



Conservation Resource Alliance's Wild Link and River Care Programs, Northwest Lower Michigan



Photo courtesy of CRA

Overview

The Conservation Resource Alliance (CRA) was established in 1968 to work on regional watershed protection. CRA has been extremely successful in building a grassroots network of local support for on-the-ground conservation action at all levels, from individual landowners and citizens to local, state, and federal governmental agencies and many of the large corporations and foundations in the Great Lakes region and around the country.

According to CRA director Amy Beyer, the organization is “working parcel to parcel to change the way landowners interact with the land. We’re not trying to stop land from changing hands or being developed.” She believes that private landowners may be the most important component in addressing the future ecological health of northwest lower Michigan. The organization’s overarching goal is to raise the regional IQ on ecosystem issues and teach people that how they manage their land matters.

Because of CRA’s long-term commitment to region-wide ecosystem protection, they were a natural partner when in 1995 The Conservation Fund and the National Park Service’s Rivers, Trails, and Conservation Assistance Program (RTCA) became interested in applying the concepts of greenways and green infrastructure in northwest lower Michigan. CRA worked with the Fund, RTCA, and local and regional government agencies and private groups to develop a plan for greenways protection in the region. From the start, CRA was most interested in the ecological side of

greenways—the green infrastructure side—while other groups concentrated on the recreational side. RTCA provided technical assistance to coalesce various greenways efforts that were already underway in the region.

The vision for the Northwest Michigan Greenways project was to “identify and promote a system of ecological and recreational linkages to protect and enhance the natural beauty and integrity of northwest lower Michigan.” Steps taken to achieve this vision included:

- collecting input from citizens, government agencies, and experts on the desired characteristics of a greenways system;
- identifying and mapping important ecological corridors and trails;
- maintaining an inventory of existing greenways resources;
- encouraging intergovernmental coordination of recreation, transportation, and land-use plans;
- focusing support for local greenways initiatives through public education; and
- identifying methods for funding local greenways projects.

Now, a decade later, CRA has identified and mapped important ecological corridors in the area’s seven fastest growing counties. CRA uses this information to prioritize work on its two main programs, Wild Link and River Care, where it is most urgently needed.

Wild Link, which CRA started in 1998, is a voluntary program that assists private landowners in managing corridors on their property that wildlife may use to travel from one large parcel of land, such as a state forest, to another. The impetus behind the program is simple. “Every time a rural property is subdivided and developed, we potentially break wildlife connections, and the habitat fragments that are left are not enough to sustain important populations,” says Jeff Breuker, CRA wildlife biologist. “The idea is to provide interested landowners with technical assistance and the know-how to manage their lands and to ensure that they are usable by wildlife for food, water, breeding, and travel needs. If we can get neighboring landowners interested in ‘linking’ all these lands together, we will ensure wildlife habitat for years to come.”

River Care is a watershed-based program through which CRA leverages financial and in-kind support to perform on-the-ground habitat improvement and restoration projects on a number of world-class trout streams in northwest lower Michigan. The goal of River Care is to “empower local river restoration groups with technical and financial support to carry out priority

conservation projects, and to build local partnerships on rivers where none exist.” Already, CRA has coordinated a multitude of partners in completing the stabilization and restoration of more than 400 degraded stream and river banks, nearly 100 severely impacted road crossings, and a number of degraded recreational access, agricultural, and residential sites. Like Wild Link, River Care work focuses along pre-identified ecological corridors.

CRA’s Wild Link, River Care, and greenways activities contribute to protecting and restoring important ecological and recreational connections in northwest lower Michigan for the benefit of the environment, wildlife, and local citizens. These programs provide an innovative model of strategic conservation actions undertaken cooperatively with the owners of private lands important to the ecological health of CRA’s focus area and to the connectivity of large protected conservation lands in that area.



Photo courtesy of CRA

Highlights

- CRA's long history has yielded a broad and deep network of partnerships. The organization has engaged more than 5,000 partners to tangibly improve habitat and ecology in more than 15 premier watersheds.
- The Wild Link and River Care programs provide concrete examples of how to apply strategic conservation and green infrastructure concepts and approaches on the ground in a rural area dominated by privately owned working lands. CRA's approach minimizes the need for involvement of government staff, funding, and protocols.
- CRA is working to protect ecosystems before land development.
- CRA works on a watershed basis. Input from area residents and wildlife/ecology experts helps define priority ecological corridors.
- CRA seeks to protect and better manage key wildlife connections through partnership agreements and cooperative action with private landowners.
- Local people are empowered to complete on-the-ground conservation work.
- CRA's programs emphasize landscape connectivity for wildlife populations and ecosystem integrity.
- CRA staff tackle problems according to a science-based ranking process that addresses higher priority and higher benefit issues first.
- CRA is known for its innovative fund-raising projects and successful leveraging of a variety of local, regional, and national funding types and in-kind support. With a strong emphasis on sound science and priority setting, the organization carefully directs various funds to meet resource needs, rather than manipulating projects to meet funding constraints.

