

Southwest Michigan Land Conservancy

Partnership

At the start of this project, the Southwest Michigan Land Conservancy was a relatively young organization dedicated to the preservation of a wide array of values including open space, farmland, viewsheds, water quality and unique natural features. The organization also had a very involved board of directors, which had a wide array backgrounds and interests. In 1998, the Conservancy was interested in expanding membership, building staff capacity, and focusing on a few high priority conservation projects. This project provided the means to help achieve these long-term goals. It provided funds for hiring staff, purchasing equipment, and printing educational materials. It also provided the scientific credibility to leverage existing projects, and focus future efforts on large scale high priority conservation areas. Today the partnership between SWMLC and MNFI is very strong and will continue to remain strong as long as MNFI is able to provide good information and services.

One of the challenges we faced with SWMLC was the turnover or changes in staffing. The Land Protection Specialist of the SWMLC was hired with funds from this project but left for another job before the project had finished. The Director of the SWMLC also took another job before the project was completed, and the new Director was hired so much later that they were never able to get involved in the project. In addition, the new Land Protection Specialist was hired with only a little over one year left in the project. Needless to say, building a partnership in such a transitional environment was difficult but not impossible. One of the key relationships built in this project was with the SWMLC board of directors, which maintains relatively consistent membership. Their trust in MNFI was extremely valuable during transition periods, and carried over to the new staff brought on during the project.

Tools

The SWMLC was provided several color maps at 1:250,000 scale displaying a variety of information such as 1978 land cover, circa 1800 vegetation (presettlement vegetation), watershed boundaries, and element occurrences for the 9 counties in the southwest lower peninsula that make up their service area. To facilitate the identification and spatial location of a large number of element occurrences over such a large region, a mylar overlay displaying township, range, section was created (Appendix F) along with element occurrence tables sorted by county and by township, range, section (Appendix G). Color circa 1800

vegetation maps at 1:100,000 scale for each individual county were also provided. John and SWMLC staff used this information in conjunction with The Nature Conservancy's (TNC) ecoregional portfolio sites, local knowledge, and SWMLC's list of potential conservation projects to identify key sites.

The information and tools mentioned above did not necessarily lead to any clear or simple decisions. The landscape in southwest Michigan is highly fragmented and has been impacted by agriculture for over 150 years. Element occurrences are scattered throughout the region with only a few large clusters showing up on large publicly owned lands such as the Allegan State Game Area. One of the more interesting findings was discovering the majority of Mitchell's satyr populations, federally and state listed as Endangered, occur in the southwest lower peninsula of Michigan. However, this species is very rare and occurrences are highly scattered rather than concentrated. We also found that there were a large number of prairie fen occurrences in the interlobate region of southwest Michigan.

Prairie fen, a globally rare wetland community, is primarily limited in Michigan to the interlobate region of the southern Lower Peninsula. This unique ecosystem is home to several rare plants such as small white lady's slipper and prairie Indian plantain, rare insects such as Mitchell's satyr butterfly, and rare animals such as e. massasauga rattlesnake. Historically, prairie fens were originally found in a mosaic of oak woodlands, oak savannas, and tall grass prairies. However, during the 1800's, many of these uplands were logged and farmed by European settlers. Today, many of these uplands are being converted to residential and commercial development. Development of these uplands not only negatively impacts the remaining oak woodland and prairie remnants but also the adjacent lowlands by altering hydrology, increasing erosion, and introducing exotic species.

Similar to the distribution of Mitchell's satyr, prairie fens are widely scattered and isolated from other natural features. The only strong pattern occurred when we looked at both element occurrences and 1978 land cover. The majority of element occurrences and natural lands in the southwest portion of the Lower Peninsula are located along, in, or very near a major river system. As a result, 3 watersheds, the Dowagiac River watershed, Paw Paw River watershed, Galien River, and one area focused on water quality, the Four Townships Water Resources project (2 townships in Barry County and 2 in Kalamazoo County), were identified as high priority projects.

