

RECLAMATION

Managing Water in the West

Technical Memorandum Number EC 2014-01

Economics and Related Literature— Glen and Grand Canyon

Colorado River Storage Project, Arizona



U. S. Department of the Interior
Bureau of Reclamation

January 2014

Mission Statements

The U. S. Department of the Interior protects America's natural resources and heritage, honors our cultures and tribal communities, and supplies the energy to power our future.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Technical Memorandum Number EC 2014-01

Economics and Related Literature— Glen and Grand Canyon

Colorado River Storage Project, Arizona

David A. Harpman

Technical Service Center
Economics, Planning and Technical Communications



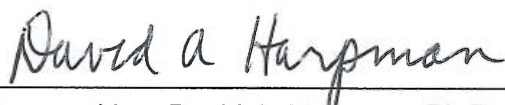
U. S. Department of the Interior
Bureau of Reclamation

January 2014

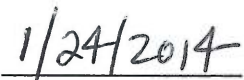
Technical Memorandum Number EC 2014-01

Economics and Related Literature– Glen and Grand Canyon Colorado River Storage Project, Arizona

This report was prepared by the U.S. Department of the Interior, Bureau of Reclamation, Technical Service Center, Denver, Colorado.



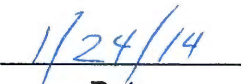
Prepared by: David A. Harpman, Ph.D.
Natural Resource Economist
Economics, Planning and Technical Communications,
85-827000



Date



Peer review: Rebecca Redhorse.
Natural Resource Economist
Economics, Planning and Technical Communications,
85-827000



Date

Contents

	Page
Contents	iv
Purpose.....	1
Project Funding.....	1
Forward	1
References.....	2

Purpose

This bibliography has been compiled over a number of years and stems from my still ongoing role in economic research and other analyses related to Glen Canyon Dam, the Grand Canyon, Lake Powell and Lake Mead. I sincerely hope it will provide a useful point of departure for future research.

Project Funding

This effort was funded, a few hours at a time, over the years by the U. S. Bureau of Reclamation, Upper Colorado River Area Office, Salt Lake City, Utah. Additional support from the Grand Canyon Monitoring and Research Center, the University of Denver and Colorado State University is gratefully acknowledged.

Forward

This bibliography has been updated annually for many years. Even so, I am sure it is not comprehensive. Should you identify any pertinent socioeconomic documents which are not cited in this bibliography, kindly bring those to my attention and I will incorporate them in a future version of this document.

David A. Harpman
Natural Resource Economist
U. S. Bureau of Reclamation
P. O. Box 25007 (85-827000)
Denver, CO 80225
(303) 445-2733 [voice]
dharpman@usbr.gov [email]

References

Adler, Robert W. *Restoring Colorado River Ecosystems— A Troubled Sense of Immensity*. Island Press, Inc: Washington, D. C. 2007. 310 pages.

Adler, Robert W. "Restoring the Environment and Restoring Democracy: Lessons from the Colorado River." *Virginia Environmental Law Journal* Vol 25 (2007):53-104.

Albrecht, Don E. *A Study of the Perceptions, Expectations, and Satisfaction Levels of Visitors to Grand Canyon National Park*. Final Report Prepared for the Western Regional Office, National Park Service. College Station, Texas: Department of Rural Sociology and Recreation, Texas A&M University, 1992.

Balson, William E. , Richard T. Carson and Robert C. Mitchell. "The Grand Canyon Visibility Benefits Study." Paper presented at the 84th Annual Meeting and Exhibition of the Air and Waste Management Association. Vancouver, British Columbia. June 16-21, 1991 18 pages. Available from: <http://www.econ.ucsd.edu/~rcarson/>. Last accessed on 22 January 2014.

Behan, Jeff. "Recreation in the Colorado River Ecosystem and the Adaptive Management Program." Report to the Grand Canyon Monitoring and Research Center. January 2000. 88 pages.

Bishop, Richard C. and Michael P. Welsh. "Strategy for Estimating Total Value: A Case Study Involving Grand Canyon Resources. " In *W-133, Benefits and Costs in Natural Resource Planning: Fifth Interim Report*, compiled by R. Bruce Rettig. Corvallis, Oregon: Department of Agricultural and Resource Economics, Oregon State University, July 1992.

Bishop, Richard C. , Michael P. Welsh, and Tom A. Heberlein. *Assessing the Potential for A Total Valuation Study of Colorado River Resources*. Final Report. Madison, Wisconsin: HBRS, Inc. , July 10, 1991.

Bishop, Richard C. , Kevin J. Boyle, Michael P. Welsh, Richard M. Baumgartner, and Patricia C. Rathbun. *Glen Canyon Dam Releases and Downstream Recreation: An Analysis of User Preferences and Economic Values*. Glen Canyon Environmental Studies Report No. 27/87. Madison, Wisconsin: Hagler Bailly Consulting, Inc. , 1987, pp. 188. Springfield, Virginia: National Technical Information Service, NTIS No. PB88-183546/AS

Bishop, Richard C. , Curtis A. Brown, Michael P. Welsh, and Kevin J. Boyle. "Grand Canyon Recreation and Glen Canyon Dam Operations: An Economic Evaluation. " In *W-133, Benefits and Costs in Natural Resource Planning: Interim Report 2*, edited by Kevin J. Boyle and Trish Heekin. Orono, Maine: Department of Agricultural and Resource Economics, University of Maine, July 1989.

Borkan, Ronald E. And A. Heaton Underhill. "Simulating the Effects of Glen Canyon Dam Releases on Grand Canyon River Trips." *Environmental Management* Vol 13 No. 3 (May 1989):347-354.

Boster, Mark A. , Russell L. Gum and David E. Monarchi. "A Socio-Economic Analysis of Colorado River Trips with Policy Implications." *Journal of Travel Research* Vol 12 No. 1 (July 1973):7-10.

Boyle, Kevin J. , Richard C. Bishop, James Caudill, J. John Charbonneau, Doug M. Larson, Marla A. Markowski, Robert E. Unsworth and Robert W. Paterson. *A Database of Sport Fishing Values*. Prepared for Economics Division, U. S. Fish and Wildlife Service by Industrial Economics Inc. , Cambridge, Mass. October 1998. available from: <http://www.indecon.com/fish/default.asp>. 9 December 2009

Boyle, Kevin J. , Michel P. Welsh, and Richard C. Bishop. "The Role of Question Order and Respondent Experience in Contingent-Valuation Studies. " *Journal of Environmental Economics and Management* Vol. 25 No. 1 (July 1993):80-99.

Boyle, Kevin J. , Michael P. Welsh, Richard C. Bishop, and Robert M. Baumgartner. "Analyzing the Effects of Glen Canyon Dam Releases on Colorado River Recreation Using Scenarios of Unexperienced Flow Conditions. " In *W-133, Benefits and Costs in Natural Resource Planning: Interim Report*, compiled by John B. Loomis. Davis, California: Department of Agricultural and Resource Economics, University of California–Davis, August 1, 1988.

Bradley, Richard C. "Requiem for a Canyon." *Pacific Discovery* Vol XVII No. 3 (May-June 1964):1-9. Sacramento, CA: California Academy of Sciences.

Bradley, Richard C. "Ruin for the Grand Canyon?" *Readers Digest* (April 1966):1-6. (Reprinted from *Audubon* 1966).

Bradley, Richard C. "Ruin for the Grand Canyon?" *Audubon* (January-February 1966):24-30.

Brower, David R. "Let the River Run Through it." *Sierra* 82 No. 2 (March/April 1997):42-43.

Brookshire, David S. , M. McKee, and Gary Watts. *Draft Economic Analysis of Proposed Critical Habitat Designation in the Colorado River Basin for the Razorback Sucker, Humpback Chub, Colorado Squawfish, and Bonytail*. Salt Lake City, Utah: U. S. Fish and Wildlife Service, Utah Field Office, November 4, 1993.

