

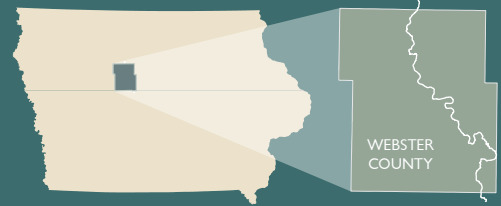
# DES MOINES RIVER WATER TRAIL



WEBSTER COUNTY

The legal classification of the river as “meandered” and the abundance of beaches makes this stretch ideal for beach camping en route. Anglers and paddlers must be cautioned, however, to not wander onto nearby private land, and to clean up after themselves.

Anglers and paddlers need to be aware that stream reaches outside the designated Water Trail are not signed from the river (gray areas on map).



## DES MOINES RIVER - DEEP TIME AND HUMAN HANDS

Paddlers will sense on this water trail the juxtaposition of two scales of time: geologic and human. Geologic forces have had a huge impact on this river valley, from inland seas to glaciers, shaping the land and giving it its character. Human forces have shaped and changed it in a much shorter time, from fire, or lack of it, to mining, to dams, to farming—all human forces that have further altered the Des Moines River as we know it today. These are forces to ponder as we paddle these waters.

Recent dam removals in Fort Dodge have restored the river’s natural flow and improved overall water quality, benefiting both wildlife and recreational users. Paddlers can be assured of safer conditions through the city.



*Boneyard Hollow ravine*  
*Iowa DNR file photo*



*Dolliver Memorial State Park entrance*

This state park features high bluffs and deep ravines along the Des Moines River with historic structures at the park entrance and inside the park constructed by the Civilian Conservation Corps (CCC) New Deal program during the 1930s.

Boneyard Hollow is a narrow ravine that borders the northern edge of the park where early settlers found numerous bison bones on the ground. This collection of bones may be where prehistoric Native Americans herded or stampeded bison into the ravine to kill and butcher where they fell. At least three Native American burial mounds are also present in the park as well as rock art.



Dogbane in bloom



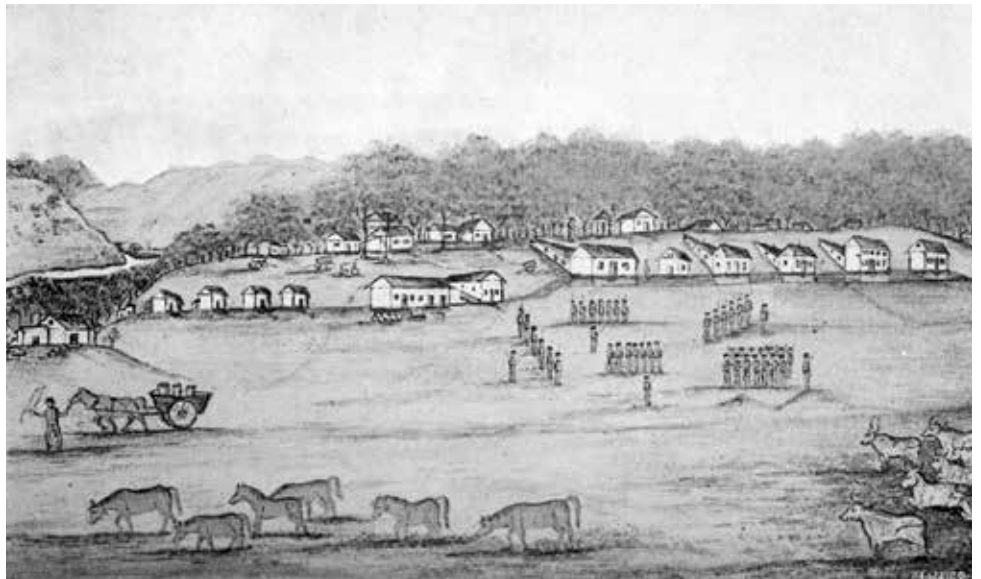
Sandstone cliff south of Deer Creek Access



General Land Office map

Created by the University of Iowa Office of the State Archaeologist

The purpose of the General Land Office (GLO) was to accurately map the landscape intended for Euroamerican settlement. The surveyors mapped the rivers and landmarks as well as any standing structures or pathways. The 1850 GLO map for the water trail marks locations of an old steam saw mill within the modern boundaries of Fort Dodge and Henry Lott's cabin next to a gypsum mine near Coalville. Henry Lott was the infamous trader who's actions led to the Spirit Lake Massacre of 1857. Both locations are recorded as archaeological sites based on this documentation.