GIS staff designed and provided the databases required to complete the maps and statistical analysis, and created large hardcopy maps of each of the projects mentioned above. These tools were then used by MNFI and SWMLC to identify one or two sites to focus on for this project. Although the Paw Paw River contained a fair amount of element occurrences and a relatively intact floodplain forest, SWMLC staff and the board of directors decided they did not have the capacity to initiate a project in the Paw Paw River watershed at that point in time. Likewise, SWMLC did not feel they had strong enough support in the Galien River watershed to start a project there, despite the fact that it is a high quality riverine system. That left both the four townships project and the Dowagiac River. SWMLC was interested in both projects. The four townships area had a relatively high number of element occurrences within the boundary and the project had support from MSU Extension, MSU Kellogg Biological Station, and township officials. The Dowagiac River came out as a high priority for both organizations. The watershed contains a high number of element occurrences, including one of the best unprotected Mitchell's satyr sites in the world (actually consists of 7 isolated populations). The watershed also contains many potential natural areas including potential prairie fens and additional Mitchell's satyr sites. In addition, the SWMLC was just getting involved in a restoration project along the mainstem of the river.

The next step was to identify and prioritize high quality natural areas in the watershed. 1978 land cover and USGS topography maps were used to identify large and/or high quality floodplain forests, upland forests, upland/wetland complexes, and open wetlands. In addition, MNFI used element occurrences to further target areas for landowner contact. These areas include natural communities such as southern floodplain forest, prairie fen, mesic and dry-mesic southern forest, coastal plain marsh, and bog, and numerous rare species such as Mitchell's satyr, massasauga rattlesnake, spotted turtle, and small white lady's slipper. MNFI also analyzed black and white 1999 aerial photographs (1:15,000) to identify potential prairie fen complexes. Polygons of these natural areas were digitized in Arcview, and SWMLC was provided paper maps and a copy of the digital GIS database (Appendix F).

Several sites were visited in the spring of 2000 to determine potential quality, prioritize landowner contact and protection efforts, and delineate more accurate boundaries for landowner contact. MNFI assisted with surveys of several potential natural areas in the Dowagiac River watershed with committee

members and staff from SWMLC. The group also surveyed both known and potential Mitchell's satyr butterfly sites in the watershed, and observed several of these very rare butterflies in flight. As a result of these surveys, the Conservancy identified high priority sites for future conservation efforts.

To further assist SWMLC with prioritization of sites in southwest Michigan, MNFI provided an updated element occurrence spreadsheet in the fall of 2000, which included a field with the last observed date, as well as a list of the most ecologically significant sites in their region based on MNFI data.

Outreach

Landowner Contact

A subcontract was designed between MNFI and SWMLC to develop targeted outreach programs in high priority areas. The contract specified the minimum number of hours worked on the project, and described each task in detail. Primary tasks included: developing and implementing a proactive public outreach program, initiating and building partnerships, identifying educational material needs, and providing examples of materials developed. (appendix A).

The SWMLC focused landowner contact activities in two areas: 1) the Dowagiac River watershed, and 2) the Cedar Creek/High Banks Creek watersheds located in the four townships project area. A preliminary list of landowners to contact within Dowagiac River watershed was developed based on MNFI's database, 1978 landcover, and other resources. A list of key landowners in the watershed was compiled from equalization offices in both Cass and Van Buren Counties.

A total of 525 landowners were contacted in the Dowagiac River watershed between September, 2000 and May 1, 2001. SWMLC followed up with phone calls and site visits to 15 landowners in high priority sites, and continued to work closely with 5 of these landowners on potential land protection projects (Appendix D). To date, one landowner has signed a conservation easement for 80 acres along the Dowagiac Creek, and one landowner has agreed to sell the conservancy 15 acres of upland oak forest, prairie fen, and tamarack swamp along Cook Lake. This property contains populations of Mitchell's satyr and box turtle, and potentially e. massasauga rattlesnake and northern copperbelly watersnake. The Conservancy is also working with a landowner that owns over 2,500 acres in the watershed. The property contains prairie fen, tamarack swamp, and mature stands of both southern mesic forest and southern swamp. Landowner contact efforts in the Dowagiac River watershed were slated to continue in the spring

of 2001, focusing on a few key parcels along Pokagon Creek with potential for prairie fen and/or associated rare species. However, due to low accessibility, previous commitments, and unforeseen circumstances, we were unable to complete this additional task.

