

The Bitterroot Ecosystem Management Research Project: How Did It Happen?

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Greg Jones asked last winter if Leslie Weldon and I would present a synoptic paper on the early history of the Bitterroot Ecosystem Management/Research Project (BEMRP). I agreed, as did Leslie, but as you can see she is not here. Leslie had other last-minute commitments to deal with so what you see is what you get. There is far more detail about BEMRP than time here permits; I hope this summary suffices. I've written this strictly from memory, so I hope I have it mostly straight! I'll apologize right up front for any names I've left out.

The BEMRP originated in 1993 as part of a nationwide Forest Service initiative to spark interest in forest ecosystems research. After receiving notice of the Forests Ecosystems Research Program administered by the Forest Service national headquarters in Washington, DC, I discussed in depth with Steve Arno the implications of such a project, should we be successful in receiving funding. Guidelines for proposals required that the work (1) must address forested ecosystems, (2) should involve National Forest Management, (3) should involve the public, and (4) should have a strong cooperative tie with a university. We had to decide quickly who the primary partners would be. Steve and I jointly agreed that the Bitterroot National Forest would be ideal for ecosystems research and that the University of Montana (UM), one of the premier Forestry Schools in the U.S.A. physically located about 100 meters from the Missoula-based Intermountain Research Station offices, would be the ideal University Cooperator.

The Bitterroot National Forest (Bitterroot Forest), for several reasons, was a logical choice of venue. The lower elevation habitat types experienced significant change in vegetative characteristics during the last 100 years. Sites previously dominated by pine (*Pinus ponderosa*) and larch (*Larix occidentalis*) are now exploited by Douglas-fir (*Pseudotsuga menziesii*) and grand fir (*Abies grandis*), and were/are highly susceptible to fire, insects, and disease. The Bitterroot NF was, and still is, but one example of similar situations extant in the western U.S.A. The Bitterroot Forest most certainly would be an excellent laboratory in which to study methods to restore forest health. Indeed, Steve Arno and I back in the late 1980's initiated new research on the Bitterroot Forest as part of the New Perspectives program administered by the Forest Service's Washington Office (WO). That research was done at Lick Creek, on the Darby

Ranger District, and focused on restoring ponderosa pine in an ecosystem tracking towards domination by Douglas-fir. The University of Montana was a joint partner; Dr. Carl Fiedler headed up the effort on testing the Selection silvicultural system relative to pine restoration. As part of the Lick Creek Studies, we helped Rick Flock and other District folks introduce our ideas to the Bitterroot public; the District and the Station jointly developed the research ideas and objectives. The District took care of contracting for tree harvest and developed and executed the burn plans. We worked together very closely. So this work at Lick Creek really set the stage for future cooperation in forest ecosystems research between Forest Service Research, Forest Service Management, and the University of Montana.

Public interest in forest management on the Bitterroot Forest had been high for about 25 years. The Bitterroot Valley was "found" in the early 1970's. Since then, the valley has experienced unprecedented exponential growth as people have moved here to enjoy the scenery, recreation, and whatever else drew them. The influx of people brought criticism of forest management on the Bitterroot National Forest. People did not like the appearance of clearcuts, of unsightly road bank scars on the land, of logging-induced siltation of streams, and other concerns. They took a proactive stance that resulted in the Bitterroot Controversy of the early 1970's and continues even today. So what better place to test new ideas in forest ecosystem management and gain public input? The University of Montana was a logical player because of close physical proximity to the Intermountain Research Station and current cooperative research.

I assembled a small team to develop a research proposal. As I recall, Steve Arno, Jack Lyon, Mick Harrington, and I represented the Intermountain Research Station; Cathy Stewart and Janet Johnson carried the Bitterroot National Forest flag. We agreed that the proposal would have an ecological focus in tune with restoring forest health through vegetative management. The proposal recognized the need to study flora, fauna, and public perceptions of ecosystem-based management, along with the need to model interactions among them. The proposal met with high enthusiasm in the WO. The idea of conducting cooperative research in an ecosystem adversely affected by past management actions and highly visible to a vocal public seemed to be what the Program Administrators were looking for. They funded BEMRP for an initial five-year period and then continued the funding in 1998.

The BEMRP Organization

Once funded, we had our work cut out for us. The astute listener/reader will have noted by now that the University of

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Montana was not involved in proposal planning. I did call Dr. Robert Pfister during the planning process to ask him if UM would want to be a cooperator. His response still rings in my head: "We'd better be!" In retrospect, UM should have been involved in proposal development. Once we learned that our proposal was successful, I called Dr. Pfister and invited his participation in developing specific research plans. He, of course, was very helpful.

The original proposal was to study forest vegetation, fauna, people, and modeling. It seemed natural to structure the BEMRP management team accordingly. Thus, Steve Arno chaired the Vegetation Research Group (RG), and Jack Lyon chaired the Fauna RG, Madelyn Kempf from the Bitterroot NF chaired the Human Dimensions RG, and Greg Jones was conscripted to head up the modeling effort. The BEMRP management team also included Chuck Prausa from the Bitterroot NF and Leslie Weldon, District Ranger for the Stevensville RD. Later on we added Martin Prather, an ecologist, as representative from the Northern Region, Forest Service. For reasons still obscure to me, I was chosen to direct the entire BEMRP effort. We gave the management team a name: the Bitterroot Interdisciplinary Research/Development Team (BIRD). Once again, the astute listener/reader will note that the University of Montana was not represented on the BEMRP management team. We fully intended for UM to be there, but interpretation of FACA (Federal Advisory Committee Act) prevented us from installing anyone but a federal employee mainly because BEMRP would be setting budgets and future management protocol.