Brown, Curtis A. and Martha G. Hahn. *The Effect of Flows in the Colorado River on Reported and Observed Boating Accidents in the Grand Canyon*. Glen Canyon Environmental Studies Final Report, 1988. Springfield, Virginia: National Technical Information Service, NTIS No. PB88-183553/AS.

Brown, Thomas C. , Benjamin L. Harding and Elizabeth A. Payton. "Marginal Economic Value of Streamflow: A Case Study for the Colorado River Basin." *Water Resources Research* Vol 26 No. 12. (December 1990):2845-2859.

Bureau of Reclamation. *Reallocation of the Costs of Glen Canyon Dam in Accordance with the Grand Canyon Protection Act*. U. S. Department of the Interior. Bureau of Reclamation, Salt Lake City, Utah. March 2011.

Bureau of Reclamation. *Environmental Assessment Non-native Fish Control Downstream from Glen Canyon Dam*. U. S. Department of the Interior, Bureau of Reclamation, Salt Lake City, Utah. December 2011.

Bureau of Reclamation. *Environmental Assessment Development and Implementation of a Protocol for High-Flow Experimental Releases from Glen Canyon Dam, Arizona, 2011 through 2020*. U. S. Department of the Interior, Bureau of Reclamation, Salt Lake City, Utah. December 2011.

Bureau of Reclamation. *Final Environmental Impact Statement--Colorado River Interim Guidelines for Lower Basin Shortage and Coordinated Operations for Lake Powell and Lake Mead*. U. S. Department of the Interior, Bureau of Reclamation, Upper and Lower Colorado Regions. October 2007.

Bureau of Reclamation. *Proposed Experimental Actions for Water Years 2005-2006 Colorado River, Arizona, in Glen Canyon National Recreation Area and Grand Canyon National Park— Draft Supplemental Environmental Assessment*. U. S. Department of the Interior, Bureau of Reclamation. Salt Lake City, Utah. November 2004.

Bureau of Reclamation. *Colorado River Interim Surplus Criteria Final Environmental Impact Statement*. Henderson, Nevada: U. S. Department of the Interior, Bureau of Reclamation. December 2000.

Bureau of Reclamation. *Glen Canyon Dam Modifications to Control Downstream Temperatures—Plan and Draft Environmental Assessment*. U. S. Department of the Interior, Bureau of Reclamation. Salt Lake City, Utah. 1999.

Bureau of Reclamation. *Glen Canyon Dam Beach/Habitat-Building Test Flow: Final Environmental Assessment and Finding of No Significant Impact*. Salt Lake City, Utah: U. S. Department of the Interior, Bureau of Reclamation, Upper Colorado Region, February 1996.

Bureau of Reclamation. *Glen Canyon Environmental Studies Nonuse Value Study—Data Sets*. Denver, Colorado: U. S. Department of the Interior, Bureau of Reclamation, April 26, 1996. National Technical Information Service: Springfield, Virginia, NTIS No. PB96-501887.

Bureau of Reclamation. *Operation of Glen Canyon Dam Final Environmental Impact Statement*. U. S. Department of the Interior, Bureau of Reclamation. Salt Lake City, Utah: Bureau of Reclamation, 1995.

Bureau of Reclamation. *Operation of Glen Canyon Dam: Draft Environmental Impact Statement*. Denver, Colorado: U. S. Department of the Interior, Bureau of Reclamation, 1994.

Bureau of Reclamation. *Glen Canyon Dam Interim Operating Criteria: Finding of No Significant Impact and Environmental Assessment*. Salt Lake City, Utah: U. S. Department of the Interior, Bureau of Reclamation, Upper Colorado Region, October 1991. 84 pages.

Bureau of Reclamation, Glen Canyon Environmental Studies. *Executive Summaries of Technical Reports*. October 1988. U. S. Department of the Interior, Bureau of Reclamation. Springfield, Virginia: National Technical Information Service, NTIS No. PB88-183348/AS.

Bureau of Reclamation. *Colorado River Simulation System-User's Manual*. Denver, Colorado: U. S. Department of the Interior, Bureau of Reclamation, April 1988. 182 pp.

Bureau of Reclamation. *Colorado River Simulation System-System Overview*. Denver, Colorado: U. S. Department of the Interior, Bureau of Reclamation, May 1987. 140 pp.

Bureau of Reclamation. *Finding of No Significant Impact for Glen Canyon Powerplant Upgrading*. Salt Lake City, Utah: U. S. Department of the Interior, Bureau of Reclamation, Upper Colorado Region, December 1982.

Bureau of Reclamation. *Glen Canyon Dam and Powerplant-Technical Record of Design and Construction*. Denver, Colorado: U. S. Department of the Interior, Bureau of Reclamation, December 1970.

Buttorff, Leslie, Michael Roluti, and Edward Barbour. "Hydropeaking versus Recreation and Environment," In *Waterpower '93. Vol. 1, Proceedings of the International Conference on Hydropower*, pp. 11-23. Nashville, Tennessee. 10-13 August 1993. New York: American Society of Civil Engineers, 1993.

Camacho, Alejandro Esteban. "Beyond Conjecture: Learning about Ecosystem Management from the Glen Canyon Dam Experiment." Notre Dame Law School. Legal Studies Research Paper No. 08-29. 23 pages. Available from: <http://ssrn.com/abstract=1270743>. Last accessed on 15 January 2014.

Carlin, Alan. *The Grand Canyon Controversy, or, How Reclamation Justifies the Unjustifiable*. Rand Research Paper P-3541. Rand Corporation: Santa Monica California. 1967. 8 pages.

Carlin, Alan. "The Grand Canyon Controversy: Lessons for Federal Cost-Benefit Practices." *Land Economics* Vol 44 No. 2 (May 1998):219-227.

Carothers, Steven W. and Brian T. Brown. *The Colorado River Through Grand Canyon*. Tucson, Arizona: University of Arizona Press. 1991.

Carothers, Steven W. and Dorothy A. House. "Decommissioning Glen Canyon Dam: The Key to Colorado River Ecosystem Restoration and Recovery of Endangered Species?" *Arizona Law Review* 42 No. 2. (Summer 2000):215-238.

Carson, Richard T. , Nicholas E. Flores, K. M. Martin, and J. L. Wright. "Contingent Valuation and Revealed Preference Methodologies: Comparing the Estimates for Quasi-Public Goods." *Land Economics* Vol. 71 No. 1 (February 1996):80-99.

Champ, Patricia A. , Richard C. Bishop, Thomas C. Brown, and Daniel W. McCollum. "Using Donation Mechanisms to Value Nonuse Benefits from Public Goods." *Journal of Environmental Economics and Management* Vol. 33 No. 2 (June 1997):151-162.

Champ, Patricia A. , Kevin J. Boyle and Thomas C. Brown (Eds). *A Primer on Nonmarket Valuation*. Volume 3 in, *The Economics of Non-Market Goods and Resources*. Ian J. Bateman, Series Editor. Kluwer Academic Publishers: Norwell, Mass. 2003.

Chestnut, Lauraine G. , Robert S. Raucher and Robert D. Rowe. "A Review of The Economic Studies Conducted in Phase I of the Glen Canyon Environmental Studies." Unpublished report. Glen Canyon Environmental Studies Contract 0-SP-40-9090. Boulder, Colorado: RCG/Hagler, Bailly, Inc. , March 26, 1991. 35 pages.