Workshops

SWMLC developed and delivered several workshops throughout the course of this project, including a workshop focused on the unique natural features of the Dowagiac River watershed, riparian land management, and protection options. Approximately 80 landowners attended the workshop held at the Dowagiac Conservation Club, which owns an ecologically significant parcel in the watershed. They also delivered three one hour workshops and one presentation for the Our Ultimate Resource land committee, (OUR-Land), a group of residents in Barry County concerned about land use and the protection of agricultural lands and natural resources. The purpose of the workshops was to educate landowners about land protection options and the unique natural features in their area. The presentation focused on educating newly elected officials about the SWMLC and specific land protection options. Approximately 60 Barry County residents attended the workshops, and 40 local officials attended the presentation.

Partnerships

During this project, SWMLC developed partnerships with the Dowagiac River Stewardship Project, Cass County Conservation District, OUR-Land Committee, resource professionals in each county, and MEANDRS, a grassroots group interested in the restoration of the Dowagiac River.

Educational materials

Educational materials such as the oak-pine barrens slide-audio program and abstracts related to prairie fens were provided and discussed to assist SWMLC in development of brochures, factsheets, and other materials. MNFI consulted with SWMLC on development of educational materials, provided follow up on database information, and provided background material to help develop brochures on wetlands such as prairie fens, and floodplain forests. Working with the Cass County Soil and Water Conservation District (SWCD), MNFI and SWMLC staff completed and produced four brochures for outreach in the Dowagiac River watershed: 1) hydrology, 2) wetlands, 3) fens, marshes, and bogs, and 4) floodplain forests. All of these brochures will also be applicable to other areas in southwest Michigan. We were also able to provide input to the content of a brochure developed by the

SWCD. The brochure provides an overview of the watershed and introduces residents to the unique qualities of the watershed, including rare species and high quality natural communities. In addition, a group called Meeting the Ecological and Agricultural Needs of the Dowagiac River System (MEANDRS), developed a placemat of the watershed that will be used in many of the restaurants in the area. The placemat focuses on watershed facts, and highlights several rare species found in the watershed (based on MNFI's information) such as Mitchell's satyr, spotted turtle, and prairie trillium (Appendix C).

Related Work

In March of 2000, MNFI was awarded a three year grant funded by the US Fish and Wildlife Service (USFWS). The purpose of the grant is to enhance the conservation of eastern massasauga rattlesnake and the Mitchell's satyr butterfly in southwest Michigan. The objective is to build capacity within SWMLC so that they become the experts in their region of Michigan. To prepare for this project, two SWMLC staff members and three conservancy volunteers were given onsite instruction on the identification of Mitchell's satyr, prairie fen, and associated species at sites in Cass County during the last week of June, 2000. In the winter of 2000-01, MNFI staff met with SWMLC to discuss the initiation of this project. The group agreed to include information about SWMLC in the follow-up letters that MNFI sends to landowners visited during the previous field season. Letters were customized and divided into five groupings 1) Dowagiac River watershed with satyr, 2) Dowagiac River watershed with fen, 3) outside Dowagiac R. watershed with satyr, 4) outside Dowagiac R. watershed with fen, and 5) landowners in SWMLC region that MNFI was unable to visit. Letters were sent out in March, 2001, and landowners with known satyr populations on their property received a follow up phone call and/or site visit in June, 2001.

To learn more about the life history, management and research needs, survey techniques, and current outreach efforts of the e. massasauga rattlesnake, MNFI staff participated in a full day meeting in the fall, 2000. Several staff also developed a powerpoint presentation summarizing MNFI's past, current, and future efforts to study and conserve Mitchell's satyr, entitled "The Conservation of a Federally Endangered Butterfly, *Neonympha mitchellii* mitchellii, in a Highly Fragmented Landscape." The presentation was developed in the fall of 2000, and presented at the 2000 Natural Areas Conference in St. Louis. The information gained from the workshop and the presentation will be used to train SWMLC staff and

volunteers in the summer of 2001.

In addition to the USFWS project, MNFI plans to work with SWMLC on identifying and prioritizing potential conservation areas in the Paw Paw River watershed. Another exciting development is that the information developed for the Dowagiac River watershed is being utilized by the Cass County SWCD. The SWCD was recently awarded a 319 Clean Watershed Initiative grant from the Michigan Department of Environmental Quality. They would like to use the information to: 1) educate stakeholders, 2) develop a watershed plan, and 3) identify priority

conservation sites. MNFI plans to assist the SWCD in prioritizing potential conservation areas and integrating biodiversity conservation into the watershed plan.

