**Bob Lucas, interviewed by David Cole and Steve McCool on 3/26/2013**

*In the spring of 2013, David Cole and Steve McCool interviewed Bob Lucas at the retirement community in Missoula where he was living. Bob’s health was already deteriorating and he was in a wheelchair when we talked to him. We did not record the interview, so what follows is taken from our notes. One can develop an appreciation of Bob’s interests and contributions after he joined the Wilderness Management Research Unit in Missoula in 1967 by reading his publications. Consequently, our questions focused largely on his early career development.*

Bob was a Ph.D student in geography at the University of Minnesota in the late 1950s. Bob’s major professor was John Borchert, who had broad interests in the spatial distribution of human behavior and development and most likely played a key role in Bob’s growing interests. Another early influence on Bob’s thinking – from his time with the geography department at the University of Chicago – was the work of Gilbert White and others on human perceptions.

Bob and his wife Grace were outdoor enthusiasts, attracted to the northern Minnesota canoe country, where they had spent a lot of time. So, it was not surprising that when it came time to pick a dissertation topic, Bob chose a project that could be done in the Boundary Waters Canoe Area.

In 1960, Bob attended a “brown bag” lunch with Jim Morgan, Branch Chief for Economics Research at the Forest Service’s Lake States Experiment Station. At the meeting, a number of University professors and graduate students, including Bob, discussed research plans involving the BWCA. Shortly thereafter Bob was offered a temporary job with Forest Service Research in St. Paul—as a demographer -- to conduct research that would become his dissertation. Within a year he was given a permanent job, as project leader of the recreation research unit at the Lake States Station.

The foundation for Bob’s position had been laid a few years previously with a report authored by Samuel Trask Dana, former dean of the School of Forestry at the University of Michigan. Dana had long been concerned about the growing use of forests by recreationists. At the request of the Forest Service, in 1957 he completed a report which argued for a program of recreation research. By 1962, in response to the report, there were 20 Forest Service scientists working full-time on forest recreation research at 8 of the 10 Forest Experiment Stations and in the Washington Office.

Bob was the third recreation researcher to be hired and assigned to an experiment station. His unit was titled “Social and economic aspects of forest recreation in the Lakes States -- an assignment more broad-based than Bob’s particular interest in the BWCA. In 1961, Bob hired David King to conduct research on visitors to the Huron-Manistee National Forest in Michigan. In 1966, he hired ecologists Lewis Ohmann, Bob Ream and Bud Heinselman to study vegetation ecology and fire history in the BWCA.

Bob also provided cooperative research funds to the University of Minnesota School of Forestry to support additional research in the BWCA. Through Professor Donald Duncan, he funded Sid Frissell’s master’s thesis on campsite impacts. Through Professor Larry Merriam, he funded further campsite impact work as well as Steve McCool’s dissertation on attitudes of canoeists toward management policy in the BWCA.

Bob’s personal interests combined with the growing use of the BWCA led him to begin investigating visitor use as the topic for his Ph.D. dissertation. Several professors and graduate students in the Rural Sociology Department of the University of Minnesota (Gregory Stone, Marvin Taves, William Hathaway and Gordon Bultena), with funding from the Lake States Station, had conducted studies of visitor use in the BWCA as early as 1958. Although this research program showed the promise and importance of this line of research, it was short-lived and barely scratched the surface.

Bob’s extension of this line of research was reported in 1964, in two seminal Forest Service research papers. In one paper, Bob was interested in the distribution of visitor use. Visitors did not use the lakes in the BWCA in similar ways. Some lakes and portals received very high use levels relative to other lakes. This unequal distribution of use characterizes many areas and sites devoted to recreational use. To some extent, this distribution reflects the variability in attractions. In the BWCA it was partly a function of fishing, but also the difficulty of accessing certain lakes over portages. Importantly, the experience visitors were looking for was also a key variable. This insight influenced much of the research to come about wilderness visitors in terms of how their expectations influenced their consequent behavior.

The second paper examined *recreational carrying capacity* – the number of people that could visit an area without adversely affecting it. This was popular idea at the time, as it is today. Bob did not find an actual number that the area could sustain. What he did find, was that visitor experiences were influenced not solely by the number of other visitors encountered on a canoe trip but rather where others were encountered, the perceptions and expectations of visitors and by the behavior employed by visitors. For example, Bob’s research pointed to an asymmetrical relationship—canoeists encountering visitors using motor boats were adversely affected more than people in motorboat were affected by encountering canoeists.

The methods and key insights of Bob’s research, published in these two scientific research papers, influence wilderness visitor research to this day.

