

Potential Literature Review Sources

Reply Due August 15

The following are citations that will be used in conducting literature searches on 1) recreation site impacts (camp and trail conditions); 2) recreation impacts on wildlife; 3) social impacts in recreation settings; 4) flows and recreation studies with implications for the Chattooga, and 5) general literature on river recreation management. These references plus additional historical literature references developed by the Forest Service and recommendations received from stakeholders will provide a starting point for the literature review elements.

We want this analysis to provide the best information possible. We know that there may be unpublished studies or other documents that others familiar with the region could recommend. So, we invite any interested parties to review the citation lists that follow, and then recommend any new sources on the "New Sources" form.

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Recreation Site Impacts

Cole, David N. 1987. Research on soil and vegetation in wilderness: A state-of-knowledge review. In: Lucas, Robert C., comp. Proceedings-National Wilderness Research Conference: Issues, State-of-Knowledge, Future Directions; Fort Collins, CO. General Technical Report INT-220. Ogden, UT: USDA Forest Service, Intermountain Research Station: 13 5-177.

Cole, David N. 1990. Ecological impacts of wilderness recreation and their management. In: Hendee, John C.; Stankey, George H., and Lucas, Robert C. Wilderness Management (2nd Ed.). Golden, CO: North American Press: 425-466.

Cole, David N. 1992. Modeling wilderness campsites: Factors that influence amount of impact. Environmental Management 16(2): 255-264.

Cole, David N. 1995. Disturbance of natural vegetation by camping: Experimental applications of low-level stress. Environmental Management 19(3): 405-4 16.

Colistra, C. and Flood, J. 2006. Using Geospatial Technologies for Determining Acceptable Monitoring Standards for Campsite Conditions in Linville Gorge Wilderness. In Proceedings from the 28th Annual Southeastern Recreation Research (SERR) Conference February 26-28, 2006. Wilmington, North Carolina.

- Kuss, Fred R. 1986b. A review, of major factors influencing plant responses to recreation impacts. *Environmental Management* 10(5): 637-650.
- Marion, Jeffrey L. 1995. Capabilities and management utility of recreation impact monitoring programs. *Environmental Management* 19(5): 763-771.
- Marion, Jeffrey L.; Cole, David N. 1996. Spatial and temporal variation in soil and vegetation impacts on campsites. *Ecological Applications* 6(2): 520-530.
- Marion, Jeffrey L. and Robert D. Proudman. 1999. Management options for minimizing camping impacts along the Appalachian Trail. *The Register* 23(2):12-15.
- Marion, Jeffrey L. and Yu-Fai Leung. 1997. An assessment of campsite conditions in Great Smoky Mountains National Park. U.S. Department of the Interior, National Park Service, Great Smoky Mountains National Park, Gatlinburg, TN, Research/Resources Management Report. 127 pp.
- Shelby, Bo; Vaske, Jerry J.; Harris, Rick. 1988. User standards for ecological impacts at wilderness campsites. *Journal of Leisure Research*. 20(3): 245–256.
- Shelby, Bo; Shindler, Bruce 1992. Interest group standards for ecological impacts at wilderness campsites. *Leisure Sciences* 14(1): 17-27.
- Williams, Peter B.; Marion, Jeffrey L. 1995. Assessing Campsite Conditions for Limits of Acceptable Change Management in Shenandoah National Park. Technical Rpt. NPS/MARSHEN/NRTR-95/071. Blacksburg, VA: USD1 National Biological Service, Virginia Tech Cooperative Park Studies Unit. 138p.

Recreation Impacts on Wildlife

Based on comments In an earlier draft by state natural resource agencies, black bears were the single "species of concern" in the Chattooga corridor that might be susceptible to recreation disturbance. We have accordingly included a few citations related to human-bear interactions in addition to more general literature on recreation impacts to wildlife.

