Plan on It!

ENVIRONMENTAL CORRIDORS

LIFELINES OF THE NATURAL RESOURCE BASE

A SERIES OF FACT SHEETS ON REGIONAL PLANNING ISSUES IN SOUTHEASTERN WISCONSIN

WHAT ARE THEY?

Environmental corridors are areas in the landscape containing especially high value natural, scenic, historic, scientific, and recreational features. In Southeastern Wisconsin they generally lie along major stream valleys, around major lakes, and in the Kettle Moraine area.

From the air, environmental corridors appear as long intertwining ribbons of natural vegetation and surface waters. They contain the best remaining woodlands and wetlands, wildlife habitats, undeveloped shorelands and floodlands, groundwater recharge and discharge areas, and steeply sloped lands in the Region.

To better understand the concept behind environmental corridors, the term "corridor" becomes important. In buildings, corridors are places of concentrated activity, where people move back and forth. They link important destinations and often have adjoining rooms, which rely upon their passageway function.

So it is with environmental corridors. High value lakes, wetlands, prairies, and woodlands become more valuable when linked by corridors of concentrated natural resource activity. Like beads or jewels on a necklace, the best resource features are strung together and actually become part of a larger functioning system.

Fish and wildlife, songbirds, native plant distribution, and even clean water are all dependent upon movement through environmental corridors—and upon the vital functions they perform.

RECOVERING FROM OLD THREATS—FACING NEW ONES

The first European settlers in Southeastern Wisconsin encountered a Region of vast natural resources. Soon afterward, however, the greatest of historic environmental changes took place with land clearing and sod breaking.

Yet a new equilibrium was established through compact cities and an agricultural hinterland laced with environmental corridors. These corridors were perhaps not as economically buildable or farmable as other lands; regardless, they were preserved or healed-over with time. Serving as refuges of surprising landscape diversity, and forming the seed source or genetic pool for native plants and animals, environmental corridors performed benefits far outweighing their size.

That relative cultural and natural harmony lasted more than 100 years, but in recent decades it has been threatened by urban sprawl—causing other societal problems as well. To risk losing what remains locally of the natural environment, while relying on "heading north" for outdoor recreation, is flawed. Many people lack the time—or the means—to go elsewhere. So the problem boils down to issues as basic as some children missing the opportunity to chase butterflies, catch tadpoles, or play in a woods. Against this, saving environmental corridors offers some insurance.

HOW DO THEY BENEFIT US?

Recreational use is enhanced by the continuous nature of environmental corridors. This extends the quality of hunting, fishing, canoeing, hiking, and even touring by bicycle or motor vehicle where parkways exist. Beyond the features already mentioned, environmental corridors may also contain historic sites and structures, and scenic vistas.

Environmental corridors are in effect a composite of the best remaining elements of the natural resource base. Protection and proper management of the resources found within them helps prevent serious environmental problems.

For example, maintenance of corridor wetlands as open space will allow them to function to their full natural capacity. The benefits may be protected wildlife habitat and fish spawning beds, filtration of stormwater runoff, storage of floodwater, and the preservation of diverse, rare, or endangered plant communities. *Wetlands in environmental corridors may contain several levels of legal protection. And, it should be noted that not all regulated wetlands lie within these corridors.*

Saving high quality woodlands provides many complementary benefits. These include scenic beauty, upland plant and animal habitat, and protection against soil erosion that occurs with their loss. Unseen, but vitally effective, is the forest's infiltration of precipitation for groundwater recharge. This provides clean, cool groundwater inflow to lakes, streams, and wetlands, and replenishes well water supplies.

LAYING NECESSARY GROUNDWORK

The Southeastern Wisconsin Regional Planning Commission has been a pioneer nationally in identifying and advocating the protection of environmental corridors. Once they are delineated—that is, accurately mapped—then informed planning and policy decisions can be made regarding these resources. At a regional level, such information has been available since 1966, with ever-greater refinement achieved over the years. Improvements have been due to ongoing research and field records, local or project planning, and new tools such as detailed topographic maps, including computerized land records.

The Commission has identified what have come to be known as "primary environmental corridors," "secondary environmental corridors," and "isolated natural resource areas."

- **Primary environmental corridors** contain concentrations of our most significant natural resources. They are at least 400 acres in size, at least two miles long, and at least 200 feet wide.

- **Secondary environmental corridors** contain significant but smaller concentrations of natural resources. They are at least 100 acres in size and at least one mile long, unless serving to link primary corridors.

