Psychological Benefits of Volunteering for Restoration Projects

by Irene Miles with William C. Sullivan and Frances E. Kuo

A study in the Chicago area profiles the experience and satisfactions of restoration work.

It was a cold December Sunday morning some years ago and I wasn’t sure I wanted to spend the entire morning outdoors, not to mention with a group of people I had never met.

Nonetheless, after three hours of cutting and hauling buckthorn, I was hooked. I felt invigorated. I felt that we had accomplished something, and that I was useful. And I enjoyed the camaraderie. As regular as church on Sunday, I joined the members of the North Branch Prairie Project in their efforts to restore prairies and savannas to the northern parts of the Cook County Forest Preserves.

When I came to the decision to return to school and pursue a master’s degree, it was easy to decide where I wanted to focus my research. Restoration work had indeed been rewarding for me and perhaps it was so for others. At the same time—in the bigger picture—groups of volunteers were responsible for nurturing a number of prairies back to life in the Chicago area. I wanted to examine closely what seemed to be a mutually beneficial relationship.

At the University of Illinois at Urbana-Champaign, I became a part of the Human-Environment Research Lab, where Bill Sullivan and Frances Kuo served as my advisors. We decided to explore the satisfactions experienced by restoration volunteers.

This article is a report on a survey of more than 300 volunteers that we conducted in the Chicago area. We believe that the results of this work, which forges into an area where little research has been done before—the human dimension of ecological restoration—may be useful both to volunteers and to volunteer coordinators. (A fuller description of this study for scientific audiences can be found in the November 1998 issue of Urban Ecosystems.)

In a recent study, Herb Schroeder at the U.S. Forest Service in Evanston, Illinois ventured down this path when he used writings from the newsletters of volunteer groups to explore and characterize the motives and concerns of the participants (Schroeder, 1998). In our study we have taken this effort one step further by conducting a direct survey of the volunteers. The results suggest that volunteers do indeed experience significant benefits from their participation in restoration.

Categories of Satisfaction

We began our project by searching the literature for studies of the satisfactions that people derive from volunteering and from other related activities. Although we realized that the existing literature might not provide an exhaustive list of the satisfactions associated with ecological restoration, we felt that from it we could develop a fairly extensive list that could serve as a starting point for our work.

We began by exploring the literature that focuses on the types of benefits people derive from being in a “natural” setting. Rachel and Steven Kaplan (1989) have conducted extensive research on this subject, looking at the effects of everything from gardening to “outdoor challenge” wilderness programs for teens. On the basis of their research they propose that four qualities are important in making an experience restorative. Specifically, they
propose that spending time doing something that is engaging and supportive, that is out of one's ordinary routine, and that gives one a sense of connection to a larger world can be helpful. And because spending time in a natural area often combines all four of these qualities, gardening and other nature activities can help revitalize people, giving them a respite from their problems, and leaving them with a renewed sense of perspective.

Ecological restoration is, however, more than a nature activity. It involves the purposeful act of donating one’s time and energy in behalf of a cause. Not surprisingly, the literature indicates that a principal motive behind much volunteer work is the desire to make a difference, to accomplish some goal or task and to do something meaningful. For example, a young man working for voting rights in the southern United States during the 1960s described the source of his satisfaction in these terms, “What I get accomplished, the people I reach and who get to me: that’s why I’m here” (Coles, 1993, pg. 73). Similarly, volunteers who help maintain trees in public areas gain a sense of satisfaction from doing something tangible on behalf of the environment and the community (Westphal, 1993).

In another area, research by psychologists suggests that volunteering contributes to a sense of personal growth and well-being. In a paper on organizational psychology, for example, Katz and Kahn (1978) note that the satisfaction obtained from being part of an organization is, in part, due to the opportunity to confirm one’s notion of self-worth. Indeed, in a study of human-service volunteers Cnaan and Goldberg-Glen (1991) found that the second-most-important motive for these volunteers (after the opportunity to do something worthwhile) was a desire to feel better about themselves.

