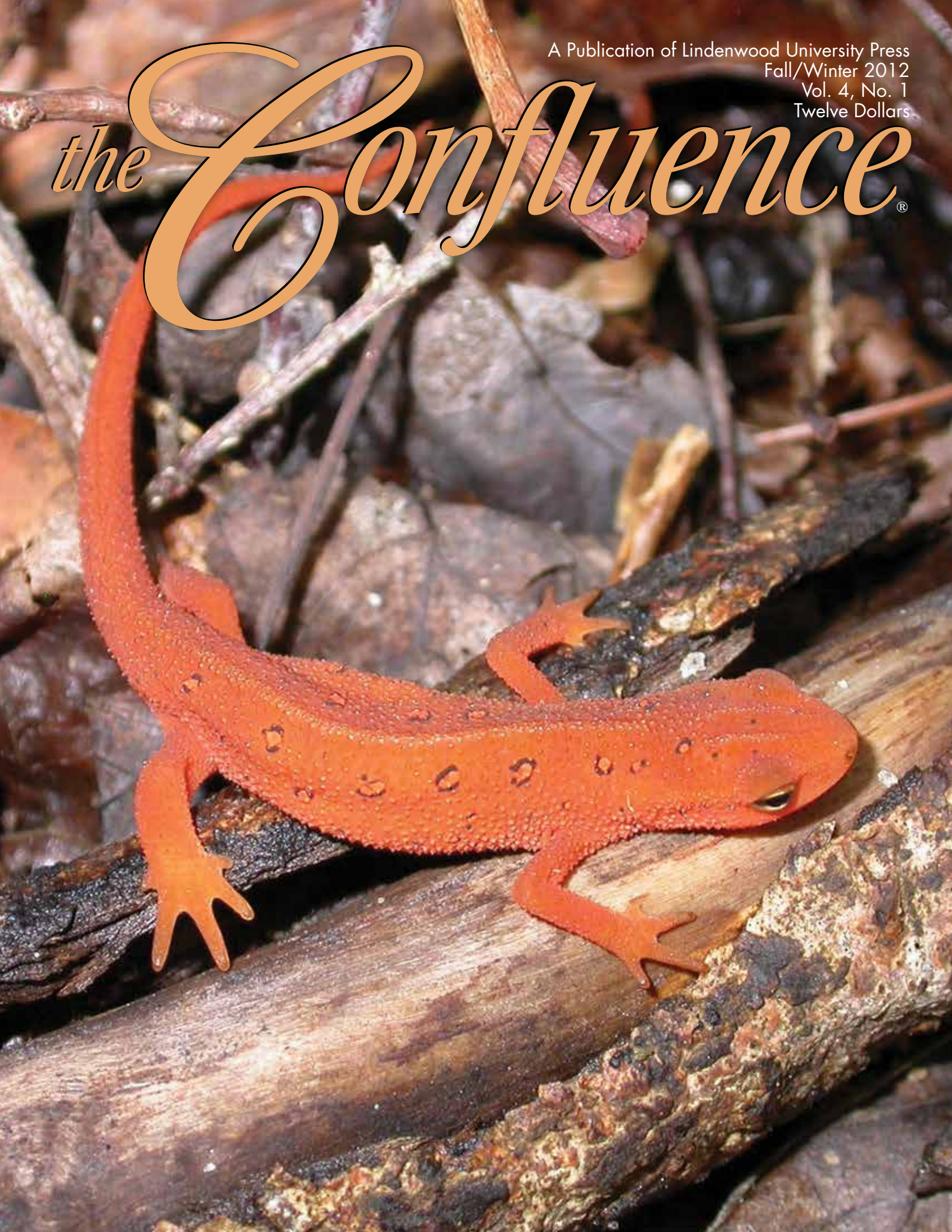

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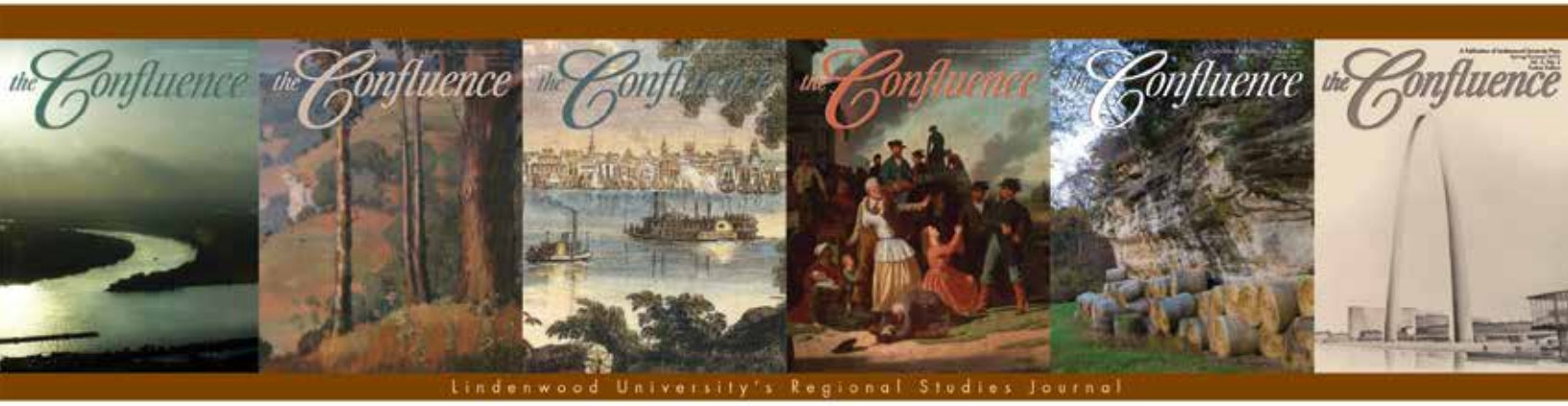

AASLH
American Association for State and Local History

The American Association for State and Local History (AASLH) proudly announces that Lindenwood University and Jeffrey Smith are the recipients of an Award of Merit from the AASLH Leadership in History Awards for the publication *The Confluence*. The AASLH Leadership in History Awards, now in its 67th year, is the most prestigious recognition for achievement in the preservation and interpretation of state and local history.

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COVER IMAGE

Juvenile red-spotted newt, *Notophthalmus viridescens*. The bright orange body color serves as a warning to would-be predators that these newts are toxic.

(Image: John Crawford)

The Confluence is a regional studies journal published by Lindenwood University and dedicated to the diversity of ideas and disciplines of a liberal arts university. It is committed to the intersection of history, art and architecture, design, science, social science, and public policy. Its articles are diverse by design.

the Confluence®

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FROM THE EDITOR

This is an issue of both good news and bad news.

First, there is much good news. In alternate years we publish the winner of the Jacqueline Tatom Award, given by the St. Louis Metropolitan Research Exchange for the best student paper on a regional topic. We're happy and proud to do it—*The Confluence* is about fresh new ideas about our region, after all. It's open to undergraduates and graduate students on most any topic. The papers submitted cover a pretty broad swath, too—public policy, planning, demographics, history, and various combinations of them. These are papers submitted by professors who consider them to be exemplary student work. And they are.

This year's entries were a particularly varied lot, which made the selection process particularly difficult. Most all of them had great merit, and had something interesting to say about our region and about us. On the down side, it made the selection process that much harder. That's how we ended up with a tie between two papers, appearing in this issue, and about as different as two topics can be. Lucas Delort from Washington University uses statistical analysis to discern why some places—say, Delmar Avenue in St. Louis—become racial "Mason-Dixon lines" instead of others like Cass Avenue. It's an interesting article using a very localized sample to answer some much larger questions. And look at his maps—you really have to see them. In the other, Julian Barr from Lindenwood University takes one divorce case file from the St. Charles County Circuit Court to examine domestic violence in mid-nineteenth century America. It's a tough topic to read about, to be certain, but also an important contribution to our understanding of the region's heritage.

Our other good news, of course, is that *The Confluence* has received two awards this year; we feel honored to receive both. One came from the Missouri Humanities Council this past spring, presenting us with an Award of Excellence for Literary Achievement. We received the other in October from the American Association for State and Local History, an Award of Merit for our contributions to public history.

On a quite sad note, we were heartbroken to hear the news of the passing of David Straight. For those who are regular readers, David wrote a regular feature for us on aspects of postal history. When he first proposed the idea, I must admit to being a big skeptical, but his lively writing, excellent eye for images, and gift as a storyteller made these some of our most popular and engaging articles. We'll miss him both personally and as a regular contributor to these pages.

Spotted salamander, *Ambystoma maculatum (Image: Bill Peterman)*

Modern Day CANARY *in the Coal Mine*

BY JOHN A. CRAWFORD

Throughout the course of early American history, the natural environment was viewed as a wilderness to be conquered and used for man's benefit. During the latter portion of the nineteenth century, this attitude began to change as American writers such as Henry David Thoreau and Ralph Waldo Emerson began to draw the public's attention to natural areas and environmental problems arising due to human influences. Further, George Perkins Marsh published *Man and Nature* (1864), in which he documented the effects of humans on the environment. In this landmark book, Marsh concluded that ancient Mediterranean civilizations ultimately failed due to environmental degradation (primarily, deforestation and pollution). He then noted that the same patterns were beginning to develop in the United States.

The work of Marsh and others during the late nineteenth century led to two distinctively different schools of thought on environmental issues in the early twentieth century, Preservationists and Conservationists. Preservationists worked to set aside large tracts of public land and limit (if not completely eliminate) human impacts on these natural areas. The work of John Muir (founder of the Sierra Club) and other preservationists resulted in the formation of 37 parks by the time the National Park Service was created in 1916.[1] Conservationists worked to manage natural resources to provide the maximum benefit for all people. President Theodore Roosevelt (along with the first chief of the U.S. Forest Service, Gifford Pinchot) believed that environmental resources should be managed in a way that current and future generations could benefit from the resources the natural land provided (i.e., maximize the amount of water and timber produced by a forest). The protection of forested lands (and the wildlife within) was not their primary concern. Natural resource policies of conservationists dominated the early and middle twentieth century, while interest in environmental issues waned due to more pressing issues in American society, such as the two world wars and the Korean conflict.

In 1962, Rachel Carson published *Silent Spring*, which is largely recognized as the book that jumpstarted a period in American environmental history known as the Reawakening. In her book, Carson documented the detrimental effects of pesticides on the environment (focusing specifically on birds). Her book ultimately led to the ban on the use of the pesticide DDT in 1972. On April 22, 1970, the U.S. observed the first Earth Day, and memberships soared in organizations such as the Sierra Club, the National Audubon Society, and the National Wildlife Federation.[2] As seen previously, American interest in environmental issues eroded when faced with the economic crises of the late 1970s and early 1980s.

While the public's interest in environmental issues declined, herpetologists (biologists who specialize in the study of amphibians and reptiles) began to notice global declines in amphibian populations during the mid- to late 1980s, from California to Florida and Costa Rica to Australia.[3] These declines were of even greater concern because under natural conditions, habitat degradation and alteration is the major factor in the loss of biodiversity, and those factors could be ruled out in these protected areas. In the 25 years since the first documentation of these declines, every herpetologist has been asked two main questions by members of the general public: 1) What are the reasons for these declines? and 2) Why should one care about amphibian declines? Before we can begin to answer these two questions, one must have a general knowledge of what herpetologists refer to as amphibian life history strategies. All amphibians can be placed into one of three main categories based upon the life history strategy they employ: pond-breeding amphibians, stream-breeding amphibians, and terrestrial amphibians with direct development.