- Clarkson, Robert W. and Michael R. Childs. "Temperature Effects of Hypolimnial-Release Dams on Early Life Stages of Colorado River Basin Big-River Fishes." *Copeia* Vol 2000 No. 2 (May 2000): 402-412.
- Collier, Michael P. , Robert H. Webb, and Edmund D. Andrews. "Experimental Flooding in Grand Canyon." *Scientific American*. (January 1997):82-89.
- Collier, Michael P. , Robert H. Webb, and John C. Schmidt. *Dams and Rivers: A Primer on the Downstream Effects of Dams*. U. S. Geological Survey Circular 1126. Tucson, Arizona: U. S. Geological Survey, June 1996.
- Combrink, Thomas E. and Galen Collins. *The Impact of Fluctuating Lake Levels on Lake Powell- A Recreational Use and Facility Adjustment Study*. Final Report to Glen Canyon National Recreation Area, National Park Service. Flagstaff, Arizona: Arizona Hospitality Research and Resource Center, Northern Arizona University, December 23, 1991. 72 pages.
- Cook, Terri. "Releasing a Flood of Controversy on the Colorado River." *Earth* (March 2013):40-46. available from: www.earthmagazine.org . Last accessed 15 January 2014.
- Cosco, Jon M. *Echo Park: Struggle for Preservation*. Boulder, Colorado: Johnson Books. 1995. 140 pages.
- Douglas, Aaron J. and David A. Harpman. "Lake Powell Management Alternatives and Values: CVM Estimates of Recreation." *Water International* 29 No. 3 (September 2004):375-383.
- Douglas, Aaron J. and David A. Harpman. "Estimating Recreation Employment Effects with IMPLAN for the Glen Canyon Dam Region. " *Journal of Environmental Management* Vol. 44 No. 3 (July 1995):233-247.
- Douglas, Aaron J. and David A. Harpman. "Recreation and Jobs in the Glen Canyon Dam Region. " In *Waterpower '95- Hydropower: Balancing Energy, Environment & Economics*. Proceedings of the International Conference on Hydropower. San Francisco, California. July 25-28, 1995. New York: American Society of Civil Engineers, 1995.
- Douglas, Aaron J. and Richard L. Johnson. "Empirical Evidence for Large Nonmarket Values for Water Resources: TCM Benefit Estimates for Lake Powell." *International Journal for Water Resources*. 2 No. 4 (2004):229-246.
- Duffield, John W. "The Political Economy of Hydropower and Fish in the Western U. S." Chapter 8 in, *Modern Cost-benefit Analysis of Hydropower Conflicts*. Edited by Per-Olov Johansson and Bengt Kriström. Edward Elgar Publishing Inc. : Northampton, Mass. 2011.

Duffield, John W. , Chris J. Neher and David A. Patterson. "Economic Values for National Park System Resources Within the Colorado River Watershed." in, *Proceedings of the Colorado River Basin Science and Resource Management Symposium*. November 18-20, 2008. Scottsdale, Arizona. U. S Department of the Interior and U. S. Geological Survey. Scientific Investigations Report 2010-5135. 2010. Pages 123-131.

Edwards, Brian K. *The Economics of Hydroelectric Power*. New Horizons in Environmental Economics. Northampton, Massachusetts: Edward Elgar Publishing Inc. 2003.

Edwards, Brian K. , Silvio J. Flaim, and Richard E. Howitt. "Optimal Provision of Hydroelectric Power Under Environmental and Regulatory Constraints." *Land Economics*. Vol 75 No. 2 (May 1999):267-283.

Edwards, Brian K. , Richard E. Howitt, and Silvio J. Flaim. "Fuel, Crop, and Water Substitution in Irrigated Agriculture." *Resource and Energy Economics* 18 No. 3 (October 1996):311-331.

Elfring, Chris. "Conflict in the Grand Canyon—How Should Glen Canyon Be Managed?" *Bioscience* Vol 40 No. 10 (November 1990): 709-711.

Energy Information Administration. *The Changing Structure of the Electric Power Industry: An Update*. DOE/EIA-0562(96). Washington, D. C. : U. S. Department of Energy, Energy Information Administration, 1996.

Energy Information Administration *Financial Statistics of Major U. S. Investory-Owned Electric Utilities 1995*. DOE/EIA-0437(95)/1. Washington, D. C. : U. S. Department of Energy, Energy Information Administration, 1996.

Environmental Defense Fund. *Elfin User's Manual*, pp. VII-1 - VII-4. Oakland, California: Environmental Defense Fund, 1996.

Environmental Defense Fund. *Estimates of Power System Impacts of Proposed Interim Flow Releases at Glen Canyon Dam*. Report prepared for the U. S. Bureau of Reclamation and U. S. Department of the Interior. Oakland, California: Environmental Defense Fund, July 17, 1991.

Environmental Defense Fund. *Estimates of Economic Impacts of Implementing Interim Flow Release Patterns at Glen Canyon Dam*. Report prepared for U. S. House of Representatives, Committee on Interior and Insular Affairs, Subcommittee on Water, Power and Offshore Energy Resources. In U. S. Congress, House of Representatives, Grand Canyon Protection Act of 1990, Report 101-641 to accompany H. R. 4498. 101st Congress, 2nd Session, July 30, 1990. Oakland, California: Environmental Defense Fund, July 12, 1990.

Evans, Mary F. , Nicholas E. Flores and Kevin J. Boyle. "Multiple-Bounded Uncertainty Choice Data as Probabilistic Intentions." *Land Economics* 79 No. 4. (November 2003):549-560.

Farmer, Jared. *Glen Canyon Dammed—Inventing Lake Powell and the Canyon Country*. Tucson, Arizona: University of Arizona Press. 1999. 269 pages.

Federal Energy Regulatory Commission. "Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities, Recovery of Stranded Costs by Public Utilities and Transmitting Utilities; Proposed Rulemaking and Supplemental Notice of Proposed Rulemaking." *Federal Register*, Vol. 60, No. 67:17663-18276, April 7, 1995.

Feller, Joseph M. "Collaborative Management of Glen Canyon Dam: The Elevation of Social Engineering Over Law." *Nevada Law Journal* 13 No. 53 (July 2008):896-941.

Fish and Wildlife Service. "Endangered and Threatened Wildlife and Plants; Proposed Rule. " U. S. Department of the Interior, Fish and Wildlife Service. *Federal Register* 58 No. 18 (January 29, 1993):6578-6597.

Flug, Marshall, Heather L H. Seitz and John F. Scott. "Multicriteria Decision Analysis Applied to Glen Canyon Dam." *Journal of Water Resources Planning and Management* Vol 126 No. 5. (September/October 2000):270-276.

Freeman, Mary C. , Zachary H. Bowen, Ken D. Bovee and Elise R. Irwin. "Flow and Habitat Effects on Juvenile Fish Abundance in Natural and Altered Flow Regimes." *Ecological Applications* Vol 11 No. 1. (February 2001):179-190.

General Accounting Office. *An Assessment of the Environmental Impact Statement on the Operations of the Glen Canyon Dam*. Report No. GAO/RCED-97-12. Washington, D. C. : U. S. General Accounting Office, October 1996.

General Accounting Office. *Information of the Allocation and Repayment of Costs of Constructing Water Projects*. Report No. GAO/RCED-96-109. Washington, D. C. : U. S. General Accounting Office, 1996.

General Accounting Office. *Power Marketing Administrations: Cost Recovery, Financing, and Comparison to Nonfederal Utilities*. Report No. GAO/AIMD-96-145. Washington, D. C. : U. S. General Accounting Office, 1996.

Geological Survey. *Effects of Three High-Flow Experiments on the Colorado River Ecosystem Downstream from Glen Canyon Dam, Arizona* Circular 1366 Edited by Theodore S. Melis. U. S. Department of the Interior,. Geological Survey, Flagstaff, Arizona. 2011. 147 pages.

Gimblett, Randy and Catherine A. Roberts. "An Intelligent Agent Based Model for Simulating and Evaluating River Trip Scenarios Along the Colorado River in Grand Canyon National Park." Chapter 11 in, *Intelligent Agents for Modeling Natural Resources*. H. R. Gimblett, editor. Santa Fe, NM: Santa Fe Institute and Oxford University Press. 2000.

Glen Canyon Institute. "Citizen's Environmental Assessment (CEA) on the Decommissioning of Glen Canyon Dam." Interim Report. Flagstaff, Arizona: Glen Canyon Institute. Fall 2000. 17 pages.

Goodell, Nelson. "Making the "Intangibles" Tangible: The Need to Use the Contingent Valuation Methodology in Environmental Impact Statements." *Tulane Environmental Law Journal* Vol 22 (2008-2009):441-459.