Participation in volunteer activities also provides the satisfaction of meeting people with similar interests and making new friends. Active members of the Sierra Club, for example, described socializing as one of the satisfactions related to membership (Weinstein and Manzo, 1987).

A review of the literature in the field of leisure studies further extended our list of

One on one with a prairie, a volunteer gatherer looks for seed. Experiences like this, resonating with experiences of nature as old as our species, presumably underlie the satisfactions that draw people to restoration as a form of play—the foundation, perhaps, of a new kind of relationship with the natural landscape. Formerly taken for granted by restorationists recruiting volunteers, these satisfactions are now being explored and catalogued systematically in studies like the one reported here. Photos by B. Wolfgang Hoffman
possible satisfactions, some of which overlapped those identified in the nature-oriented research. For example, leisure activities provide opportunities to get away from one's regular routine and to socialize (Beard and Ragheb, 1980). One satisfaction that looms larger in the leisure literature than in the literature on nature, conservation, and volunteer activities is the satisfaction associated with physical activity. People enjoy participating in activities that challenge them physically (Butler, 1967; Kraus, 1971) and that improve their physical fitness (Singer, 1976).

Finally, we examined the literature on the benefits of recycling, a conservation activity that does not provide a break from one's routine and is not done in a group. Research here suggests that recycling provides both the satisfaction of doing something that can make a difference and the satisfaction of participating in a community activity, even though it is an individual effort (DeYoung, 1986).

We thought it likely that any of these satisfactions would be associated with volunteering for restoration projects. What was unclear was which ones and in what ways.

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**Ecological restoration is more than a nature activity.**

Assuming that restoration activities do provide a number of satisfactions to volunteers, we next asked whether these satisfactions would be reflected in volunteers' satisfaction with their lives as a whole. Research on the importance of leisure activities suggests that participation in these activities is associated with increased perceptions of wellness (Ragheb, 1983) and satisfaction with community life (Allen and Beattie, 1984). Furthermore, in a study, "healthful" leisure activities such as nature activities and volunteer work were associated with the well-being of AIDS caregivers (Canin, 1991). These findings suggested to us that we needed to include questions related to the individual volunteer's satisfaction with life, along with other measures of well-being.

**Who Benefits Most?**
We recognized that the satisfactions an individual gains by participating in restoration activities may depend on many factors. Satisfaction might depend, for example, both on how often one participates and over how long a time. What's more, satisfaction might depend on the amount and type of responsibilities volunteers assume above and beyond showing up for workdays. We wondered how the experience of volunteering depended on the nature of the involvement, the amount of time spent, and the period or length of time of participation.

It turns out that research on the relationship between volunteer involvement and satisfaction is limited and provided us little insight, especially regarding the frequency and length of time on the "job"—or tenure. On the other hand, research on the relationship between involvement and satisfaction for paid employees is more extensive and much more helpful.

In general, paid employees who are more involved have higher levels of satisfaction. This holds true for various measures of involvement, such as tenure (Bedeian and others, 1992), the amount of time a worker puts in (Miller and Terberg, 1979), and a person's sense of commitment (Mathieu, 1991). (Commitment is not a true measure of involvement, but we felt it might relate to the concept of taking on additional responsibilities.) Although volunteer work differs in some ways from paid employment, it also has important similarities. Like paid work, volunteer work involves a task to be completed, the application of skills and initiative, and the opportunity for achievement, success, and recognition (Gudjon, 1983).

Since involvement is clearly related to the experience of satisfaction, we examined restoration volunteers' satisfactions in this light. We wanted to find out whether beginning volunteers experience the same satisfactions as veteran volunteers or whether, as in the case of paid work, satisfaction is associated with tenure. We also wondered how frequency of participation relates to volunteer satisfaction. And finally, we looked at the relationship between levels of satisfaction and the taking on of special or extra responsibilities such as being a site steward or monitoring a site.

**The Survey**
To explore these issues, we developed a questionnaire and distributed it to prairie restoration volunteers in the Chicago region in November 1994. Since the study period preceded the controversy over restoration that erupted in Chicago in 1996 (Golster, 1997; Shore, 1997; Siewers, 1998), it was not addressed in the survey. Nor do the volunteers' answers reflect its impact.