Background Image — Natural vernal wetland in a central Illinois deciduous forest *(Image: John Crawford)*

AMPHIBIANS 101

Pond-breeding Amphibians

Pond-breeding amphibians are defined as species that use a static body of water (e.g., wetland, pond, or lake) for at least a part of their life cycle. While a few species are permanently aquatic, most pond-breeding amphibians require both aquatic and terrestrial habitats to complete their life cycle. This biphasic life cycle is unique to amphibians (among the vertebrates) and requires aquatic habitats for egg and larval development before metamorphosis into the adult form, which persists on land. Further, the majority of pond-breeding amphibians will only use fish-free ponds since fish are major predators of both the eggs and larvae. In the state of Missouri, there are 35 species of pond-breeding amphibians, 11 of which are listed as species of conservation concern. In Illinois, there are 32 species of pond-breeding amphibians, 11 of which are listed as species in greatest need of conservation.[4]

Stream-breeding Amphibians

Stream-breeding amphibians are defined as species that use a flowing body of water (creek, stream, river, etc.) for at least a part of their life cycle. As seen in the pond-breeding group, there are a few species of permanently aquatic stream-breeding amphibians, but the majority of species have an aquatic larval stage and an adult terrestrial stage. Only the largest species of stream-breeding amphibians (e.g., hellbenders and mudpuppies) will use streams and rivers that also contain fish. Most members of this group use smaller streams where fish are not present. In Missouri, there are six species of stream-breeding amphibians, three of which are listed as species of conservation concern. In Illinois there are also six species of stream-breeding amphibians, three of which are listed as species in greatest need of conservation.[5]

Terrestrial Amphibians with Direct Development

Amphibians in this group are typically the least well known to the general public. Direct development simply means that species in this group do not have an aquatic larval stage and the young hatch out of the eggs as miniature adults. All direct developing amphibians in the U.S. are found in the salamander family *Plethodontidae*. Further, all salamanders in the family *Plethodontidae* (which includes both direct developers and some stream-breeders) are lungless, and thus highly dependent on moist, cool habitats to carry out dermal respiration (i.e., breathing through the skin). In Missouri, there are three species of direct developing amphibians, none of which is listed as a species of conservation concern. In Illinois, there are also three species of direct developing amphibians, none of which is listed as a species in greatest need of conservation.[6]

REASONS FOR AMPHIBIAN DECLINES

Currently, extinction rates for plants and animals are estimated to be 1,000 times higher than background rates from the fossil record.[7] Of the vertebrate groups that have been completely evaluated (birds, mammals, and amphibians), the International Union for Conservation of Nature (IUCN) found that 12 percent of all bird species, 21 percent of all mammal species, and 30 percent of all amphibian species were at risk of extinction.[8] While a number of factors have contributed to these declines, it is widely accepted that the primary threat facing wildlife is habitat loss and degradation.[9] The major land use practices that affect amphibians (and other plants and animals) include agriculture, silviculture, and urban development; these processes typically result in the draining and/or filling of wetlands, clearing of forests and prairies, channelization of streams, and creation of impoundments. The majority of amphibians require both an aquatic habitat for a larval stage and terrestrial habitat for the adult stage. Further, these two distinct habitats must remain connected in order to maintain viable population sizes and conserve local and regional diversity. Unfortunately, both of these habitats are affected by human land use.

Although the general consensus is that habitat degradation and alteration is the primary cause behind amphibian declines, recent studies have shown other factors such as global climate change, chemical contamination of habitats (e.g., pesticides or herbicides), disease and pathogens, invasive species, and commercial exploitation are contributing to the declines. Additionally, each of the factors listed above can lead to synergistic effects that can exacerbate the overall negative effect on the population in question.[10]

WHY PEOPLE SHOULD CARE ABOUT AMPHIBIAN DECLINES

Why should amphibian conservation be a priority? First, in his famous book, *A Sand County Almanac* (1949), Aldo Leopold wrote, "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." All organisms have a right to exist on this planet, and one could argue that humans have an ethical duty to protect and preserve diversity. Second, due to their unique life history features (discussed above) and semi-permeable skin, amphibians are excellent bio-indicators of ecological health.[11] Third, due to their extraordinary abundance and biomass, amphibians are critical for proper ecosystem function (consuming smaller invertebrates and serving as prey for larger vertebrates).[12] Considering their sensitivity to environmental degradation and overall abundance across the landscape, amphibians are now thought of as "canaries in the coal mine." Dramatic declines of amphibians in an ecosystem are typically a precursor to catastrophic declines of other species and, eventually, an ecosystem collapse.

Eastern hellbender, *Cryptobranchus alleganiensis (Image: Bill Peterman)*

Within the Midwest, wetlands are critical for a number of ecosystem services that humans rely upon such as water filtration and storm water retention. Amphibian diversity and abundance in these wetlands are excellent indicators of overall wetland health and function. Across Illinois and Missouri the majority of amphibians are pond-breeding amphibians that rely upon seasonal and semi-permanent wetlands for reproduction (as well as appropriate upland habitat surrounding these wetlands).

Approximately 220 million acres of wetlands are estimated to have existed in the continental U.S. prior to 1700.[13] Since that time, over half of the original wetlands have been drained and converted to other uses. For example, in Illinois wetland conversion and drainage has been especially extensive; an estimated 90 percent of original wetland area has been lost.[14] Therefore, protection of remaining wetlands and creation of functional replacement wetlands to mitigate unavoidable losses is a high priority within the state. Seasonal wetlands (also known as vernal pools) are shallow, depressional wetlands that occur throughout the midwestern and eastern U.S. Distribution and abundance of seasonal wetlands are regarded as an indicator of overall ecosystem health and are especially important to numerous species of plants and amphibians. In addition to their biological importance, these seasonal wetlands play critical roles in hydrology (surface water storage and groundwater exchange), biogeochemical cycling, and energy exchange (via amphibian production and dispersal) to adjacent terrestrial habitat. Despite their ecological significance within the landscape, seasonal wetlands typically receive minimal regulatory protection at both the federal and state levels because they are often small (less than 0.5 hectares) and hydrologically isolated.[15]

AMPHIBIAN SPECIES OF CONSERVATION CONCERN IN ILLINOIS AND MISSOURI

Hellbender (Cryptobranchus alleganiensis) – There are two subspecies of the hellbender (eastern hellbender – *C. alleganiensis alleganiensis*; Ozark hellbender – *C. alleganiensis bishopi*). The eastern hellbender is found in both Illinois and Missouri, while the Ozark hellbender is found in Missouri. The Ozark hellbender was listed as a federally endangered species in 2011 and the eastern hellbender is a state-endangered species in both Illinois and Missouri (the eastern hellbender is presumed to be extirpated in Illinois since it has not been seen in the state in 30 years). Hellbenders are found in fast-flowing rivers and streams that have not been impacted by sedimentation and chemical runoff. Adults and juveniles are largely nocturnal and hide under large submerged rocks and logs during the daytime. Reproduction normally occurs in early fall (August-October), and the male guards the eggs (in some populations males will guard juveniles for up to 1.5 years after hatching). Hellbenders discharge a toxic skin secretion that likely repels larger predatory fish.

Common mudpuppy (Necturus maculosus) – The common mudpuppy is found in both Illinois and Missouri. It is listed as state threatened in Illinois and a species of conservation concern in Missouri. It is rarely seen in both states, so its status is unclear. Mudpuppies can be found in large lakes and ponds, but they are most often seen in fast-flowing rivers and streams with very little sedimentation. Adults and juveniles are nocturnal, feeding mostly on small fish and crayfish. Adults breed during the fall and are most active during the fall and winter seasons.

Common mudpuppy, *Necturus maculosus (Image by: Matt Ignoffo)*

Spotted dusky salamander (Desmognathus conanti) – The spotted dusky salamander is found in isolated populations in Pulaski County, Illinois, (as well as one introduced population in Johnson County) and is listed as a state endangered animal. Spotted dusky salamanders are only found in headwater streams (lacking fish) that flow through dense forests. Adults and juveniles are nocturnal, becoming active on rainy nights when they can forage along stream banks for various invertebrates. During the day, these salamanders can be found under logs, rocks, and leaf packs within the stream bed. Mating occurs in late spring (April-June), and the female guards the eggs until they hatch during the fall (September-October). Larvae then move into pools of the stream until metamorphosis the following spring.

Four-toed salamander (Hemidactylium scutatum) – The four-toed salamander is found in both Illinois and Missouri. It is listed as state threatened in Illinois and a species of conservation concern in Missouri. Its status seems to be secure in Missouri with a fair number of stable populations, but there are only isolated populations in Illinois with relatively low population numbers. Adults are found within 50 meters of spring-fed streams or pools with an abundance of moss and logs, and they feed on a variety of forest floor invertebrates. Mating occurs during the fall, and eggs are laid in communal nests during the spring. One or more females guard the eggs until hatching. Larvae then wriggle into the water, which is usually just below nesting sites.

Four-toed salamander, *Hemidactylium scutatum (Image by: Bill Peterman)*

Ringed salamander (Ambystoma annulatum) – The ringed salamander is an Ozark endemic salamander found in Missouri; across its entire range it is only found in Missouri, Arkansas, and Oklahoma. Within Missouri it is listed as a species of special concern due to its restricted

Spotted dusky salamander, *Desmognathus conanti (Image by John Crawford)*

Female spotted dusky salamander with newly hatched larvae *(Image by John Crawford)*

Ringed salamander, *Ambystoma annulatum (Image by: Bill Peterman)*

range. Adults and juveniles can be found within high-quality oak-hickory forests where there are suitable breeding ponds (dries every 3-4 years) lacking fish. Adults make their breeding migrations to these ponds in early fall (August-October) during periods of heavy rain. Larvae hatch in late fall and overwinter in the breeding pond; metamorphosis occurs during the following year (May-June). Outside of the breeding season, ringed salamanders can be found in abandoned small mammal burrows and under rotting logs on the forest floor.

Jefferson salamander (Ambystoma jeffersonianum) – The Jefferson salamander is found in Illinois, where it is listed as a state threatened species due to a severely restricted range (found only in Clark and Edgar counties). Adults and juveniles are found in high-quality beech-maple forests with suitable vernal wetlands for reproduction. Within their range, Jefferson salamanders are typically the first pond-breeding amphibians to reach breeding ponds with migrations occurring in late winter to early spring (February-March); it is not uncommon to catch breeding adults in ponds that are covered with ice. Eggs hatch within a month, and larvae remain in the ponds throughout spring and metamorphose in June. Jefferson salamander larvae typically prey upon other amphibian larvae during this period of development. Outside of the breeding season, Jefferson salamanders can be found on the forest floor under rotting logs.