- Boyle, Stephen A.; Samson, Fred B. 1983. Nonconsumptive outdoor recreation: an annotated bibliography of human-wildlife interactions. *Spec. Sci. Rep.–Wildlife* 252. Washington, DC: U.S. Department of the Interior, Fish and Wildlife Service. 112 p.
- Boyle, Stephen A.; Samson, Fred B. 1985. Effects of nonconsumptive recreation on wildlife: a review. *Wildlife Society Bulletin*. 13(2): 110–116.
- Cole, David N.; Watson, Alan E.; Hall, Troy E.; Spildie, David R. 1997. High-use destinations in wilderness: social and biophysical impacts, visitor responses, and management options. *Res. Pap. INT-RP-496*. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 30 p.
- Cole, David N.; Landres, Peter B. 1995. Indirect effects of recreationists on wildlife. In: Knight, Richard L.; Gutzwiller, Kevin J., eds. *Wildlife and recreationists: coexistence through management and research*. Washington, DC: Island Press: 183–202.
- Chi, Danielle K.; Gilbert, Barrie K. 1999. Habitat security for Alaskan black bears at key foraging sites: are there thresholds for human disturbance? *Ursus*. 11: 225–238.

Dahlgren, Robert B.; Korschgen, Carl E. 1992. Human disturbances of waterfowl: an annotated bibliography. U.S. Fish and Wildlife Service Resource Publ. 188. Jamestown, ND: U.S. Department of the Interior, Geological Survey, Northern Prairie Wildlife Research Center. 63 p.

Graber, David M. 1986. Conflicts between wilderness users and black bears in the Sierra Nevada National Parks. In: Lucas, Robert C., ed. Proceedings—national wilderness research conference: current research; 1985 July 23–26. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station: 197–202.

Jope, Katherine; Shelby, Bo. 1984. Hiker behavior and the outcome of interactions with grizzly bears. *Leisure Sciences*. 6(3): 257–270.

Kaiser, Mark S.; Fritzell, Erik K. 1984. Effects of river recreationists on green-backed heron behavior. *Journal of Wildlife Management*. 48(2): 561–567.

Knight, Richard L.; Gutzwiller, Kevin J., eds. 1995. *Wildlife and recreationists: coexistence through management and research*. Washington, DC: Island Press. 372 p.

Knight, Richard L.; Cole, David N. 1995a. Wildlife responses to recreationists. In: Knight, Richard L.; Gutzwiller, Kevin J., eds. *Wildlife and recreationists: coexistence through management and research*. Washington, DC: Island Press: 51–69.

Kuss, Fred R.; Graefe, Alan R.; Vaske, Jerry J. 1990. *Visitor impact management: a review of research: volume 1*. Washington, DC: National Parks and Conservation Association: 187–217.

Liddle, Michael. 1997. *Recreation ecology: the ecological impact of outdoor recreation and ecotourism*. London, United Kingdom: Chapman and Hall. 639 p.

Whittaker, D., and Knight, Richard L. 1998. Understanding wildlife responses to humans. *Wildlife Society Bulletin*. 26(2): 312–317.

Social Impacts in Recreation Settings

The following includes 1) specific social impact studies from river corridors; 2) user conflict studies (including those from non-river settings); or 3) more general papers about social impacts in backcountry areas.

Brunson, M., B. Shelby, and J. Goodwin. (1992). Matching impacts with standards in the design of wilderness permit systems. *In Standards for Wilderness Management*. Pacific Northwest Research Station Gen. Tech. Report #PNW GTR 305, Portland, Oregon.

Cavin, D. and Cavin, J. 2004. Two Master's Theses under William Hammitt's direction at Clemson University. Topics focused on campsite choice data from Ellicott Wilderness, Burrells Ford, and Cherry Hill Campground. [Note: We have not located these yet, but they should be available at the Clemson library.]

Cline, R. C. (2004). Interpersonal and social value conflict and norm tolerance among cross-country skiers and snowmobilers. Unpublished Masters Thesis. Fort Collins, Colorado: Colorado State University.

Dawson, C. and Alberga, K. A. 2003. Acceptable number of user encounters: a study of Adirondack and Great Gulf Wilderness hikers. *Proceedings of the 2003 Northeastern Recreation Research Symposium GTR-NE-317*.