The questionnaire was not based on one particular model. However, several survey methods that we turned up in our literature search proved to be helpful, especially when it came to phrasing the questions (Kaplan, 1973; DeYoung, 1986). For example, we asked participants to rate their overall satisfaction with restoration activities and to rate 50 specific satisfactions. To make the satisfactions less intimidating in number we broke them down into smaller groups, with lead-in statements such as Through restoration activities. I feel satisfaction related to: ... For each of these items, the volunteers used a five-point scale to indicate the degree of satisfaction they experienced, from 0 (not at all) to 4 (very much).

To measure life satisfaction, we asked: Generally, how satisfied are you with your life? We used 12 statements to measure life functioning, for example: During the past few weeks, I have felt my life is interesting and challenging; and I have felt that everything was an effort (Canin, 1991). For these items, we used the same 5-point scale as for the satisfactions.

We included questions designed to measure both tenure and frequency of participation in workdays. We also measured involvement by asking about the taking on of additional responsibilities associated with restoration projects, such as stewardship, monitoring, education, and publicity.
The questionnaire also included a number of standard demographic questions such as gender and age. Finally, several open-ended questions allowed participants to comment further on their restoration experiences or on their answers to other questions.

Altogether, the questionnaire contained 28 questions or statements. Most could be answered quickly; a few took longer. Some were made up of a number of items within a general question or statement. In a pretest, respondents reported that it took about 15 minutes to complete. This time probably varied, however, depending on how respondents answered the open-ended questions.

To develop our sample, we obtained from the Chicago office of The Nature Conservancy a list of leaders in local prairie restoration organizations. Through these leaders we obtained names and addresses of about 2,000 volunteers in nine restoration groups. The number of names on these lists ranged from as few as 17 for the Indian Boundary Prairie Group in Markham, Illinois, to over 600 for the North Branch Prairie Project, whose members participate in restoration efforts at a number of sites in Chicago and several northern suburbs.

We were aware that these lists were comprised of individuals who varied widely in the level and nature of their involvement. Some, for example, participate on a weekly basis, while others participate only occasionally or not at all. Some are deeply involved in work in the field, others handle organizational work or edit newsletters, and some are simply on the mailing list.
Since we wanted to be sure that we had a good representation of actively involved volunteers in our study, we begin by selecting 167 people who were identified as site stewards. To this we added 337 names selected at random from our various lists. This was not, in other words, an imperial cross section, but rather one deliberately designed to include a good representation of the more deeply committed volunteers.

Under the auspices of the University of Illinois, we mailed our questionnaire to these 504 persons. We were very pleased when after we sent just one reminder postcard, the response rate was 63 percent. Four participants completed less than half of the items, so we discarded their questionnaires, leaving 306 questionnaires to be analyzed.

### Restoration Satisfactions

Of the 306 respondents, 263 indicated that they had taken part in at least one restoration workday, while 43 indicated they had not. For those who had taken part in a workday, the question Generally, how satisfied are you with your restoration activities? provides a measure of the overall satisfaction they gained from restoration. On a scale in which 4 represents very much, the volunteer's average rating in response to this question was 3.2. While it is not surprising that those who take part in these activities feel some satisfaction from their involvement, 3.2 is still notably high. Moreover, this mean rating reflects responses from volunteers spanning a range of levels of participation from those who have volunteered once to those who make restoration a regular part of their lives. It also spans a range of restoration groups that probably have different management styles and varying degrees of success and failure in their work.

Rather than report the volunteers' responses to each of the 50 specific satisfaction questions, we used factor analysis to identify natural clusters or categories of satisfaction. Six categories of satisfaction emerged: A Chance to Be Away, Meaningful Action, Participation, Personal Growth, Physical Fitness, and Fascination with Nature. These categories, along with the specific satisfactions that make up the cluster, are listed in Table 1.

