BENEFIT-COST ANALYSIS OF THE YAKIMA BASIN INTEGRATED PLAN PROJECTS

REPORT TO THE WASHINGTON STATE LEGISLATURE

December 15 2014

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[VALUE OF ANCIENT FOREST TO BE FLOODED AT BUMPING LAKE= $1.85 BILLION]

Pages 108-109:

There is also the potential for additional impacts with regard to the local environmental amenities given its location. A previous study of a plan for Bumping Lake enlargement provides detail on the potential impacts (*United States Bureau of Reclamation 1979*). There are several stated preference studies and "travel cost" studies that have estimated willingness-to-pay to protect old-growth forest, most commonly in the context of spotted owl habitat. The most relevant study surveyed households in California and New England on willingness-to-pay to protect old-growth spotted owl habitat from fire (*J. Loomis and Gonzalez -Caban 1998*). The authors estimated that median annual willingness-to-pay to protect 1000 acres (roughly the same amount flooded by Bumping Reservoir) is $20.12 (*p. 321*); converted to 2012 dollars, multiplied by the same number of WA households as used in the Four Accounts in 2012 and using the same 4% real discount rate and 100-yr timeframe produces **an estimate of damages from lost old-growth forest of $1.85 billion. If this value were included as a cost of Bumping Lake expansion, which it arguably could be, it would provide B/C ratios ranging from 0.05 to 0.02.**

https://wrc.wsu.edu/documents/2014/12/ybip_bca_swwrc_dec2014.pdf