Mole salamander (Ambystoma talpoideum) – The mole salamander is found in the southern portions of both Illinois and Missouri. It is listed as a species of special concern in Missouri and a species in greatest need of conservation in Illinois; this is primarily due to its specific habitat requirements. Mole salamanders are found in bald cypress and tupelo swamps and adjacent sloughs. Adults move to breeding ponds (fish-free ponds or swamps) during late winter rains, with larvae subsequently metamorphosing in late summer. In certain portions of their range, some larvae will become sexually mature

Jefferson salamander, *Ambystoma jeffersonianum (Image by John Crawford)*

Mole salamander, *Ambystoma talpoideum (Image by John Crawford)*

Tiger salamander, *Ambystoma tigrinum (Image by Bill Peterman)*

adults but will not undergo metamorphosis (neotenic individuals). As with other salamanders in this genus, mole salamanders can be found under rotting logs and in abandoned small mammal burrows outside of the breeding season.

Tiger salamander (Ambystoma tigrinum) – The tiger salamander is found in both Illinois and Missouri. While it is not officially listed in Illinois, it is listed as a species of special concern in Missouri. Its status in both Illinois and Missouri is largely unknown due to its patchy distribution and low population sizes. Tiger salamanders are the largest terrestrial salamanders in both Illinois and Missouri and can be found in both forest and prairie habitats with suitable fish-free vernal wetlands. Reproduction occurs in late spring (March-April), with adults making breeding migrations on warm, rainy nights. Larvae typically metamorphose in late summer (July-August), and occasionally tiger salamander larvae can become cannibalistic (in addition to feeding on amphibian larvae of other species). These cannibalistic larvae can reach sizes of up to 10 inches in length.

Crawfish frog (Rana areolata) - The crawfish frog is found in portions of both Illinois and Missouri. It is listed as a species of special concern in Missouri and a species in greatest need of conservation in Illinois, primarily due to its specific habitat requirements. Crawfish frogs require high-quality prairies with an abundance of crayfish burrows and fish-free vernal wetlands. Adults breed during the spring (March-April) and can be readily identified by their breeding call, which is a loud, deep snore. Females can lay up to 7,000 eggs, and metamorphosis of tadpoles occurs during mid-summer. Outside of the breeding season, crawfish frogs remain in the same crayfish burrow all year and only emerge to feed on warm rainy nights, never moving more than 1-2 meters from their burrow. In some instances, crawfish frogs will migrate more than 1 kilometer from their burrow to a breeding pond, so large

areas of intact prairie are critical to the persistence of this species.

Wood frog (Rana sylvatica) – The wood frog is found in both Illinois and Missouri; it is listed as a species in greatest need of conservation in Illinois and a species of special concern in Missouri. The wood frog requires mature hardwood forests with an abundance of moist soil and leaf litter as well as fish-free vernal wetlands for reproduction. Breeding migrations begin in late winter (January-March) when warm rains begin to melt ice off of the wetlands. It is not uncommon to find breeding wood frogs in ponds still partially covered by ice. Females tend to lay their egg masses (up to 1,000 eggs) in the same area of the pond. Tadpoles grow rapidly and metamorphose by early summer (May-June). Outside of the breeding season, wood frogs can be found moving along the small creeks and ravines often greater than 1 kilometer from the breeding pond, so large areas of intact mature forest are critical to the persistence of this species.

Crawfish frog, *Rana areolata (Image by Bill Peterman)*

Wood frog, *Rana sylvatica (Image by John Crawford)*

WHAT CAN BE DONE TO HELP

Although there are a large number of amphibian species that are of conservation concern in Illinois and Missouri, one need not to be a herpetologist to help. There are a number of ways to help with conservation of these unique animals and protection of environmental health:

- Became involved in a citizen-science project involving amphibians. Researchers throughout Illinois and Missouri have projects that are in need of volunteers for the collection of valuable data.
- Those who own a small piece of forest or prairie habitat can build a vernal wetland or two on their property.[16]
- Donating money to state wildlife research projects is another step in helping such efforts. Both Illinois and Missouri have tax check-off programs through which individuals can donate a portion of their tax returns to wildlife research programs.
- Donating to the Saint Louis Zoo's WildCare Institute, Ron Goellner Center for Hellbender Conservation is another means of assistance.
- Joining a local or regional herpetological society such as the St. Louis Herpetological Society (www.stlherpsociety.org), Chicago Herpetological Society (www.chicagoherp.org), Missouri Herpetological Association (www.mha.moherp.org), or Central Illinois Herpetological Society (www.centralillinoisherp.com) is also a venue through which one can assist with these efforts.

Female wood frog with freshly laid egg masses in a vernal wetland *(image by John Crawford)*

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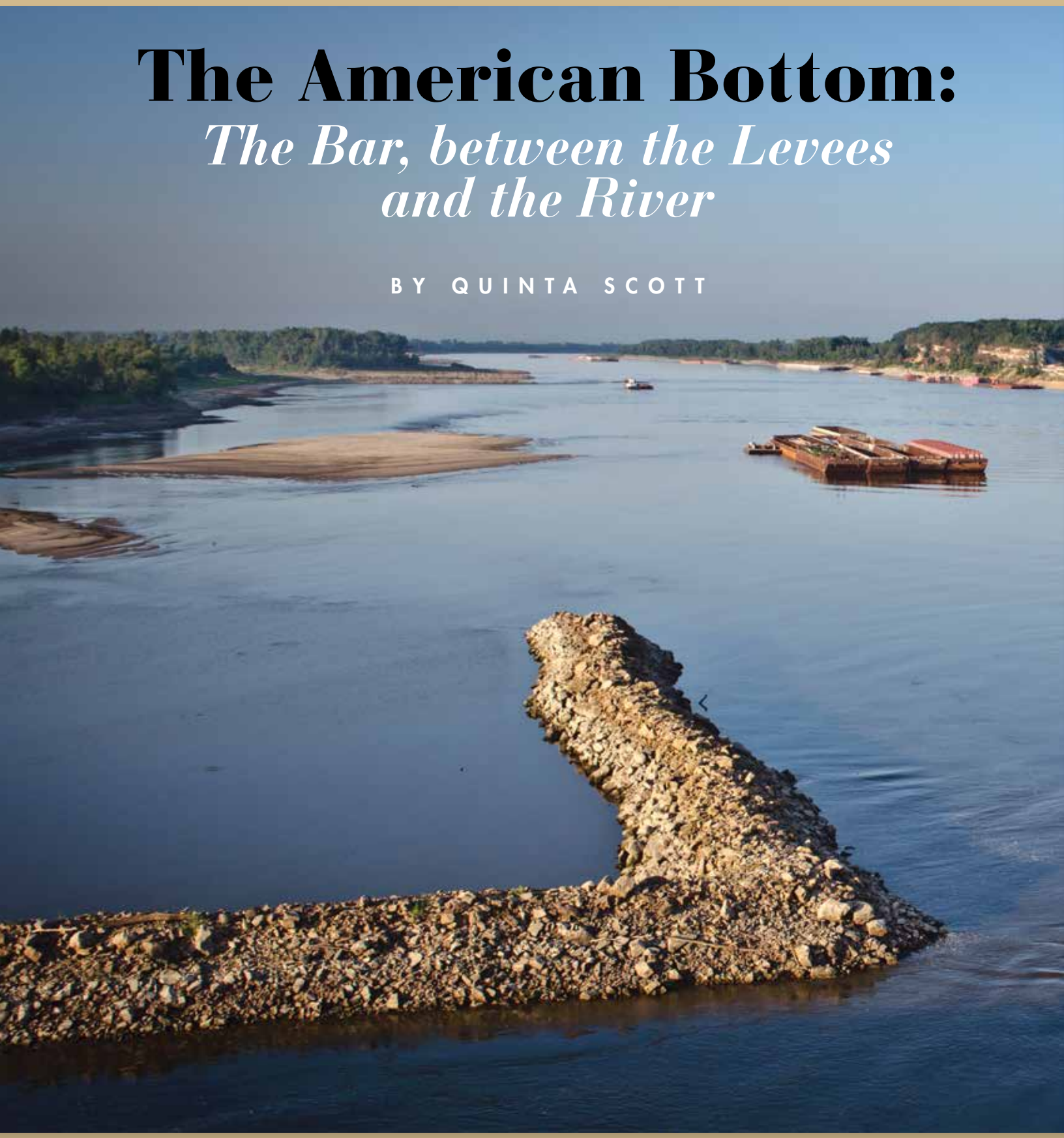
The American Bottom:

The Bar, between the Levees and the River

BY QUINTA SCOTT



Mississippi River at downstream of the Jefferson Barracks Bridge

"The fences built from the bank into the water eventually caught sand and timber began to grow. Filled land on the riverside of the levee is referred to as "bar ground." – Raymond Ripplemeyer, 1966.[1]

An island finds its start as a sandbar. Cottonwood takes root. If the trees and bar are not washed away in a flood, the trees catch mud and it settles. Black willow (*Salix nigra*) takes root. The trees prevent the next flood from washing away the island and catch more mud and debris. The island grows, always catching more sediment and drift until it becomes a timber island. So it goes until the island reaches the level of the floodplain and can support a hardwood forest.[2]

This is the third in a series of articles on the American Bottom. The first concerned information regarding the bluffs that mark the valley wall and the hill prairies that top them. The second covered information about the floodplain and the challenge of draining and farming wet ground that is protected by levees. Now, this analysis will examine the lands between the levees and the river's edge. The people who farm this land call it "the bar" because much of it started out as a sandbar that evolved into an island becoming attached to the mainland.

Once again as one crosses the Jefferson Barracks Bridge between St. Louis County, Missouri, and Monroe County, Illinois, it is possible to see that underneath this streams the Mississippi River, supporting a nine-foot deep navigation channel along the Missouri bank for barge traffic. One cannot see the channel training structures from the eastbound traffic lane, but they exist, deflecting the current at their ends, keeping navigation moving. Ahead one can see the heavily wooded Illinois bank where the black willows (*Salix nigra*) at the river's edge progress to cottonwoods (*Populus deltoids*) to hardwoods at the interior. This was once part of Horsetail Bar, a sandbar that occupied the Jefferson Barracks reach and caused many navigational difficulties. A dense willow forest marks the silted-in side channel between the old sandbar and the farm field beyond it. Depending on the level of the river, sometimes the chute is wet, other times dry. A forest anchors the bank and gives way to fields of wheat, corn, or soybeans. Finally comes the borrow pit, the source of soil for the adjacent levee. Depending on the level of the river, sometimes the pit is filled with water; other times this is not the case. An attached island, silted-in side channel, forest, field, borrow pit, and levee: these are the elements of the "the bar." Officially, people who study the bar know it as the "batture lands."

Then there are the elements of the river itself: the navigation channel-fast water, islands, the side channels with slow and quiet water, the wetted edge, and the terrestrial or mainland. The navigation channel speaks for itself. Islands provide resting, feeding, and breeding places for waterfowl and protect wildlife from humans or other predators. The quiet water in the side channels is essential to fish, which rest, breed, and feed in them. The wetted edge, where nutrients leach from the land into the aquatic environment, goes from wet to dry and back again as the river rises and falls.