Each committee chair set about staffing their committee. At the committee level, FACA allowed University and other non-Forest Service participation. So each committee was well rounded with appropriate expertise. The initial task of each committee was to develop a program of work. They had to decide on new research needed, demonstrations projects, public involvement and so on. The committees functioned unbelievably well. Steve Arno's Vegetation group initially came up with over 25 studies pertinent to BEMRP goals. Jack Lyon's Fauna group had seven or eight. Greg Jones already had some neat modeling effort in progress, and Jimmie Chew's SIMPPLLE system for modeling forest vegetation change seemed a natural. The Human Dimensions group under Madelyn Kempf's leadership, along with Leslie Weldon's invaluable help, developed a fine slate of work to bring the public on board with BEMRP.

The BIRD team had the final decision for the program of work. A primary responsibility was to assure that studies would have a common denominator, that they could be "linked." The linkage variables were to include habitat type, slope, aspect, elevation, vegetation structure, and land form. It was not physically nor financially possible to create a master study design wherein all fauna and vegetation studies would use common plots to assimilate data. We thought the better approach would be to let each study stand by itself albeit with the linkage variables. Generalizing to the next higher principle would allow concepts to be integrated among research disciplines and allow viable input to SIMPPLLE and MAGIS, the two primary models that BEMRP would depend upon. So our approach to ecosystems research was one of dealing with broader generalities gained

from individual studies rather than infinite nitty-gritty detail. I have witnessed other research that portends to expose the innermost functioning of ecosystems and could only conclude that one may be more successful in trying to predict Brownian motion! One example is the CANUSA Spruce Budworms R, D, & A Program. A major goal of CANUSA was to expose population dynamics of the insect so that future outbreaks or population collapses could be predicted. Several years and many millions of dollars later not much progress had been made. Near the end of the CANUSA program a general west-wide collapse of budworm populations occurred: no one could answer why.

What Have We Learned?

Can the same be said of BEMRP after five years of effort—that no one can provide answers to important questions on ecosystem-based management? I think BEMRP is much better than that. Through BEMRP and cooperative efforts, very good information has been developed about relationships of forest vegetation to fire history, about how to underburn successfully in dry habitats, about effects of various ways to reduce tree density without clearcutting, about how to better control noxious weeds, and on and on. We have new and valuable information on movements of wolverines (*Gulo gulo*), martens (*Martes americana*), fishers (*M. pennanti*) and other fauna in relation to forested habitat. We have a better idea on how the public perceives forest management. Computer models to assist land management planning have improved immensely. We have a better idea of what questions to ask of our forested ecosystems. And we developed a spirit of cooperation among National Forest Management, University of Montana, Forest Service Research, and the public that is unprecedented. *BEMRP has been a highly successful program and will continue to be so.* We most certainly, in part due to BEMRP, have the *knowledge* to manage effectively in forested ecosystems without degrading the components. Whether or not we can move ahead and make a significant dent in restoring fire-dependent ecosystems to meet current and future needs that forests can provide to our public is a different and highly charged political question that will be debated ad nauseam in the future.

What most defined the need for the Bitterroot Ecosystem Management Research Project was the time of change and transition in which we found ourselves. A different approach was needed to help us move along our mission of land stewardship. We all know the history. It seems obvious by now, but worth saying again: We are all in this together. Our work is on behalf of citizens both locally and nationally. The choices made on national forests affect all lands. These effects extend to downstream or upstream landowners, to adjacent watersheds, and cumulatively to our hemisphere and globe.

If there is one thing we've found from our past management, it is that we are on a continuous learning journey. Change is inescapable. Natural and human caused change on the landscape, change in people's needs and desires, change in economic trends. Change in our understanding of the natural world.

We formed this partnership to find ways that are helping us to *work with* a changing environment, rather than holding on to outdated thinking. Efforts like the BEMRP allow us to have a positive outlook, face the challenges, and push forward to success in land stewardship. The work we do is to better the land, and ourselves and to leave something good for those who come after us. BEMRP brought together all of us to make a difference for the land. Each of us offers something critical to the process:

- Scientific expertise with a better insight into long-term land management challenges and capabilities.
- Land management expertise with a better idea of how carefully directed research can create new stewardship options and ensure better outcomes.

- Most importantly, the public's active commitment to be heard and to keep the BEMRP focus where it needs to be—in service to citizens and to the land entrusted to the Forest Service to manage.

In five short years, we've made amazing progress. We stepped out into unknown territory, took risks, identified new information needs, and broke trail for other pioneers to continue exploring. BEMRP has been successful because of its commitment to cooperating, sharing findings, asking new questions, and being flexible.

For this we congratulate you and thank you. Leslie and I wish you only the best of luck as BEMRP continues developing and implementing ways to restore and protect the ecosystems in the Bitterroot Valley and elsewhere in the Rocky Mountain West.