Background and Context

CRA has its roots in the area's U.S. Department of Agriculture (USDA)-sponsored regional Resource Conservation and Development (RC&D) program. RC&D councils were set up around the country in the 1960s to improve the ability of area residents to conduct resource conservation and community development projects. Although CRA reorganized in the early 1980s as a stand-alone, private, not-for-profit organization, its focus hasn't changed much since its beginnings as an RC&D council. It still focuses on protection of the area's recreational coldwater fishery and the vast forest resources that are so important to the region's economy.

With a staff of eight people, CRA oversees an area of 4 million acres that includes 20 watersheds (Figure 1, Table 1). The predominantly rural area contains more than 5,000 miles of streams and tributaries. CRA fosters "locally driven solutions that preserve or develop land in a positive manner for all parties involved."

Figure 1: CRA's service area in northwest lower Michigan.



Credit: CRA

Antrim	Leelanau
Benzie	Manistee
Charlevoix	Mason
Emmet	Missaukee
Grand Traverse	Osceola
Kalkaska	Wexford
Lake	

Land-based industries in Michigan (agriculture, forestry, tourism, recreation, and mining) account for 30% (\$63 billion annually) of the state's total economy. Tourism pumps \$12 billion per year into the state's economy, and sport fishing brings in \$2 billion annually. The region hosts more than 500,000 visitors each year, many of whom are drawn by the chance to see, hunt, or fish for the area's diverse wildlife, which includes black bears, grouse, waterfowl, bobcats, bald eagles, river otters, warblers and other migratory birds, hawks and other predatory birds, and diverse species of fish, including steelhead.

Northwest lower Michigan is undergoing rapid sprawling population growth and forest fragmentation. Population forecasts show the area growing by 50,500

people from 1995 to 2020, a 36.7% increase in 25 years.

The area is still grappling with problems remaining from the logging era in the late 19th and early 20th centuries, when steep banks were used as log slides and logs were floated down rivers. The sandy soils, steep slopes, steady recreational use, and resulting active erosion prevent the stream banks from revegetating and stabilizing naturally (Figure 2). Eroded stream and river banks can dump hundreds of tons of sand into the water every year. Old, poorly designed road crossings are prime culprits in adding sand to waterways, which is one of the greatest threats to coldwater streams in Michigan. Sand smothers fish spawning beds and feeding grounds and makes rivers shallower and thus warmer.

Figure 2: Before (L) and after (R) CRA's bank stabilization and revegetation work.



Credit: CRA

Process

Identification of Greenways and Ecological Corridors

Once it was decided that CRA would help lead a greenways planning and identification process in the multi-county region, project leaders, including CRA, sought public input and involved citizens, county planners, the area's council of governments, and nonprofit conservation organizations such as local land conservancies in generating a vision for a greenways system. Elements for consideration included what ecological values were important and what connections were or should be in place to connect large tracts of public protected land. Next, the technical community—representatives of state and federal regulatory agencies and wildlife biologists—was asked for input.

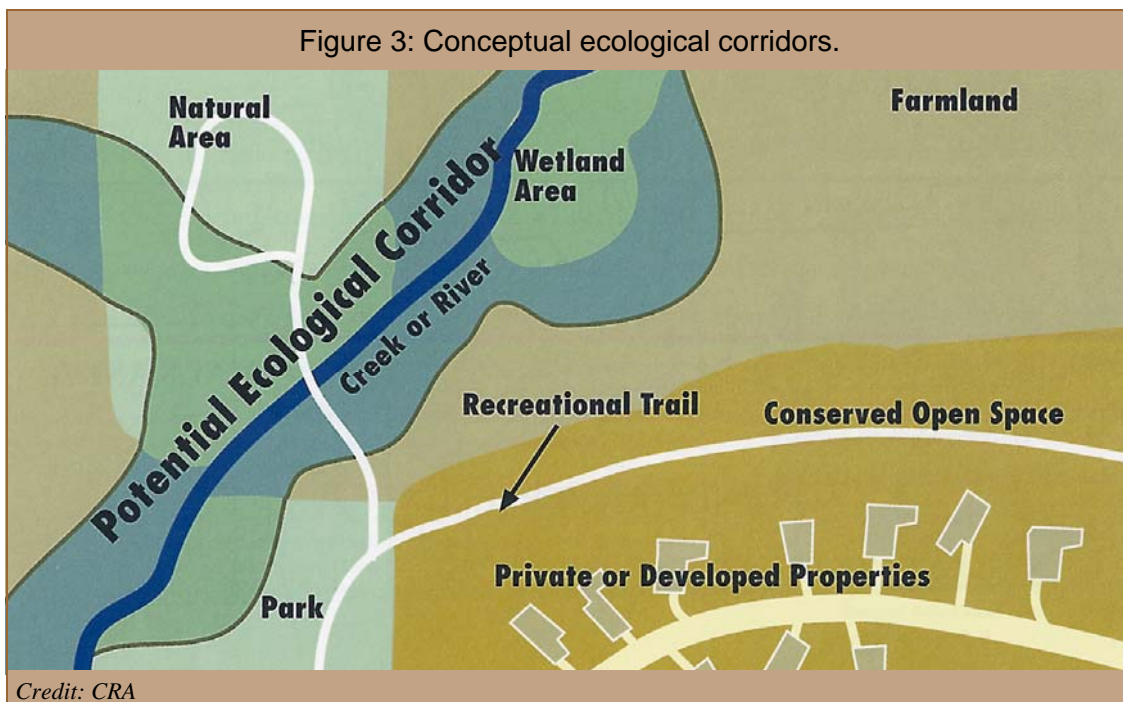
When project partners had a general idea of what residents valued in relation to greenways, they developed maps and associated data describing potential ecological and recreational greenways in the seven fastest growing counties. Knowledgeable citizens, planners, and recreation and wildlife experts in each county collected and reviewed information, which was assembled using geographic information system software. The public had the opportunity to review and comment on the draft maps at several local and regional meetings. The process

identified the first elements of the current greenways system.

