Roni, P., G. Pess, and T. Beechie. 2013a. Fish-Habitat Relationships & Effectiveness of Habitat Restoration. Draft April 1, 2013. Watershed Program, Fisheries Ecology Division, Northwest Fisheries Science Center, NOAA Fisheries, Seattle, WA 98112.	Roni, P., G. Pess, and T. Beechie. 2013a. Fish-habitat relationships & effectiveness of habitat restoration. Draft report. Northwest Fisheries Science Center, Seattle, Washington, 8/1/2013. <i>Incorrectly cited as version dated April 2013.</i>
3.5.2 Terns and Cormorants P. 411	Schultz 2010, but incorrectly cited as Schultz 2012 on p. 411.	Schultz, D. 2010. Leech Lake management plan, 2011–2015. Minnesota Department of Natural Resources, St. Paul, 12/1/2010. <i>Incorrect cited as Schultz 2012.</i>
7.4.5.4 PBF—Substrate (Freshwater Site Type) P. 533	USACE (US Army Corps of Engineers), 2011. Endangered Species Act biological assessment for anadromous salmonids, green sturgeon, Pacific eulachon, marine mammals and marine turtles for Columbia River channel operations and maintenance, mouth of the Columbia River to Bonneville Dam, Oregon and Washington. U.S. Army Corps of Engineers, Portland District, Portland, Oregon. April 2011 Amended August 2011.	USACE (U.S. Army Corps of Engineers), 2011. Endangered Species Act biological assessment for anadromous salmonids, green sturgeon, Pacific eulachon, marine mammals and marine turtles for Columbia River channel operations and maintenance, mouth of the Columbia River to Bonneville Dam, Oregon and Washington. U.S. Army Corps of Engineers, Portland District, Oregon. March 2011. <i>Incorrectly cited as version dated August 2011.</i>
3.2.1.3 Methods for Determining Performance Standard Compliance P. 326	USACE et al 2007b, but incorrectly cited as USACE et al. 2007c on pgs. 326 and 341.	USACE (U.S. Army Corps of Engineers), BPA (Bonneville Power Administration), USBR (U.S. Bureau of Reclamation), 2007b. Comprehensive analysis of the Federal Columbia River Power System and mainstem effects of Upper Snake and other tributary actions. U.S. Army Corps of Engineers, Northwestern Division, Portland, Oregon, 8/1/2007. <i>Incorrectly cited as USACE et al. 2007c.</i>

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3.1.2.1 Tributary Habitat Program: RPA Action 34 P. 267	USACE (US Army Corps of Engineers), USBR (Bureau of Reclamation), and BPA (Bonneville Power Administration). 2008. FCRPS BiOp Annual Progress Report, 2006–2007. November.	USACE (U.S. Army Corps of Engineers), USBR (Bureau of Reclamation), and BPA (Bonneville Power Administration). 2009. Protecting salmon and steelhead, Endangered Species Act, Federal Columbia River Power System, 2006-2007, Annual Progress Report. U.S. Army Corps of Engineers, Northwestern Division, Portland, Oregon, 11/1/2009. <i>Incorrect year and title.</i>
3.1.2.1 Tributary Habitat Program: RPA Action 34 P. 267	USACE (US Army Corps of Engineers), USBR (Bureau of Reclamation), and BPA (Bonneville Power Administration). 2009b. 2009 FCRPS BiOp Annual Progress Report. December.	USACE (U.S. Army Corps of Engineers), USBR (Bureau of Reclamation), and BPA (Bonneville Power Administration). 2010a. Protecting salmon and steelhead, Endangered Species Act, Federal Columbia River Power System, 2009 Progress Report Summary. U.S. Army Corps of Engineers, Northwestern Division, Portland, Oregon, 12/1/2010. <i>Incorrect year and title.</i>
3.10.1 Effects of Tributary Habitat RPA Actions on Lower Columbia Basin Salmon and Steelhead P. 443	USACE (US Army Corps of Engineers), BPA (Bonneville Power Administration), and USBR (US Bureau of Reclamation). 2009c. Endangered Species Act, Federal Columbia River Power System, 2008 Annual ESA Progress Report. Project tables for Reasonable and Prudent Alternative (RPA) Action Implementation. USACE, Portland, Oregon.	USACE (U.S. Army Corps of Engineers), BPA (Bonneville Power Administration), and USBR (U.S. Bureau of Reclamation). 2010b. Endangered Species Act, Federal Columbia River Power System, 2009 Annual ESA Progress Report: Section 4. Project tables for Reasonable and Prudent Alternative (RPA) Action Implementation. U.S. Army Corps of Engineers, Northwestern Division, Portland, Oregon, 12/1/2010. <i>Incorrect year and title.</i>
7.4.1.1 River Mile 146.1 to River Mile 180 P. 521	USACE <i>et al.</i> 2010, but incorrectly cited as USACE 2010 on p. 521.	USACE (U.S. Army Corps of Engineers), USBR (U.S. Bureau of Reclamation), and BPA (Bonneville Power Administration). 2010x. Supplemental biological assessment to the 2007 biological assessments "Effects of the Federal Columbia River Power System and mainstem effects of other tributary actions on anadromous salmonid species listed under the Endangered Species Act." Analysis of effects on the Southern Distinct Population Segment of Pacific eulachon. U.S. Army Corps of Engineers, Northwestern Division, Portland, Oregon, 8/1/2010. <i>Incorrectly cited as USACE 2010.</i>