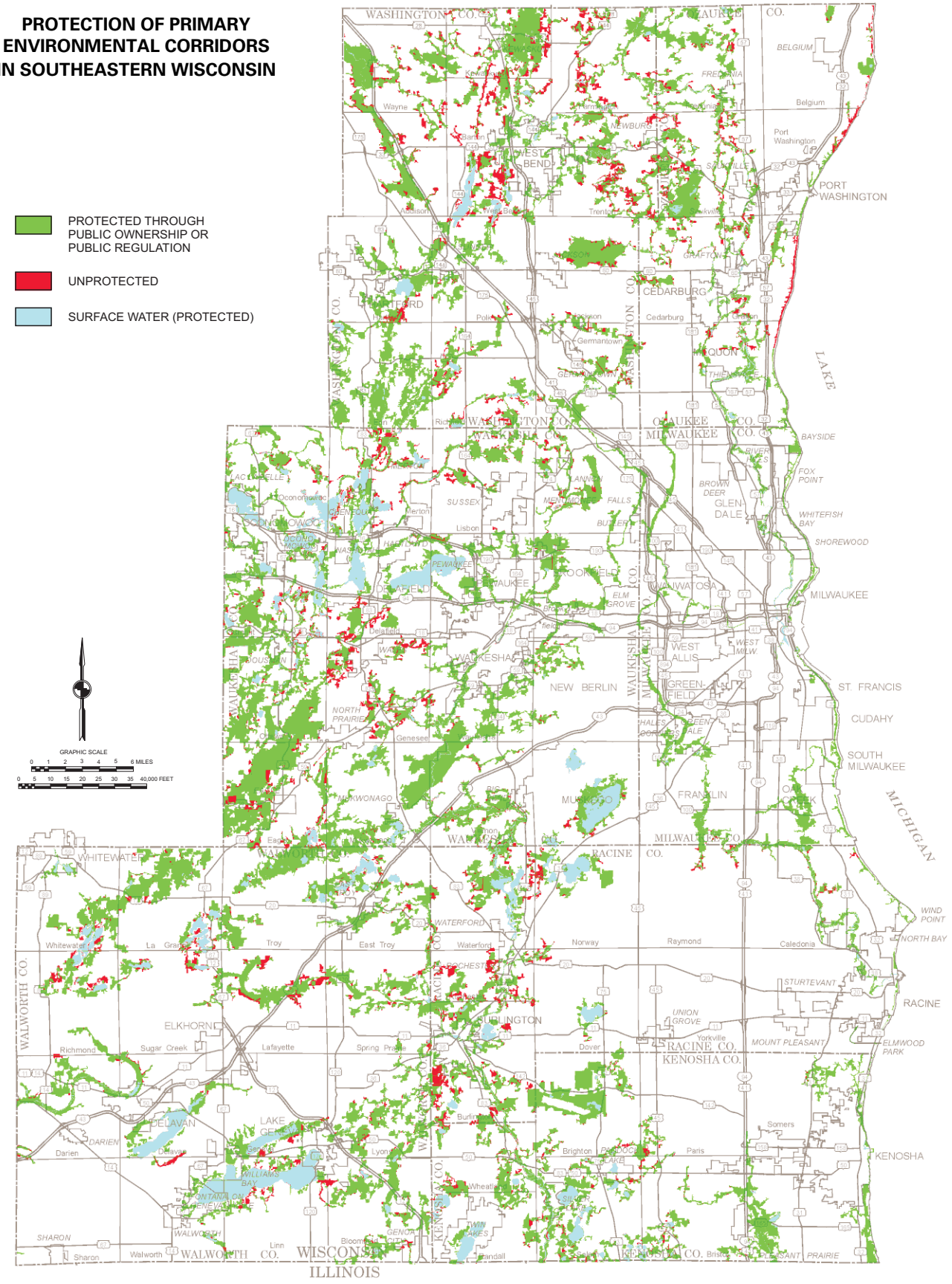
- **Isolated natural resource areas** contain significant remaining resources apart from environmental corridors. They are at least five acres in size and at least 200 feet wide.

Because these delineations are important, county and local government offices frequently call upon the Regional Planning Commission staff to verify and field stake the boundaries of environmentally sensitive lands. The refinements then are recorded and become part of the growing regional data base.

A SERIOUS CALL TO ACTION

Simply put, environmental corridor identification and protection helps ensure the continuing natural beauty and cultural heritage of our Region. It also helps prevent serious and costly problems that result when urban development is allowed to encroach. If protected, environmental corridors add value to adjacent urban development and may be incorporated into new development as private park and open space areas.