CRA then received funding from the Michigan Department of Environmental Quality's Coastal Management Program to support a task force assembled to identify important wildlife linkages in the area. A definition for these ecological corridors was proposed, and a national expert on wildlife corridors was contracted to critique the proposed definition. CRA describes these corridors as "vegetated connections among fragmented habitat blocks that not only provide habitat but also avenues for animals to migrate, disperse, or move among habitat patches in search of food or mates."

A landscape analysis process identified conceptual ecological corridors (Figure 3)—linkages that were not yet formally identified in specific county plans, but that emerged through public input or advisory board suggestions. These lands were mapped as potential priority areas for protection.

The area's ecological corridors tend to emphasize riparian areas and wetlands. Other land forms considered include upland ridges, which provide important habitat for songbirds, and coastal shorelines, which are critical for migratory waterfowl and shorebirds.



Some of the most important ecological corridors in northwest lower Michigan include:

- the Boardman River through Pere Marquette State Forest,
- the Jordan River through Mackinaw State Forest,
- a network of wetlands connected to South Lake Leelanau,
- the Sleeping Bear Dunes National Lakeshore,
- the Elk River Chain of Lakes, and
- the 12-county Big Manistee watershed, which

includes parts of the Huron-Manistee National Forest and state forest lands.

These linkages, if protected, could connect important tracts of public land (hubs) with upland corridors and large tracts of forest (links). Many river corridors face intense development and use pressure, so it is important to preserve them before they are overrun.

CRA has so far identified and mapped ecological corridors (Figure 4) in the seven most rapidly developing counties where they are focusing early Wild Link projects.

Figure 4: Stylized map of the area showing some of the most important greenways features.



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In 1997, the Northwest Michigan Council of Governments received funding from the National Park Service and the federal Intermodal Surface Transportation Efficiency Act (ISTEA) Enhancements Program via the Michigan Department of

Transportation (MIDOT) for regional greenways planning. At this time, the Northwest Michigan Greenways Advisory Board was also founded, with representatives from each county's planning commission and/or parks and recreation commission, a recreation and trails group, other leaders in trails planning, and conservation organizations. This board still functions but has essentially split into two groups, with one working on trailways and the other working on the ecological aspects of the greenways system. The latter is now heavily involved in strategic planning for Wild Link—setting program goals and helping to identify technical and financial assistance for the project.

Wild Link

The aim of Wild Link is to “preserve the rural character of northwest Michigan for outdoor recreation, hunting, and simply viewing wildlife in natural surroundings.” To do this, CRA is working to protect ecological corridors, typically streams and rivers and the forested areas along them, which provide connections between blocks of fragmented habitat (Figure 5).

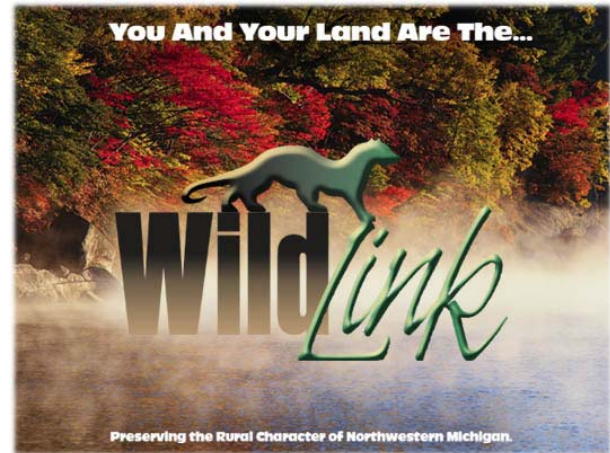


Figure 5: A Wild Link landowner planting trees to enhance habitat on his property.



Credit: CRA

These corridor areas are critically important because although they account for only 5% of the land in the forest ecosystem, they typically contain 75% of the forest's plant and animal diversity. CRA tries to maintain 300-foot-wide corridors to accommodate black bears, bobcats, and otters, which are “umbrella species”—so named because if the habitat needs of umbrella species are met, other species will also be protected.

Working in ecological corridors identified through the greenways process, Wild Link staff seek the voluntary participation of private landowners whose land lies in between large blocks of publicly owned or otherwise protected wildlife habitat. In partnership with the local landowner, a biologist evaluates the potential of the private property to provide wildlife and timber benefits

“CRA is convinced that Wild Link will literally change the future of northern Michigan, in ways that regulation, lawsuits, and government never could.”