Lastly, SWMLC is building on this project by engaging biologists from all over their region to share site specific information, and develop comprehensive species lists for all of their preserves and conservation easements. The information will be entered into a spatial database to provide site specific information for larger conservation areas. Information on listed species and unique natural communities will be shared with MNFI.

Land Conservancy of West Michigan

Partnership

Founded in 1976, the Land Conservancy of West Michigan (LCWM) is a small organization located in Grand Rapids, Michigan. The mission of LCWM is to protect lands that contribute to the distinctive character and quality of life in West Michigan. Values include habitat for native plants and animals, centers for study and quiet recreation, and scenic beauty. In 1998, LCWM was primarily focused on protecting land along the Lake Michigan shoreline, portions of the Grand River, and sites within the Grand Rapids metropolitan area. The Land Conservancy was supportive of this project because they wanted to expand outreach efforts, and gain access to the heritage database for identifying high priority sites and parcels. The only contact we had at LCWM was with Ms. Scholtz, who was both Director of Land Protection and interim Director of the Land Conservancy for much of the grant period. Due to her previous employment with The Michigan Chapter of The Nature Conservancy, Ms. Sholtz was knowledgeable of MNFI and the rare natural features found in west Michigan. One of the main challenges of working with LCWM was forming a strong partnership and maintaining an adequate level of communication. Unlike SWMLC, LCWM did not require a lot of feedback or guidance, and consequently did not maintain a high level of contact with MNFI. This may be due to that fact that Ms. Sholtz was previously employed by TNC where she received training in landowner contact, community outreach, and some plant, animal, and natural community identification.

Tools

MNFI provided LCWM with several color maps at 1:250,000 scale displaying a variety of information such as 1978 land cover, circa 1800

vegetation (presettlement vegetation), watershed boundaries, and element occurrences for the x counties in the western portion of the lower peninsula that make up their service area. To facilitate the identification and spatial location of a large number of element occurrences over such a large region, a mylar overlay displaying township, range, section was created (Appendix F) along with element occurrence tables sorted by county and by township, range, section (Appendix G). Color circa 1800 vegetation maps at 1:100,000 scale for each individual county were also provided. MNFI and LCWM staff used this information in conjunction with The Nature Conservancy's (TNC) ecoregional portfolio sites, local knowledge, and LCWM's list of potential conservation projects to identify key sites.

Similar to what was found in the southwest Lower Peninsula, very few patterns emerged for west Michigan. The vast majority of element occurrences were located on public land, along the Lake Michigan shoreline, and along several large rivers. Areas with concentrations of element occurrences were 1) oak-pine barrens landscape in Newaygo and Muskegon Counties, 2) Lake Michigan shoreline, and 3) portions of both the Grand and Muskegon Rivers. LCWM was already working on a project along the Grand River, and was very familiar with the key landowners along Lake Michigan. That left the Muskegon River and oak-pine barrens landscape. Based on MNFI's information, it was decided that LCWM should focus their conservation efforts on the dry sand prairies, coastal plain marshes, and associated plants and animals found in southern Newaygo County and northern Muskegon County.

The oak-pine barrens ecosystem, located in the glacial outwash and lakeplain of the central western

part of Michigan's lower peninsula, historically was a dynamic mosaic of dry sand prairie, barrens, and closed canopy forest that changed and shifted over time. Three globally rare communities, oak-pine barrens, dry sand prairie, and coastal plain marsh are associated with this landscape. Ten rare plants and 11 rare insects are found in oak-pine barrens and dry sand prairies, and the coastal plain marsh community harbors 45 rare plants. Today, only a few remnants of dry sand prairies and oak-pine barrens still exist in Michigan, however, there are numerous opportunities for restoration. The two areas chosen, southern Newaygo County and northern Muskegon County, represent some of the best remaining remnants of the oak-pine barrens landscape in Michigan.

