Silverspot Butterfly Recovery Efforts

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Case Description

The Oregon silverspot butterfly (*Speyeria zerene hippolyta*) was listed as a federally threatened species by the U.S. Fish and Wildlife Service (USFWS) in 1980. Restricted to indigenous grasslands along the coast from southwestern Washington to northwestern California, its habitat has almost entirely disappeared in recent years due to human development, ecological succession, and collection pressures. The same year the species was listed, Forest Service personnel found a population of silverspots on the Siuslaw National Forest in Oregon. This population, at Rock Creek, was the only known population in the national forest at this time.

Beginning immediately, the biologists on the Siuslaw National Forest quietly took the initiative and began research and recovery efforts for the silverspot. They collaborated with Oregon State University (OSU) entomologist Paul Hammond and began the “pioneering research” on the butterfly, cataloging and observing it in an effort to better understand its needs and habits. At the same time, the Forest Service began carefully experimenting with on-the-ground management practices, such as mowing and burning, to control succession and protect butterfly habitat in an approximately 1,000-acre “Silverspot Management Area.”

In addition to the official recovery team required by the Endangered Species Act, and headed by the U.S. Fish and Wildlife Service, there is an informal “working group” made up of over 20 governmental agencies and other local and national interested parties (environmental organizations, lepidopterists, private land owners) who are committed to promotion and protection of the species and its habitat. The first and most active of these groups was The Nature Conservancy, which approached the Forest Service in 1983 when they found a population of silverspots on their preserve adjacent to the Siuslaw National Forest. The Siuslaw National Forest shared the research and management information it had accumulated over the previous two years, and Forest Service staff helped the Conservancy carry out a prescribed burn to hold succession at bay. From that point on, the two organizations decided to collaborate and, through a Challenge Cost Share grant in 1986, began to combine research efforts and expertise.

The relationship has been fruitful for the butterfly as well as for the two organizations. Several distinct populations of silverspots are now being managed on both Forest Service and Nature Conservancy lands. According to Cathy Macdonald from The Nature Conservancy, “Working together has allowed us to compare populations and habitat conditions across sites. These comparisons have improved our understanding of the factors that affect the population dynamics of the Oregon silverspot butterfly and ultimately improves our management of the species. We’ve learned much more by cooperating than we could have on our own.”
The Nature Conservancy and the Forest Service have also learned a lot about each other. Macdonald refers to it as “a bringing together of organizational mindsets,” in that the groups have not always agreed about management decisions, but they have learned to work out their differences. For example, over the years, disagreements have occurred over the extent to which some areas should be burned and mowed. Both organizations have moved forward with different management approaches, sharing the results of their efforts with one another and clearing all actions with USFWS biologists.

According to the Forest Service’s Michael Clady, there has been a “real broad-based coalition committed to the recovery of this critter.” The accumulated knowledge is now shared with many other parties that have found populations of silverspots on their land and wish to manage to promote recovery. In addition to the Forest Service management areas, other groups are managing their land to promote silverspot habitat. For example, management plans have been developed for a local National Guard unit, the Oregon Department of Transportation, which has a road that traverses silverspot habitat; and several private landowners.

The silverspot recovery project has been a double victory for the Forest Service. While leading the way in research, management and recovery of an endangered species, agency staff have simultaneously increased their understanding of how to work cooperatively with both governmental and non-governmental groups towards a common goal. By quietly filling a gap that existed in endangered species management in the 1980s and 1990s and “leading by example,” the Forest Service has provided ecosystem management for this threatened species.

The program also provides good publicity for the Forest Service, a change in image that is particularly important in the Pacific Northwest, where the spotted owl controversy dominated the agency’s image in management of endangered species in past years. Paul Hammond explained that with very little money the silverspot management effort is “cheap publicity,” as it makes the Forest Service look good in that they are doing something for endangered species in the middle of all the controversy.”