1854 sketch of Fort Dodge by William Williams  
From the archives of the University of Iowa Office of the State Archaeologist

Fort Dodge was built in 1850 as a military outpost to maintain order until Euroamericans settled the region. Historic Native American tribes lived and actively traded at Fort Dodge until the 1860s. The fort was decommissioned in 1853 and transitioned into a town. This 1854 sketch by William Williams details the original fort structures before the town outgrew and displaced its buildings.



Cedar waxwing  
waiting for  
insects



*Killdeer on a rocky beach*

Killdeer and spotted sandpipers run on the beaches and lay their eggs among the rocks.



*Bank swallow burrows in a newly eroded clay bank*

This river, Iowa's longest, flows from southwest Minnesota through 525 miles of the Iowa landscape, ending in southeastern Iowa. It is and has been a major force in shaping Iowa's landscape for thousands of years. Once carrying the meltwater from the receding Wisconsin glacial advance, it continues to carve into Iowa today, exposing rocks of the inland sea that once covered Iowa millions of years before the glaciers.

The sandstone and shale cliffs we paddle by were part of a much more ancient geology, formed in the bottom of an inland sea that covered this part of North America several hundred million years ago. The cross-bedded layers and grain sizes visible in the cliffs, reveal the shifting levels and currents in those ancient seas. And it was that sea water, later evaporating in the sediments deposited in the sea bottom, that produced what today is an important industry in Webster County, gypsum mining. That mineral was formed here during the Jurassic Period, some 145 to 200 million years ago.

### **Stream Reach:** Deer Creek Access to Becker Access (5.5 Miles)

Deer Creek Access is well marked on the highway and at the access, with an interpretive sign helping paddlers understand the river and its inhabitants. The trail is graveled and an eddy helps paddlers enter the water along well-vegetated banks. Just below the access, there are steel girders in the river, apparently the remnants of an old bridge that once occupied the site. These may prove hazardous in lower water.

Paddling through our geologic past, though, is only one of the attractions on this beautiful paddle. Deciduous woodland lines the shoreline, with bottomland hardwoods next to the river and upland hardwoods farther upslope, covering the tops of the bluffs with oaks and basswoods. While the wooded corridor varies in width and in the protection it offers from the croplands surrounding it, it is a constant presence in this stretch, except across from the Becker Access. In most places only 20 or 30 yards in width, in others several hundred yards wide, the wooded riparian corridor offers considerable habitat to wildlife in the area and gives a sense of the wildness that is possible if we allow it to be.

Insect-eating birds are common along the river. Bank, rough-winged, tree, and cliff swallows are all found, their nests, respectively, in soft sandstone, clay banks, hollow trees, and pottery nests attached to rough concrete on bridges. Cedar waxwings and eastern kingbirds sit in family groups on bare tree branches, darting out suddenly to grab insects from the air with their beaks. Phoebes do the same but sit singly on branches near sandstone cliffs, regurgitating insect meals back to their young that nestle in mossy nests beneath sandstone overhangs. Solitary sandpipers scurry on sandy shorelines and on logs lying in the water, also in search of invertebrates. Insect prey is abundant, evidenced by the gazillions of fish flies on the rock surfaces above the waterline.

The Becker Access is well-marked on the highway and has adequate parking. The trail is narrow but usable and the landing is in a good eddy and sandy.

Recommended Experience Classification: **Intermediate**

### **Stream Reach:** Becker Access to Hydro-electric Park (3 Miles)

One mile below Becker Access, the river makes a sharp easterly turn and then turns south for a long, gradual curve through the west edge of Fort Dodge. Cabins and houses become more common along this section as the city nears.