In addition, these two rural areas are experiencing residential pressure from the greater Grand Rapids and Muskegon areas. LCWM had previously not worked in these areas because it was believed they were too remote and secure to utilize limited financial resources. After several meetings, however, LCWM agreed that southern Newaygo County as well as the Blue Lakes area of northern Muskegon County were important areas, and both were in need of conservation action. Using information from MNFI that was compiled from recent work in Newaygo County, and from TNC which was in the process of initiating a community-based conservation project in Brooks township, Newaygo County, LCWM identified key sites in both of these landscapes. For Muskegon County, however, very little current element occurrence data existed for the Blue Lakes area. To rectify this, MNFI assisted LCWM staff in interpreting historic or sparsely populated element occurrence records in Muskegon County by identifying potential remnant dry sand prairies and habitat for associated species using 1997 digital, 1:15,000 scale, black and white aerial photography, and USGS topography maps. Throughout the project, MNFI provided LCWM with clarification and interpretation of information regarding element occurrences in Muskegon County.

Outreach

Landowner Contact

Similar to SWMLC, a subcontract was designed between MNFI and LCWM to develop targeted outreach programs in high priority areas. The contract specified the minimum number of hours worked on the project, and described each task in detail. Primary tasks included: developing and implementing a proactive public outreach program, initiating and building partnerships, identifying educational material needs, and providing examples of materials developed (Appendix A).

LCWM sent an initial letter to targeted landowners in the townships and followed up with phone calls in July, 2000 to schedule on-site visits. A total of thirty-three landowners in Brooks Township and 34 landowners in Muskegon County were contacted by LCWM. LCWM followed up with 21 personal discussions in Brooks Township and 20 in Muskegon County. During these conversations, LCWM learned the status of these properties and the interests of each landowner. As a result, they ended up referring three landowners in Brooks Township to TNC because of mutual interest in acquisition of these properties, and have maintained contact with seven landowners interested in conservation easements.

They also developed a new voluntary program for landowners interested in registering their property with the conservancy. The concept behind the program was to offer landowners an introductory step to land conservation. The Conservation Partner Program provided landowners with a matted photograph of the unique feature they were protecting, along with maps, information sheets on the conservation partner program, conservation easements, and LCWM, and an aerial photograph of their land. Unfortunately, only one landowner enrolled in the program during the project period.

LCWM also agreed to actively participate in a partnership with the township, TNC, United States Forest Service (USFS), Natural Resources Conservation Service (NRCS), and the Newaygo County Soil and Water Conservation District (SWCD) to implement the land use vision developed by this partnership. Working with these partners, LCWM developed a management strategy for targeted areas, and identified several parcels to create and implement model management plans. LCWM played the role of "gatekeeper" by providing key information on the management needs of the local ecology, and coordinating with private organizations and government agencies that had the equipment, staff, and funding to implement the necessary activities to manage these fire dependent systems. As part of this effort, LCWM identified two landowners willing to participate in a model program to cut blocks of pine plantations in areas that were formerly dry sand prairie.

Workshop/presentations

LCWM staff gave presentations to the Muskegon Townships Association, Muskegon County Environmental Committee, Muskegon County NRCS and CD staff, and two environmental consulting firms working in the Blue Lakes area. LCWM organized a workshop with the local CRMI resource professional to inform a large group of landowners in Newaygo

County about the unique natural features in their area and opportunities for protection and enhancement. LCWM also presented a slide show on special natural features and conservation options at the following events: Brooks Township Open House (40 people), Newaygo County's Land Use Task Force Land Use Seminar (100 people), Land Conservancy Open House sponsored by the Community Foundation for Muskegon County (100 people), and the Dalton Township master planning group (10 people).

Partnerships

As a result of the Brooks Township Land Use Vision, LCWM was able to create key partnerships with several groups interested in the Brooks Township area. This Vision was essentially created by a partnership between the US Forest Service, Newaygo County Soil and Water Conservation District, Brooks Township government officials, and The Nature Conservancy. This committee welcomed the LCWM into the group and LCWM has and will continue to play a critical role in the implementation of the Vision. As a result of this partnership, LCWM worked with Brooks Township to secure a grant from the Fremont Area Foundation for funds to hire a staff person to implement the Land Use Vision. In addition, LCWM recently developed a formalized partnership with TNC to raise funds for continued conservation work in the oak-pine barrens landscape and other high priority ecosystems.

Other organizations that LCWM will continue working with as a result of this project include: the Muskegon River Watershed group, Newaygo County Land Use Task Force, Michigan State University Extension (MSUE), the West Michigan Regional Environmental Network, and the Timberland Resource Conservation and Development office.