A real success of this research and management effort is the development of a broad-based group of people and organizations who feel committed and responsible for the recovery of the silverspot. In the early 1980s, the fate of the silverspot was primarily in the hands of a few Forest Service biologists. Now, however, the group of people that care about the future of the silverspot has grown geometrically, and consequently, its future is not so dependent on whims of funding and time constraints from a single organization. “At this point we are stimulating each other, not the Forest Service pulling everyone along,” says Michael Clady.
In 2001, the USFWS created a revised recovery plan for the silverspot butterfly. The Forest Service is currently consulting with the USFWS in order to try recovery approaches deemed as too risky in the past. Says Michael Clady, “We are going to now try grazing and even herbicide and other things that were probably unthinkable five years ago.” In addition, the USFWS has teamed up with The Nature Conservancy, Lewis and Clark College, and the Oregon Zoo to begin a fairly large silverspot butterfly captive breeding program.

**What is fostering progress?**

This project succeeded because it recognized and filled an existing need. According to Cathy Macdonald of the Nature Conservancy, the Forest Service stepped in and “filled a gap left by the U.S. Fish and Wildlife Service,” whose time and efforts were being dominated by the contentious spotted owl issue. It provides a good example of the agency understanding and making use of biological knowledge and external opportunity. Because the Forest Service recognized the value of sharing information, expertise and labor, and embraced this collaboration with The Nature Conservancy, the silverspot recovery efforts have expanded.

Forest Service staff on the Siuslaw National Forest explained that the serious long-term commitment to the silverspot made in 1980 has contributed significantly to the success of the management effort. USFS Forest Coordinator for the Silverspot Butterfly Michael Clady said that they “were serious about doing it and stuck to it” regardless of what other agencies and individuals were doing. “We were leading, not being dragged along – it was very proactive,” he noted. Because of this sincere commitment and the agency’s “lead by example” attitude, other groups were more comfortable signing on and offering valuable time and resources to the effort. It is generally believed that if the Forest Service had not initiated its efforts early and remained committed to protection and management, the silverspot population at Rock Creek would likely have been lost.

Oregon State University entomologist Paul Hammond, who has been involved in the silverspot research since the beginning, explained that the “above-and-beyond” efforts of individuals in the Forest Service have enabled continued progress over the years. Since 1980, he has worked with eight to ten different Forest Service biologists and has found them to be enthusiastic. “Nothing would have happened without their personal effort and commitment,” Hammond said.

Around the time of the final review of the 2001 Recovery Plan, the Forest Service sent a letter to the Regional Director of the USFWS challenging the agency to step up to the plate and get serious about the silverspot. Michael Clady said that, “Since then, the FWS has taken a much more active role in leading things. That’s really changed and has been very positive. The Forest Service had settled into a routine and the USFWS is challenging them to try some things differently.”
Innovative funding also has helped promote progress. Paul Hammond described that “originally the Forest Service did much of their own management, but in the face of cutbacks they have had to contract out the mowing management.” This arrangement seems to be working very well.

**What challenges were faced and how were they overcome?**

In the early stages of the project, a significant challenge was an attitude among some Forest Service personnel that threatened and endangered species were an impediment to other activities in the Pacific Northwest, namely timber sales. This belief made it difficult to maintain funding and ensure continuity for the silverspot effort and other threatened species management projects. According to Paul Hammond, attitudes towards threatened and endangered species management have changed dramatically over the course of the silverspot effort and that a “new breed of forest managers are much more aware and sensitive about these types of projects.” He cited the example of a proposed timber sale in the nearby Siskiyou National Forest that was cancelled due to the discovery of another endangered insect.

In the course of the project, differences of opinion have also occurred between the Forest Service and The Nature Conservancy regarding the appropriateness of particular management practices. According to Paul Hammond, the Forest Service manages for butterfly habitat by mowing the tall, weedy vegetation while The Nature Conservancy has been using prescribed fire (a natural, pre-European disturbance) as their management tool. The two organizations could have parted ways in the face of disagreement, but they did not. Instead they proceeded with different management practices on the National Forest and The Nature Conservancy preserve, while clearing all management actions with the U.S. Fish and Wildlife Service, as required under the Endangered Species Act. The two groups closely monitor the results of their different management strategies, sharing observations and research efforts, and their relationship remains intact.