— Jim Haveman, CRA senior biologist and RC&D coordinator

and improve water quality. The biologist then develops a 10- to 20-year land management plan to help the landowner achieve those goals. Other typical goals of land management under Wild Link include deer management, promoting old growth forests, managing timber for profit, providing firewood, producing specialty agriculture or forestry products, and attracting songbirds.

In the land management plan, biologists often recommend planting crops that wildlife eat, installing nest boxes, planting shrubs and trees, selective timbering and/or pruning, and stream or river habitat improvements. All of these tactics will increase the utility of the land to wildlife and provide associated ecosystem benefits. CRA has secured private foundation grants to help cover the costs of mapping properties and developing the management plans in the start-up phase of Wild Link. Landowners may be asked to personally invest in implementation of the plan, and sometimes agency and grant money may be available. The cost of implementing the plan depends on the features of the land, what is planned, and how much of the plan the landowner implements.

In deciding where to kick off the Wild Link program, CRA staff set as priorities for protection identified ecological corridors that were facing the greatest development threat, those that could provide the best return on an investment in prevention of ecosystem problems rather than restoration, and those projects with the greatest likelihood of success that could be done on a practical scale. The Maple River corridor in rural Emmet County is serving as a pilot study for the Wild Link program. It was chosen because of the large, ecologically rich hubs of public land nearby, the significant investment in land acquisition and conservation easements through the local land conservancy, its manageable size, and increasing development pressure. Although the corridor is still

relatively intact, without Wild Link, development of private lands threatens to fragment these high-value habitats into isolated pieces that will no longer sustain their ecological functions. Protecting and rebuilding corridors in the watershed will link more than 120,000 acres of ecologically valuable public or protected lands.

The program is entirely voluntary for landowners, and so far, finding willing landowners hasn't been a problem. The bottleneck is the hands-on time of staff available to assess properties and develop plans. CRA biologists typically work with more than 20 property owners in a summer. To relieve some of the pressure on staff and sustain landowner interest, CRA produced and distributes a CD-ROM containing information about Wild Link and tips on getting started in habitat management. CRA also publishes habitat management tips in its newsletter. These strategies allow landowners who aren't yet official participants to begin implementing sensible land management practices, such as pruning to benefit fruit and nut trees. Still, CRA staff are convinced that their on-site, "kitchen table" work with landowners makes the difference between good intentions unfulfilled and real improvements to habitat.

Wild Link staff hope to have at least 35 landowners and 7,000 acres involved in the program by the end of 2005. CRA staff believe that the program will eventually spread statewide and around the country. They've already had many calls from other states and Canada asking for specifics about how the program works. Some members of the national conservation community see Wild Link as a prototype that could serve as a national model for combating habitat fragmentation in rural areas.

“We have an important opportunity to preserve and enhance wildlife corridors in northern Michigan now, before they are destroyed and we have to start from scratch. The organization is following efforts to restore wildlife corridors in Florida and other parts of the world, where land development has all but eliminated habitat connections and animals, like bobcat, that populate them.”

— Dan Hubbell, CRA board chairman and Wild Link participant

River Care

River Care, launched in 1998, “combines a network of local watershed committees, CRA’s technical expertise, and financial support from the private sector to implement long-term, consistent river care that crosses political boundaries.” River Care staff “maintain a consistent and prioritized action plan for each river in CRA’s region, find and repair physical problems before they become worse, and maintain efficient, coordinated local river committees of agency, resident, and interest group representatives.” A steering committee makes recommendations about regional priorities for the River Care program. The value of the program is that it is locally based and operated by people with an intimate knowledge of these rivers, which are some of North America’s finest coldwater streams.

River Care’s main concerns are restoring and maintaining stream and river crossings and banks, erosion control, fish habitat improvement, reducing impacts of recreation, and monitoring river and stream water quality. Some tactics that may be taken to reduce bank erosion include placing large stones on a bank, terracing a steep bank, and planting shrubs and trees.

"We wanted to build a program that would get kids to embrace the idea that they can make a difference. We want them to see that they are part of the river's future so they'll be stewards of the river as they grow up."

— Matt Thomas, CRA development coordinator

River Care staff advocate intelligent use of the lands in the target watersheds, demonstrating CRA’s commitment to the local economy as well as local ecology. For example, they have undertaken timber bridge projects to improve the market for forest products in the area and have improved access sites for anglers and paddlers. Another important aspect of River Care is educating the public about watersheds and the impacts of land use on water quality. River Care Kids (Figure 6), which is funded by a grant from the General Motors Foundation, is a component of an overall program that involves children in hands-on habitat improvement projects through their schools and extracurricular activities such as scout troops. The goal of the program is to heighten children’s innate curiosity and concern for the natural world, especially the health of rivers and watersheds.

Figure 6: Children help with water quality monitoring through River Care Kids.



Credit: CRA

Public Outreach

Each of CRA's River Care projects begins with a diverse group of partners who share a common interest in improving the watershed or river corridor. CRA believes that local people know the resources, the problems, and the solutions better than anyone else. CRA facilitates a steering committee on each watershed or corridor. These groups are highly effective at managing natural resources. Some steering committees have been working together under CRA's leadership for more than 20 years.