- Davis, J. 2006. The Environmental Preference of Whitewater Kayakers on Four Southeastern Rivers. In Proceedings from 28th Annual Southeastern Recreation Research (SERR) Conference. February 26-28, 2006. Wilmington, North Carolina
- Donnelly, M. P., Vaske, J. J., Whittaker, D., & Shelby, B. (2000). Toward an understanding of norm prevalence: A comparative-analysis. *Environmental Management*, 25(4), 403-414.
- Haas, G. R. (2004). On the waterfront: Vital judicial ruling addresses visitor capacity. *Parks and Recreation*. September.
- Hammitt, William E. and W.M. Rutlin. 1995. Use encounter standards and curves for achieved privacy in wilderness. *Leisure Sciences* 17:245- 262.
- Hammitt, W.E., Backlund, E.A., and Bixler, R.D. 2005. Experience use history, place bonding, and resource substitution of trout anglers during recreation engagements. *Journal of Leisure Research*. 36(3): 356-378.
- Hammitt, W. E., McDonald, C. D., & Noe, F. P. (1984). Use levels and encounters: Important variables of perceived crowding among nonspecialized recreationists. *Journal of Leisure Research*, 16, 1-8.
- Heberlein, T. A., & Vaske, J. J. (1977). Crowding and visitor conflict on the Bois Brule river. (Report WISC WRC 77-04). University of Wisconsin: Water Resources Center.
- Hendricks, W.W. (1995). A Resurgence in Recreation Conflict Research: Introduction to the Special Issue. *Leisure Sciences*. 17. 157-158
- Jacob, G., & Schreyer, R. (1980). Conflict in outdoor Recreation: A theoretical perspective. *Journal of Leisure Research*, 12, 368-380.
- Johnson, R.L., B. Shelby, and N. Bregenzer. 1990. Economic values and product shift on the Rogue River: A study of non-commercial whitewater recreation. Oregon State Univ., Water Resources Research Institute, Report WRRI-107.
- Lewis, T., R. Crenshaw, D. Whittaker, and B. Shelby. 1993. Kenai River Carrying Capacity Study. Alaska Department of Natural Resources, Division of Parks and Recreation, Anchorage, Alaska.
- Lucas, R. C. 1982. Recreation regulations – when are they needed? *Journal of Forestry*. 80(3): 148-151.
- Manning, Robert E. 1985. Crowding norms in backcountry settings: a review and synthesis. *Journal of Leisure Research*. 17(2): 75–89.
- Martinson, K. and B. Shelby. 1993. Encounter and proximity norms for salmon anglers in California and New Zealand. *N. Am. J. Fish. Mgmt.* 12(3):559-567.
- Monz, C., Joseph Roggenbuck, David Cole, Richard Brame & Andrew Yoder. Wilderness Party Size Regulations: Implications for Management and a Decisionmaking Framework. USDA Forest Service Proceedings RMRS-P-15-VOL-4. 2000
- Patterson, M.E., and Hammitt, W.E. (1990). Backcountry Encounter Norms, Actual Reported Encounters, and Their Relationship to Wilderness Solitude. *Journal of Leisure Research*. Vol. 22. No. 3. 259-275.

- Roggenbuck, Joseph W.; Williams, Daniel R.; Bange, Steven P.; Dean, Dennis J. 1991. River float trip encounter norms: questioning the use of the social norms concept. *Journal of Leisure Research*. 23(3): 133–153.
- Shelby, B. (1980). Contrasting recreation experiences: Motors and oars in the Grand Canyon. *Journal of Soil & Water Conservation* 35(3):129-130
Shelby & Danley, 1980
- Shelby, B., D. Whittaker, R. Speaker and E.E. Starkey. 1987. Social and ecological impacts of recreation use on the Deschutes River." Oregon State Parks Division, Salem.
- Shelby, B. and J.M. Nielsen. 1976. Use levels and Crowding in Grand Canyon. Colorado River Research Technical Report #2, Grand Canyon National Park, Arizona.
- Shelby, Bo; Vaske, Jerry J.; Heberlein, Thomas A. 1989. Comparative analysis of crowding in multiple locations: results from fifteen years of research. *Leisure Sciences*. 11: 269–291.
- Shelby, Bo; Stankey, George; Shindler, Bruce, tech. eds. 1992. Defining wilderness quality: the role of standards in wilderness management—a workshop proceedings; 1990 April 10-11; Fort Collins, CO. Gen. Tech. Rep. PNW-305. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 114 p.
- Shelby, B., N.S. Bregenzler, and R.L. Johnson. 1988. Displacement and product shift: Empirical evidence from Oregon rivers. *J. Leis. Res.* 20(4):274-288.
- Shelby, B. 1981. Encounter norms in backcountry settings: Studies of three rivers. *J. Leis. Res.* 13(2):129 138.
- Shelby, B. and R. Colvin. 1982. Encounter measures in carrying capacity research. *J. Leis. Res.*, 14(4):350 360.
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- Shelby, B., & Vaske, J. J. (1991). Using normative data to develop evaluative standards for resource management: A comment on three recent papers. *Journal of Leisure Research*, 23, 173-187.
- Shelby, B. & Whittaker, D. 2004. River running in the Grand Canyon: Current situation and social impacts of alternatives. Technical memorandum for inclusion in Administrative Draft of the Colorado River Management Plan / Environmental Impact Statement. National Park Service. March. 160 pages.
- Shelby, B., Vaske, J. J., & Donnelly, M. P. (1996). Norms, standards, and natural resources. *Leisure Sciences*, 18, 103-123.
- Shindler, B. and B. Shelby. 1995. Product shift in recreation settings: findings and implications from panel research. *Leisure Sciences* 17(2):91-107.
- Shindler, B. and B. Shelby. 1993. Rogue River Study: Assessment of Recreation Impacts and User Perceptions on the BLM Recreation Section. Project report for the Bureau of Land Management. 148 p.