Another obstacle the silverspot management efforts have faced is a lack of staff continuity in the national forest. Hammond explained that frequent transfers of staff at the forest level have made it difficult to have consistency of staff involved in the project. He felt that it was helpful to have someone like him who has a history with the project to “pass the ball” from the old staff to new members; he explained that he has “been able to fill the role as far as continuity.” In the last few years, the ranger district has also lost a number of its personnel, so fewer staff are now available to conduct on-the-ground management work, such as mowing the meadows that provide silverspot habitat (for the grasslands the butterflies require are succeeding quickly to brush and trees). As a
result, the agency has recently begun to contract out the mowing work, but such arrangements require significant funds.

The silverspot management efforts have had to deal with serious funding shortages over the years. Michael Clady noted the problem of competition for limited resources with other endangered species. For example, he explained that it was typically harder to obtain funds for the silverspot butterfly than for the Marbled Murrelet, an endangered species whose protection has broader social and economic impacts. These budget deficiencies led to creative efforts to generate resources to support the program, including cost-sharing arrangements with The Nature Conservancy and cooperative agreements with the Oregon Department of Transportation. Through the cost-share agreements, The Nature Conservancy does significant monitoring and management work on the silverspot butterfly on Forest Service land, including doing population census. Funding shortages, however, have enhanced the importance of collaboration in the silverspot management efforts. As Clady noted, “When money is harder to get…collaborative work becomes more important.” He continued, “That’s why it was easier to get money for Challenge Cost Share. It’s a good way for us to continue to feel good – that we’re holding our own in the project, without having it all come out of our pockets.

In recent years, the funding situation has changed. Michael Clady remarked that, “it’s almost to the point now where money is not the limiting factor, it’s personnel. We have about 1/5 the budget and 1/5 the people we had in 1995. So even though in the past few years it’s been easier to get money, we can’t get experienced people to do it.” In addition, the butterfly populations have not done well throughout the range. According to Paul Hammond, “the 2002 butterfly census found butterfly populations within the Siuslaw National Forest at Rock Creek and Mt. Hebo have been doing really well” while butterfly populations on The Nature Conservancy property at Cascade Head have dropped to dangerously low numbers.

In response to seriously low population levels in some areas, the USFWS has teamed up with The Nature Conservancy, the Oregon Zoo, and Lewis and Clark College to rear silverspot butterflies in captivity. This program, started in the summer of 2000, is a collaborative step to work to save populations in areas where the future of the silverspot is critical.

**What lessons can be drawn for future bridging?**

“More action, less talk. Lead by example,” was the primary lesson to be learned from the process according to Michael Clady. If the Forest Service biologists had not been committed to their research and management efforts of the silverspot in 1980, it is questionable whether the species
would still be present at Rock Creek. Furthermore, such a proactive approach is very empowering for people working on the project in that they were not forced to act, but did so on their own and, thus, now “own” the project. Clady explained, “I’ve always felt that the only thing that we’ve got to offer is rolling up our sleeves and really getting involved in the management.” He continued, “I think our success has come from the fact that we’ve been able to show success – provided leadership, and others are willing to come along.”

This project also offers an example for expanding limited resources. By cooperating in research and management experimentation, the Forest Service and The Nature Conservancy avoided duplicating efforts. In doing so, they were able to transfer resources that might have been unnecessarily consumed by silverspot research to other important projects. Resources were also expanded when other groups and individuals were able to make use of their research and voluntarily created management plans for areas outside of national forests, further enhancing the recovery of the silverspot butterfly. OSU researcher Paul Hammond also underscored the importance of working with experts outside the agency. “Developing contacts with the scientific community and with experts is probably your number one requirement,” he said, and these outside resources become even more essential in eras of budget cutbacks.

Working with partners through the silverspot butterfly working group since 1980 has helped a lot with data sharing. Michael Clady of the USFS remarked that, “The strong part of our program from its beginning in 1980 is that every year we put out an extensive monitoring report. I think that’s probably unprecedented in the Forest Service for well over 20 years.” Many of the partners are very focused on monitoring and share their findings regularly. While dealing with the difficulties of managing for this threatened species, the partners in the silverspot butterfly recovery efforts have found support from each other.

For further information

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