These categories cover an impressive range of satisfactions, but if restoration work actually provides all of them, the mean ratings for all six categories should be high. In fact, all category means were above the midpoint (2.0)—some well above—suggesting that volunteers experience many genuine satisfactions from their participation in restoration (Table 2).

**Table 1 Restoration Satisfaction Categories, Alphas*, and Component Benefits.**

<table>
<thead>
<tr>
<th>Category</th>
<th>Alpha</th>
<th>Component Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Chance to Be Away</td>
<td>.89</td>
<td>being in a quiet peaceful spot&lt;br&gt;being alone with my thoughts&lt;br&gt;just letting my mind wander&lt;br&gt;getting away from it all&lt;br&gt;feeling peace of mind&lt;br&gt;breaking out of the routine</td>
</tr>
<tr>
<td>Meaningful Action</td>
<td>.92</td>
<td>making life better for the coming generations&lt;br&gt;causing good things to happen&lt;br&gt;acting in a responsible manner towards the Earth&lt;br&gt;feeling I am doing the right thing&lt;br&gt;being of benefit to society or the community&lt;br&gt;feeling I am doing something useful&lt;br&gt;creating something beautiful&lt;br&gt;a sense of accomplishment&lt;br&gt;a sense that things are getting done&lt;br&gt;feeling I can play a role in nature</td>
</tr>
<tr>
<td>Participation</td>
<td>.66</td>
<td>working with different age groups&lt;br&gt;a broader experience&lt;br&gt;accomplishing something in a group&lt;br&gt;meeting with friendly and interesting people&lt;br&gt;having shared goals&lt;br&gt;opportunity to try new things&lt;br&gt;getting me fully involved</td>
</tr>
<tr>
<td>Personal Growth</td>
<td>.91</td>
<td>being a part of something profound&lt;br&gt;changing my life&lt;br&gt;help me with my self-confidence&lt;br&gt;restoring or contributing to my spirituality&lt;br&gt;help me to deal better with my day to day problems&lt;br&gt;feeling humble&lt;br&gt;help me with my personal growth&lt;br&gt;fitting into my place in the natural scheme&lt;br&gt;help me to be optimistic</td>
</tr>
<tr>
<td>Physical Fitness</td>
<td>.87</td>
<td>developing my physical fitness&lt;br&gt;physically challenging&lt;br&gt;helping me to stay healthy</td>
</tr>
<tr>
<td>Fascination with Nature</td>
<td>.70</td>
<td>seeking out and enjoying the wonders of nature&lt;br&gt;learning how nature works&lt;br&gt;absorbing and fascinating</td>
</tr>
</tbody>
</table>

*Cronbach's alpha is a measure of how similar the items in each category are to each other (in terms of the responses they evoke from participants). The alpha's range is from 0 to 1.0; the larger the alpha, the stronger the association between the items (Vogt, 1993).
still reported them as positive aspects of
their experience.

These findings are fairly consistent with those from previous, related studies. DeYoung (1986), for instance, showed that recycling is associated with satisfactions similar to Meaningful Action and Participation. His study showed that involvement in recycling gives people a chance to do something that makes a difference, to be a part of the community and to help bring order to the world. Furthermore, if one believes that the environment is being degraded, then playing a meaningful, participatory role in repairing the damage can help alleviate a sense of helplessness. It can increase one’s feeling of being able to cope (Kaplan and Kaplan, 1982). Along these lines, one volunteer wrote of the joy of seed collecting, “It’s rewarding to see the fruits of

Volunteers may experience a deeper sense of personal growth after years of participation, but this is tempered by the frustrations that naturally come about as one becomes more and more involved in a project.

| Table 2 Sources of Restoration Satisfaction, in Descending Order. |
|---------------|-------------|-------------|-------------|-------------|
| Source of Satisfaction | Mean | Std. Dev | Paired-t | p-value |
| Meaningful Action | 3.3 | 0.7 | 2.2 | .03 |
| Fascination with Nature | 3.2 | 0.7 | 9.3 | <.0001 |
| Participation | 2.8 | 0.8 | 3.4 | .0008 |
| A Chance to Be Away | 2.6 | 0.9 | 1.9 | .06 |
| Physical Fitness | 2.5 | 1.0 | 2.8 | .005 |
| Personal Growth | 2.4 | 1.0 | | |