PROTECTION OF PRIMARY ENVIRONMENTAL CORRIDORS IN SOUTHEASTERN WISCONSIN



Many important actions have been taken by the concerned agencies and units of government in accordance with the adopted regional land use plan to ensure the preservation of the primary environmental corridors in the Region. By 2000, about 350 square miles, or about 87 percent of all primary environmental corridor lands in the Region, were fully or partially protected through public ownership, State/local shoreland wetland zoning and floodplain zoning, Federal wetland regulations, and State utility extension policies. This map is highly generalized; detailed delineations exist for all communities in Southeastern Wisconsin.

The thought of losing our remaining primary and secondary environmental corridors is a serious prospect. Such loss should be sobering due not only to the greater development hazards in the corridors, but also their special value and irreplaceable nature. Further, any losses may transcend the immediate site and reverberate throughout a corridor. Like a chain which can be weakened or broken subject to the condition of its links, the environmental corridor concept is played out on the landscape.

Protection of environmental corridors has been a long-standing principal recommendation of the Regional Planning Commission. It is fundamental to the regional land use plan adopted by all seven counties in Southeastern Wisconsin. Primary environmental corridors, particularly, should not be altered in any way that measurably diminishes their natural attributes and societal benefits. Often, this will involve preservation or management to protect native plant and animal communities.

At times, it is recognized that minor compromises can be negotiated to achieve a greater or more reasonable protection goal. For example, accepting environmental losses on small parcels may be the very action required to permanently preserve large adjoining land tracts; or losses to enable needed public projects can sometimes be mitigated or offset by gains at other locations. Still, the straight-forward protection against urban or agricultural encroachment into these natural remnants is more often called for.

DEVELOPMENT PROBLEMS

Urban development in environmental corridors poses many potential problems. Among these are:

- Poor drainage and flooding;
- Pollution of surface and groundwater sources;
- Structural failure of roadways and buildings;
- Excessive infiltration of water into sanitary sewerage systems;
- Malfunctioning onsite septic systems;
- Wet basements and lots; and
- Trees toppled onto homesites.

The latter may be an ongoing problem with building in a woods. Root systems and the remaining trees in general are often weakened by construction. This is coupled with intruding wind "tunnels" or openings that subject nearby trees to gusts they have never previously felt—and against which they may lack the growth form to withstand.

PLAN RECOMMENDATIONS AND IMPLEMENTATION

Fortunately, the message regarding environmental corridors has been received and embraced by many. About 87 percent of the primary environmental corridors in Southeastern Wisconsin have received some level of protection thus far (see map). Yet the remaining corridors—including upland woods and some key outdoor recreation sites—may prove among the most difficult to preserve. Other areas enjoy only weak or interim protection that needs strengthening.

Specifically, it is recommended that the lowland portions of all corridors and isolated natural resource areas—lands which are floodplains and wetlands—not be filled or drained. They should be kept free from urban development of any kind except, for example, unobstructive improvements allowing recreational access to public parklands.

It is recommended that the upland portions of primary environmental corridors also be preserved. These lands should not be developed, except for residential use at a density no greater than one household per five acres. Even then, unique resource features should be protected, public ownership or larger lot sizes remain preferable, and limited disturbances within delineated corridors will

cause less harm. Conservation or cluster development may be a good option. This practice shifts all permitted houses to a portion of a parcel, while preserving open space on the remainder.

It is further recommended that local governments consider measures to protect the upland portions of secondary environmental corridors and isolated natural resource areas.

Implementation of environmental corridor recommendations may occur through a variety of means. Primary environmental corridors are considered *permanently preserved* when they are:

- Publicly owned as park, outdoor recreation, or related open space lands;
- Publicly leased on a long-term basis for greenspace use;
- Protected through a local floodplain and wetland zoning ordinance containing the regional plan preservation recommendations; or
- Protected as private park and open space areas in subdivision plats.

Primary environmental corridors are considered *temporarily preserved* if they are:

- Protected through local conservancy district zoning;
- Part of a private park, outdoor recreation, or related open space area;
- Protected through a local park and outdoor recreation zone; or
- Part of an exclusive agricultural or country estate zoning district requiring lots five acres or larger per dwelling unit.