Once again, one can turn right on Sand Bank Road in Columbia and take it to Bluff Road, then follow Bluff to Bottom Road which leads to Levee Road. In order to bike the levee, the best route is to stick to Levee Road, which is public and paved. The levee road is privately owned by the levee districts in areas where there is gravel, with big signs posted to indicate this. No paved roads crisscross "the bar." The farm roads that do so are private. Some farmers do not care if people explore their fields; others care very much and it is impossible to know who is who until an indignant farmer runs someone off his property. There are, however, public places on "the bar" that can be explored: Meissner Island, a division of the Middle Mississippi River National Wildlife Refuge; Fort Chartres Island and Chute, managed by the Illinois Department of Natural Resources; and the Kaskaskia Confluence Trail and bottomland forest, managed by the U.S. Army Corps of Engineers. Explorers will not get to the Mississippi itself until arriving at the mouth of the Kaskaskia River.

South of Alton, Illinois, the modern Mississippi is an open river, unencumbered by dams. Since 1872, the Corps of Engineers has managed the Middle Mississippi south of St. Louis for navigation. Channel training devices—often called fences, hurdles, dikes, wing dams, wing dikes, or jetties—all serve the same purposes: to scour a reliable navigation channel, create new land and a new bank, and narrow the river. When set on the convex side of a bend they divert the river's erosive power to the navigation channel and the opposite concave bank, where "mattresses" (19th century term) or revetments keep the river from eroding the bank. In 1872, the engineers designed the "hurdles" (19th century term) to scour a 4-foot channel, and in 1881 an 8-foot channel, then a 9-foot channel, all measured by the low water reference point, an arbitrary number used to set the flood gauge at St. Louis at zero. In 1881, the Corps began building closing dams that set across side channels to prevent the river from adopting a side channel as its main channel. Sediment washing off the floodplain silted in the side channels, damaged habitat for fish and migrating waterfowl, and fused islands to the mainland, thus forming "the bar." By 2000, only 23 severely degraded side channels remained in the Middle Mississippi between the Missouri and Ohio Rivers whereas none had existed in 1881. All were the creation of the process of building out the bank and narrowing the river.[3]

When Congress passed the 1986 Water Resources Development Act, it included the Upper Mississippi Management Act that declared the Upper River to be a nationally significant ecosystem as well as a critical navigation system. The Corps of Engineers, the U.S. Fish and Wildlife Service, and the Departments of Natural Resources of the states bordering the river initiated the Upper Mississippi Environmental Management Program to restore ecosystems in the river wherever it did not interfere with navigation.[4]

Hence, in the wake of the flood of 1993, engineers from the Applied Engineering Center of the St. Louis District, who understood how the river moves sediment, and biologists from the U.S. Fish and Wildlife Service, the Illinois DNR, and the Missouri Department of Conservation, who understood fish, worked together to develop tools to modify existing dikes and closing dams and manage the Middle Mississippi for both fish and navigation.

If the engineers were not able to remove closing dams across side channels, they could notch them and allow water to flow through them. They could set hard points, mini-wing dikes, in chutes and force water to scour deep holes in them without the buildup of sediment. They could force the river to flow around chevron dikes, shaped like a "C," to create side channels along the bank without disrupting navigation in the main channel. When a flooded river spills over a chevron dike, it scours deep holes inside the "C," which serve as places for fish to wait out the winter. Should the river need dredging, the dredged sediment could be placed in front of the chevron and create an island. The biologists found that the new dikes increased the diversity and numbers of micro-invertebrates—fish food. In turn, the fish increased their numbers and diversity.[5]

At the turn of the century these same organizations formed the Middle Mississippi Partnership to "restore and enhance the natural resources of the corridor" between the bluffs from the Missouri to the Ohio River, using "public and private resource management compatible with economic development, private lands conservation, and education." One goal was to restore aquatic habitat in the remaining side channels and, where possible, create new ones.

Accomplishing any restoration project on the Middle Mississippi is dependent on the willingness of private owners to be engaged and on the availability of funds from the Federal treasury. Proposals are priorities for the agencies working on the river, which they would focus on more if they could and the funds were available.

Fort Chartres Lock and Levee

Levees follow levees: the farmers in Monroe and Randolph Counties formed their levee and drainage districts in the early 1880s at the same time the Corps of Engineers was building closing dams across the chutes between the islands and the east bank of the Mississippi, but still before the islands fused to the floodplain. These farmers constructed their levees close to the east banks of the side chutes.

The 1883 Wilson and Wenkel Levee and Drainage District levee started at the Monroe County line and ran behind the Carroll Island slough. Directly south, the Columbia Levee and Drainage District ran its 1882 levee along the bank of the river where it passed behind Beard and Foster Islands to Fountain Creek, the southern limit of the district. Here, a "potato levee" turned west along the creek and ran to the bluff. The Harrisonville and Ivy Landing levee ran from Fountain Creek, down the bank of the Mississippi, passing in back of Lucas Bar and Calico Island to Ivy Landing. The Stringtown Levee and Drainage District began at Kidd, Illinois, in back of Salt Lake Towhead and followed the bank through Penitentiary Point ending at the head of Isle de Duclos, old Fort Chartres Island. The #5 Levee and Drainage District Levee picked up from there and extended down the bank of Fort Chartres Slough ending at the foot of the island. Subsequent levees followed the same configuration, including the federal levees, built in the late 1940s. They did so because the easements were in place and had been for decades. From looking at the Upper Mississippi River Navigation maps one can see the levees run around the old islands and bars, which have long since been welded to the mainland.[6]

Old Carroll Island: Levee and Borrow Pit

When Congress passed the Flood Control Act of 1936, the legislators made it the job of the Corps of Engineers to build flood protection across the nation. In 1947, the Corps of Engineers began construction of levees, designed to hold flood levels of up to 47 feet, along the American Bottom from Alton to the mouth of the Kaskaskia River. The soil for the levees came from borrow pits on the bar ground.

How deep engineers made the borrow pits varied according to the depth of the available clay in an undulating ridge and swale landscape. Before digging, engineers used borings to measure the depth of the impervious clay that would go into the levee. They stopped digging before they ran out of clay so that no sand or silt constituted the outer slopes of the embankment.[7]
In the 65 years since the construction of the levees, the river has washed in 2 or 3 inches of mud every time it has flooded. During the flood of 2011, many fish, mostly Asian carp, swam into the bar ground and the field just east of the Jefferson Barracks Bridge. The receding flood corralled the fish in the shallow borrow pit, the lowest point in the field. There they became easy pickings for wading birds, egrets, and herons. When the egrets and herons left, the seagulls moved in. When the borrow pit completely dried out, the raccoons arrived. The following summer the farmer who tills this field planted soybeans in the borrow pit.

The Bar: Soybean Field

After the Corps of Engineers began building "fences" or hurdles to deepen the navigation channel in 1872, and began closing side channels to prevent the river from adapting side channels as its main channel in 1881, sediment washing off the fields filled the side channels and fused the islands to the mainland. Farmers began cultivating the new land and called it "the bar ground" or "the bar." When sand collected behind the wing dikes, the resulting sandbars followed the same process: sandbar to timber island to mainland. Farmers harvested the cottonwood and sent it down river to box factories, saved some to weave into mattresses for revetments to protect the riverbank, and began cultivating the cleared fields.[8]

To say that "the bar" is an inter-related element of the bottoms as a whole is inaccurate. Without the protection of the levees the farmers who till "the bar" cannot be guaranteed a good crop year after year. In good years they harvest bumper crops of corn and soybeans; in bad years they watch the river reclaim their land for flood

storage. They plant very little wheat because "once it goes under water, it's done for." Generally, farmers can get their corn and soybeans planted by the beginning of June after spring flooding has receded. In years of heavy summer flooding, they may be able to plant soybeans in August and expect to harvest the crop in the fall. More often, the river takes the land in those years. In a drought, the sandy ground does not hold the water and the crops dry out.[9]

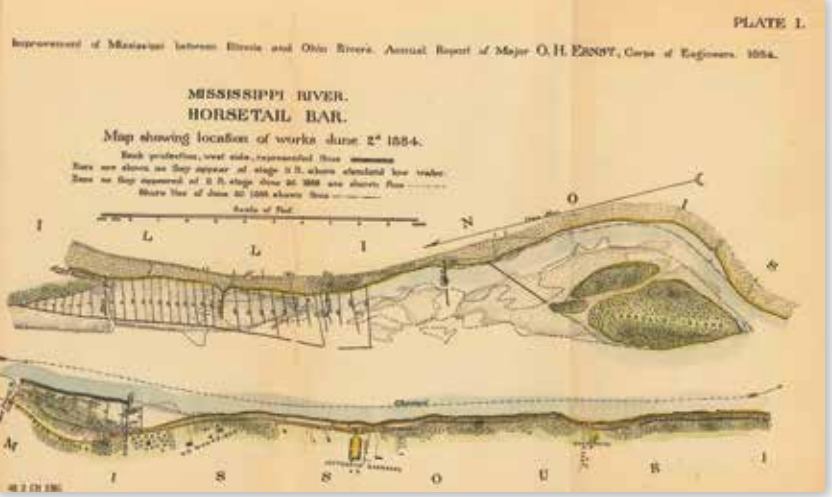
Between 2007 and 2011, farmers on "the bar" had two good years. In 2007 they were able to harvest everything they planted: wheat, corn, soybeans, and double-cropped soybeans, planted after the wheat was harvested. 2009 was also a relatively successful year, with only a few acres being too wet to plant. The other years during this period, including 2008, 2010, and 2011, were complete losses.[10]

Anatomy of a Hurdle or Wooden Dike: Foot of Jefferson Barracks Chute

As the Middle Mississippi meanders, it moves water and sediment downstream. It erodes sediment from the concave side of its bends and deposits it on the convex side, forming point bars. The main channel, the navigation channel, changes constantly as the bends migrate downstream. To create a deep, reliable navigation channel, the Corps of Engineers projects dikes into the stream from the convex banks of the river and armors the concave cut banks with revetments to stop their erosion. With the dikes in place, the river scours a deeper navigation channel and deposits all that moving sediment on the upstream side of the dikes, creating an artificial sandbar. A small, open area of water pools on the downstream side.

Between 1872 and 1879, the Corps experimented with stone dikes, but abandoned them in favor of permeable wooden hurdles when stone dikes proved difficult to maintain. After 1879, engineers drove two or three rows of timber piles, logs as long as 65 feet, into the riverbed and tied them together in clumps. They filled the spaces between the rows with fresh cut willows 30 feet long and not more than 4 inches in diameter. The tops of the piles rose 20 feet above low water. The upstream side of the pile rose 25 feet in order to catch drift—big trees eroded from the bank—that could rip the structure apart. Cypress and white oak were the timber of choice, but cottonwood, hickory, pecan, or sycamore would also do.

By directing the current away from the convex bank, the engineers encouraged the river to erode the concave bank. To stop that process, they wove together layers of live timber into mattresses 3 to 5 feet thick to create revetments, set them on the bank at or below low water, and anchored them with very heavy stones. The engineers also used mattresses to protect the dikes from erosion at the bank line.