Note: Paired t-statistics refer to the difference between ratings for each source of satisfaction and the next highest rated source of satisfaction.

orize that contact with nature not only stimulates curiosity and a sense of wonder and provides the “chance to be away,” but also offers a sense of connectedness (Kaplan and Kaplan, 1989). Two survey items that were not part of the Fascination with Nature category address these other aspects of a relationship with nature. The high mean ratings for these two items—feeling I can play a role in nature, and feeling I belong in nature—(3.1 and 3.2 respectively), clearly indicate the value volunteers find in restoration as a way of feeling a part of the natural world.

The high values for these two items suggest the possibility that volunteers feel they achieve a closeness with nature that they might not find in other, nature-related activities. This is reinforced by comments in the written part of the questionnaire. “There is an immediate, tactile connection to nature—a hands-on activity that is gentle and pleasant,” one respondent wrote. Another wrote, “It’s peaceful, close to nature in an almost intimate relationship.” This was reiterated by a volunteer who compared restoration work to loving someone in an intimate way: “There is a sense of communion; it is fulfilling and self-transcending.” These comments are typical, and suggest that restoration provides an opportunity to experience benefits from nature on a personal level.

Involvement and Benefits

The responses also enabled us to develop at least preliminary answers to the question of whether some volunteers experience more satisfaction than others depending on how long they’ve volunteered, how often they participate, and the amount and types of additional responsibilities they assume. For each of these factors, we examined its relationship to the volunteers’ overall satisfaction with their restoration work, the six categories of satisfaction, life satisfaction, and life functioning.

Tenure. The period of involvement in restoration work reported by the volunteers ranged from two months to 27 years. The average tenure was 5.6 years. Using regression analysis, we discovered that for the most part, the benefits an individual derived from restoration were the same whether the individual was a relatively recent recruit or an “old hand.” Tenure related to only one of the six satisfaction categories—Fascination with Nature (p=.03), which was slightly higher in those with long tenure. There was no correlation between tenure and life satisfaction or life functioning.

That Fascination with Nature increased as tenure increased suggests that the knowledge a volunteer acquires from experience may enhance further experience. Some long-time restoration volunteers mentioned this when writing about the rewards of educating others and giving tours. One wrote, “It gives me a chance to share with others my enthusiasm for our rare ecosystem.” From another perspective, a woman who reported a 12-year involvement with restoration commented, “The more you know, the more you realize there is to learn.”

There was some indication that volunteers who had been involved in restoration longer experienced more overall satisfaction from their participation than their less experienced counterparts. A closer look revealed a clear drop in overall satisfaction between two and four years of involvement (p=.001). There was no
corresponding drop in the specific satisfactions, not in life satisfaction and life functioning. Nevertheless, those working with volunteers may want to keep this possible "two-year itch" in mind. It may be followed by renewed interest and satisfaction, but it might also lead to the end of a volunteer's participation.

One possible explanation for the limited influence of tenure on restoration benefits is that the satisfactions from participation in restoration work are, for the most part, immediate. For example, a volunteer may experience a strong sense of satisfaction from being engaged in MEANINGFUL ACTION from the very beginning. This category includes several items that indicate a feeling of simply making some headway, such as a sense of accomplishment, and a sense that things are getting done. In describing why they enjoyed a particular activity, volunteers repeatedly emphasized the satisfaction of seeing the results of their work "that day." For example, one volunteer described the satisfaction from clearing brush as "immediate and gratifying."

Another possible explanation for the limited influence of tenure on satisfaction is that, over time, a fuller, more balanced picture of the restoration experience emerges. For instance, it is possible that in some ways volunteers may experience a deeper sense of MEANINGFUL ACTION or PERSONAL GROWTH after years of participation, but that this is tempered by the frustrations that naturally come about as one becomes more and more involved in a project. (Several volunteers commented that they would have appreciated an opportunity to describe their frustrations as well as their satisfactions with restoration work.)