Graff, William L. "Geomorphology and American Dams: The Scientific, Social and Economic Context." *Geomorphology* Vol 71 No. 1-2 (October 2005):3-26.

Grand, Tamara C. , Steven F. Railsback, John W. Hayse and Kirk E. LaGory. "A Physical Habitat Model for Predicting the Effects of Flow Fluctuations in Nursery Habitats of the Endangered Colorado Pikeminnow (*Ptychocheilus lucius*)." *River Research and Applications* Vol 27 No. 10 (November 2006):1123-1142.

Hall, Troy, and Bo Shelby. "1998 Colorado River Boater Study Grand Canyon National Park." Final report to the National Park Service, Grand Canyon National Park. June 15, 2000. Joint product of the Department of Forestry, Virginia Tech and Department of Forest Resources, Oregon State University.

Hamilton, Joel R. , W. Michael Hanemann, John B. Loomis and Lon Peters. "Final Report of the GCMRC Socioeconomic Research Review Panel." Report of a Workshop held December 2 & 3, 2009. Phoenix, Arizona. Flagstaff, Arizona: Grand Canyon Monitoring and Research Center. February 26, 2010.

Hamill, John F. And Theodore S. Melis. "The Glen Canyon Dam Adaptive Management Program: Progress and Immediate Challenges." Chapter 26 in, *River Conservation and Management* edited by Phillip J. Boon and Paul. J. Raven. John Wiley and Sons, Ltd: Chichester, England. 2012.

Hammer, Miriam Z. "Applying the TCM with Secondary Data to White Water Boating in Grand Canyon National Park." Unpublished Master's thesis. Department of Agricultural and Natural Resource Economics. Colorado State University. Ft. Collins, Colorado. 2001.

Harpman, David A. and Aaron J. Douglas. "Status and Trends of Hydropower Production at Glen Canyon Dam" Chapter 10 in, *The State of the Colorado River Ecosystem in Grand Canyon*. A Report of the Grand Canyon Monitoring and

Research Center 1991-2004. USGS Circular 1282. Flagstaff, Arizona: U. S. Geological Research Service. October 2005.

Harpman, David A. *Understanding Hourly Hydropower Operations at Glen Canyon Dam—GCPSE95 version 2. 0*. U. S. Department of the Interior, Bureau of Reclamation Report #EC-2002-01. September 2002. Springfield, Virginia: National Technical Information Service. NTIS#PB2003-101395. 50 pages.

Harpman, David A. "Assessing the Short-Run Economic Cost of Environmental Constraints on Hydropower Operations at Glen Canyon Dam. " *Land Economics* 75 No. 3 (August 1999): 390-401.

Harpman, David A. "The Economic Cost of the 1996 Controlled Flood. " in, *The Controlled Flood in Grand Canyon*. Geophysical Monograph 110. Edited by Robert H. Webb, John C. Schmidt, G. Richard Marzolf and Richard A. Valdez. Washington, D. C: American Geophysical Union. 1999.

Harpman, David A. *Glen Canyon Dam, Colorado River Storage Project, Arizona-The Short-Run Economic Cost of Environmental Constraints on Hydropower Operations*. U. S. Department of the Interior, Bureau of Reclamation Report No. EC-97-02, June 1997, pp. 34. Springfield, Virginia: National Technical Information Service, NTIS No. PB98-106628.

Harpman, David A. *Glen Canyon Dam Beach/Habitat-Building Test Flow-An Ex Post Analysis of Hydropower Cost*. U. S. Department of the Interior, Bureau of Reclamation Report No. EC-97-01, February 1997, pp. 53. Springfield, Virginia: National Technical Information Service, NTIS No. PB97-159321.

Harpman, David A. "Economic and Environmental Effects of the Glen Canyon Beach/Habitat-Building Test Flow. " In *Competing Interests in Water Resources-Searching for Consensus*. Proceedings of the U. S. Committee on Irrigation and Drainage's 1996 Conference. Las Vegas, Nevada. 5-7 December 1996. Denver, Colorado: U. S. Committee on Irrigation and Drainage 1997.

Harpman, David A. and A. Spreck Rosekrans. *Modeling Hourly Operations at Glen Canyon Dam-Colorado River Storage Project, Arizona, GCPS09 version 1. 0*. U. S. Department of the Interior, Bureau of Reclamation Report No. EC-96-12. September 1996, pp. 55. Springfield, Virginia: National Technical Information Service, NTIS No. PB97-500730.

Harpman, David A. *Simulating Operations at Glen Canyon Dam-Colorado River Storage Project, Arizona, GCFLOW7 ver 1. 4*. U. S. Department of the Interior, Bureau of Reclamation. Report No. EC-95-11, August 1995. Springfield, Virginia: National Technical Information Service, NTIS No. PB96-501879.

Harpman, David A. , Michael P. Welsh, and Richard C. Bishop. "Nonuse Economic Value: Emerging Policy Analysis Tool. " *Rivers* Vol. 4 No. 4 (March 1995):280-291.

Harpman, David A. , A. Spreck Rosekrans, and Ronald E. Moulton. "Simulating Hourly Hydropower Operations for the Assessment of Environmental and Economic Impact. " In *Proceedings of the American Society of Civil Engineers Water Resources Planning and Management Division's 21st Anniversary Conference*. Denver, Colorado. May 1994. New York: American Society of Civil Engineers, 1994.

Harpman, David A. , Timothy J. Randle, and S. Clayton Palmer. "Glen Canyon: The Economic Costs. " In *Proceedings of the American Society of Civil Engineers Water Resources Planning and Management Division's 20th Anniversary Conference*. Seattle, Washington. May 3-5, 1993. New York: American Society of Civil Engineers, 1993.

Harris, Miller, Miller & Hanson, Inc. *Aircraft Management Studies Grand Canyon Visitor Survey*. Report No. 290940. 19. Prepared for the National Park Service, Denver Service Center. Contract No. CX-2000-0-0025. Madison, Wisconsin: HBRs, Inc. , Lexington, Massachusetts: Harris, Miller, Miller, and Hanson, Inc. , January 1994.

Harris, Miller, Miller & Hanson, Inc. *Dose-Response Relationships Derived from Data Collected at Grand Canyon, Haleakala, and Hawaii Volcanoes National Parks*. Report No. 290940. 14. NPOA Report 93-6. Prepared for the National Park Service, Denver Service Center. Contract No. CX-2000-0-0025. Madison, Wisconsin: HBRs, Inc. , Lexington, Massachusetts: Harris, Miller, Miller, and Hanson, Inc. , October 1993.

Heggenes, Jan. "Effects of Short-Term Flow Fluctuations on Displacement of, and Habitat Use by, Brown Trout in a Small Stream." *Transactions of the American Fisheries Society* Vol 117 No. 4 (July 1988):336-344.

Hjerpe, Evan and Yeon-Su Kim. "Regional Economic Impacts of Grand Canyon River Runners." *Journal of Environmental Management* 85 No. 1 (October 2007):137-149.

Hjerpe, Evan and Yeon-Su Kim. "Regional Economic Impacts of Grand Canyon River Runners." School of Forestry. Study No. GRCA 00148. Northern Arizona University. Flagstaff, Arizona. February 2003.

Hjerpe, Evan and Yeon-Su Kim. "Economic Impacts of (2000) Low Summer Steady Flows on Recreation." School of Forestry. Northern Arizona University. Flagstaff, Arizona. Undated. Available from: <http://www.riversimulator.>

[org/Resources/GCMRC/Recreation2/LSSFreport. pdf](http://www.usbr.gov/Resources/GCMRC/Recreation2/LSSFreport.pdf) Last accessed on 17 January 2014.

Hunt, Richard T. and Judith A. Hunt. *Hydropower Resources at Risk: The Status of Hydropower Regulation and Development - 1997*. DOE/ID-10603. Idaho Falls, Idaho: U. S. Department of Energy, Idaho National Engineering Laboratory, 1997.