CRA is proactive about keeping all interested parties and current and potential donors engaged in the projects. For example, they regularly hold river float trips and driving tours for supporters and the media to showcase the results of projects. These trips often give private landowners and volunteers the chance to host a group of potential landowner participants and describe the projects in their own words.

In the early stages of identifying important ecological corridors, CRA and its partners gathered public sentiment on greenways and later presented draft maps and plans for public review and comment at a number of local and regional meetings.

Through River Care Kids, CRA has helped schoolchildren raise salmon in the classroom and witness their release to the wild. CRA uses the local, regional, national, and topic-specific media to spread the word about its projects.

CRA holds open houses and public meetings, publishes a newsletter (The Catalyst), maintains an informational Web site (www.rivercare.org), and puts out regular press releases on activities. They offer annual memberships for citizens and businesses and have designated outstanding partners for River Care and Wild Link. Membership tripled in 2001, thanks to a well-planned membership drive and an increasing interest in natural resource conservation in northwest lower Michigan. Staff members and partners are always networking with landowners, local interest groups such as hunting and fishing clubs, and civic organizations such as Rotary International.

With funding from the Michigan Department of Environmental Quality's Coastal Management Program, CRA completed a Wild Link brochure and a CD to attract landowner interest and provide land management resources to the public.



Photo courtesy of CRA

Results

Wild Link

Project partners, including CRA, the Northwest Michigan Council of Governments, and the RTCA, completed The Northwest Michigan Greenways Report. The full-color publication helps educate the community about the benefits of greenways and where greenways are in their areas.

The Wild Link CD and brochure explain the program's goals to landowners. These products were completed in cooperation with the Land Access Association of Traverse City, Michigan. Wild Link is still in its infancy. Currently, owners of more than 5,000 acres of priority corridor lands in three counties are cooperating on Wild Link management plans and projects. Another 2,000 acres should be enrolled in the program by the end of 2005. CRA plans to expand Wild Link into three watersheds within the next three years.

Although the Wild Link program is not regulatory in any way, CRA's work has translated into some unique planning and zoning initiatives. A local township within the rapidly developing Grand Traverse Bay watershed, for example, has keyed in on CRA's mapped ecological corridors, and a proposed zoning ordinance includes special overlay protection within the corridors.

River Care

CRA's flagship River Care project, the restoration of the Pere Marquette River, a world-class trout stream and federally designated wild-scenic river, was a \$2-million, 10-year project. Working with many partners, CRA coordinated the treatment of more than 200 sites with damaged and eroded stream and river banks. CRA started by scientifically identifying several tiers of ecosystem impacts along the river, and then began working on the most severely degraded sites first. Since then, CRA has coordinated repair of 500 problem sites in more than 15 watersheds. CRA has inventoried and prioritized more than 3,000 sites in the 13-county area that need treatment to reduce severe erosion.

Management/Stewardship

Wild Link

As part of the Wild Link pilot study, CRA and its technical partners are developing an evaluation plan that will dictate information to be collected and analyses to be done to help answer key questions about the program's effectiveness in protecting and restoring ecological corridors.

Wild Link was launched with a 5-year pilot study phase, which will be complete in 2007. Long-term plans have the program growing to encompass CRA's whole 13-county area. Landowners in areas outside the pilot watersheds have already inquired about participating. Staff also hope that eventually the principles of the program may be used throughout the state and beyond. Conservation leaders in other states and Canada have expressed interest in both Wild Link and River Care.

River Care

CRA director Beyer says, "One of the most common and important questions we're asked about our river restoration projects is, 'How do you know it's working?' CRA and our local committees are tackling multimillion-dollar projects to help reverse the widespread damage done to rivers over the past 100 years. People don't entrust you with that kind of money without a good answer to the question of real impact."

CRA uses the evaluation framework outlined in Beyer's coauthored guidebook, "Seeking Signs of Success, A Practical Guide for Measuring the Success of Your Watershed or Ecosystem Project," to assess the effectiveness of River Care and Wild Link. The book was funded by the George Gund Foundation and the McKnight Foundation.

A long-term goal of the River Care program is to raise \$5 million in a permanent endowment from corporations, foundations, and individuals who have a vested interest in the area's rivers. CRA initiated the program to make up for the anticipated decline in public resources for river restoration activities, to ensure quality river resources for future generations, and to maintain the aesthetic and economic value of northwest lower Michigan's streams and rivers. Earnings from the endowment will fund restoration projects.

Financing and Cost Benefit Analysis

Financing

CRA can serve as a model for how to combine private and public funding for the greatest advantage. In 2003, CRA coordinated more than 20 on-the-ground habitat improvement projects costing over \$750,000. Because of the Alliance's success in obtaining more traditional grant funding, they have had to be creative to raise the required local match funds. Matt Thomas, CRA's full-time development coordinator, says, "Corporate and private contributions are increasingly important to give us the flexibility and leverage needed to make good use of government funding."

Private funders that have supported CRA include local companies such as utilities and car dealerships; corporate, family, national, and regional foundations such as the DTE Energy Foundation, Orvis Company Foundation, General Motors Foundation, Wolf Creek Foundation, Frey Foundation, and Oleson Foundation; corporations as varied as Coleman, Shell Oil, Ford,

Packaging Corporation of America, and Cabela's (a nationwide outdoor sporting goods store); and local landowner associations and interest groups such as chapters of Trout Unlimited and the Manistee County Sport Fishing Association.