Jefferson Barracks Reach, 1888

In 1872, when the Corps of Engineers began the process of scouring a 4-foot navigation channel south of St. Louis Harbor, the first place they attacked was the wide, shallow reach south of River des Peres and out in front of Jefferson Barracks. There, Horsetail Bar, eroded sediment spilling out of the river on the west and eroding from Cahokia Chute on the east, filled much of the navigation channel clear south to the head of Carroll's Island. Engineers, examining the river in August 1873, could find no well-defined channel. The river was "diffused over the broad sandy bottom" and divided in three parts: the channel followed the west bank south of the River des Peres, crossed over the gravel head of Horsetail Bar where the river was too shallow to accommodate a steamboat at low water, and continued south along the east bank to the head of Carroll's Island, where the channel deepened. The main channel threaded the rocky Missouri bank and "the high sand of Horsetail Island." In 1873 and 1874, the Corps of Engineers built a set of five wing dikes, one on the west bank at the mouth of the River des Peres and four on the east, with the dikes set perpendicular to each other in order to force the river into a narrow navigation channel. The engineers placed the fifth at the head of Carroll Slough in order to divert water away from the chute. By doing so, they allowed the river to erode portions of Horsetail Bar and deepen the channel.

By mid-1880, the Corps of Engineers had spent $395,450.91, and a reliable eight-foot channel in the Jefferson Barracks reach was still not a sure thing. The engineers expected it to be "an object of care for an uncertain number of years." By 1887, however, the engineers were pleased with the progress at Horsetail Bar: "the growth of the new banks has continued in a satisfactory manner, the area on which willows are growing being largely increased. The lowest depth of the water in channel reported during the year was 10.5 feet."[11]

Jefferson Barracks Dike Field

Even after the engineers completed their training works to erode Horsetail Bar, the sandbar continued to bedevil navigation. The Jefferson Barracks Reach continued to be wide and shallow and require frequent attention from the engineers. In 1992, the Corps of Engineers once again attacked it and constructed a field of five L-dikes with trails from the Illinois bank. However, they continued to have to dredge the reach to maintain the navigation channel. After they extended and raised the dikes in 2006, the dredging stopped until the summer of 2012 when the drought-plagued river ran very low.

The construction of the Jefferson Barracks dike field created a stretch of river where few fish swim. There were few deep holes and no slow-moving side channels around sandbars in which the fish could rest, feed, and breed. The sandbars there were high and dry most of the time. Vegetation took root, covered them, and washed away only in very big floods. The engineers notched each dike in one to three places to allow water to flow through and open a quiet side channel for fish along the true bank and as well as an isolated sandbar for breeding least terns, an endangered bird. What resulted were small pools on the downstream side of the notches.

In 2001, engineers in the Hydrologic and Hydraulics Branch of the Applied River Engineering Center of the St. Louis District of the Corps built a scale table model of the dike field, using an aerial photograph. They studied alternatives for scouring a new side channel along the east bank to create aquatic depth and diversity for fish, creating an island between the side channel and the navigation channel for nesting terns, and maintaining a reliable navigation channel. Some of their attempts included raising the dikes, widening and narrowing the notches, increasing and decreasing the number of notches in each dike, increasing and decreasing the height of the notches, as well as subtracting and adding dikes to the field. They tested each configuration, only one of which worked. The engineers would remove a small dike from the field, which allowed the notches to create a continuous side channel between five and ten feet deep at low water for fish and a nicely isolated, 190-acre island for the endangered Least Terns.

The proposed work—raising the dikes in the field, notching the existing dikes at the bank, adding new rootless dikes (that is, dikes not anchored to the bank but starting several hundred feed out from the bank), artificially dredging the new side channel—was never done. The EPA examined the project, found the sandbar contaminated by chemicals spewed into the river from a chemical plant upstream, and stopped the project until the contaminants could be cleaned up.[13]

Anatomy of a Stone Dike—Jefferson Barracks Dike Field

The St. Louis District of the Corps continued to use wooden hurdles into the 1950's, but did occasionally use rock dikes as early as 1872. Today, the engineers build stone dikes 10 to 18 feet above low water, projected straight out from the bank. An L-dike has a trail to reinforce the scour. Occasionally, engineers will build a sloped dike or a stepped dike. In every case, the width at the crest measures at least 5 feet, but closer to 10. Any dike less than 6 feet wide can fall victim to an ice flow, which will shear off its top. The angle of repose of the type of stone used determines the slope of the dike. As the end of the dike deflects the current to the navigation channel, the river scours under the dike, and rock falls into the stream, armors the scour hole, and prevents further loss to the stream end of the dike. Generally, engineers build the dike perpendicular to the bank. Tilting the dike upstream results in the end being battered. Angling it downstream results in the downstream bank being battered and the possibility of being blown out. Engineers space the dikes to create the most effective scour of the channel. Spacing them too far apart may lead to the river meandering between them. Spacing them too closely is too expensive. To anchor the dike to the bank, excavators dig a trench, fill it with rock, and extend the dike into the bank. To further protect the bankhead, they will always pave the bank on the downstream side, and occasionally on the upstream side.[12]

New Carroll Island: Jefferson Barracks Chute, Upstream

In 1881, "a strong draught of water towards the chute east of Carroll's, hindering the bank building process at the downstream portion of the Horsetail Reach, and causing an enlargement of the chute referred to."—Major O. H. Ernst, Corps of Engineers, 1883

Looking at the 1817 map of the Mississippi, one would think that not much has changed in the last 195 years. At Old Carroll Island, a healthy chute ran along its east bank but was a little further upstream. The Carroll Island seen on today's map is a creature of channel training devices the Corps of Engineers installed in the Horsetail Reach after 1873. By 1866, Carroll Island had split into two islands, and within the next 15 years the two islands had begun to fuse into one.

In 1874, when the Corps of Engineers completed the hurdles to build out the east bank, scour a reliable channel in the Horsetail Bar (Jefferson Barracks) Reach, and remove Horsetail Bar as an impediment to navigation, they built the fifth and last dike across the slough that ran behind Carroll Island. Seven years later, water rushing down the chute behind Carroll Island threatened to enlarge the side channel. In 1883, the engineers constructed a sixth hurdle, 2,450 feet long and 1,500 feet below the fifth hurdle, which extended from the Illinois bank to the head of Carroll Island, had the "desired effect of causing heavy deposits in the vicinity," and closed the chute behind the island. Never would the Mississippi try to adopt the chute behind Carroll Island as its primary channel.

The chute filled with sediment, and Carroll Island became bar ground. At a later date, the Corps of Engineers extended a series of wing dikes from the west bank of Carroll Island. The dikes caught sand behind them and created a new Carroll Island over time. When the river was up, Jefferson Barracks Chute flowed behind it. When the river was down, as in the summer of 2012, flow through the chute broke into a series of ponds north of Palmer Creek.[14]

Jefferson Barracks Chute: Old Wooden Hurdle and New Notched Dike

Even though sand, backing up behind broken down wooden hurdles, plugs Jefferson Barracks Chute at its head and its foot, and even though it is shallow in normal years, fish can access the chute all year long. There may be no deep holes in which fish can ride out the winter, but it is a good place for nesting and rearing the young.

To restore Jefferson Barracks Chute, the Middle Mississippi Partnership would increase the amount of water flowing through the chute and limit the amount of sediment entering the chute. Notching the closing dam at the head and foot of the chute allows water to flow through and prevents the buildup of sediment. This process also creates a variety of deep and shallow habitats, which attract catfish, white bass, freshwater drum, crappie, smallmouth bass, buffalo, sauger, paddlefish, and bluegill. Hard points, mini-dikes, would create more deep scour holes without any buildup of sediment, and catfish love them. Finally, selective areas of the chute could be dredged and the dredge used to build and ridge and swale landscape. Trees would be planted on the higher, dried ridges.[15]

Forest along Palmer Creek and Jefferson Barracks Chute

There are more than 94,000 acres in the American Bottom, and agriculture dominates throughout. Before European settlement, 47,344 acres of forest covered 50 percent of the bottoms. By 1989, coverage was reduced to 11 percent. Since 2000, the region has recovered 2,174 acres of forest. In 1989, wetlands covered 212 acres but increased by 2,205 acres by 2000 as places like Kidd Lake Marsh Natural Area expanded and private duck clubs, like Chartres Duck Club, converted agricultural lands back to wetlands.[16]

According to the 1890 maps of the area, willows (*Salix nigra*) anchored sandy Carroll Island and the low lands in the floodplain, while an elm (*Ulmus Americana*), ash (*Fraxinus pennsylvanica*), oak (*Quercus spp*), and hackberry (*Celtis occidentalis*) forest grew on higher, drier land in the floodplain. The composition of the forests on other islands and floodplain was similar. In 2012, silver maple (*Acer saccharinum*), mulberry (*Morus rubra*), and oak (*Quercus spp*) grew in the woods along Palmer Creek and at the edge of Jefferson Barracks Chute.

Because farming the bar is so tenuous, many farmers choose to leave their fields in forest, particularly along the river and side channels. Also, because farming is so tenuous, the bar ground offers extensive opportunity for reforestation either through natural regeneration of trees or by planning selected bottomland hardwoods, generally nut producing trees, food for wildlife.[17]

Half of the 1,000 acres of bar ground next to Jefferson Barracks Chute is in forest. If this land and much of the forested land bordering the Middle Mississippi could be put in public trust, restoration managers could rebuild a ridge and swale landscape, planting trees on the ridges and allowing natural processes to create swales, wet habitat for micro-invertebrates and the reptiles and amphibians that feed on them.[18]

Asian Carp and Paddle Fish

While shopping the fish counters in St. Louis supermarkets, one would never know the Middle Mississippi River is teeming with a huge variety of native fish including: sturgeon (shovelnose, lake, and pallid), mooneye, paddlefish, shad, American eel, catfish (channel and flathead), gar, buffalo (bigmouth and smallmouth), bass (white, largemouth, and smallmouth), crappie, bluegill, sauger, walleye, and Asian carp.

Asian carps, silver carp or bigheaded carp, are invasive species, indigenous to India and China. In 1973, fish farmers imported and stocked carp to control phytoplankton, algae, in their catfish ponds. The phytoplankton are microscopic plants—food for larval fish, native mussels, and zooplankton (microscopic animals)—that drift in the well-lit surface of a lake. Within a few years, six state, federal, and private fish hatcheries were raising carp. By the end of the decade, municipal sewage lagoons were stocking the fish. By 1980, they had escaped into the nation's rivers and lakes where they reproduced and increased their range exponentially throughout the Mississippi River Basin.

The carp scoop plankton from the surface of the water, competing with native fish that rely on plankton for food such as the gizzard shad, bigmouth buffalo, and paddlefish. Ironically, a fish that was introduced to control algae led to the production of more algae. The carp feed on algae but then excrete nitrogen and phosphorous nutrients, which produce more algae. Because they also feed on zooplankton, they reduce the number and size of plankton that would feed on algae; hence more algae and less oxygen in the waterways. Silver carp swim in schools, just below the surface of the water, and when disturbed, jump. This can occur when noisy outboard motors upset them, making them leap into boats, often damaging them, while shocking boaters, and leaving behind slime, scales, and feces.