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5.2.1.1 Prey requirements P. 483	Ward, E., M. B. Hansen, L. Weikamp, and M. J. Ford. 2010. Modeling killer whale prey size selection based upon available data. Northwest Fisheries Science Center.	Same as: Ward, E., B. Hanson, L. Weikamp, and M. Ford. 2008. Modeling killer whale prey size selection based upon available data. Unpublished report. Northwest Fisheries Science Center, Seattle, Washington, 10/22/2008.
2.1.1.6.2 Results—U.S. v Oregon Projections for Future Years P. 122	WDFW (Washington Department of Fish and Wildlife) and ODFW (Oregon Department of Fish and Wildlife). 2013b. Joint Staff Report: Stock Status and Fisheries for Fall Chinook Salmon, Coho Salmon, Chum Salmon, Summer Steelhead, and White Sturgeon. 65 p.	WDFW (Washington Department of Fish and Wildlife) and ODFW (Oregon Department of Fish and Wildlife). 2013b. Columbia River fall Chinook, 2013 preliminary returns and outlook for 2014. Washington Department of Fish & Wildlife, Vancouver, and Oregon Department of Fish & Wildlife, Clackamas, 12/11/2013. <i>Incorrect title.</i>
2.2.4.1 New Predation Environmental Baseline Effects P. 197	Weaver, M. H., H. K. Takata, M. J. Reesman, L. D. Layng, G. E. Reed, and T. A. Jones. 2008. Development of a system-wide predator control program: fisheries evaluation. Oregon Department of Fish and Wildlife, Contract Number DE-B1719-94BI24514. 2007 Annual Report to the Bonneville Power Administration, Portland, Oregon.	Weaver, M. H., H. K. Takata, M. J. Reesman, and E. S. Van Dyke. 2009. System-wide predator control program: indexing and fisheries evaluation. Report C in Porter, R. (editor). Report on the predation index, predator control fisheries, and program evaluation for the Columbia River basin experimental Northern Pikeminnow Management Program. 2008 Annual report. Prepared by Pacific States Marine Fish Commission for Bonneville Power Administration, Portland, Oregon, 3/1/2009. <i>Incorrect author list, year, and title.</i>
2.2.4.1 New Predation Environmental Baseline Effects P. 197	Weaver, M. H., H. K. Takata, M. J. Reesman, and E. S. Van Dyke. 2009. Development of a system-wide predator control program: fisheries evaluation. Oregon Department of Fish and Wildlife, Contract Number DE-B1719-94BI24514. 2008 Annual Report to the Bonneville Power Administration, Portland, Oregon.	Weaver, M. H., H. K. Takata, and E. S. Van Dyke. 2010. System-wide predator control program: indexing and fisheries evaluation. Report C in Porter, R. (editor). Report on the predation index, predator control fisheries, and program evaluation for the Columbia River basin experimental Northern Pikeminnow Management Program. 2009 Annual report. Prepared by Pacific States Marine Fish Commission for Bonneville Power Administration, Portland, Oregon, 3/1/2010. <i>Incorrect author list, year, and title.</i>