Public funding has come from the Michigan Department of Environmental Quality, county road commissions and planning departments, the U.S. Forest Service, the U.S. Environmental Protection Agency, the Michigan Department of Transportation (Transportation Enhancement funding--formerly ISTEAA--a source also used in the Florida greenways program), and the U.S. Fish and Wildlife Service, among others. Although CRA is now a distinct nonprofit corporation, it still benefits from its roots in the RC&D program through the support of the USDA-Natural Resources Conservation Service. One of CRA's support staff is the RC&D coordinator, who is a USDA employee. That agency also provides support to CRA in the form of a vehicle and office space for the coordinator.



Photo by John & Karen Hollingsworth/US FWS

Other support has come from groups such as local Native American tribes, the Tip of the Mitt Watershed Council, the Mason-Lake Conservation District, The Conservation Fund, and watershed-specific restoration committees. In addition to financial sponsorship, some businesses, such as Ford and DTE Energy, coordinate employee community service projects focused on CRA activities. The value of this in-kind assistance helps CRA leverage the local support needed to obtain state and federal grant funds. In 2002, 1,200 volunteers (Figure 7) and partners worked on 31 projects benefiting 10 watersheds in 13 counties. All this volunteer labor, equipment, and funding amounted to a local match valued at more than \$660,000.

CRA gets a lot of volunteer help, but they contract out the heavy work. The Alliance spends \$500,000–750,000 per year hiring contractors for ecosystem repair and construction (excavators, engineers, etc.).

Mark Johnson, a biologist with CRA, feels that the Alliance is successful at fund-raising largely because of the organization's exceptional track record, well known in funding circles, for accomplishing tangible results. CRA has a much longer history than many conservation

organizations and has had time to grow into this fortunate position. Along with its full-time development coordinator, project managers also do development work by writing grants. A fund-raising committee guides fund-raising efforts. CRA tries to develop long-term relationships with financial supporters and actively solicits their feedback on CRA operations. "We get much, much more from our funders than just money," says Beyer. "When Ford or GM has advice to offer, we listen."

CRA offers clever and engaging fund-raising events that also provide an opportunity for public education and outreach. An example is the annual River Care Climb-A-Thon (<http://www.climbingforconservation.com>). Participants solicit pledges to CRA for every foot they climb at an indoor climbing gym. Many prizes are donated, as is use of the climbing facility.

Figure 7: Volunteers are integral to CRA's success.



Credit: CRA

The Numbers

As of November 2003:

- \$400,000 had been raised for the Wild Link program, and spending on the program totaled \$350,000.
- At full implementation, Wild Link is expected to cost approximately \$320,000 per year.
- Fund-raising since inception for River Care's working funds equaled about \$5 million. Spending is currently nearing \$1 million annually.
- The permanent endowment fund for River Care totaled more than \$250,000.

Benefits

Wild Link does/will:

- engage private landowners in strategic conservation-related projects,
- provide an innovative example of how an organization with roots as an RC&D council can evolve into a highly effective private nonprofit organization protecting and conserving the local environment,
- enhance value to landowners by increasing chances to observe wildlife,
- give landowners responsive, one-on-one assistance right at the property,
- shift natural resource management responsibilities to local people,
- improve the ecological health of the region,
- combat forest fragmentation,
- ensure adequate connected habitat for reproduction of wildlife,
- protect water quality with healthy buffers,
- preserve hunting and fishing opportunities, a key part of the region's heritage,
- increase property values of program participants and neighbors,
- preserve the community's character,

- provide locations for learning about wildlife,
- accommodate wildlife populations in growing areas, and
- help protect important ecological corridors before development pressure stiffens.

River Care does/will:

- improve water quality and wildlife habitat by repairing and stabilizing damaged stream and river banks and crossings,
- invest in the local economy by helping to ensure the continued excellence of nature-based recreational opportunities in the area,
- introduce children to the wonders of the natural world in northwest lower Michigan,
- instill in children and other volunteers a sense of stewardship for the land,
- empower local volunteers to take responsibility for their natural resources,
- benefit all forms of wildlife by protecting the area's river ecosystems, and
- provide a permanent funding source for watershed maintenance, repair, and monitoring.

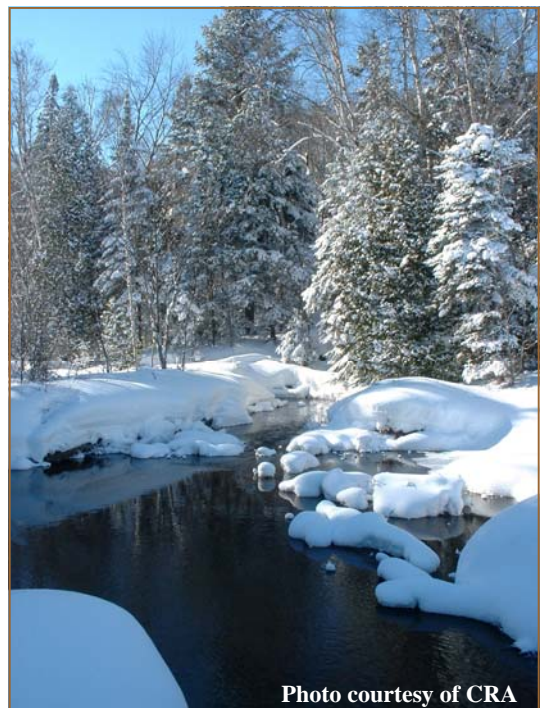


Photo courtesy of CRA

Application of Green Infrastructure Principles

Principle 1: Protect green infrastructure before development.