Hurlbut, David J. , Scott Haase, Gregory Brinkman, Kip Funk, Rachel Gelman, Eric Lantz, Christina Larney, David Peterson, Christopher Worley and Ed Liebsch. *Navajo Generating Station and Air Visibility Regulations: Alternatives and Impacts* NREL/TP-6A20-53024 National Renewable Energy Laboratory, Golden, Colorado. March 2012. 124 pages.

Jacobs, Jeffrey W. and James L. Wescoat Jr. “Managing River Resources: Lessons from Glen Canyon Dam.” *Environment* 44 No. 2 (March 2002):8-19.

Jalbert, Linda M. *The Effects of the 1996 Beach/habitat Building Flow on Observed and Reported Boating Accidents on the Colorado River in Grand Canyon National Park*. Final Report. Grand Canyon National Park, Arizona: U. S. Department of the Interior, National Park Service, Grand Canyon Science Center, 1996.

Johnson, Roy R. And Steven W. Carothers. “External Threats: The Dilemma of Resource Management on the Colorado River in Grand Canyon National Park, USA.” *Environmental Management* Vol 11 No. 1 (January 1987):99-107.

Jonas, Lilian M. and Chris Moore. *Lake Powell Preliminary Socioeconomic Impact Analysis*. Final Report. SWCA, Inc. Environmental Consultants. Flagstaff, Arizona. December 30, 1999.

Jones, Clive V. and Mark Graham. *Rebuttal to the GCES Non-use Value Study Final Report*. Springfield, Virginia: National Technical Information Service, NTIS No. PB-97-154413. July 1997.

Jourdonnais, Jon H. and F. Richard Hauer. “Electrical Frequency Control and its Effects on Flow and River Ecology in the Lower Flathead River, Montana.” *Rivers* 4 No. 2 (April 1993):132-145.

Kahn, Edward P. , Verne W. Loose and Michael Schilmoeller. GCMRC Expert Panel, “Response of the GTMax Expert Review Panel to Comments on Our 2012 Report” Grand Canyon Monitoring and Research Center (GCMRC): Flagstaff, Arizona. February 2013. 4 pages. Available from: <http://www.usbr.gov/uc/rm/amp/GTMax.html> Last accessed on 15 January 2014.

Kahn, Edward P. , Verne W. Loose and Michael Schilmoeller. GCMRC Expert Panel, *Final Report Of The GTMax Model Review Panel*. Report of a Workshop held August 31 and September 1, 2011 in Flagstaff, Arizona. Grand Canyon Monitoring and Research Center (GCMRC): Flagstaff, Arizona. September 4, 2012. 34 pages. Available from <http://www.usbr.gov/uc/rm/amp/GTMax.html> Last accessed on 14 January 2014.

Kearsley, Lisa H. , John C. Schmidt, and Katherine D. Warren. "Effects of Glen Canyon Dam on Sand Deposits Used as River Campsites in the Grand Canyon of the Colorado River, U. S. A." *Regulated Rivers: Research and Management* Vol 9 (1994):137-149.

Konrad, Christopher P. , Julian D. Olden, David A. Lytle, Theodore S. Melis, John C. Schmidt, Erin N. Bray, Mary C. Freeman, Keith B. Gido, Nina P. Hemphill, Mark J. Kennard, Laura E. McMullen, Meryl C. Mims, Mark Pyron, Christopher T. Robinson, and John G. Williams. "Large-scale Flow Experiments for Managing River Systems." *BioScience* Vol. 61 No. 12 (December 2011):948-959.

Korman, Josh and Steven E. Compana. "Effects of Hydropeaking on Nearshore Habitat Use and Growth of Age-0 Rainbow Trout in a Large Regulated River." *Transactions of the American Fisheries Society* 138 No. 1 (January 2009):76-87.

Kubly, Dennis M. "Using Adaptive Management at Glen Canyon Dam." *Hydro Review* Vol 28 No. 7 (October 2009). no page numbers.

Labadie, J. , D. Fontane, G. Tabios, III and N-F Chou, "Stochastic Analysis of Dependable Hydropower Capacity," *Journal of Water Resources Planning and Management*, Vol. 113, No. 3 (May 1987): 422-437.

Lee, Martha E. and Lenore Grover. *Lee's Ferry Carrying Capacity Study*. Final report to National Park Service. Cooperative Agreement CA-1440-0-0004. Flagstaff, Arizona: School of Forestry, Northern Arizona University, July 29, 1992.

Lichtkoppler, Richard. *Glen Canyon Dam Protocol for High-Flow Experimental Releases: Recreation Resources– Affected Environment and Analysis of Impacts*. Technical Service Center, U. S. Bureau of Reclamation, Denver, Colorado. February 2011.

Long, Michael E. and Peter Essick. "The Grand Managed Canyon." *National Geographic*. Vol 192 No. 1 (July 1997):117-135.

Loomis, John B. , Aaron J. Douglas and David A. Harpman. "Recreation Use Values and Nonuse Values at Glen and Grand Canyon" Chapter 9 in, *The State of the Colorado River Ecosystem in Grand Canyon*. A Report of the Grand Canyon

Monitoring and Research Center 1991-2004. USGS Circular 1282. Flagstaff, Arizona: U. S. Geological Research Service. October 2005.

Loomis, John B. David Cole, Pam Foti, Robert Manning, R. Neil Moisey and Robert Ratcliffe. *Final Report of the Protocol Evaluation Panel (PEP) on the Recreation Monitoring Program of the Grand Canyon Monitoring and Research Center (GCMRC)*, Grand Canyon Monitoring and Research Center, Flagstaff, Arizona. September 28, 2005. 32 pages.

Loomis, John B. "Measuring the Economic Benefit of Removing Dams and Restoring the Elwha River: Results of a Contingent Valuation Survey." *Water Resources Research*, Vol. 32 No. 2 (February 1996):441-447.

Loomis, John B. and Douglas S. White. "Economic Values of Increasingly Rare and Endangered Fish." *Fisheries* Vol 21 No. 11 (November 1996):6-10.

Maddux, Henry M. , Dennis M. Kubly, James C. deVos Jr. , William R. Persons, Richard Staedicke, and Rebecca L. Wright. *Effects of Varied Flow Regimes on Aquatic Resources of Glen and Grand Canyons*. Glen Canyon Environmental Studies Final Report. 1988. Springfield, Virginia: National Technical Information Service, NTIS No. PB-88-183439/AS.

Marcus, David. *Glen Canyon Dam Releases– Economic Considerations*. A Report to the Grand Canyon Trust. February 28, 2009. Available from: http://www.grandcanyontrust.org/documents/gc_damEconomics.pdf. Last accessed on 15 January 2014.

Marion, Kathy and David M. Wallick. "Comment: Glen Canyon Dam Operating Authority: Producing Electricity and Protecting the Grand Canyon Environment." *University of Wyoming, Land and Water Law Review* Vol 26 No. 1. (1991):183-221.

Martin, Russell. *A Story That Stands Like a Dam—Glen Canyon and the Struggle for the Soul of the West*. New York: Henry Holt and Company. 1991, pp. 354.

Martin, William C. , Frank H. Bollman, and Russell L. Gum. *The Economic Value of the Lake Mead Fishery with Special Attention to the Largemouth Bass Fishery*. " Final report to the Nevada Department of Wildlife, the Arizona Game and Fish Department and the Water and Power Resources Service. Contract No. 14-06-300-2719. Sacramento, California: Jones & Stokes Associates, Inc. , October 15, 1980.

Mathai, C. V. , Robert D. Rowe, Lauraine G. Chestnut, and L. Deck. "Controlling Wintertime Visibility Impacts at the Grand Canyon National Park: Preliminary Benefit Cost Analysis." In *Visibility and Fine Particles, Air and Waste Management Association and EPA*, 1989, pp. 628-638.