Recommended Experience Classification: **Intermediate**



Glacial erratics

Glaciers transported large granitic boulders from Canada and deposited them in the river when the ice melted. Virtually unmovable now, we call them “erratics” in the stream. They can be large enough to pose a hazard to the inattentive paddler.

### Stream Reach: Hydro-electric Park to South River District Access (2.5 Miles)

The river in this stretch makes a gradual transition from its wild roots to a more tamed, urban river as it passes through Fort Dodge. The shoreline is generally well-vegetated where slopes are gentle, giving way to sandstone or shale rock faces from 3 to 20+ feet high. In many places the shoreline is naturally rip-rapped with glacial till or sandstone pieces.

Bridges come in rapid succession, both railroad and highways connecting east with west. Cliff swallows nest on the cement bridge supports, each nest needing about 1200 beaks-full of perfect mud in their construction. A railroad bridge crosses the river just below the Lizard Creek confluence. The 2nd Avenue bridge and the D20 bridge follow downstream. An industrial area occupies one part of the eastern bank, followed closely by Riverfront Park that was most recently a golf course, it's fairways marked by scattered trees of blue and Black Hills spruce, species not found in the surrounding woodlands. Anglers are found along the shoreline more frequently now, too, some even making a faux-elaborate camp on a wooded, mid-river island. Downriver, a cement island, illuminated flagpole on top, marks what likely was a foundation for a bridge support of an earlier era. In some places, rough cement rip-rap lines the shore and the ends of storm sewers poke from both shorelines, draining area streets. As a result, some junk is found washed up on some of the shoreline. The city's water treatment plant and the USGS gauging station are on the western shore in this section, too. But still, the shoreline on both sides is often wooded, providing habitat for wildlife, even if less abundant than a few miles upstream. Like the upper part of this water trail, this segment remains a beautiful paddle.

Paddlers may wonder at the absence of two dams that once crossed the river in Fort Dodge.

Recommended Experience Classification: **Intermediate**



Weathering layers in the sandstone, Dolliver State Park

### Stream Reach: South River District Access to Dolliver State Park (15 Miles)

This stretch is an excellent paddle through dense woodlands, dramatic sandstone cliffs (from 3 to 40-feet high), rocky riffles, and a high density of river wildlife. The shoreline is lined with woodlands nearly the entire length of this paddle. The wooded riparian corridor varies from just a few trees to a wide woodland that extends up valleys and to the tops of the bluffs. Those bluffs, 150 to 200 feet to the top and once covered by prairie, are now topped by old often large oaks, some hickories, and basswoods. Frank Wilder, Director of the Iowa Geological Survey Bureau from 1903-06, described it well in “Geology of Webster County”:

*“Viewed from the valleys of the streams, the landscape seems extremely rugged, and it is a matter of constant surprise that, in a region so typically prairie, scenery so beautiful abounds. The sides of the valley are steep and well wooded from top to bottom. After ascending the sharp slope, however, the climber finds himself at once on the level prairie where often for miles he can see the stream as it flows through its V-shaped valley.” (P. 69 in Wilder, Frank A. (1901) “Geology of Webster County,” Iowa Geological Survey Annual Report: Vol. 12: p. 63-236.)*

Bottomland hardwoods populate the shorelines nearest the water, while a few species like walnut, slightly less tolerant of wet roots, do well on benches a few feet up. Upland hardwoods like oaks, hickories, basswoods, and hard maples do best farther up-slope. The uplands are changing, however: just as oaks have replaced the prairies found on the ridge tops 175 years ago because fires were mostly stopped, so too, the oaks are now beginning to be replaced by maples and basswoods, species that can grow in the shade where young oaks cannot. The maples and basswoods so prevalent now in the understory tell the story of what the forest will become in another 170 years.

While the Des Moines River valley was largely filled with glacial till during the last glaciation, the river apparently is still following a drainage that was determined long before the Wisconsin glaciation. The course is generally northwest to southeast, with large meanders determined by ridges of resistant sandstone, limestone, or other harder materials. This is evident at Kalo, where the river turns abruptly east for about 3 miles and then sharply, 180 degrees, around the end of the ridge of resistant sandstone that makes up the northern side of Woodman Hollow.