CRA is fortunate to be working in an area where land development has not yet overtaken natural resources. But pressure is building, so the time to act is right now. This will allow the most ecologically valuable lands to be protected as large, interconnected pieces. Planning for greenways started in the mid-1990s, ahead of widespread development, so it's a lot less contentious and expensive. CRA's wildlife biologist Jeff Breuker compares the situation in Florida to northwest lower Michigan's: "In one Florida county alone, voters approved \$150 million to restore wildlife corridors. We can be much more cost-efficient in northern Michigan with a proactive approach."

Principle 2: Engage a diverse group of stakeholders.

CRA's long history of conservation work in the area has

allowed the staff to build up a broad and deep array of working partners, funders, volunteers, and interested citizens and groups. CRA's multi-interest local steering committees and multiple funding sources are keys to its long-term sustainability. The managers of CRA understand the importance of keeping all partners informed and engaged in the various projects. CRA has drawn from a diverse cross-section of stakeholders to set up various advisory boards and task forces. Beyer advises, "The true partnership approach takes much more time, energy, and trust, but it's the only way to start something that will keep going."

Principle 3: Linkage is key.

Again, CRA's long history in the area helps the staff make and maintain connections among stakeholders, funding agencies, and projects. For example, Beyer notes that no single organization could have completed all the work to improve the Pere Marquette River. All of CRA's main project goals involve linkages. For instance, the goal of Wild Link is to connect large areas of important wildlife habitat to provide safe passage of wildlife. River Care Kids (Figure 8) seeks to build

Figure 8: Litter pickups are just one of the many activities of the River Care Kids program.



Credit: CRA

connections between kids and the natural world so that as they grow up, they become stewards of and advocates for a clean environment.

Principle 4: Work at different scales and across boundaries.

CRA's focus area encompasses 13 counties and about 20 watersheds. The Alliance's partners include federal, state, and local agencies and organizations, as well as private companies and foundations. They look at the big picture by prioritizing watersheds, and then break the necessary work down into manageable projects, such as the restoration of a single stream bank. CRA has successfully integrated a wide range of partners who don't usually work together. They have applied various kinds of funding arrangements and engaged on-the-stream-bank volunteers from unlikely places.

Principle 5: Use sound science.

After obtaining public input on citizens' visions for greenways, CRA worked with the area's council of governments to scientifically analyze the relevant GIS data and identify potential ecological greenways and green infrastructure. They formed an advisory committee and contracted a national wildlife corridor expert to ensure that the approach was reasonable and defensible. CRA determines the course of its River Care program through sound scientific analyses of the resource and a ranking of the problems, and then worries about finding the resources needed to fix the problems. Professional resource managers from public agencies and the private sector, including fisheries biologists, wildlife biologists, soil scientists, and engineers, form the core of their technical teams.

Principle 6: Fund up-front as a public investment.

CRA does not currently have a guaranteed pot of money to work with, but the staff have been masterful in obtaining funding for various projects from many different sources. They have received monetary and/or in-kind support from donors as diverse as the General

Motors Foundation, Cabela's, the Michigan Departments of Transportation and Environmental Quality, county roads commissions, and private citizens. CRA has successfully engaged the support of large industrial companies in southern Michigan. A good part of the success in fund-raising comes from CRA's full-time development specialist. CRA demonstrates that if you can get the right person, it can really pay to take the leap of hiring a full-time development specialist. Beyer notes that one of CRA's most important upcoming strategic steps is developing additional creative long-term financing mechanisms.

Principle 7: Green infrastructure benefits all.

The protection of green infrastructure in northwest lower Michigan benefits the overall ecological and economic health of the Great Lakes basin. By improving wildlife habitat and its connectivity and restoring damaged stream and river banks, CRA helps conserve biodiversity, ensure that animals can coexist near population centers, improve air and water quality, protect communities and ecosystems from flooding, preserve the rural land base that is so important to the area's economy, prevent costly property loss and dredging, support agricultural industries and tourism, preserve aesthetic beauty, and provide many recreational opportunities.

Principle 8: Make green infrastructure the framework for conservation and development.

CRA has been active since 1968. They have built the community's trust and analyzed its ecological resources before development pressure became severe in the region. Therefore, they work from a preset plan of what areas are most important for protection. They can refer decision makers to the ecological corridors plan when they must consider development siting issues. Knowing beforehand where the most ecologically important areas are makes it much easier to suggest to a developer that a project be re-sited or redesigned to conform to green infrastructure principles.

“CRA has a keen grasp of natural resource problems and practical solutions.”