**Frequency of Participation.** Of the 263 volunteers who had participated in a weekday, 250 had participated in at least one weekday over the previous six months. We divided the participants into two groups, those who participated less often (once a month or less; n = 144) and those who participated more often (more than once a month or more; n = 106). We examined possible differences in benefits for those who had participated more or less often, using a series of one-tailed Student t-tests.

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Participate more often</th>
<th>Participate less often</th>
<th>t-statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Satisfaction</td>
<td>3.4</td>
<td>3.0</td>
<td>4.3</td>
<td>.0001</td>
</tr>
<tr>
<td>Meaningful Action</td>
<td>3.4</td>
<td>3.3</td>
<td>0.9</td>
<td>ns</td>
</tr>
<tr>
<td>Fascination with Nature</td>
<td>3.4</td>
<td>3.2</td>
<td>2.7</td>
<td>.003</td>
</tr>
<tr>
<td>Participation</td>
<td>2.9</td>
<td>2.7</td>
<td>1.9</td>
<td>.03</td>
</tr>
<tr>
<td>A Chance to Be Away</td>
<td>2.6</td>
<td>2.7</td>
<td>0.3</td>
<td>ns</td>
</tr>
<tr>
<td>Physical Fitness</td>
<td>2.7</td>
<td>2.4</td>
<td>1.9</td>
<td>.03</td>
</tr>
<tr>
<td>Personal Growth</td>
<td>2.6</td>
<td>2.3</td>
<td>3.0</td>
<td>.001</td>
</tr>
<tr>
<td>Life Satisfaction</td>
<td>3.1</td>
<td>3.0</td>
<td>1.6</td>
<td>.05</td>
</tr>
<tr>
<td>Positive Life Functioning</td>
<td>2.9</td>
<td>2.7</td>
<td>2.4</td>
<td>.009</td>
</tr>
<tr>
<td>Negative Life Functioning</td>
<td>1.1</td>
<td>1.3</td>
<td>2.1</td>
<td>.02</td>
</tr>
</tbody>
</table>

*ns* = not significant at p < .05

Those who participated more often reported higher overall satisfaction (Table 3). These volunteers also experienced higher satisfaction in four of the six satisfaction categories: FASCINATION WITH NATURE, PARTICIPATION, PHYSICAL FITNESS, and PERSONAL GROWTH.

We conducted additional t-tests to determine whether more-frequent participation in restoration might also be associated with greater life satisfaction and life functioning. These analyses revealed that individuals who participated more often did have higher ratings for life satisfaction than did those who participated less often. Similarly, respondents who participated more had higher POSITIVE LIFE FUNCTIONING ratings and lower ratings for NEGATIVE LIFE FUNCTIONING than did those who participated less frequently.

Of course, we can not know the direction of the effect from these findings alone. It is possible that happy, well-functioning people tend to get more involved and to experience greater satisfaction from whatever they are involved in. It is also possible that high-frequency volunteers have other factors in common—for example, their choice of leisure activities. In fact, it was true that respondents who reported participating more often also reported spending more time in natural areas than those who participated less often (p = .0001). This time spent outdoors in activities not directly related to restoration projects might contribute to higher life satisfaction and better life functioning generally.

Nevertheless, frequent participation in restoration may, in fact, enhance life satisfaction and life functioning. Previous findings on the positive effects of gardening and other nature activities lend some support to this idea (Canin, 1991; Cimprich, 1990). Again, our data do not make clear which is cause and which effect. Still, our findings do suggest some kind of positive relationship between restoration activities and enhanced life functioning. Exactly how these are related would be a good subject for further research, which, as Terry Hartig and his colleagues have pointed out, might then provide information of great value in the recruitment and retention of restoration volunteers (Hartig and others, 1994).

**Taking on Additional Responsibilities.** Volunteers responded to the question "Have you volunteered for specific responsibilities?" by checking a number of choices, including stewardship, education, publicity and monitoring. Two hundred participants indicated that they had volunteered for at least one of these additional responsibilities; 63 individuals indicated they had not.