McDowell, Jeanne and Richard Woodbury. "The Colorado—A Fight Over Liquid Gold." *Time*. 138 No. 3. July 22, 1991. pp. 20-26.

McPhee, John. *Encounters with the Archdruid*. New York: Farrar, Straus and Giroux. 1971.

Miller, Scott K. "Undamming Glen Canyon: Lunacy, Rationality or Prophecy?" *Stanford Environmental Law Journal* Vol 19 No. 1 (January 2000):121-207.

Nathanson, Milton N. *Updating the Hoover Dam Documents*. Denver, Colorado: U. S. Government Printing Office, 1980, pp. 600.

National Academy of Sciences, Committee to Review the Glen Canyon Environmental Studies. *River and Dam Management: A Review of the Bureau of Reclamation's Glen Canyon Environmental Studies*. Washington, D. C. : National Academy Press, 1987.

National Academy of Sciences, Committee to Review the Glen Canyon Environmental Studies. *Colorado River Ecology and Dam Management*. Proceedings of a symposium, May 24-25, 1990, Santa Fe, New Mexico. Washington, D. C. :National Academy Press, 1990.

National Academy of Sciences, Committee to Review the Glen Canyon Environmental Studies. *River Resource Management in the Grand Canyon*. Washington, D. C. : National Academy Press, 1996.

National Academy of Sciences, Committee to Review Grand Canyon Monitoring and Research. *Downstream: Adaptive Management of Glen Canyon Dam and the Colorado River Ecosystem*. Washington, D. C. : National Academy Press, 1999.

National Parks Conservation Association. *State of the Parks: Grand Canyon National Park—Resource Challenges and Future Directions*. Washington, D. C. : National Parks Conservation Association. 2010. 84 pages.

National Park Service. *Draft Environmental Impact Statement—Colorado River Management Plan*. Grand Canyon National Park, Arizona: U. S. Department of the Interior, National Park Service. October 2004.

National Performance Review Power Management Laboratory. *Future Generations: A New Era of Power, Performance, and Progress-1996 Benchmarking Data Book*. Denver, Colorado: U. S. Department of the Interior, Bureau of Reclamation, 1997.

National Research Council, Committee on the Scientific Bases of Colorado River Water Management. *Colorado River Water Management—Evaluating and*

Adjusting to Hydroclimatic Variability. Washington, D. C. :National Academy Press, 2007. 210 pages.

National Research Council. *Valuing Ecosystem Services: Toward Better Environmental Decision-Making*. National Research Council, Committee on Assessing and Valuing the Services of Aquatic and Related Terrestrial Ecosystems. Washington, D. C: National Academy Press. 2005. ISBN: 0-309-54586-2, 290 pages.

National Research Council, Committee to Review the Glen Canyon Environmental Studies. *The Glen Canyon Environmental Studies—Review of the Draft Federal Long-Term Monitoring Plan for the Colorado River below Glen Canyon Dam*. Washington, D. C. :National Academy Press, 1994.

Neher, Chris J. , John W. Duffield and David A Patterson. “Modeling the Influence of Water Levels on Recreational Use at Lakes Mead and Powell.” *Lake and Reservoir Management* Vol 29 No. 4 (October 2013):233-246.

Nelson, Frederick A. “Effect of Flow Fluctuations on Brown Trout in the Beaverhead River, Montana.” *North American Journal of Fisheries Management* Vol 6 No. 4 (October 1986):551-559.

Nilsson, Christer, Roland Jansson, and Ursula Zinko. “Long-Term Responses of River-Margin Vegetation to Water-Level Regulation.” *Science* Vol. 276 No. 5313 (May 1997):798-800.

Null, Sarah E. And J. R. Lund. “Fish Habitat Optimization to Prioritize River Restoration Decisions.” *River Research and Applications* Vol 28 No. 9. (November 2012):1378-1393.

Ouarda, Taha B. M. J. John W. Labadie and Darrell G. Fontane. “Indexed Sequential Hydrologic Modeling for Hydropower Capacity Estimation.” *Journal of the American Water Resources Association*. 33 No. 6 (December 1997):1337-1349.

Ouarda, T. , J. Labadie, and D. Fontane, "Validation of Indexed Sequential Hydrological Modeling for the Colorado River Basin," *Journal of the American Water Resources Association*, Vol. 33, No. 6 (December 1997):1-13.

Palmer, Clayton S. , Thomas D. Veselka, Leslie D. Poch, Samuel Loftin and Leslie James. Colorado River Energy Distributors Association (CREDA). “Comments on the Final Report Of The GTMax Model Review Panel.” Draft of Tuesday, September 04, 2012. 33 pages. Available from <http://www.usbr.gov/uc/rm/amp/GTMax.html> Last accessed on 15 January 2014.

Parasiewicz, Pitor, S. Schmutz and O. Moog. "The Effect of Managed Hydropower Peaking on the Physical Habitat, Benthos, and Fish Fauna in the River Bregenzerach in Austria." *Fisheries Management and Ecology* Vol 5 No. 5 (October 1998):403-418.

Patten, Duncan T. , David A. Harpman, Mary I. Voita and Timothy J. Randle. "A Managed Flood on the Colorado River: Background, Objectives, Design, and Implementation. " *Ecological Applications* 11 No. 3 (June 2001):635-643.

Pitzer, Gary. *River Report– Balancing a Complex Set of Interests: Glen Canyon Dam and Adaptive Management*. A project of the Water Education Foundation. Sacramento CA. :Water Education Foundation Winter 2010 - 2011. 12 pages.

Poe, Gregory L. , Michael P. Welsh, and Patricia A. Champ. "Measuring the Difference in Mean Willingness to Pay When Dichotomous Choice Contingent Valuation Responses are Not Independent." Grand Canyon National Park, Arizona. *Land Economics* Vol. 73 No. 2 (May 1997):255-67.

Poe, Gregory L. , Erich . K. Lossin, and Michael P. Welsh. "Measuring the Difference (X-Y) of Simulated Distributions: A Convolutions Approach. " *American Journal of Agricultural Economics* Vol. 76 No. 1 (November 1994):904-910.

Poff, N. LeRoy, J. David Allan, Margaret A. Palmer, David D. Hart, Brian D. Richter, Angela H. Arthington, Kevin H. Rogers, Judy L. Meyer, and Jack A. Stanford. "River Flows and Water Wars: Emerging Science for Environmental Decision Making." *Frontiers of Ecology and Environment* Vol 1 No. 6 (August 2003):298-306.

Poff, N LeRoy, J. David Allan, Mark B. Bain, James R. Karr, Karen L. Prestegard, Brian D. Richter, Richard E. Sparks, and Julie C. Stromberg. "The Natural Flow Regime—A Paradigm for River Conservation and Restoration." *BioScience* Vol 47 No. 11 (December 1997): 769-784.

Power Resources Committee. *Power System Impacts of Potential Changes in Glen Canyon Power Plant Operations*. Phase II Final Report. Denver, Colorado: Stone and Webster Management Consultants, Inc. , October 1993.

Power Resources Committee. *Power System Impacts of Potential Changes in Glen Canyon Power Plant Operations*. Phase III Final Report. Denver, Colorado: Stone and Webster Management Consultants, Inc. , July 1995, pp. 305. Springfield, Virginia: National Technical Information Service, NTIS No. PB96-114004.

Randle, Timothy J. "Case Study: The Glen Canyon Dam EIS Process." *Federal Facilities Environmental Journal*. (Winter 1993-1994):471-477.

Randle, Timothy J. , Joseph K. Lyons, Rick J. Christensen and Ryan D. Stephen. *Colorado River Ecosystem Sediment Augmentation Appraisal Engineering Report*. Denver Technical Service Center, Bureau of Reclamation. Denver, Colorado. September 2006.

Reisner, Marc. "Coming Undammed." *Audubon* (September/October 1998):58-65.