Stankey, G. H., Cole, D. N., Lucas, R. C., Petersen, M. E., & Frissell, S. S. (1985). *The limits of acceptable change (LAC) system for wilderness planning* (Report INT-176). Ogden, Utah: US Department of Agriculture, Forest Service. Intermountain Forest and Range Experiment Station.

Tarrant, M.A.; English, D.B.K. 1996. A crowding-based model of social carrying capacity: applications for whitewater boating use. *Journal of Leisure Research*. 28(3): 155-168.

Tarrant, M., Cordell, H., and Kibler, T. 1997. Measuring perceived crowding for high-density river recreation: The effects of situational conditions and personal factors. *Leisure Sciences*. 19: 97-112.

Vaske, J. J., Donnelly, M. P., & Heberlein, T. A. (1980). Perceptions of crowding and resource quality by early and more recent visitors. *Leisure Sciences*, 3(4), 367-381.

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Vaske, J. J., Donnelly, M. P., Heberlein, T. A., & Shelby, B. B. (1982). Differences in reported satisfaction ratings by consumptive and non-consumptive recreationists. *Journal of Leisure Research*, 14(3), 195-206.

Vaske, J. J., & Donnelly, M. P. (2002). Generalizing the encounter – norm – crowding relationship. *Leisure Sciences*, 24, 255-269.

Vaske, J. J., Donnelly, M. P., Wittmann, K., & Laidlaw, S. (1995). Interpersonal versus social values conflict. *Leisure Sciences*, 17, 205-222.

Watson, A. E., Williams, D. R., & Daigle, J. J. (1991). Sources of conflict between hikers and mountain bike riders in the Rattlesnake NRA. *Journal of Park and Recreation Administration*, 9, 59-71.

Watson, A. E. (1995). An analysis of recent progress in recreation conflict research and perceptions of future challenges and opportunities. *Leisure Sciences*, 17, 235-238.

Whittaker, D. and B. Shelby. 1988. Types of norms for recreation impacts: Extending the social norms concept. *J. Leis. Res.* 20(4):261-273.

Whittaker, D. and B. Shelby. 1993. Kenai River carrying capacity study: findings and implications for management. Alaska Department of Natural Resources, Anchorage.

Whittaker, D. and Shelby, B. 2006. User survey on Delta National Wild and Scenic River. Report to BLM. Anchorage, AK. May.

Whittaker, D. (1996). *Kanektok, Goodnews, and Togiak Rivers: User Survey Findings and Implications*. Dillingham, AK: US Fish and Wildlife Service. 48 pp.

Whittaker, D. 2004. Situk River User Survey: Supplemental Analyses and Findings. Report to Aldo Leopold Wilderness Research Institute for inclusion in summary report of 2003 recreation visitors survey. May.

Whittaker, D. 1993. Selecting indicators: Which impacts matter more? In *Defining wilderness quality: The role of standards in wilderness management*. USDA Forest Service, Pacific Northwest Research Station General Technical Report No. PNW-GTR-305: 13-22. Portland, Oregon.

Whittaker, D., Vaske, J., and Williams, T. 2000. 1999 On-river user survey for the Gulkana River, Alaska. Bureau of Land Management. September.