We compared levels of satisfaction for participants and non-participants in each of the responsibility areas. In addition, we compared satisfaction ratings for participants who volunteered for no additional responsibilities with those who volunteered for at least one additional responsibility (of any kind).

Table 4 illustrates the pattern that emerged. Participating in additional activities was frequently associated with higher satisfactions, while not participating in additional activities was associated with lower levels of satisfaction.
We found that stewardship (n=145) was the responsibility most often associated with higher levels of satisfaction. Not only did stewards give higher ratings for overall satisfaction than did non-stewards, but stewards gave higher ratings for four of the six specific satisfaction categories.

Other responsibilities were also associated with higher levels of satisfaction. Those volunteers who were involved in educational efforts (n=83) had a higher overall rating for satisfaction than those who were not. In addition, education volunteers had higher levels of satisfaction in two of the specific satisfaction categories—FASCINATION WITH NATURE and PERSONAL GROWTH. Publicity volunteers (n=56) also had higher levels of satisfaction in the categories FASCINATION WITH NATURE and MEANINGFUL ACTION than volunteers who did not participate in these activities. Curiously, monitoring (n=49) was not associated with an increase in overall restoration satisfaction or in any specific satisfactions. Respondents who reported that they did not volunteer for any additional responsibilities reported lower levels of overall satisfaction than those who did, and also lower levels of satisfaction in three specific categories.

We looked for relationships between each of the specific responsibilities and LIFE SATISFACTION, POSITIVE LIFE FUNCTIONING and NEGATIVE LIFE FUNCTIONING. No single responsibility was associated with higher ratings for life satisfaction or life functioning; rather, what was important was whether an individual volunteered for additional tasks at all. Those volunteers who took on no additional responsibilities experienced lower levels of life satisfaction (p = .05) and had higher ratings on the NEGATIVE LIFE FUNCTIONING scale (p = .003) than those who took on at least one extra responsibility.

Why are some responsibilities associated with higher levels of satisfactions while others are not? The answer may involve the volunteer’s sense of commitment. Stewardship requires the commitment of time and emotion. Laurel Ross, a volunteer coordinator for The Illinois Nature Conservancy in Chicago, has written that stewards form real attachments to the sites they manage (Ross, 1994). In our survey, one steward wrote about the pleasure of site planning and planting: “Historical maps and occasionally old photos show what a site was many years before disturbance. It’s rewarding to participate, manage and observe as a site returns to its original native state.” It is not surprising, given this level of involvement, that stewardship was associated with higher levels of satisfaction in our various categories of satisfaction.

The connection between commitment and satisfaction becomes even clearer when we review the relationship between not volunteering for additional responsibilities, and life satisfaction, and life functioning. Restoration workers who did not volunteer for additional responsibilities—and who may be regarded as having made a smaller commitment to restoration than their counterparts who did volunteer for additional responsibilities—reported lower levels of both life satisfaction and life functioning.

**Implications**

Bill Jordan has written that “restoration provides a model for a healthy relationship between our species and the environment—a kind of rite of reentry into nature, a step toward that recovery of a harmonious balance with the rest of the natural world that has been a recurring theme of environmental thinking since Thoreau” (Jordan, 1986). Jordan has also suggested that this process or experience also benefits those who participate. Our results clearly support these earlier suggestions. As did Herb Schroeder (1998), we found that the volunteers in our study reported a range of important satisfactions from restoration. Furthermore, volunteers experience many of these satisfactions at a relatively high level.