Rhodes, Stanley, Fjalar Kommonen, Chet Chaffee, Linda Brown, Neil Thomas, S. Clayton Palmer and Bill Karsell. *Life Cycle Impact Assessment (LCIA) of Glen Canyon Hydropower Generation System Compared to the WECC Baseline* Prepared for the Western Area Power Administration, the United States Bureau of Reclamation, and Tri-State Generation and Transmission Association, Inc. . Emeryville, CA: Scientific Certification Systems, Inc. March 2009.

Richards, Merton T. and D. Brent Wood. "The Economic Value of Sportfishing at Lees Ferry, Arizona. " In *Riparian Ecosystems and their Management: Reconciling Conflicting Uses. Proceedings of the First North American Riparian Conference*. April 16-18, 1985. Tucson, Arizona. U. S. D. A. Forest Service General Technical Report RM 120. Ft. Collins, Colorado: Rocky Mountain Forest and Range Experiment Station, 1985.

Riddle, Clayton L. "Protecting Grand Canyon National Park from Glen Canyon Dam: Environmental Law at its Worst." *Marquette Law Review* Vol. 77 No. 115. (1993-1994):115-146

Roberts, Catherine A. and Joanna A. Bieri. *The Impacts of Low Flow Rates on Rafting Traffic on the Colorado River in Grand Canyon National Park*. A report prepared for the Bureau of Reclamation, Grand Canyon Monitoring and Research Center. Interagency acquisition number 00-AA-40-4330. May 15, 2001.

Roberts, Catherine A. , Doug Stallman and Joanna A. Bieri. "Modeling Complex Human-Environment Interactions: The Grand Canyon River Trip Simulator." *Ecological Modeling* 153 No. 2. (July 2002):181-196.

Rosekrans, A. Spreck. "The Effect of Draining Lake Powell on Water Supply and Electricity Production." Unpublished Report. Oakland, CA: Environmental Defense Fund. 17 September 1997.

Schmidt, John C. , Robert H. Webb, Richard A. Valdez, G. Richard Marzolf and Lawrence E. Stevens. "Science and Values in River Restoration in the Grand Canyon." *Bioscience* Vol 48 No. 9 (September 1998):735-747.

Schwartz, Zvi. William Stewart and Eric A. Backlund. "Visitation at Capacity-Constrained Tourism Destinations: Exploring Revenue Management at a National Park". *Tourism Management* Vol 33 No. 3. (June 2012):500-508.

Shelby, Bo, Tom C. Brown, and Robert Baumgartner. "Effects of Streamflows on River Trips on the Colorado River in Grand Canyon, Arizona. " *Rivers* Vol. 3 No. 3. (July 1992):191-201.

Simulation Group. *PROSYM-Utility Planning Software for Advanced Chronological Production Simulation*, Version 3. 0. Sacramento, California: The Simulation Group, 1995.

Southwick Associates. *Economic Contributions of Outdoor Recreation on the Colorado River & Its Tributaries* Prepared for Protect the Flows. Southwick Associates: Fernandina Beach, Florida. May 3, 2012. 53 pages.

Staschus, Konstantin, Andrew M. Bell, and Eileen Cashman. "Usable Hydro Capacity, Electric Utility Production Simulations, and Reliability Calculations." *Institute of Electrical and Electronics Engineers (IEEE) Transactions on Power Systems* Vol. 5 No. 2 (May 1990):531-538.

Stevens, Lawrence E. , John C. Schmidt, Tina J. Ayers, and Bryan T. Brown. "Flow Regulation, Geomorphology, and Colorado River Marsh Development in the Grand Canyon, Arizona." *Ecological Applications* Vol. 5 No. 4. (November 1995):1025-1039.

Stewart, William P. , Kevin Larkin, Brian Orland and Don Anderson. "Boater Preferences for Beach Characteristics Downstream from Glen Canyon Dam, Arizona." *Journal of Environmental Management* 69 No. 2 (October 2003):201-11.

Stewart, William P. and David N. Cole. "Number of Encounters and Experience Quality in Grand Canyon Backcountry: Consistently Negative and Weak Relationships." *Journal of Leisure Research* Vol. 33 No. 1. (First Quarter 2001):106-120.

Stewart, William P. and E. H. Carpenter. "Solitude at Grand Canyon: an Application of Expectancy Theory. " *Journal of Leisure Research* Vol. 21 No. 1. (First Quarter 1989):4-17.

Stewart, William P. , Kevin Larkin, Brian Orland, Don Anderson, Robert Manning, David Cole, Jonathan Taylor and Nidhi Tomar. "Preferences of Recreation User Groups of the Colorado River in Grand Canyon." Final Report to the Grand Canyon Monitoring and Research Center. Cooperative Agreement No. 98-FG-40-0190. April 2000. 231 pages.

Stynes, Daniel J. And Ya-Yen Sun. *Economic Impacts of Grand Canyon National Park Visitor Spending on the Local Economy, 2003*. Department of Community, Agriculture, Recreation and Resource Studies. Michigan State University for the Social Science Program, National Park Service. January 2005.

Susskind, Lawrence, Alejandro E. Camacho and Todd Schenk. "Collaborative Planning and Adaptive Management in Glen Canyon: A Cautionary Tale." *Columbia Journal of Environmental Law* Vol 35 No. 1 (March 2010):2-55.

Svensson, Bjorn S. "Hydropower and Instream Flow Requirements for Fish in Sweden." *Fisheries Management and Ecology* 7 No. 1-2. (February 2000):145-155.

Tarlock, Dan. "The Legal-Political Barriers to Ramping up Hydro." *Chicago-Kent Law Review Symposium on Energy Law*. Vol 86 No. 1 (March 2011):250-276.

Underhill, A. H. , M. H. Hoffman, and R. E. Borkan. 1988. *An Analysis of Recorded Colorado River Boating Accidents in Glen Canyon for 1980, 1982, and 1984 and in Grand Canyon for 1981 through 1983*. Glen Canyon Environmental Studies Final Report. Springfield, Virginia: National Technical Information Service, NTIS No. PB88-195441/AS.

Valdez, Richard A. and Steven W. Carothers. *The Aquatic Ecosystem of the Colorado River in Grand Canyon—Grand Canyon Data Integration Project Synthesis Report*. Prepared for the Bureau of Reclamation, Upper Colorado Region. Flagstaff, Arizona: SWCA, Inc. Environmental Consultants. July 1, 1998.

Van Steeter, Mark M. and John Pitlick. "Geomorphology and Endangered Fish Habitats of the Upper Colorado River 1. Historic Changes in Streamflow, Sediment Load, and Channel Morphology. *Water Resources Research* Vol. 34 No. 2 (February 1998):287-302.

Van Steeter, Mark M. and John Pitlick. "Geomorphology and Endangered Fish Habitats of the Upper Colorado River 2. Linking Sediment Transport to Habitat Maintenance." *Water Resources Research* Vol. 34 No. 2 (February 1998):303-316.

VanKuiken, J. C. , Tom D. Veselka, K. A. Guziel, D. W. Blodgett, S. Hamilton, J. A. Kavicky, V. S. Koritarov, M. J. North, A. A. Novickas, K. R. Paprockas, E. C. Portante, and D. L. Willing. *APEX User's Guide (Argonne Production, Expansion, and Exchange Model for Electrical Systems)*. Argonne, Illinois: Decision and Information Sciences Division, Argonne National Laboratory, November 1994.

Verburg, Katherine Ott and the U. S. Bureau of Reclamation. *Colorado River Documents 2008*. U. S. Bureau of Reclamation: Salt Lake City, Utah. January 6, 2011. 960 pages.

Vermeyen, Tracy B. "An Overview of the Design Concept and Hydraulic Modeling of the Glen Canyon Dam Multi-Level Intake Structure." *Waterpower '99, Hydro's Future: Technology, Markets and Policy. 1999 Vol. 1, Proceedings of the International Conference on Hydropower*, Las Vegas, Nevada. July 7-9, 1999. New York: American Society of Civil Engineers, 1999a. (CD-Rom)

Vermeyen, Tracy B. , "Glen Canyon Dam Multi-Level Intake Structure Hydraulic Model Study," Report No. R-99-02, U. S. Bureau of Reclamation, Technical Service Center, Denver, Colorado, July 1999b.