It took until 2007 for the U.S. Fish and Wildlife Service to declare the carp a foreign invader under the Lacey Act. The Lacey Act, passed in 1900, directed the Secretary of the Interior to collect information about the breeding habits of game birds and their preservation. The act as originally written has been amended several times, and by the beginning of the 21st century it governed the regulation of invasive species.[19]

In China, Asian carp is a delicacy, served in expensive restaurants, but the pollution of Chinese rivers has made them unsafe to eat. Therein exists an opportunity for Illinois's commercial anglers. The Illinois Department of Commerce has invested $2 million in a carp processing plant in Grafton that will ship 35 million pounds of carp to China over the next three years where the fish will be sold as "Upper Mississippi wild-caught carp."[20]

Illinois officials would also like to see the carp minced and served in food pantries and soup kitchens, but the patrons tend to find it unpleasant. The question is whether the actual flavor of the fish or the popular idea of it having an unpleasant taste is driving this resistance. Chefs in Baton Rouge, Louisiana, and Chicago, Illinois, have begun to experiment with recipes. The Illinois Department of Natural Resources would like to change the image of the fish in order to change its appeal to American taste buds. However, DNR personnel have yet to figure out the most efficient way to process the highly bony fish. One suggestion is to mince it and serve it as fried carp cakes. Another idea is to fillet the meat and serve it grilled, poached, or seared, accompanied by a nice Chardonnay. Still more approaches include canning it and using it as a meat substitute, as well as renaming it – Chilean Sea Bass used to be called the Patagonian Toothfish. The fish was renamed, people grew to love it, and it was overfished in a very short period of time.[21]

The chances of overfishing Asian Carp are remote, as they have very high reproduction rates: the female produces 1.9-2.2 million eggs a year. Even if only one to three percent reached adulthood, those rates still would produce abundant amounts of fish whose only potential natural predator is humans if solutions can be found to confront repudiation of its taste and for difficulty in methods of preparing the fish.[22]

Beard's Island: Chevron Dikes, River Mile 163.5

In January 1881, the Corps of Engineers decided to connect the head of Beard's Island, a timber island, to the east bank, which would build out the Illinois shore and reduce the width of the river.[23] In June 1882, "water was making such headway down the chute behind Beard's Island that it was decided to cut it off by the construction of a hurdle line." The engineers ran the hurdle from the willow-covered towhead above Beard's Island to a point on the Illinois shore 2,000 feet upstream. When heavy current washed out the first piles, workers start a second hurdle line 850 feet long and 300 feet south of the towhead in hopes of closing the chute as soon as possible. No sooner had they driven piles into the sand when "the piles driven caught the refuge brush from the mattress barge above, and water commenced shoaling immediately both above and below the line." By 1901, Beard's Island was fully integrated into the bar ground and had been divided into fields.[24]

This reach, between Carroll Island and Beard's Island and their adjacent chutes, once offered waterfowl and fish quiet resting, nesting, and feeding places. At the beginning of the 21st century, it was straight, safe, and boring. Fish could find little shallow, quiet, off-channel habitat, though some mussels could be found. Nor could fish find deep holes in which to wait out winter. Between river miles 168 and 156.6, 51 stone dikes had contracted the river into an efficient navigation channel. Only Atwood Chute at river miles 160.8-161.7, running along the Illinois bank, remained connected to the main channel.

In 2008, the Middle Mississippi River Partners began studying ways to increase aquatic habitat in the reach once occupied by Beard's Island, while maintaining the navigation channel. As they had at the Jefferson Barracks Dike Field, the engineers at the Applied River Engineering Center built a scale model of the reach, using an aerial photograph. They removed existing dikes, extended dikes, notched dikes, and built chevron dikes and settled on two alternatives, one at Beard's Island and a second at the mouth of the Meramec River near Kimmswick.

At the edge of Beard's Island, between river miles 163 and 162.1, the engineers trimmed an existing dike, built a chevron dike, trimmed a second dike, inserted three chevron dikes, trimmed a third dike, and built a new dike, all in that order. In the model adding four chevron dikes another result was the creation of two sandbars surrounded by side channels; trimming the three existing dikes allowed the river to scour holes and add diversity to the new side channels. The Corps built the dikes in February and March 2010 and came back and made repairs to them after the flood of 2011. In theory, the new side channel habitat should attract channel catfish, sunfish, paddlefish, whitefish, and a variety of buffalo fish, but during the very low water season of 2012, the engineers could not return to the project to ascertain its success.[25]

Middle Mississippi River National Wildlife Refuge: Meissner Island, Lucas Slough,

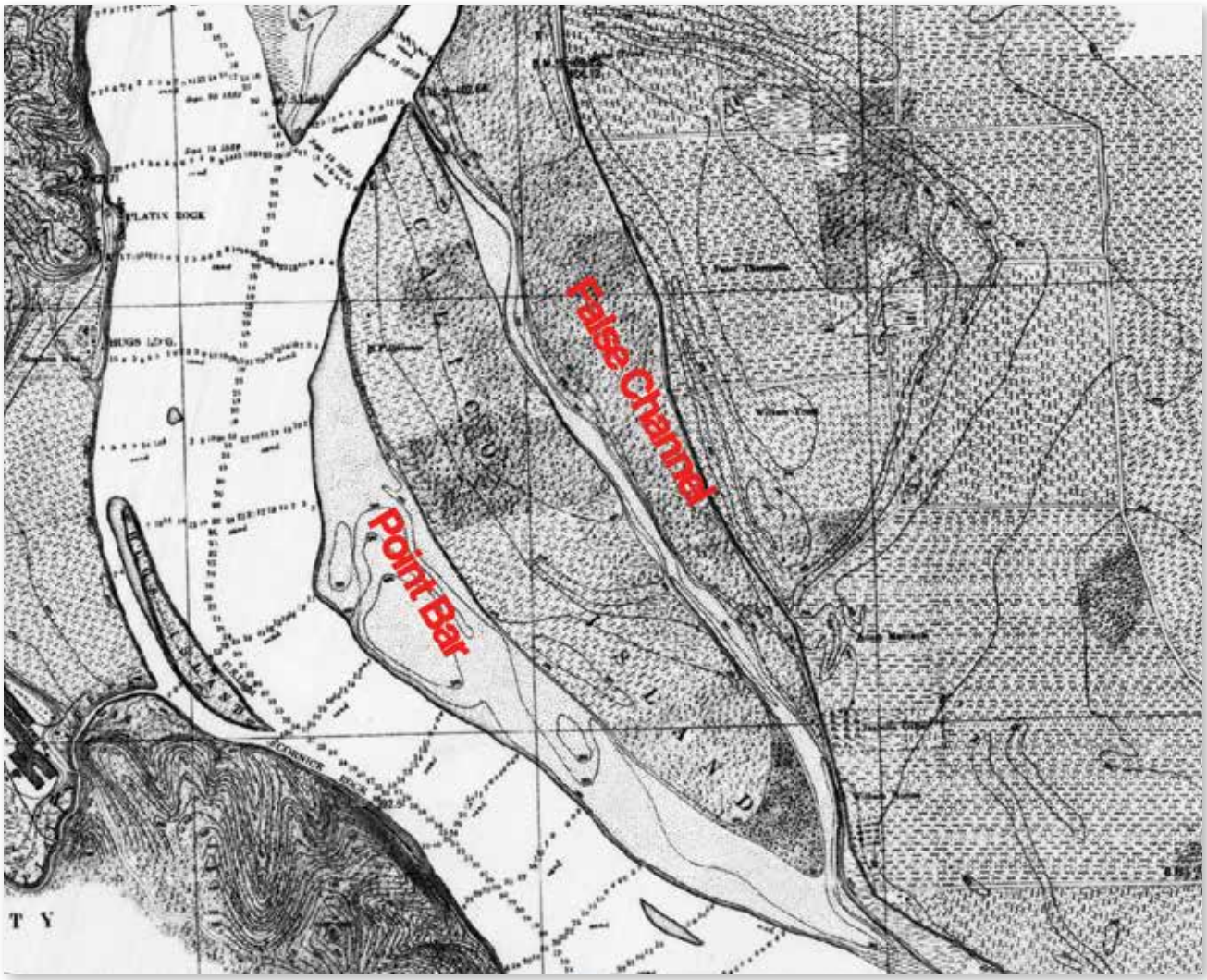
In 1880, the Columbia Levee District ran its levee along Lucas Slough in back of Foster Island. At Harrisonville Landing at the foot of Foster Island, the width of the river varied between 4,400 feet and 6,000 feet, which at the time was too wide. To narrow the river, build out the Illinois bank, and create a reliable navigation channel, the Corps of Engineers closed off the chute in back of Foster Island at its head in 1889. At the same time, the engineers built six hurdles to the south of the landing to "concentrate the water at Lucas Crossing," eradicate Lucas Bar, and contract the river between the foot of Foster Island and the head of Calico Island. By 1893, Foster Island had been renamed after its owner, George Meissner, and had become attached to the bank at its head. The Corps added a series of 13 short hurdles in 1895 and scheduled additional hurdles in 1899 to assure that the Mississippi at Harrisonville Landing would be no more than 2,500 feet wide.

Today, Lucas Slough is an intermittent wet location in the bar. When the river is up, ground water fills the slough. Otherwise, it depends on rainwater. Even in the months after the flood of 2011, which kept the slough wet for most of the summer, it had already dried out by the turn of the year.

In the immediate wake of the flood of 1993, Congress authorized the U.S. Fish and Wildlife Service to expand the Mark Twain National Wildlife Refuge Complex (which manages refuges between the Iowa River and the Ohio River) and to purchase up to 11,400 acres from willing sellers, farmers who had tired of cultivating frequently flooded lands. In 1997, after Congress authorized the Mark Twain complex to expand the refuge by 60,000 acres, the Fish and Wildlife Service put together a "wish list" of 56,000 acres, 14,758 of them south of St. Louis, which included all of the islands and side channels and much of the bar.

In 2000, the U.S. Fish and Wildlife Service created the Middle Mississippi River National Wildlife Refuge between St. Louis, Missouri, and Cairo, Illinois, a region where there are few public lands. By 2005, the service had purchased 4,300 acres on four islands for the refuge with the aim of managing them as a forest corridor and reconnecting their side channels to the river. They included Harlow Island (Missouri), Wilkinson Island (Illinois), Beaver Island (Missouri), and the tiny (78 acres) Meissner Island on "the bar."