# DES MOINES RIVER WATER TRAIL



Note: Access numbers correspond to the distance in river miles calculated from the mouth, then rounded up. To figure the approximate distance between two accesses, subtract the lower access number from the higher access number.



*Ancient tree trunk emerges from sandstone*

This mineralized tree trunk is located between Fort Dodge and Dolliver State Park.



*Cross-bedded layers*

Cliffs of sandstone and shale remain from an ancient inland sea that covered this part of North America hundreds of millions of years ago.

Evidence of the shifting levels and currents of the sea can be seen in the cross-bedded layers of the cliffs.

The deep valleys and sandstone cliffs provide a variety of habitats and microhabitats, giving space and moisture for some plants to thrive. Where water seeps through the porous sandstone layers, liverworts, mosses, algae, and ferns take root. Lichens of many species—their roots giving off chemicals to the rocks to begin the process of soil formation—are found on vertical rock faces, feeding new soil particles to collect on ledges and in cracks below, laying the foundation for mosses and ferns to grow. Some pioneering species of forbs—columbines, penstemons, harebells, and others—hang from these ledges and cracks, adding their soil building to the gradual succession of plants on the rock.

On high exposed rock ledges, some prairie species are able to make a living. So, too, do a few red cedar trees and serviceberries, able to survive in an environment precarious in both height and dryness. The serviceberry (*Amelanchier* spp.) is a favorite browse plant of rabbits and deer, but is protected from browsing by its location on the bluff edges. Its berries, highly favored by birds, are readily spread. Other woodland species are influenced by slope and aspect. Red oaks, for example, tend to grow on the side slopes of the valleys (especially those facing northwest or northeast), where competition for moisture is lower, and avoid the relative dryness of the tops of bluffs where bur and white oaks do well. Some species of spring ephemerals, commonly found on the floor of northern forests, also do well on north-facing slopes of the valleys of Iowa rivers, the microclimate imitating that of the northern forest. This variety of size, shape, moisture, and aspect combine to produce the amazing diversity of plant species that are found in this stretch. Woodman Hollow State Preserve and Dolliver State Park are the best representatives of this: they contain over 500 species of plants.

Wildlife respond with similar abundance and diversity. Water-loving species make ample use of the river: wood ducks, Canada geese, great blue herons, kingfishers, and bald eagles all are common in this stretch. Turkey vultures take advantage of both the fish parts left behind by eagles and also the thermal air currents rising above the valley for effortless soaring. Red-tailed hawks and broad-winged hawks nest in the abundant woodlands and feast on the many small mammals available in the woods and fields nearby. Killdeer and spotted sandpipers run on the beaches and lay their eggs among the rocks. Softshell and painted turtles use those same beaches or logs nearby for basking, warming up in the sun and drying their shells to keep harmful algae from growing too thick. Some mussel species, though depleted in numbers, are evidenced by fresh shells on those beaches. Songbird species voice their territorial concerns throughout: house wrens, indigo buntings, orioles, cardinals, blue jays, chickadees, catbirds, rose-breasted grosbeaks, gold finches, song sparrows, and yellow-billed cuckoos are all common and singing their personal praises for listening paddlers to hear. Many insect-eaters share the space, too, including dragonflies and damselflies, barn, tree, rough-winged, bank, and cliff swallows, great-crested flycatchers, wood pewees, eastern kingbirds, eastern phoebes, and cedar waxwings—all are common in the airwaves along the river. Some, like the swallows and dragonflies, fly around hoping to intercept unsuspecting insects; whereas others, like the flycatchers and cedar waxwings, sit and wait in hopes of insect prey coming close to them. It's all a matter of strategy! Red-headed, red-bellied, downy, and hairy woodpeckers make use of the abundance of trees to excavate nests and find insects and grubs. Even the shy crow-sized pileated woodpecker may be spotted in its undulating flight across the river.

The woods and rocks provide ample homes for mammals, too. Deer are abundant and often seen along the shoreline. Woodchucks scramble among the rocks. Fox squirrels chatter from tree branches or run along a fallen log on the shoreline. Raccoon young peek out from tree dens, a common commodity in these mature woodlands.