— Mike Slater, chair, Michigan Council of Trout Unlimited

Evaluation

Unique, innovative, outstanding elements

Beyer emphasizes that CRA has a leg up on implementing green infrastructure because of its long-term partnerships with area residents and the trust it has developed with other organizations as diverse as Trout Unlimited, the U.S. Forest Service, Ford Motor Company, and dozens of other corporations, local governments, and organizations. CRA has a very efficient human power base that they can use to get projects done. The Alliance's work is made easier by the fact that much of the ecological corridor protection planning took place before development pressure became too severe.

Beyer says that CRA's whole approach to issues and problems is different from that of most conservation organizations. They are proactive instead of reactive. Instead of starting with a focus on the restrictions to what they can do because of limited funding, they start with a sound scientific assessment of the resource. Next, staff rank projects according to the severity of the problem, and then they tell the local community about their assessment of the problems and the options to repair them. CRA blends different types of support from all levels of government with many kinds of private funding to solve the most severe problems. An example of the interweaving of various kinds of support is an erosion control project with funding from the Michigan Department of Environmental Quality and the Ford Motor Company Fund and volunteers from Ford, Shell Oil, local utility companies, families, and Native American tribes.

CRA has invested time in building up the local "ecological IQ," and the return on this investment comes in the form of an army of engaged volunteers. The Alliance has about 6,000 people linked directly to it or to its partner groups. Most participants work within the watershed where they live.

Challenges

Beyer says a challenge to CRA's work is that in the face of development pressure, "you can't buy enough land and you can't regulate fast enough and effectively enough" to keep ecological systems functioning properly. The private lands in between the publicly owned areas are critical because isolated habitat just doesn't meet the needs of wildlife. CRA has been working effectively with private landowners for more than 20 years. Although it's time-consuming, CRA's leaders recognize this component as key to effecting real change.

Biologist Mark Johnson says that continued funding is a never-ending challenge for both Wild Link and River Care. A particular challenge for River Care is finding nongovernmental funding that doesn't carry tight specifications about eligible projects.

A challenge specific to Wild Link is ensuring continued landowner interest. "Private property owners don't want to be 'locked in' to implementing all the recommendations in the plans right away," says Johnson; this tends to be their initial perception about the program. CRA staff focus on the benefits the program can provide to participants and emphasize that participation and the level of commitment are voluntary. Johnson says, "Sometimes a phone call—a gentle reminder that it's time to order seedlings—is all they need to get going." Now, while Wild Link is still in a pilot stage, CRA has plenty of willing participants, and staff expect the program to be very popular as it expands. "A vast majority of landowners want to help wildlife," Johnson says. "They just need very specific suggestions, like 'how many,' 'what kind,' and 'when,' and occasionally some help getting the projects underway."

And always and everywhere, continued land development is an issue. CRA encourages intelligent development in sensitive areas.

"One of our fears was, 'Are they going to come in here and make us do something? Are they going to tie us up in some kind of paperwork or limit what we can do on our property?' But that was not the case. It's all up to the landowner. It's flexible. I appreciated that."

— *Landowner and Wild Link cooperators*

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About Green Infrastructure

Green infrastructure is a strategic approach to land and water conservation that links lands for the benefit of nature and people, helps identify conservation priorities, and provides a planning framework for conservation and development. Green infrastructure is different from conventional approaches to conservation because it looks at conservation values and actions in concert with land development and growth management. Green infrastructure projects bring public and private partners together to work collaboratively toward a common land conservation goal. They help move beyond jurisdictional and political boundaries by providing a process for identifying, protecting, and restoring interconnected green space networks that conserve natural ecosystem functions and provide associated benefits to human populations. The green infrastructure approach appeals to people concerned about biodiversity, habitat, and land conservation as well as people interested in open space and land use planning at the community, region, or statewide scale. It also appeals to smart growth advocates because of its potential to lessen impacts and reduce the costs of built infrastructure.

Green Infrastructure Case Study Series

This series of case studies highlights successful and innovative green infrastructure projects from around the country. The series was undertaken so that readers can learn from and improve upon approaches tried by others. We hope that thorough, well-documented examples will allow readers to see the many possibilities and to adapt successful practices to their unique situations and challenges. Each case study addresses the same basic pieces of the story: overview, highlights, background and context, process, public education and participation, results and products, management and stewardship, financing, application of green infrastructure principles, and evaluation. Eight principles of green infrastructure, which are elements of most successful efforts, form the core of the case studies. The series illustrates concrete, real-life examples of how to assess and protect green infrastructure, including details about how each step was implemented.

About The Conservation Fund

The Conservation Fund is a national, nonprofit land conservation organization that forges partnerships to protect America's legacy of land and water resources. Through land acquisition, community planning, and leadership training, the Fund and its partners demonstrate sustainable conservation solutions emphasizing the integration of economic and environmental goals. Since 1985, the Fund has protected more than 4 million acres of open space, wildlife habitat, and historic sites across America.

The Conservation Fund's Green Infrastructure Program was created in 1999 to build the capacity of land conservation professionals and their partners to undertake strategic conservation activities that are proactive, systematic, well integrated, and applied at multiple scales. The program is a cooperative effort of the Fund and multiple public and private partners. Program products include a national course, workshops and conference sessions, publications, case studies, demonstration projects, a Web site, and related educational materials.

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