THE RIVER WARREN
The Glacial River Warren created the Minnesota River Valley’s landscape character and its identity. The valley floor, ancient river terraces, valley walls, bluffs, and the tributary channels form this landscape. The Minnesota River Trail work reflects this glacial valley identity. The character of trail segments, special places along the trail, and trail experiences are shaped by these unique landscape character types.

The communities along the trail and the valley’s cultural patterns also respond to this special landscape and its features. Each of the three study communities represents a landscape type that was formed by the River Warren. Redwood Falls was built around a tributary of the glacial river, New Ulm was built up on the ancient river terraces, and Saint Peter lies in the glacial river’s wide valley. The extent of the Glacial River Warren is illustrated with dark green and the uplands with light green.

The Glacial River Warren is interpreted at sites crucial vistas along the trail. At these points the trail user can take in the breadth of the existing valley to comprehend this very unique landscape in the context of its ancient, wide, and deep glacial history.
THE ‘LOOP STRATEGY’

Because the Glacial River Warren created varied landscape types across the current valley, to truly experience the Minnesota River Valley’s natural and cultural history and its current amenities, the trail needs to be more than a trail along the river. To interpret this complex and varied landscape, the trail needs to include uplands, bluffs, and terraces, as well as the floodplain along the river. This project has created a number of loops that move along the river, transverse the wide river valley, and follow along bluff lines rather than a single linear trail parallel to the river. The cultural history of the river valley also includes more than just places near in the river.

The loop strategy uses a number of elements to make the trail. Existing spines, designated hubs, and loops that move across the landscape to include natural and cultural features and to reach points of interest are used to make an integrated trail system that links to existing systems and connects to amenities.

**Spines:**
The Minnesota River Canoe Trail, the Minnesota River Valley Scenic Byway, and the Minnesota River are all linear elements that move through the landscape.

The plan/design of the Minnesota River State Trail strengthens the existing byway and the canoe trail by creating pedestrian/bike/hike connections to them.

**Hubs:**
The community hubs are the largest communities in the study corridor segment: Redwood Falls, New Ulm, Mankato, and St. Peter. These centers are surrounded by an agricultural landscape and provide opportunities for trailheads that give access both to the trail and to community amenities.

State parks with their extensive grounds and many recreational amenities are recreational hubs. Their existing historic sites, unique natural features, multi-use and multi-season trails, interpretive elements, campsites, water access points, rest rooms, etc. already have many of the facilities needed for a trailhead.

In a few cases, large natural amenities serve as trail hubs.

**Points of Interest:**
Within the Minnesota Valley there are many small communities, historic sites, and sites of natural/environmental significance such as scientific and natural areas, wildlife management areas, wildlife refuges, scenic overlooks, etc.

**Trail Loops:**
Trail loops connect the main trail spine to state parks, small towns, and points of interest that are not located near the river. Loops vary in length and often have a theme. They provide trail users with short or long routes, celebrate a certain kind of trail experience, and provide the option of returning the users to the place where they started.
INTERPRETIVE AREAS

Drawing from the information assembled and analyzed in the regional scale work, interpretive areas are located to explain and celebrate natural features and the man-made use of the land and to showcase the efforts to restore and enhance the environmental health of the Valley.

Interpretive areas include the following:

**Agriculture:**
The Minnesota River Valley has been dominated by agriculture from the time of European settlement when the land was divided into small farms to encourage settlement.

**Conventional Farming:** Currently large-scale farming operations are the standard. Vast fields of corn and soybeans, large poultry operations, and feedlots are all found in the throughout the uplands. Places of interpretation would be located near feedlots in Renville and Nicollet Counties which are also in proximity to natural resources.

**Sustainable Farming:** Sustainable and organic farms dot the landscape. Interpretive areas are located relatively close to the river or near a natural or cultural amenity.