The Fish and Wildlife Service is allowing the farm fields on Meissner Island to regenerate naturally into a forest of silver maple (*Acer saccharinum*), willow (*Salix nigra*), and cottonwood (*Populus deltoids*). Additionally, the service has planted mast or nut-producing trees, oaks (*Quercus spp*), and hackberries (*Celtis occidentalis*), food for wildlife. Archers and small game hunters can come in during their respective seasons, but they must follow state hunting regulations.[26]



Calico Island, False Channel and Point Bar, 1890

In 1817, Calico Island was a collection of sandbars in the middle of the Mississippi, which coalesced into one large island over the next 50 years. By 1881, so much sediment had filled Calico Chute that it had become a sandy slough, and the island was well on its way to becoming bar ground. In 1889, when the Corps of Engineers directed the series of six hurdles against Lucas Bar between the foot of Foster Island and the head of Calico Island, the designers also wanted "to close the false channel behind Calico Island," a sandy slough, which filled during times of flood, but that was otherwise dry. By 1891, the current south of Lucas Bar had changed and was eroding the head of Calico Island. To protect the island, the engineers built a mattress or revetment 4,000 feet long and 120 feet wide, sunk it over the eroded portion of the bank, and weighed it down with rocks.[27]

On the west side of the island, the Mississippi was depositing a sandy point bar, possibly from sediment eroded from Lucas Bar, just to the north. This point bar developed into the Calico Island well known today. By 1931, the Corps of Engineers had extended dikes across the bar. Within 18 years, trees took root on the point bar, and a chute was developing along its east side. By 1981, new Calico Island had developed into a timber island, with a distinct chute running along its east bank. Dikes along its west bank directed the river's current to the navigation channel along the Missouri bank. It is clear from aerial photographs taken in 2002 and 2011 that sometimes Calico Chute was open and water flowed through it but sometimes did not.[28]

The Bar—Old Calico Island: Wetland Reserve Program

In 2006, William Ziebold wanted a place to hunt and, therefore, placed 47 acres on the bar into the Wetlands Reserve Program. Ziebold's 47 acres bridged the "false channel behind Calico Island," now a low sandy swale, which once separated old Calico Island from the mainland. Willows (*Salix nigra*) took root on the ridges; grasses and forbs took root in the swale.

In 1985, Congress acknowledged that 73 percent of the nation's landscape was privately owned. If Americans were going to sustain a healthy wildlife population, they would have to establish private and public partnerships in order to restore landscapes. First, the lawmakers created the Conservation Reserve Program in 1985 to protect highly erodible land, and second, established the Wetlands Reserve Program in 1990 to protect wetlands. The Natural Resources Conservation Service administers both and provides technical and financial assistance to encourage landowners to take highly erodible lands out of production and restore them for fish and wildlife.

When Ziebold tried to turn the swale into a duck pond, he learned just how difficult the process of restoring a wetland can be. When the river was up, the swale filled with seep water. When the river was down, it dried out. He hoped he could dam the swale, line its bottom with clay, and turn "the false channel" into a pond that would hold water. Then, he realized that a flooded Mississippi would wash through the bar, flush out the clay, and he would have to start over again. When the Applied River Engineering Center looked at restoration plans for old Calico Island, the engineers also tried to return water to the false channel.[29]

Hard Points Calico Chute—2012

At river mile 148, the Mississippi threads between the tall bluff on the Missouri bank and Calico Island on the Illinois bank. Calico Chute runs between the island and the bank of the river.

When a group of biologists from the U.S. Fish and Wildlife Service, the Illinois Department of Natural Resources, the Missouri Department of Conservation, and engineers from the Applied River Engineering Center formed their coalition to restore riverine habitat to side channels of the Mississippi, they found Calico Chute in fairly good shape. Its width varied between 125 and 250 feet with an average of 200 feet. When the river ran low, its average depth of the channel was about nine feet, but there were places where it was as deep as 21 feet, and places existed where it was almost dry, leaving its sandy bottom exposed. Old, broken wooden pile dikes marked the head and the foot of the chute. On its right bank, Calico Island supported a dense 250-acre forest. This was not the case on its left bank, where farmers had stripped the forest from 500 acres of floodplain for farm fields in 1991. The collaborators built a table-sized model on which they could test their ideas for restoring habitat to Calico Chute and others in the Middle Mississippi.

Little needed to be done to restore diversity to the depth; the engineers inserted hard points constructed of rock, wood, or both at high energy areas along the chute to create deep scour holes for fish. They dredged where they did not want sand to exist and added sand where they did, enlarging the sandbar at the foot of the island. Using sand dredged from the channel, they created ridges on the banks and anchored them with trees. Wherever possible, they allowed water to flow through the chute and create a ridge and swale landscape. Finally, to reduce the amount of silt washing off the adjacent fields and into the chute, they reforested the denuded left bank with a riparian buffer of trees and shrubs at least a hundred feet deep.

The drought of 2012 followed the flood of 2011. The flood scoured a hole in the east bank of Calico Chute, whereas the drought built out the point bar on the east bank, leaving the hard points, designed to scour holes for fish, stranded in sand. When the Corps of Engineers brought in a barge to rebuild the east bank of Calico Chute, rocks fell from the barge and into the chute.[30]

Fort de Chartres Powder Magazine and the Fort Chartres Reach

A series of graphics at the Fort de Chartres museum tells the story of the fort's precarious relationship with the Mississippi. When the French completed the second Fort de Chartres, a wood palisade structure, in 1725 on the east bank of the Mississippi, an island divided the Mississippi into two roughly equal channels. The main channel flowed along the west bank, but within 30 years the main channel had migrated to the east bank. The French built a third Fort de Chartres, this time in stone and further inland, in 1756. In 1763, the French ceded Louisiana to the English. After the British took possession of the fort in 1765 and renamed it Fort Cavendish, the east channel had widened considerably, and a small island hugged the west bank. By 1772, the river was causing major erosion to the east bank, endangering the fort. The English abandoned the fort. A year later a flooded Mississippi took possession of Fort de Chartres' south wall and bastion. The remaining buildings fell into ruin as locals carted off the stones for their own structures, leaving only the powder magazine. The State of Illinois acquired the fort in 1913, restored the powder magazine in 1917, and rebuilt the main gate in the 1920s, as well as the Guards' House in 1936. The Illinois Historic Preservation agency, created in 1986, reconstructed the walls on the original foundations in 1989.[31]

A 1797 map locates the ruins of the fort along the chute of Isle de Duclos, owned by the Duclos family, which settled on the site of Old Fort Chartres (possibly the first fort) in 1742. An 1817 map locates the ruins of the fort not far from the end of what is known today as Fort Chartres slough, Isle de Declos chute. In 1866, the chute still carried water around the island, but by 1881 the island had ceased to exist. By 1890, parts of what is called Fort Chartres Island, Isles de Duclos, had been turned over to farm fields, but much of it remained in forest, treed in hackberry (*Celtis occidentalis*), elm (*Ulmus Americana*), and oak (*Quercus spp*).[32]

Isle de Duclos: Old Fort Chartres Chute, River Mile 132

Those considered to be history buffs likely know Fort de Chartres for the reconstructed eighteenth-century French fort. Hunters, anglers, trappers, hikers, and birders instead know Isle de Duclos Island and Fort Chartres Island for their woods, fields, and wetlands. The Illinois Historic Preservation Agency owns 1,219 acres, including the grounds of the fort and the region between the levee and the river. The Illinois Department of Natural Resources manages old Fort Chartres Island, once Isle de Duclos and now bar ground, and new Fort Chartres Island and Chute, created by the Corps of Engineers' stone dikes and closing dams for a total of 782 acres. Much of it, 570 acres, is in timber. The agencies lease out 150 acres for farming and water in the two chutes accounts for 52 acres.

Hunters come to Fort Chartre Island for deer, turkey, fox, coyote, and skunk. Small game hunters and trappers come for raccoon, opossum, rabbit, squirrel, quail, and dove. The DNR allows hunters to bring in portable tree stands and leave them overnight, but they are not allowed to nail, screw, or wire stands to trees. Only primitive, muzzle-loaded firearms or bows and arrows are allowed. Duck hunters can haul in boat blinds for teal and other waterfowl and use modern shotguns. Birders come for snipe, rail, woodcock, migrating waterfowl, and other birds.[33]

The Fort de Chartres and Ivy Landing Drainage ran its Onemile Race Creek ditch from Fults Creek ditch at the bluff line, across farm fields to the Fort de Chartres lock, and into the old side channel between Isle de Duclos and the mainland. Other small ditches drain through other locks and into the slough. The district closes these locks when the river floods the bar ground but keeps it open otherwise. Water trickling through the lock keeps the side channel flowing most of the time.

In 2005, the Applied River Engineering Center made a study of the geomorphology of the Middle Mississippi River and developed a blueprint for the restoration of old side channels, sloughs, oxbows, wetlands, and borrow pits. Any restoration proposal is couched in terms of what the agencies working on the river would do if possible and the funds were available. As for the old slough behind Isle de Duclos, the engineers enlarged it and left it connected to the river at its southern end at river mile 132.5.[34]

Anatomy of a Dike-created Island and Chute

At Isle de Duclos, the engineers built wing dams that directed the navigation channel to the Missouri side of the river and directed the river's sediment behind the wing dams, creating, first, a sand bar, then a willow island, and finally a timber island that reached the level of the mainland. The Fort de Chartres side channel ran between the Timber Island and old Fort de Chartres Island.

In 2000, scientists with the U.S. Geological Survey at the Upper Midwest Environmental Sciences Center's Long Term Resource Monitoring Center studied aerial photographs of Chartres Island and Chute to understand the evolution of the island and the deterioration of the chute. This was a part of a larger study of the state of side channels in the Middle Mississippi, which included a 2012 study by fish biologist Dr. Thomas Keevin and Erin Marks Guntren at the St. Louis District of the Corps of Engineers.

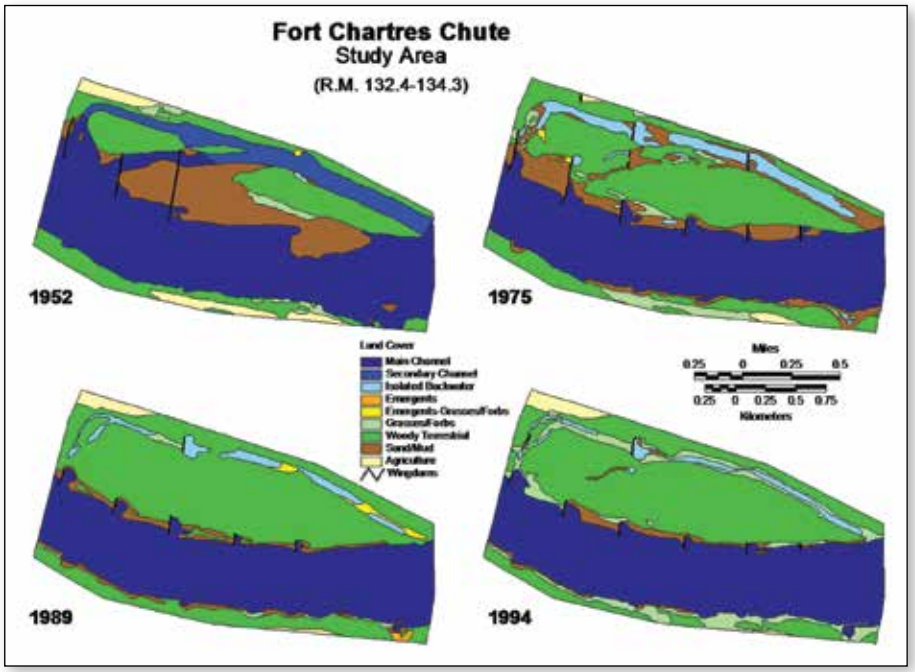
Keevin and Guntren's earliest aerial image of Fort Chartres Island, taken in 1931, shows sand had begun to accumulate behind a series of four wing dikes jutting out from the east bank of the river, forming two sandbars. Pooling in front of the dikes has delivered water to a side channel that runs between the bank and the bars, and forest has taken root at the head of each.