Bottomland hardwoods dominate near the water, including silver maple, willow, boxelder, and cottonwood with some mulberry, green ash and slippery elm mixed in. On benches a few feet higher, walnuts, hackberry, elms (including some unfortunate patches of invasive Siberian elm), and black ash grow well. The occasional catalpa can be seen on benches along the river, also. Black locust and honey locusts are found in a few disturbed locations at this level. Up-slope, red oaks and bur oaks, shagbark hickory, walnuts, hackberry, basswood, sugar maple, and some black cherries are common, with bur and white oaks dominating the high portions of ridges. Basswoods and some sugar maple are replacing

# DES MOINES RIVER WATER TRAIL



### KEY

- Beginner Level
- Intermediate Level
- Advanced Level
- City/Town
- Public Land
- Paved Roadways
- Gravel Roadways
- County Line
- Boat Ramp
- Carry Down Access
- Restrooms
- Water
- Shelter
- Camping
- Rapids
- Point of Interest
- Information

Note: Access numbers correspond to the distance in river miles calculated from the mouth, then rounded up. To figure the approximate distance between two accesses, subtract the lower access number from the higher access number.

0 1 2  
MILES



Railroad bridge pilings

The remains of several rail or highway bridges are found in several portions of the water trail. Old concrete or stone bridge pylons are still standing in the water, often collecting trees that have floated downriver. Paddlers should avoid these structures especially during high flows when there is a potential for getting pinned on the upstream side.



Juvenile bald eagle in nest

Paddlers are reminded to stay on the far side of the river from bald eagle nests and to be quiet, so as to disturb them as little as possible.

the oak-dominated canopy in some locations. Elderberry, gooseberry, and dogwood shrubs are common in the understory. Red cedars and serviceberries are also common in the understory on bluff edges. Vines of Virginia creeper, poison ivy, wild grape, and wild cucumber are common, often hanging down over the bank or climbing dead snags. A planted grove of spruce, scotch, and white pine indicate a homesite along the river. A few native white pines can be seen above the more common oak and maple/basswood canopy at Dolliver and black oaks overhang the river from the Woodman Hollow shoreline. In a few sections, the wooded corridor is narrow—5-15 yards—and rowcrops of corn or beans are visible beyond.

Recommended Experience Classification: **Advanced** (due to length)

### **Stream Reach:** Dolliver State Park to Lehigh (~ 3 Miles)

Other wildlife continue to be found along the river in this section, but their abundance varies with the width of the corridor and surrounding land use. In the older forest around Dolliver, pileated woodpeckers, scarlet tanagers, and hermit thrushes can both be heard or seen, and barred owls fill the campground with their nocturnal hoots. Great blue herons and kingfishers are often constant companions, seeming to lead paddlers downriver. Song sparrows, dickcissels, and bluebirds sing their praises of more grassy shorelines along the route. Cardinals, wrens, orioles, rose-breasted grosbeaks, robins, indigo buntings, and blue jays call from the bottomland woods along the way. Bullfrogs croak from shallow eddies in the mid-summer heat and green herons might be spotted on low branches over those same eddies, hoping for an unsuspecting fish or young frog to venture near. Fox squirrels scurry up trees, disturbed from getting a drink at the shoreline, the nearby red-tailed hawk's scream lets you know they are not pleased at your disturbance. Eastern phoebes nest beneath the overhang of a shoreline cliff, taking advantage of the many insects a river provides to feed their young. Cedar waxwings and several species of swallows make use of the same abundant resource to fill their needs. Bald eagles can be spotted along this section making use of the fish resources made visible near riffles and the occasional big cottonwood for a nest, though no nests were found on this day. Turkey vultures, nature's undertakers, soar on the rising thermal air currents above the river, always in search of the dead.