**Water Quality Improvement Efforts:**
Because the Valley is a major source of pollution, large amounts of federal and state funding has been invested to improve water quality. Local governments and citizens groups are actively engaged in locally based efforts. Places of interpretation of these efforts include the clean-up going on in the Redwood River, Lake Redwood, and the Tiger Lake Wildlife Management Area in the floodplain near Redwood Falls; the Cottonwood River in Flandrau Park at New Ulm; the Swan Lake Wildlife Management Area which is surrounded by conventional farming in Nicollet County; and the Seven Mile Creek/Oakleaf Lake area near St. Peter where water quality testing and interpretation is on-going.

**River Industry:**
In addition to farming the Valley has been a place of industry. The places of interpretation include the falls of the Redwood River in Redwood Falls with its historic mill site and the current electric power plant, the historic and current river industry on the New Ulm riverfront, the ethanol and soy industrial plants in Mankato, the history of river transportation and retail in the St. Peter historic district, and the numerous mining operations located throughout the region (see Geology on page 36).
INTERPRETIVE AREAS

Conventional Agriculture

Sustainable Agriculture

Water Quality

River Industry
INTERPRETATION

INTERPRETIVE AREAS

Pre-European Settlement Vegetation:
Because historically the Valley had both big woods and prairie biomes, both types are interpreted. The shift in Pre-European settlement vegetation from prairie to big woods is interpreted with the trail kiosk design. The remnants of this past landscape vegetation are located in the present bio-diversity sites that are protected or conserved as Scientific and Natural Areas (SNAs), Wildlife Management Areas (WMAs), and Nature Conservancy lands. Although the trail would not be allowed to enter these sites, the trail passes by many of them. Trail users would be able to stop to hike through these landscapes.

Geology:
Active mines and quarries dot the Minnesota River Valley landscape. Besides architectural stone of granite, quartzite, and limestone, the river valley is a major resource for kaolin clay and silica sand. Interpretive areas are located near active mines and in places where the bedrock is revealed on the eroded bluff. The shift in bedrock along the river from granite to limestone (Kasota stone) is interpreted in the design of the trail kiosk and the rest/contemplative areas. The kiosk and the rest/contemplative areas have granite in granite areas and Kasota stone in Kasota stone areas.

Cultural History:

European Settlement:
Interpretation of European settlement is very prevalent in the Valley. Much work has been done to memorialize and interpret early European settlers and their struggles by the Minnesota Historical Society and county historical societies. The Minnesota River Trail would connect to these existing historical sites where possible to interpret the story of settlement.

Dakota Culture:
The Minnesota River Valley is rich with the history, presence, and culture of the Dakota people. Presently, there are only a few sites that interpret this rich history. Most of these sites focus on the 1862 war. The Minnesota River Trail seeks to increase the number of sites that interpret Dakota culture in ancient times, before the war, after the war, and in present times. Interpretive areas are located near but not in sacred sites and near known locations of historic Dakota villages. The places of rest and contemplation reflect Dakota culture. The site design for marking the Dakota Commemorative March route could be used in places where the state trail and the March route cross or coincide.
Pre-European Settlement Vegetation
Dakota Culture
Geology
European Settlement
MINNESOTA RIVER STATE TRAIL SIGNAGE
Monumental signs placed along the trail at key locations mark the Minnesota River State Trail. Rough-cut local stone are stacked at an angle to represent the bluff walls and terraces of the Minnesota River Valley. The trail’s name and logo would be cast into the cast stone that appears to emerge from the rough-cut stone.

As stated previously, because the Valley has many different kinds of stone, the stone used in the kiosk would change according to the local stone of the area. This example illustrates trail signage built from Kasota stone.
MINNESOTA RIVER STATE TRAIL KIOSK
The Minnesota River State Trail’s horizontal stonewall kiosk is inspired by the prairie landscape of the Minnesota River Valley. The kiosk is to be sited slightly off the side of the trail on a compacted gravel or cinder base. Local plants and stone are to be used for the kiosk, and it is to be fabricated in the region. Because the Valley has many different kinds of stone, the stone used in the kiosk would change according to the local stone of the area: granite in the Redwood Falls area, Kasota Stone in the Saint Peter area, and quartzite in the New Ulm area. This example illustrates a kiosk built out of quartzite.