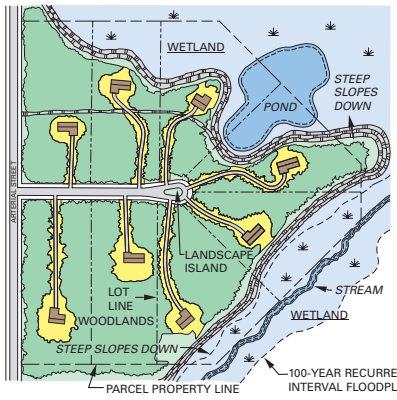
In addition, the Wisconsin Department of Natural Resources works to protect primary environmental corridors while evaluating public sanitary sewer extension proposals. Essentially, the Department requires that the regional plan's primary environmental corridor protection and development density limitations be met before State approval of sewer extensions is granted. At times, this State policy has the effect of imposing more stringent development limitations than local zoning.

COMPATIBLE DEVELOPMENT OPTIONS

Residential development at an overall density of no more than one unit per five buildable acres may be permitted in environmental corridors—if it is sensitive to natural conditions

ACCEPTABLE

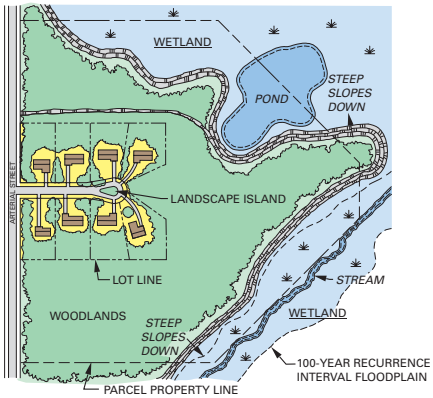
Conventional five-acre or larger lot size design with full area individually owned and managed



Protection above is at least temporarily secured with very low density development. Wetlands and steep slopes are avoided while upland woods are largely preserved. Losses due to access drives, fragmentation, and future alteration may be of concern.

BETTER

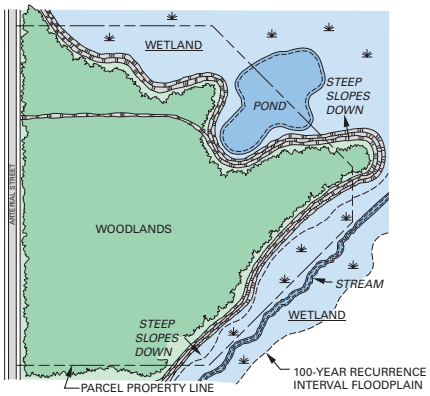
Clustered one-acre or smaller lot size design, with common open space, netting one unit or less per five otherwise buildable acres



Impacts with conservation subdivisions are more intensive in a confined area, making recovery of natural character harder there. But, most upland woods remain intact and undisturbed. Screening allows both residential privacy and natural views from the highway.

BEST

Purchase or easement of development rights, so buildings lie elsewhere in a community, not inside the corridor



Quick repair of disturbed sites using native landscape plantings is wise for all corridor developments. However, that merely helps offset environmental losses. Other options may completely preserve a parcel, with compensation for unutilized development potential.

PRIMARY ENVIRONMENTAL CORRIDORS

These photographs typify the two types of primary environmental corridors in the Region. The corridor in the top photo is in an urban area and consists of the Menomonee River Parkway along the Menomonee River west of the "Old Village" area of the City of Wauwatosa. Parkway and corridor lands such as these provide an attractive setting for adjacent residential development and contain conveniently located recreational activities. Much of the natural floodplain of the Menomonee River in this location is also located within the parkway. The corridor in the bottom photo follows the Milwaukee River valley in a rural setting south of the Village of Fredonia in Ozaukee County. The wetlands, woodlands, and other resources found in such corridors provide important wildlife habitat, as well as an attractive setting for very low-density rural residential development.

IMPROVING UPON NATURE'S BEST— IT MAY BE POSSIBLE

Though environmental corridors are like chains which may be jeopardized by weak links, they differ sometimes in the potential to be strengthened. The establishment of adjoining "buffer" or protective zones can widen delineated environmental corridors over time. This happens through the processes of soil stabilization and plant succession or "naturalization."[1] Likewise, conservation practices like reforestation, wetland restoration, and reserve programs for highly erodible or flood prone croplands may benefit environmental corridors and the valuable functions they perform.

One of the greatest opportunities for improvement may be seen in reestablishing natural corridors along streams. The resource potential and physical limitations there for other uses can offer gains along two fronts:

- Realizing environmental benefits; and
- Avoiding costly development or agricultural problems.