We asked Bob about whether, at this time, he conceived on wilderness recreation as something much different from recreation generally. He said that he didn’t have much recollection of thinking that way. He was working in the BWCA for its place-based values; he loved the place. But the fact that the thrust of his work was on visitor perceptions of wilderness suggests that he recognized wilderness as something uniqueness. When the Wilderness Act passed in 1964, the importance of Bob’s research on wilderness and its uniqueness became more apparent.

Bob felt that the Outdoor Recreation Resources Review Commission report on wilderness – published in 1962 – didn’t have a large influence on his work, but it did validate the importance of the work Bob was doing. He also noted that there was not much collaboration between Bob’s unit and any of the other recreation units, including the Wilderness Recreation Dynamics unit in Portland led by Wiley Wenger.

In 1966, after passage of the Wilderness Act in 1964, the Senate appropriations committee asked the Forest Service to develop a proposal for a wilderness management research unit. The Intermountain Forest and Range Experiment Station proposed establishment of such a unit at their lab in Missoula Montana. This proposal was accepted and the unit was established in 1967. Bob imagines that Arnold Bolle, dean of the School of Forestry at the University of Montana, had a lot to do with locating the unit in Missoula. Missoula was an ideal location, as it is located close to many wildernesses, including several large ones. In addition, the University of Montana’s School of Forestry was beginning a tradition of wilderness recreation research.

Walter Hopkins, head of Forest Service Recreation Research in the Washington Office approached Bob about the job in Missoula, essentially asking him whether he wanted to remain in his job as project leader in St. Paul or take the job in wilderness management in Missoula. Bob chose the latter and moved to Missoula in 1967. Shortly before moving to Missoula, in 1967, Bob hired Dave Lime – offering him the job at a meeting of the Association of American Geographers. Dave succeeded Bob as project leader in St. Paul, where he continued work in the BWCA.

Bob’s first hire was George Stankey, another geographer, who was in a doctoral program at Michigan State University. Bob had met George while still at St. Paul. George arrived mid-year in 1968 and began planning the work that would be his dissertation on carrying capacity issues in the BWCA, as well as three western wildernesses: the Bob Marshall, Bridger and High Uintas. George’s dissertation examined the relationship between the notion of “wilderness purism” and reactions to encounters with others. His findings reinforced Bob’s earlier work, that the number of encounters with others was only one variable influencing levels of satisfaction with a wilderness experience.

The philosophy of Lucas and Stankey was to engage other scientists, particularly in universities, to conduct research. In addition, the research was focused on visitor management challenges confronting wilderness. As a result of these two underpinnings, not only did a relatively large number of academics become involved in wilderness research, but also that research continually engaged managers, with many science meetings also involving management.

After arriving in Missoula, Bob’s personal research focused largely on developing effective techniques for measuring wilderness visitor use and conducting baseline surveys of wilderness visitors – to understand their characteristics, behaviors, perceptions about conditions in wilderness and attitudes about the appropriateness of various management actions. In the early 1970s, he worked with Resources for the Future scientists to develop travel simulation modeling techniques. Simulation modeling looked like a useful tool for planned trailhead use quotas and minimizing regulation. Increasingly Bob was concerned about excessive regulation, something he wrote about frequently. This led him to do research on the use of information, particularly as a means of influencing use distribution. He also worked closely with academics and managers, spending significant time on an innovative wilderness management plan developed for the Maroon Bells-Snowmass Wilderness and organizing the first wilderness science conference, held in Fort Collins, Colorado, in 1985.

In 1978, increased funding allowed Bob to hire David Cole, on a temporary basis, to study the ecological effects of recreation use. David was eventually given a permanent assignment in 1987. Randy Washburne was also hired on a temporary basis, in 1978, to organize several ambitious survey projects. Randy completed the first survey of wilderness management practices, but left the Forest Service and moved on to pursue other interests in 1982. Bob’s final hire, after George Stankey left for Australia, was Alan Watson, a social scientist with interests in various social science aspects of wilderness.

When asked what he was most proud of, Bob would often cite development of the Limits of Acceptable Change planning framework. Bob felt that the LAC approach for visitor use management was much more robust and effective than the notion of carrying capacity – with its emphasis on number of visitors – where he started his career. He also appreciated that the framework resulted from a highly collaborative effort. It brought together both the social and biological scientists in the unit (Lucas, Stankey and Cole), both government and academic scientists (Sid Frissell and Steve McCool) and both researchers and managers (Jerry Stokes). Emblematic of Bob’s entire career, LAC was innovative, influential, inspirational and the result of collegial collaboration.