The kiosk is both a place for information and a place for rest. Illustrations, maps, and narrative boards are applied directly to the kiosk’s sloping surfaces. Benches are integrated into the wall itself. The wall’s height provides generous surfaces for interpretive material and creates a windbreak for people resting on the benches.
MINNESOTA RIVER STATE TRAIL BICYCLE RACKS

Bike racks of stone and wrought iron are placed at the end of the kiosk extending the horizontal line of the kiosk. Native plantings edge the kiosk and the bike racks. Large pieces of local stone are placed a foot apart to create wide slots that accommodate two bicycles. This example illustrates bike racks built from granite. A wrought iron plate and bar are welded together to create a bike lock fixture. This fixture is recessed into the stone for locking the bike frame and the front wheel.
REST AREA: Dakota Culture Interpretive Design

The Dakota Culture is an important part of the story of the Minnesota River Valley. To honor the Dakota presence, a contemplative/rest space is designed for the trail. This space is to be sited along the trail at places celebrating the Dakota in the Valley.

The design is based on the sacred circle and is open to the four directions. As you walk into the space, the earth rises up to a stone seat wall. Local stone is used for the circle. Near Morton and the Lower Sioux Reservation granite is used, near New Ulm quartzite is used, and near St. Peter Kasota stone is used. Within the circle the cut stone changes to crushed stone to create the floor plane of the enclosed circle. In the very center of the circle a disk of compacted earth is exposed.

The vegetation surrounding the space is also native and reflects pre-European settlement vegetation. In the uplands by the Lower Sioux Community tall-grass prairie is used, in the river bottoms, riparian plants are used, near Saint Peter the plantings are inspired by the Big Woods, etc. Native plants that turn red in the fall or bloom red are used where possible.
STUDY AREAS

The Redwood Falls Area:
Cedar Rock and Cedar Mountain are natural ending points for the Redwood Falls Area. These two major landforms are sacred to the Dakota and are spiritual sites for the Lower Sioux Community. Cedar Rock is a WMA and Cedar Mountain is a recently acquired SNA. Both sights are high in biodiversity and are highly valued by the adjacent communities for their beauty. Redwood Falls, Morton, Lower Sioux Community, and Franklin are all in the area between Cedar Rock and Cedar Mountain. These two sites are also adjacent to bridges crossing the Minnesota River. Based on a landscape character analysis, this area was divided into experiential segments. Different combinations of landform and land cover define its landscape character. These segments are: the Valley Outcrops, the River Warren Vistas, the Tributary Community, Dakota Culture, the Valley Plains, the Uplands, and the River Warren Bottoms.

The New Ulm Study Area:
The New Ulm Study Area stretches from the Redwood Falls Study Area’s eastern edge at Fort Ridgely State Park to Minneopa State Park. The Swan Lake wetland complex is also in this area. This complex has high level of biological diversity and is one of the largest remaining prairie pothole complexes in the country. This area was divided into experiential segments based on a landscape character. Different combinations of landform, land cover and historic and cultural features define its landscape character. The segments are: West Newton, Golden Gate, Terrace Community, Prairie Pothole Landscape, Cottonwood River Gorge, Prairie Bluffs, Cambrian landscape, and River Warren Views.

The Saint Peter Area:
The Saint Peter Area stretches from Minneopa State Park through Mankato and Saint Peter to Le Sueur. East of Minneopa State Park, the proposed state trail options link to the City of Mankato’s trail system. Legislation for the Minnesota River State Trail ends the trail in Le Sueur where it connects to the Minnesota Valley State Trail. This area was divided into experiential segments based on a landscape character analysis. Different combinations of landform and land cover define the landscape character. Segment names are inspired by these landscape characteristics or the historical and cultural significance of the area. The sections are: River Warren Views, River Bend, Sandstone Hills, Glacial Lakes, Kasota Prairie, Historic Valley Community, and Ottawa Bluffs.