Some of these results were not surprising to us. Our literature search painted a picture of numerous possible benefits that fully corroborated my personal experience. For example, studies of the volunteer experience revealed the satisfaction of taking part in something meaningful, while studies of various ways of experiencing nature documented the psychological benefits of

**Table 4 Levels of Satisfaction Associated with Additional Responsibilities.**

<table>
<thead>
<tr>
<th>Satisfactions</th>
<th>steward</th>
<th>education</th>
<th>publicity</th>
<th>none</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Overall Satisfaction</td>
<td>3.3</td>
<td>3.0</td>
<td>3.4</td>
<td>3.1</td>
</tr>
<tr>
<td>Meaningful Action</td>
<td>3.4</td>
<td>3.2</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Fascination With Nature</td>
<td>3.4</td>
<td>3.1</td>
<td>3.4</td>
<td>3.2</td>
</tr>
<tr>
<td>Physical Fitness</td>
<td>2.7</td>
<td>2.3</td>
<td>3.4</td>
<td>3.2</td>
</tr>
<tr>
<td>Personal Growth</td>
<td>2.4</td>
<td>2.2</td>
<td>2.5</td>
<td>2.2</td>
</tr>
</tbody>
</table>

One-tailed t-test (p = .05, blank = not significant)
became embroiled in controversy. Although restoration volunteers generally feel that they are involved in something important and good, some community members have been vocal in their disapproval of restoration in Chicago (Ross, 1998). How has this controversy affected the satisfaction levels of the volunteers? For example, would meaningful action rate the same now as it did in our pre-controversy survey?

It may also be useful to study the frustrations that are a part of the restoration process. Doing so would provide a more complete picture of the experience of restoration and would provide valuable information for stewards and restoration managers.

The question of cause and effect should also be addressed. Does participating in restoration activities actually make people happier? From a correlational study it's impossible to say. Those who volunteer and who do so frequently may just be happier people. With that in mind, it might be helpful to survey restoration participants who are not necessarily volunteers. A random sample of individuals might be assigned to take part in restoration for six months or so. A real random sample may be difficult to achieve, but perhaps looking at students who are required to participate in restoration activities for a class, or people who take part to complete community-service requirements could shed some light on this question.

Finally, researchers could explore the experience of restoration as a way of relating to the natural world. How is participation in restoration similar to, or different from other ways of interacting with the natural landscape? Are the benefits the same? For example, are the emotions evoked when planting seeds in a wild prairie different from those evoked when visiting a wilderness area, or when planting seeds in one's garden? Answering these questions might contribute to a deeper awareness of just who we are, and what our place in the natural world might be.

REFERENCES


Comparing Restoration

The survey reported in this article included the question: If you were to compare restoration with something else, what would it be? The answers to this question were both varied and revealing. They clearly indicated the many passions of the volunteers, as well as their passion for restoration. A selection of the responses:

- Hiking in the woods—being in the natural setting does good things to my physical and emotional self, including reducing stress.
- Gardening—it provides the same quiet time in nature with the potential for creating beauty and the frustration of weeds, “critters” and other never-ending challenges to progress, e.g. weather.
- It’s kind of like, if you make a mistake on a test, you go back and erase it. We’re trying to erase our mistake.
- Making quilts—one stitch, or one seed, at a time and in the end the result is fantastic, beautiful.
- Home rehabs—if you restore an area to its original growth pattern it’s like restoring a Victorian house to its original state and beauty—keeping it alive for the future.
- Meditation—experiencing the “now” in the most positive way, being working on a prairie-savanna is “finding your joy”!
- Making chicken soup for a dear sick friend to whom I owe a lot—it is a form of healing, and good for me too—very psychological.
- Learning a foreign language—we started out knowing absolutely nothing and bit by bit, began to learn vocabulary to develop sentences to communicate with others who know the language to teaching it to others with no knowledge at all.
- Writing poetry-creating art—it’s creative, positive, fulfilling, self-transcending.
- Raising children—you see some good results, some bad, a lot unexpected, sometimes you have to just wait and see how things “fix” themselves.
- A free vacation to a beautiful and exotic place—I consider it a pleasure and a privilege to spend time on the prairie.
- Volunteering my time as a “Big Sister” to a 9 year old African-American girl in Evanston through a mentoring program:
  - both endeavors give me a chance to “give back” to my community.
  - both provide me with wonderful learning experiences.
  - both are activities that are very different than my professional work, are refreshing.
  - both get me “outside” and into new environments.

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