Educational materials

MNFI assisted LCWM to develop outreach strategies focused on the oak-pine barrens landscape in Brooks Township and Blue Lakes area of Muskegon County. MNFI shared existing fact sheets, slide/audio programs, abstracts, notebooks, slides, and other information on the oak-pine barrens landscape and coastal plain marshes, and discussed potential materi-

als to develop for the project. As a result, LCWM worked closely with Brooks Township to develop a brochure that highlights the natural features in the area, important ecological processes, and stewardship opportunities. LCWM also developed several factsheets that provide landowners with information on oak-pine barrens, dry sand prairies, coastal plain marshes, and Karner Blue butterfly (Appendix C). In addition, LCWM created a Muskegon County brochure and an educational slide show. They also distributed two chapters from the Private Lands Manual to interested landowners; warm season grasses and prairie restorations.

Related/Future Projects

As mentioned earlier, LCWM and TNC have worked out a formal partnership to continue efforts to preserve the oak-pine barrens landscape in west Michigan. After conducting landowner contact in both Brooks Township and the Blue Lakes area, however, they strongly feel that a volunteer stewardship program that encourages landowners to enroll and participate in a formal program will not work in these areas. Based on information from a seminar Ms. Sholtz in Muskegon County, residents in these rural areas are less affluent, skeptical of government programs, and considered "non-joiners." Despite these barriers, LCWM does not feel that landowner contact is futile. On the contrary, LCWM plans to contact key landowners a few times per year for the next 20 years to keep them informed and develop a working relationship. LCWM feels that landowners located in these two rural areas require a long period of time to develop a trust relationship with an organization.

In addition, as part of a two year grant from the US EPA-GLNPO, MNFI will review, update, and digitize over 600 element occurrence records along and near the Lake Michigan shoreline, and develop site packages for 14 large sites, 6 of which are located in LCWM's region. Site packages will include: base maps, ecological site boundaries, element occurrence data, information gaps, related information in files, and copies of appropriate element abstracts. MNFI will also visit each land trust (including LCWM) to deliver products, answer questions, and interpret information.

The Indiana Chapter of The Nature Conservancy

Partnership

Prior to the start of this project, MNFI staff identified natural streams and rivers and adjacent southern floodplain forests as a high priority ecosystem in southern Michigan. Southern floodplain forest, listed as a globally rare natural community, harbors over thirty rare plant species and numerous rare animals including the federally endangered Indiana bat and n. copperbelly water snake. These floodplain forests help protect the water quality of Michigan's streams and rivers which may harbor any number of the 18 species of listed mussels found in Michigan's waterways. Floodplain forests also contain ephemeral ponds that are important to many frog and salamander species, and they provide important habitat for migrating songbirds. One of the significant riverine ecosystems in southern Michigan is the west branch of the St. Joseph River in Hillsdale County.

This project started out by developing a partnership with the St. Joseph River Watershed Initiative (SJRWI), which is located in Ft. Wayne, Indiana. Although their primary mission is to develop partnerships to promote economical and environmentally compatible land uses that improve water quality in the St. Joseph River, The SJRWI also recognized the significance of biodiversity. After several meetings with this group, however, it became apparent that SJRWI was still a fledgling organization that lacked the experience, staff, and funding to carry out conservation outreach in the watershed. Fortunately, Larry Clemens, Director of the Fish Creek Project in Indiana and SJRWI board member, took over as interim Director of SJRWI in 1999. Just about the same time, The Indiana Chapter of TNC received funding from the Kellogg Foundation to 1) replicate the Fish Creek Project in other high priority subwatersheds of the St. Joseph River, and 2) help SJRWI become a more self-sustaining organization. MNFI met with Larry Clemens several times to discuss the possibility of starting a conservation project in the West Branch of the St. Joseph River. Larry agreed that it was a very important area, and supported the idea of hiring a field representative to initiate a community-based project in the watershed.

Tools

The one remaining hurdle was coordinating activities with the Michigan Chapter of TNC. TNC's ecoregional planning for the "Central Tillplain ecoregion" highlighted the West Branch of the St.