Veselka, Thomas D. , Leslie D. Poch, Clayton S. Palmer, Samuel Loftin and Brent Osiek. *Ex Post Power Economic Analysis of Record of Decision Operational Restrictions at Glen Canyon Dam* ANL/DIS-10-6. Argonne National Laboratory. Argonne, Illinois. April 2010. 96 pages.

Veselka, Thomas D. , Scott Hamilton, and Jeff McCoy, "Optimizing Hourly Hydro operations at the Salt Lake City Area Integrated Projects," Presented paper. *Proceedings of the American Power Conference*. Vol. 56-I. Chicago, Illinois, April 1995. Available from: <http://www.osti.gov/scitech/servlets/purl/73032> Last Accessed on 17 January 2014.

Veselka, Thomas D. et al. *Impacts of Western Area Power Administration's Power Marketing Alternatives on Electric Utility Systems*. Report No. ANL/DIS/TM-10. Argonne, Illinois: Argonne National Laboratory, January 1994.

Walsh, Robert V. and Barry D. Wirth. "Preparing for the Future at Glen Canyon and Hoover Dams." *Hydro-Review* Vol. XIII No. 4. (June 1994):28-38.

Walters, Carl, Josh Korman, Lawrence E. Stevens and Barry Gold. "Ecosystem Modeling for Evaluation of Adaptive Management Policies in the Grand Canyon." *Conservation Ecology* Vol 4 No. 2. 2000. Available from: <http://www.consecol.org/vol4/iss2/art1>. Last accessed on 17 January 2014.

Walters, Carl, Josh Korman, Ted Melis, David Topping, Lew Coggins, Barbara Ralston, Clark Burbidge and Clayton Palmer. "Evidence for the Failure of the Modified Low Fluctuating Flow Alternative (MLFFA) to Benefit Most Ecological Resources in Grand Canyon." Draft manuscript. University of British Columbia. June 22, 2004.

Ward, Frank A. And Diana Beal. *Valuing Nature with Travel Cost Models: A Manual*. New Horizons in Environmental Economics. Wallace E. Oats and Henk Folmer, General Editors. Edward Elgar Publishing Inc: Northampton, MA. 2000.

Water Education Foundation. *River Report—Balancing a Complex Set of Interests: Glen Canyon Dam and Adaptive Management*. A project of the Water Education Foundation. Sacramento Ca. :Water Education Foundation Winter 2010 - 2011. 12 pages.

Wegner, David L. "Toward the Future: The Time Has Come to Restore Glen Canyon." *Arizona Law Review* 42 No. 2. (Summer 2000):239-257.

Welsh, Michael P. and Gregory L. Poe. "Elicitation Effects in Contingent Valuation: Comparisons to a Multiple Bounded Discrete Choice Approach. " *Journal of Environmental Economics and Management* 36 No. 1. (September 1998):170-185

Welsh, Michael P. , Richard C. Bishop, Marcia L. Phillips, and Robert M. Baumgartner. "Glen Canyon Dam, Colorado River Storage Project, Arizona—Non-Use Values Final Study Summary Report. " Madison, Wisconsin: Hagler Bailly Consulting, Inc. , September 8, 1995, 37 pages. Springfield, Virginia: National Technical Information Service, NTIS No. PB98-106636.

Welsh, Michael P. , Richard C. Bishop, Marcia L. Phillips, and Robert M. Baumgartner. "Glen Canyon Dam, Colorado River Storage Project, Arizona—Non-Use Values Final Study, Data Sets. " Madison, Wisconsin: Hagler Bailly Consulting, Inc. , April 26, 1996, 300 pages, 3 disks. Springfield, Virginia: National Technical Information Service, NTIS No. PB96-501887.

Welsh, Michael P. , Richard C. Bishop, Marcia L. Phillips, and Robert M. Baumgartner. *Glen Canyon Dam, Colorado River Storage Project, Arizona—Nonuse Value Study Final Report*. Madison, Wisconsin: Hagler Bailly Consulting, Inc. , September 8, 1995, 400 pages. Springfield, Virginia: National Technical Information Service, NTIS No. PB98-105406.

Welsh, Michael P. , Richard C. Bishop, Marcia L. Phillips, and Robert M. Baumgartner. "Glen Canyon Dam, Colorado River Storage Project, Arizona—Nonuse Value Qualitative Research Final Report. " Madison, Wisconsin: Hagler Bailly Consulting Inc. , September 8, 1995, 165 pages. Springfield, Virginia: National Technical Information Service, NTIS No. PB98-106743.

Welsh, Michael P. , Richard C. Bishop, Robert M. Baumgartner, and Marcia L. Phillips. "Glen Canyon Dam, Colorado River Storage Project, Arizona—Nonuse Value Study Pilot-Test Final Report" Madison, Wisconsin: HBRS, Inc. , August 27, 1994, 450 pages. Springfield, Virginia: National Technical Information Service, NTIS No. PB98-106305.

Western Area Power Administration. "Proposed Salt Lake City Area Integrated Projects Firm Power Rate and Colorado River Storage Project Transmission and Ancillary Services Rates Adjustments." U. S. Department of Energy, Western

Area Power Administration. *Federal Register* Vol 62 No. 122 (June 25, 1997):34255-34258.

Western Area Power Authority. *Salt Lake City Area Integrated Projects Electric Power Marketing: Final Environmental Impact Statement*. DOE/EIS-0150. Salt Lake City, Utah: U. S. Department of Energy, Western Area Power Authority, January 1996.

Western Area Power Administration, Colorado River Storage Project Customer Service Center. *Replacement Resources Process Draft Methods Report*. Salt Lake City, Utah: U. S. Department of Energy, Western Area Power Administration, July 1996.

Western Area Power Administration. *Western Financial Assessment: High Discharge Experimental Flow ($Q_{max} = 52,000$ and $Q_{max} - 45,000$ cfs) Wyoming 1995*. 22 pp. Salt Lake City, Utah: U. S. Department of Energy, Western Area Power Administration, 1994.

Western Area Power Administration. *Financial Assessment High Discharge Experimental Flow Glen Canyon Dam ($Q_{max} = 33,200$) Wyoming 1994*. 20 pp. Salt Lake City, Utah: U. S. Department of Energy, Western Area Power Administration, 1993.

Western Area Power Administration. *Financial Assessment High Discharge Experimental Flow Glen Canyon Dam ($Q_{max} = 45,000$) Wyoming 1994*. 20 pp. Salt Lake City, Utah: U. S. Department of Energy, Western Area Power Administration, 1993.

Western Area Power Administration. "Adjusted Final Post-1989 Allocation of Power: Salt Lake City Area Integrated Power Projects." U. S. Department of Energy, Western Area Power Administration *Federal Register* Vol 54 No. 163 (Thursday, August 24, 1989):35235-35239.

Western Area Power Administration. *Analysis of Proposed Interim Releases at Glen Canyon Powerplant* ("The Peach Report"). Salt Lake City, Utah: U. S. Department of Energy, Western Area Power Administration, August 1989.

Wieringa, Mark J. and Anthony G. Morton. "Hydropower, Adaptive Management, and Biodiversity." *Environmental Management*, Vol. 20 No. 6 (November/December 1996):831-840.

Wirth, Barry D. "Reviewing the Success of the Intentional Flooding of the Grand Canyon." *Hydro-Review* Vol. XVI No. 2 (April 1997):10-16.

Wood, Allen J. and Bruce F. Wollenberg. *Power Generation, Operation and Control*. 2nd Edition. New York, New York: John Wiley and Sons, 1996.

Zagona, Edith A. , Terrance J. Fulp, Richard Shane, Timothy Magee and H. Morgan Goranflo. "RiverWare: A Generalized Tool For Complex Reservoir System Modeling." *Journal of the American Water Resources Association* Vol. 37 No. 4. (August 2001): 913-929.