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2.2.4.1 New Predation Environmental Baseline Effects P. 197	Weaver, M. H., H. K. Takata, and E. S. Van Dyke. 2010. Development of a system-wide predator control program: fisheries evaluation. Oregon Department of Fish and Wildlife, Contract Number DE-B1719-94B124514. 2008 Annual Report to the Bonneville Power Administration, Portland, Oregon.	Takata, H. K., A. M. McAlexander, M. H. Weaver, J. D. Cameron, and P. A. McHugh. 2011. System-wide predator control program: indexing and fisheries evaluation. Report C in Porter, R. (editor). Report on the predation index, predator control fisheries, and program evaluation for the Columbia River basin experimental Northern Pikeminnow Management Program. 2010 Annual report. Prepared by Pacific States Marine Fish Commission for Bonneville Power Administration, Portland, Oregon, 3/1/2011. <i>Incorrect author list, year, and title.</i>
2.2.4.1 New Predation Environmental Baseline Effects P. 197	Weaver, M. H., E. Tinus, M. Gardner, C. Mallette, and P. A. McHugh. 2012. Development of a system-wide predator control program: fisheries evaluation. Oregon Department of Fish and Wildlife, Contract Number 52617. 2011 Annual Report to the Bonneville Power Administration, Portland, Oregon.	Gardner, M., E. Tinus, M. H. Weaver, C. Mallette, and E. S. Van Dyke. 2013. System-wide predator control program: indexing and fisheries evaluation. Report C in Porter, R. (editor). Report on the predation index, predator control fisheries, and program evaluation for the Columbia River basin experimental Northern Pikeminnow Management Program. 2012 Annual report. Prepared by Pacific States Marine Fish Commission for Bonneville Power Administration, Portland, Oregon, 3/1/2013. <i>Incorrect citation – corrected version (Gardner et al. 2013) is already cited.</i>
3.8.1 Effects of 2014–2018 RME on ESUDPS Abundance P. 428	Zabel, R. W., 2012. Estimation of Percentages for Listed Pacific Salmon and Steelhead Smolts Arriving at Various Locations in the Columbia River Basin in 2012. National Marine Fisheries Service Memorandum. 1/23/12.	Zabel, R. W. 2013. Estimation of percentages for listed Pacific salmon and steelhead smolts arriving at various locations in the Columbia River basin in 2012. Memorandum from R. W. Zabel (NWFSC) to J. H. Lecky (NMFS), 1/23/13. <i>Incorrect year.</i>
2.2.1.2 Review of the 2008 BiOp's Base-to-Current Estimates for Hydrosystem P. 186	Zabel, R. W., J. Faulkner, S. G. Smith, J. J. Anders. 2007. Comprehensive Passage (COMPASS) Model: a model of downstream migration and survival of juvenile salmonids through a hydropower system. Hydrobiologia 609:289–300.	Zabel, R. W., J. Faulkner, S. G. Smith, J. J. Anderson, C. Van Holmes, N. Beer, S. Iltis, J. Krinke, G. Fredricks, B. Belerud, J. Sweet, A. Giorgi. 2008. Comprehensive Passage (COMPASS) Model: a model of downstream migration and survival of juvenile salmonids through a hydropower system. Hydrobiologia 609:289–300. <i>Incorrect author list and year.</i>

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ERRATA FOR APPENDIX F (2013 UPDATE TO HATCHERY EFFECTS IN THE ENVIRONMENTAL BASELINE)

Section/Page	As Printed in App. F Lit Cited	Correction/Problem
Appendix F, Table E-1 Page F-4 through F-10	New data shows that the reproductive effectiveness of hatchery-origin spawners in Catherine Creek is 0.83 relative to natural-origin spawners in the Catherine Creek (Williamson et al. 2010).	New data shows that the reproductive effectiveness of hatchery-origin spawners in Catherine Creek is 0.83 relative to natural-origin spawners in the Catherine Creek (Bertson et al. 2012). <i>Incorrectly cited paper by Williamson et al. 2010.</i>
Appendix F, Table E-1 Page F-4 through F-10	The expected reproductive effectiveness of the hatchery-origin spawners has increased to 0.53 based a new relative reproductive study on the Wenatchee that shows that hatchery-origin steelhead in the Wenatchee River basin are 0.53 as reproductively effective as natural-origin spawners in the Wenatchee River Basin (Bertson et al. 2012).	The expected reproductive effectiveness of the hatchery-origin spawners has increased to 0.53 based a new relative reproductive study on the Wenatchee that shows that hatchery-origin steelhead in the Wenatchee River basin are 0.53 as reproductively effective as natural-origin spawners in the Wenatchee River Basin (Personal Communication between C. Busack, NOAA WCR, and M. Ford, NOAA NWFSC, on March 20, 2013). <i>Incorrectly cited paper by Bertson et al. 2012.</i>