Joseph River as a potential action site, however, the planning process was still in its infancy at that point, and a list of official action sites did not exist. As interest in conservation in the St. Joseph River watershed in Hillsdale County rose, MNFI organized and facilitated a meeting to determine conservation priorities and discuss the potential roles of MNFI, and the Michigan and Indiana Chapters of The Nature Conservancy (TNC). The group reviewed a variety of maps displaying circa 1800 vegetation, 1978 land cover, element occurrence distribution, and watershed boundaries for Hillsdale County, as well as element occurrence records (Appendix F). Based on that analysis, the group determined that this was a high priority watershed, and the best place to start a conservation project was the East Fork of the West Branch (EFWB). Based on MNFI's database, targets included both aquatic and terrestrial organisms with a focus on the river and immediate riparian zone. Primary targets were rare mussels such as clubshell and wavy-rayed lamp mussel, rare fish such as bridled madtom and silver shiner, and rare reptiles such as the northern copperbelly watersnake. Of special note, maternity colonies of the Indiana bat, a federally endangered species, were listed as a potential target but required additional systematic surveys.

The group also determined the roles of each organization. It was decided that MNFI would provide the Indiana Chapter of TNC with good spatial information, support for educational materials, and rare species expertise. The Michigan Chapter of TNC agreed to assist with conservation planning, and future land protection efforts particularly rolling over purchased farms to conservation minded buyers. The Indiana chapter of TNC would accomplish the on-the-ground conservation by working with landowners.

To assist conservation efforts in the watershed, MNFI's aquatic zoology staff shared information with the Indiana Chapter of TNC obtained from aquatic sampling in the area from 1998 to 2000, particularly information related to the clubshell mussel. In addition, MNFI staff updated current land cover for the east fork of the west branch using 1998 black and white aerial photography, and GIS staff generated and seamed the SWCD soils database for all townships located within the watershed. The soils database included data on water table levels, wildlife habitat, soil types, and soil erodibility. MNFI provided the Indiana Chapter with digital files of the circa 1800 vegetation, glacial geology, soils, and 1998 land cover

databases (Appendix F).

Outreach

Landowner Contact

The Indiana Chapter of TNC with input from MNFI staff, developed a conservation plan for the East Fork of the West Branch (Appendix E). Larry Clemens became director of the Upper St. Joseph River Watershed project, and hired a field representative to work with landowners on conservation techniques in the target area, and to implement the strategies recommended in the conservation plan. The name of the project became the East Fork Watershed Project (EFWP).

The highest priority stretch of the East Fork occurs from Cambria Millpond south to the Boys Scout Camp. In total, there are 33 landowners immediately adjacent to the river, and all of them have been contacted by mail and received a visit from an EPWP representative. In addition, all receive a newsletter developed by EFWP. A total of 85 acres spread across 9 different parcels have been planted to trees, 8.4 acres have been planted to filter strips, 6,800 feet of fence were installed to keep cows and horses out of the river, and 5,400 acres were enrolled in the Environmental Quality Improvement Program (EQIP). Only one landowner, with a total of 342 acres, has taken advantage of a pilot conservation tillage program promoted by TNC.

Workshops/presentations

The EFWP initiated a steering committee, made up of members from the local community, to help build a bridge between TNC and the local community. The advisory committee consists of 8 local farmers, the county drain commissioner, and representatives from NRCS and MSUE. To date, EFWP has held a total of 5 steering committee meetings. MNFI staff attended two of these meetings to meet members and discuss various conservation issues related to rare species, and aquatic zoology presented a summary of their fieldwork. Two of these meetings incorporated hands-on field trips to portions of the

watershed. One trip included a visit to one of the clubshell megapopulation sites in which farmers were encouraged to wade in the river and look for mussels. The other field trip focused on best management practices for farmers with an emphasis on conservation tillage.

Partnerships

The most significant partnership occurred at the onset of this project between MNFI, the Indiana Chapter of TNC, and the Michigan Chapter of TNC. Interstate partnerships between TNC offices are extremely rare for a variety of reasons. This partnership marks the first time the Michigan Chapter has formed a partnership with one of its state counterparts. Without it, this project would not have happened. In addition, the EFWP has formed a strong partnership with local farmers, NRCS, USFWS, SWCD, MSUE, and the county drain commissioner.

Educational Materials

The development of educational materials was not an emphasis of the EFWP. The majority of outreach efforts focused on one-on-one meetings with landowners, group meetings, press releases, and field trips. EFWP has created and published an annual newsletter for watershed residents, and a brochure on the upper St. Joseph River that focuses on the East Fork and Fish Creek watersheds (Appendix C).