Whittaker, D. 1990. Sustina Basin Recreation Rivers: "White Papers" on critical planning issues. Anchorage, AK: National Park Service, RTCA report. 62 pp.

Whittaker, D., & Shelby, B. (1996). Norms in high-density settings: Results from several Alaskan rivers. Paper presented at the 6th International Symposium on Society and Resource Management. The Pennsylvania State University, May.

Williams, Daniel R.; Roggenbuck, Joseph W.; Patterson, Michael E.; Watson, Alan E. 1992b. The variability of user-based social impact standards for wilderness management. *Forest Science*. 38(4): 738–756.

Flows and Recreation

Brown, T., J. Taylor, and B. Shelby. 1991. Assessing the effects of streamflow on recreation: a literature review. *Water Resources Bulletin* 27(6):979-989.

Shelby, B. & Whittaker, D. 2002. Flows and recreation on the Pit River. Report to Pacific Gas & Electric for inclusion in technical reports for Final License Application in FERC re-licensing process.

Shelby, B. and Whittaker, D. 1999. Flows and recreation on the Shepaug River, Connecticut. Report prepared for Shepaug River Association, Town of Washington, and Town of Roxbury, Connecticut. November.

Shelby, B., Whittaker, D., and Roppe, J. 1998. Controlled flow studies for recreation: A case study on Oregon's North Umpqua River. *Rivers* 6(4): 259-268.

Whittaker, D., Shelby, B., Jackson, W., & Beschta, R. 1993. Instream flows for recreation: A handbook on concepts and research methods. Anchorage, Alaska: U.S. National Park Service, RTCA project. 104 p.

Whittaker, D., Shelby, B., and Abrahms, J. 2006. Instream flows and "angler habitat:" Flow effects on fishability on eight Pacific Northwest rivers. *Human Dimensions of Wildlife* 11(5).

Whittaker, D., & Shelby, B. 2002. Evaluating instream flows for recreation: Applying the structural norm approach. *Leisure Sciences*, 24, 363-374.

Whittaker, D., Shelby, B., and Gangemi, J. 2006. Flows and Recreation: A guide to studies for river professionals. Hydrology Reform Coalition and National Park Service. April.

General Literature on Recreation Management

Cordell, H. Ken; Super, Gregory K. 2000. Trends in Americans' outdoor recreation. In: Gartner, William C.; Lime, David W., eds. *Trends in outdoor recreation, leisure and tourism*. Wallingford, United Kingdom: CABI Publishing: 133–144.

Clark, Roger N. and Stankey, George H. 1979. The recreation opportunity spectrum: A framework for planning, management and research. USDA, Forest Service, Pacific Northwest Forest Experiment Station; General Technical Report PNW-98, Portland, OR.

Cole, David N., Margaret E. Petersen and Robert E. Lucas. 1987. Managing wilderness recreation use: Common problems and potential solutions. USDA, Forest Service, Intermountain Forest and Range Experiment Station. General Technical Report INT-230. Ogden, UT. 60 pp.

Cole, David N. and George H. Stankey. 1998. Historical development of Limits of Acceptable Change: Conceptual clarifications and possible extensions. In: McCool, S.F. and Cole, D.N. and others (Comps.), Proceedings: Limits of Acceptable Change and Related Planning Processes: Progress and Future Directions, pp. 5-9; May 20-22, 1997, Missoula, MT. Gen. Tech. Rpt. INT-GTR-371. Ogden, UT: USDA Forest Service, Rocky Mountain Research Station.

Manning, Robert E. 1999. Search for satisfaction. In: Studies in outdoor recreation: search and research for satisfaction (second edition). Corvallis: Oregon State University Press: 1–15.

National Park Service. (1997). *VERP: The visitor experience and resource protection (VERP) framework, a handbook for planners and managers*. Denver, CO: USDI, National Park Service, Denver Service Center.

Shelby, Bo; Heberlein, Thomas A. 1986. Carrying capacity in recreation settings. Corvallis, OR: Oregon State University Press. 164 p.

Graefe, Alan R.; Kuss, Fred R.; Vaske, Jerry J. 1990. Visitor impact management: the planning framework: volume 2. Washington DC: National Parks and Conservation Association. 105 p.

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