Recommended Experience Classification: **Intermediate**

### **Stream Reach:** Lehigh to Deception Hollow (~ 3 Miles)

Recommended Experience Classification: **Intermediate**

### **Stream Reach:** Deception Hollow to Skillet Creek Access (15.5 Miles)

The inside part of nearly every bend in the river contains a sandy or rocky beach, the interior of which is often covered with a wedge of willows, the youngest closest to the water, grading back to earlier established cousins. The willow roots, once established in the wet soils, send out runners onto the beach to expand the colony and give it its wedge shape. These young willow thickets provide excellent nesting areas for red-winged blackbirds, yellowthroats, gold finches, and other shrub-loving species. The beaches are also home to nesting killdeer and spotted sandpipers that lay their eggs among the rocks. Mourning doves call from low trees nearby or explore the sand for food and grit. Turtles bask in the warm, wet silt on the downstream end of these beaches and slip quickly into the water at the approach of a paddler. Old mussel shells high on these beaches indicate that the waters once hosted mussel colonies. The lack of many fresh or young mussel shells, however, indicates that few remain today.

The outside bends of the river are sometimes scarified and expanding with the erosive force of the water. Some landowners have tried to slow the erosion with cement rip-rap, an ugly alternative to limestone, that was readily available from town or county road departments. Some very sharp bends, though, tend to build their own bank protection, collecting trees





Turkey vultures search for dead fish

toppled by upstream erosion and storms. Aside from serving a current-arrester function, the trees may create paddling hazards. But they are also valuable habitat for fish and other aquatic species, basking platforms for turtles, escape areas for wood duck and mallard ducklings, and habitat for wrens, cuckoos and others searching for meals of insects and spiders.

Boone Forks access is situated less than one mile upstream the Boone River and might provide a nice place to stop.

Recommended Experience Classification: **Advanced** (due to length)

Photography: All photographs are attributed to Jim Pease unless otherwise noted.

### BE SAFE OUT THERE!

Follow these safety TIPS to keep your trip enjoyable:

- Pack only essentials and keep them in waterproof bags.
- Check the river water levels and currents before each trip.
- Know the weather forecast, including areas upstream, and stay aware of the weather on your trip.
- Make sure someone knows your planned entry and exit points and estimated times.
- Always wear a properly-fit life jacket.
- Expect overhanging trees, logjams, and other obstacles, such as bridge abutments or big rocks. If paddling around them is not possible, get out and portage around them. Grabbing onto tree branches may capsize your paddlecraft.
- Always portage around lowhead dams. Surface appearance can be deceiving. Undercurrents can be strong enough for drowning.
- If you capsize, remain on the upstream side of your boat to prevent being pinned.
- Dress appropriately for weather conditions (including air and water temperatures), and avoid weather and water conditions beyond your skill level.

### KNOW YOUR SKILL LEVEL!

- **BEGINNER:** Segments are generally less than six miles. Hazards are few and easy to avoid in normally slow-moving currents. Users can easily access these segments from parking areas, and will not need to portage, except to walk a boat around some shallow riffles or to make going around an obstacle easier.
- **INTERMEDIATE:** Segments are generally less than nine miles. Users should be able to recognize and avoid hazards in moderate river flow. The need to portage is rare, but users should be able and willing to carry boats and gear a short distance. Access to the river may involve a short portage, and the launch or take-out may be a bit difficult.
- **ADVANCED:** Segments may exceed nine miles. Hazards are likely and often occur in fast-moving water. The need to portage may be frequent or may involve carrying boats and gear a long distance. Access to the river may involve a portage, and the launch or take-out may be from steeper banks or faster moving water.

### BEHAVE AS A GUEST!

- Respect private property. Only use public lands and access points.
- Be considerate of others in your group and on the banks.
- Give anglers a wide berth.
- Never change clothes in public view.
- Never litter. Always pack out trash.
- Do not disturb wildlife.

Other Resources:

#### Paddler Safety Information:

[www.iowadnr.gov/Things-to-Do/Canoeing-Kayaking/How-to-Paddle](http://www.iowadnr.gov/Things-to-Do/Canoeing-Kayaking/How-to-Paddle)

#### DNR Interactive Paddling Map:

[www.iowadnr.gov/paddlingmap](http://www.iowadnr.gov/paddlingmap)

#### Webster County Conservation

515-576-4258

#### City of Fort Dodge (Parks & Recreation)

515-576-7237