Related/Future Projects

During the summer of 2001, EFWP plans to continue landowner contact and meeting with landowners interested in planting trees on their floodplain, and/or restoring wetlands. They are currently working with the Hillsdale SWCD on a grant from the Clean Michigan Initiative, and making contacts within the Amish community to work with them on animal waste issues. Although the plan is to eventually pass this project onto SJRWI and SJRWI is growing and maturing, EFWP reports that they will not be taking over either the Fish Creek or the East Fork projects in the near future.

Discussion

Each organization posed different challenges and opportunities. All had very competent, dedicated, enthusiastic leaders who truly wanted to increase the protection level of unique natural features in their region. Some leaders were real strong in science and heritage methodology, while others were more adept at understanding the local culture and working one-on-one with landowners. Some were very good at

communicating activities and asking for advice, while those who were more independent and experienced required less feedback and guidance.

Despite these differences, all three organizations shared similar situations. One of the major challenges facing all three of these organizations was instability such as office moves and staff turnover. All three experienced at least one major change to their

staff during the project, which typically caused a significant decrease in productivity and a major disruption to ongoing outreach activities. SWMLC probably endured the biggest changes with both the Director and the Land Protection Specialist departing midway through the project, and moving the office to another location. What tends to happen is that remaining staff end up trying to complete the jobs of 2 to 3 people and find it difficult to focus on any one project.

Another area that all three organizations need to enhance is technology. Paper copies of maps and spatial databases developed in Arcview were used to help make most conservation planning decisions. Although large sized paper copies can be very helpful for educational purposes and initiating discussion, it would have been much more effective to view the images on a computer when making decisions about where, geographically, to focus limited resources. Fortunately, SWMLC had some access to GIS from a nearby nature center, and EFWP eventually obtained Arcview 3.1 software and provided training to one of their staff.

Lessons Learned

One of the key elements to this project was building a strong partnership. A strong partnership is based on trust, which requires time, a large amount of personal investment, and a strong display of integrity. For the first few meetings between MNFI and each organization, the majority of time was spent listening to each other's perspectives on conservation, understanding each organization's mission, goals and philosophies, clearly communicating the goals of the project, and getting to know each other on a personal basis. As the project progressed, the level of trust increased and the partnership became stronger. Strong partnerships also require open lines of communication and a two-way flow of information. For example, both SWMLC and LCWM discussed their lists of proposed and existing projects with MNFI prior to any conservation planning. Each conservancy was looking for additional information that would make tough decisions easier. Once they received the information they needed, each conservancy was much more willing

to risk venturing into a new conservation project with MNFI.

We also learned that things tend to work in an iterative process when working with partners. As circumstances changed and we learned more, gained information, worked with boards of directors, and discovered new opportunities, previous decisions were reexamined and changed if necessary. For example, the Mitchell's satyr butterfly and prairie fens were identified in the conservation planning process as the highest priority for SWMLC. As we analyzed the information, however, we realized that it would require a tremendous amount of resources to protect isolated and dispersed satyr populations and prairie fens. As a result, we reexamined priorities and looked for other sources of funding to protect existing Mitchell's satyr populations, associated species, and adjacent prairie fen in southwest Michigan.

Through this project, we reconfirmed that good planning occurs at multiple hierarchical scales, from the global down to the local scale. The Global and regional scales provide context for prioritization, rarity, quality. These larger scales also provide insight into ecological processes, natural disturbances, large-scale threats, and landscape scale patterns. The local and site specific scale provide the information needed to choose strategies and actions, direct resources, develop site conservation plans, and identify and mitigate local threats.

The more accurate and specific the data at each scale, the more these conservation organizations benefit. One of the challenges of working with land trusts, however, is determining the level of detail at the local scale. All three organizations expressed strong interest in detailed information down to specific parcels. On one hand, the information needs to be detailed enough for an organization to develop effective conservation strategies and defend significant conservation decisions. On the other hand, the privacy and rights of individual landowners needs to be considered. For landtrusts, the key is to 1) focus on high quality and/or unique ecosystems rather than individual species, and 2) build expertise within the conservancies to identify and survey for rare species in the field.