Particularly effective may be an already natural stream corridor which can be widened to fit environmental corridor criteria—or a crucial gap that can be filled to link existing corridors or create a new one from otherwise inadequate segments.

The stringent criteria applied to delineating environmental corridors should suggest an urgency for preserving these major arteries of the natural ecosystem. Nevertheless, any protection or gains for the Region's key natural resource features is helpful. The size, extent, uniqueness, potential for outdoor recreation, and full benefits of an area should be carefully considered before altering it. The degree of impact should be minimized, and disturbed ground quickly repaired or revegetated. Finally, where protective buffering or other improvements are possible, such actions collectively hold promise.

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[1] *Protection of rare and endangered species or plant communities, notably prairies, sometimes requires management to halt the advance of plant succession or to remove nonnative and competing species.*

THE BOTTOM LINE

Failing to preserve environmental corridors just does not make sense. Put differently, developing them is illogical:

- Environmental corridors are limited, irreplaceable resources.
- There is ample developable land without infringing on them.
- Natural limitations often make their development more difficult or costly.
- They are the last, good foothold for many native plant and animal communities.
- The beauty and diversity of our Region suffers a loss, with their loss.
- The very resources and natural amenities sought by development can be destroyed by that development.
- The public loss of nearby outdoor recreation opportunities may never be recovered.
- Everyone may pay in hidden ways to service and maintain private development in environmental corridors.

Within every governmental jurisdiction or community, some residences will always be more costly to service than others. Those placed in environmental corridors are likely to entail high costs. Even in urban areas, they can often be the most difficult, limited-point-of-entry, sparsely settled, or end-of-the-line locations (geography and hydrology may simply dictate it—which is why development is inadvisable in the first place).

From road construction and maintenance, to emergency, postal delivery, and school bus services—and from providing telephone, electricity, and heating fuel, to solid waste collection, or sewer and water services, if available—all risk costing *everyone* more if environmental corridors are developed.

FINAL REFLECTIONS

It would not be practical or even possible to preserve every last natural remnant in the Region. Nor is that being recommended. In fact, some creative compromises may accommodate both development and environmental objectives.

For example, when protection of environmental corridors is a condition of the approval process for subdivision plats, several good things happen. The corridors keep performing their valuable natural functions, developments sensitive to the environment are enabled, and private parks or open spaces are formally preserved. Commitments like careful siting of structures, native landscape plantings, and stormwater detention ponds may also enhance wildlife habitat or help offset losses. In the end, such subdivisions and the residences within them tend to be more attractive and valuable.

So whether interests are rural or urban, public or private, and environmentally or economically driven, common ground exists in environmental corridors. Reasonable debate concludes that, over time, corridor preservation and wise management will pay greatly. The continuing vitality and beauty of the Region are at stake—as well as nearby open space and outdoor recreation opportunities for all.

ENVIRONMENTAL CORRIDORS AT A GLANCE

For natural resources, environmental corridors represent the "best of the rest"—the remaining areas warranting strong protection.

Primary Environmental Corridors

400+ acres
2+ miles long
200+ feet wide
Often contain many key features

Secondary Environmental Corridors

100+ acres (possibly smaller and
1+ mile long shorter if primary links)
Contain a number of key features

Isolated Natural Resource Areas

5+ acres
200+ feet wide
Contain at least a couple key features

Key Features

- Lakes, rivers, and streams
- Undeveloped shorelands and floodlands
- Wetlands
- Woodlands
- Prairie remnants
- Wildlife habitat
- Rugged terrain and steep slopes
- Unique landforms or geological formations
- Unfarmed poorly drained and organic soil
- Existing outdoor recreation sites
- Potential outdoor recreation sites
- Significant open spaces
- Historic sites and structures
- Outstanding scenic areas and vistas

"Plan on It" *is a citizen fact sheet series produced by the University of Wisconsin-Extension working with the Southeastern Wisconsin Regional Planning Commission. Its purposes are to summarize and convey information, broaden avenues for public involvement, and serve as a general reference on important planning matters. For questions regarding content or further information, please contact: Gary K. Korb, UW-Extension Regional Planning Educator, W239 N1812 Rockwood Drive, P.O. Box 1607, Waukesha, Wisconsin 53187-1607; Telephone–(262) 547-6721; FAX–(262) 547-1103, E-Mail–gkorb@sewrpc.org; or visit www.sewrpc.org/regionallandinfo/; (rev. 6/04).*