By 1950, the U.S.G.S. scientists measured a 101-acre side channel that separated three forested islands surrounded by sand and mud from the main land. A smaller secondary channel ran between them and joined the larger channel. Three wing dikes—one sprung from the main land at the head of the side channel, a second sprung from the mid-section of the island at the head of the side channel and blocked the head of the smaller channel, and a third long dike sprung from the foot of the same island—crossed both the smaller channel and the larger island, and extended out into the river.

Over the next 20 years, the wing dikes collected mud, eliminated the small secondary channel, and welded the three islands into one forested island. In 1975, the Corps constructed two closing dams across the remaining side channel. Mud and sand plugged both ends of the channel, reducing its size to 67 acres and isolating aquatic habitat. Additionally, engineers ran several dikes along the west side of the island and into the river. They caught more mud and sand and built a larger island. According to Keevin and Guntren's 1981 aerial, sand plugged both the head of Fort Chartres Chute and its foot, but water, pouring over the center closing dam, created a plunge pool that could be as deep as 10 feet at low water. By 1989, the large side channel had been reduced to a series of pools totaling 33 acres, and a 535-acre forest covered the island. The small secondary channel had disappeared. However, when hiking the island, it is viewed as a depression in the landscape.

Then the flood of 1993 occurred, which washed away 73 acres of forest which were replaced by grass and forbs. Not even the flood could open the side channel. Only 23 acres of aquatic habitat remained, where a healthy side channel once ran between the east bank and the three small islands in 1950.

Finally, silt began clogging the side channel, filling it with vegetation. However, floods, like those of 1993, 2008, and 2011, can scour the sediment and vegetation from the channel and return water to it temporarily at least. [35]



Fort Chartre Island Chute: Plunge Pool, 2008

The Fort Chartres side channel is one of 23 remaining on the Mississippi River. The St. Louis District and the Illinois Department of Natural Resources have made plans to restore the channel for the benefit of the pallid sturgeon, an endangered fish. But for the two scour holes, the chute dries out when the river reaches 10 feet on the St. Louis gauge. The engineers introduced more water into the side channel by notching in the closing dams to allow water to flow through. They dredged sediment from it and installed hard points, mini-dikes that scoured deep holes for the fish. Engineers used the dredge to form sandbars in the chute and build ridges on which to plant trees and reforest the banks.

The plunge pool, ten feet deep at low water and at the middle of Fort Chartres Chute, retains water even when the rest of the chute dries out. It is a place that fish can swim to as water in the chute dries up. Three years prior to restoration and in the three years following, the Corps and the DNR inventoried which fish were swimming in particular areas. They measured the water quality in the chute, including levels of dissolved oxygen, temperature, turbidity (muddiness), pH levels, and the rate at which water flows through it. Finally, and most importantly, they determined when and how well the chute was connected to the river, so that fish could enter and exit.

So much of what the Corps of Engineers and the Illinois DNR would like to do in terms of restoration on the Middle Mississippi is dependent on funding. All plans for Fort Chartres Chute have been on hold until funds become available.[36]

Chartre Island Snake

While the closing dams may complicate habitat in Fort Chartres Chute, the center dam allows a hiker to cross the chute and hike the island. Unfortunately, the trail allows the hiker to reach the river's edge where wing dikes are building still more land on the west bank of the island. Even through the focus of restoration at Fort Chartres Island is on its adjacent chute, restoration managers would like to document and map the trees in the forest canopy and the shrubs in its understory as well as the grasses and forbs in the sand areas before and after the construction work in the chute.[37]

A Small Tow Exits the Kaskaskia River at its Confluence with the Mississippi and the End of the Kaskaskia Confluence Trail

At the confluence of these two rivers, history meets environmental stewardship. This is where, on April 18, 1881, the Mississippi jumped its bank, picked up a shallow ditch called "The Narrows" on the peninsula between the Mississippi and Kaskaskia, flowed to the Kaskaskia, and took over its narrow channel. On the left bank of the Mississippi and at the opposite the end of the Confluence Trail is Fort Kaskaskia State Park. On the right bank, on the Missouri side, is the Beaver Island Division of the Middle Mississippi River National Wildlife Refuge.

The Mississippi River makes a sharp, 70-degree turn around Beaver Island. A series of 16 dikes scour the navigation channel around the bend. Stone riprap armors the bank on the Illinois side, opposite Beaver Island. Clear around the bend lays Kaskaskia Island and the remnants of the Village of Kaskaskia, founded by the French in 1703. Across the Mississippi and overlooking the confluence and Kaskaskia Island is Fort Kaskaskia State Park.

In 2004, Ducks Unlimited donated Beaver Island to the Middle Mississippi River National Wildlife Refuge. This 245-acre island hosts a mature cottonwood forest. The cobble and gravel bed of the active side channel around the island offers native fish—including the endangered pallid sturgeon—quiet spawning habitat.

The French built the first Fort Kaskaskia in 1734 and rebuilt it in 1759 as a small fort or earthen redoubt set atop a bluff on the opposite bank of the Kaskaskia and overlooking the village. After the French abandoned the fort in 1763 and turned Louisiana over to the British, villagers from Kaskaskia destroyed much of the fort to keep it from falling into British hands. When they arrived in 1766, the British found only the earthworks remaining and built Fort Gage in the village of Kaskaskia. During the American Revolution, General George Rogers Clark arrived at Kaskaskia in 1778 and took Fort Gage and Fort Kaskaskia.[38]

Finally, two highly familiar missions of the U.S. Army Corps of Engineers occurred: flood risk management (levee specification) and navigation (the 9-foot navigation channel). Most are not familiar with its other two missions: environmental stewardship (notched dikes, chevron dikes, restored side channels) and recreation. The Kaskaskia Confluence Trail fulfills these last objectives. In May 2010, the Department of the Interior added the trail to its list of National Recreation Trails.[39]

The trail is a part of the larger Kaskaskia River Project, which serves two Corps missions: navigation and recreation. In 1962, Congress authorized the Kaskaskia Navigation Project, which channeled and straightened 40 miles of the Kaskaskia River from its confluence with the Mississippi to Fayetteville, Illinois. To maintain the 9-foot navigation channel, the Corps built a lock and dam just short of the confluence. The project included large reservoirs, Carlyle Lake and Lake Shelbyville, for both flood control and recreation. Additionally, the Corps turned many of the cutoff bends in the river into recreational areas with campgrounds. The Corps and the Illinois Department of Natural Resources stock the river to increase the populations of bass, bluegill, crappie, catfish, and walleye.[40]

The American Bottom from the mouth of the Missouri to the confluence with the Kaskaskia River has 100 miles of Mississippi River shoreline. Only at the end of the Kaskaskia Confluence Trail can the public gain access to the river. The hike to the confluence is short, just .4 miles, but there are plenty of opportunities to wander through the bottomland forest, treed in black willow (*Salix nigra*), cottonwood (*Populus deltoids*), and silver maple (*Acer saccharinum*). This is a paved, wheelchair accessible trail to the Mississippi River, one that can be biked or jogged. If one is fortunate, and the rivers are up, there might be an opportunity to startle a Great Blue Heron (a very shy bird) at its fishing hole in a low swale in the landscape. It will respond with a squawk, rise up, and glide off into the woods. If the rivers are in flood, the trail is inaccessible, and the woods provide fine fishing for the bird. Human anglers fish from the banks hoping to reel in catfish, largemouth bass, crappie, bluegill, white bass, walleye, or even an Asian carp. Hunters are also allowed to access designated areas during deer season.

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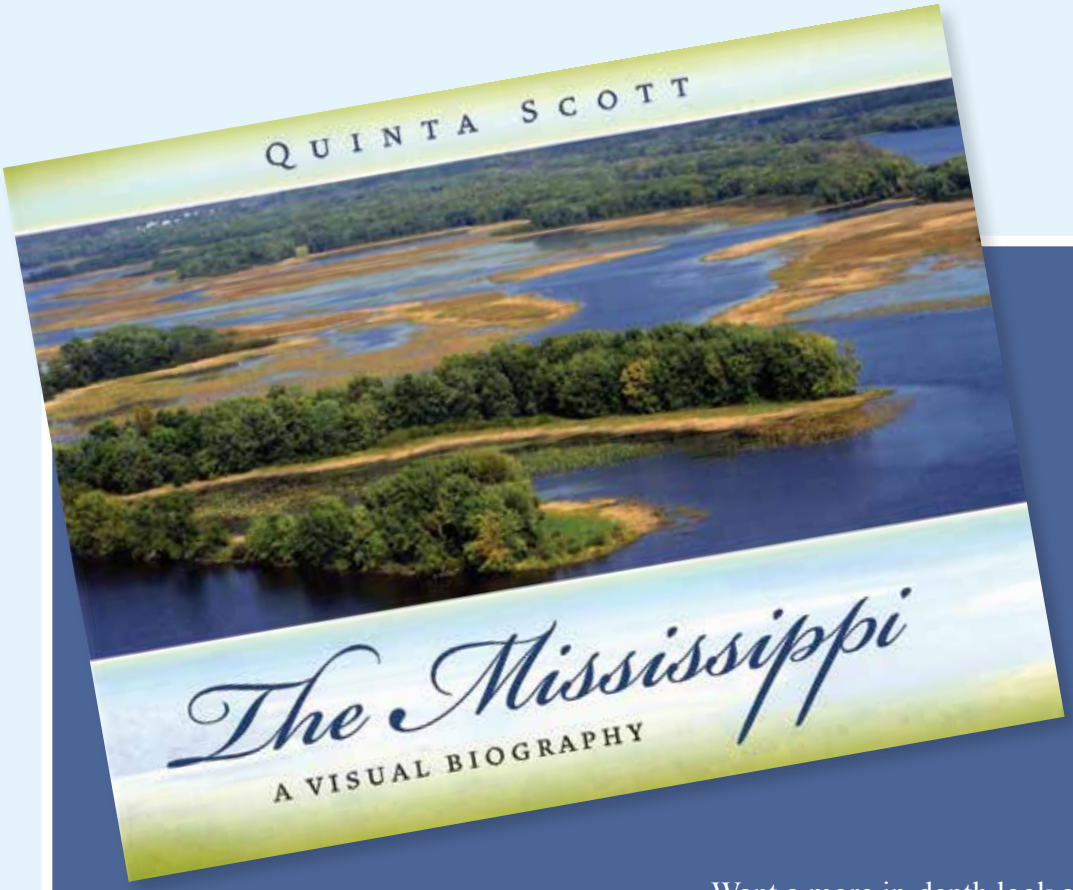
Who helped: Because most of the bar ground is in private hands, I have had to depend on the owners of the lands along Jefferson Barracks and Calico Chutes for permission to go there. Ronald Niebruegge took me across his fields and out to Calico Chute. Because the river was so low, we were able to cross the chute to the Calico Island. He also introduced me to the term "the bar," which sent me off onto a whole new line of research. Gary Stumpf allowed me to cross his fields to the edge of the Jefferson Barracks Chute; Rodney Linker served as my guide. Rodney—who is vice-president of Luhr Brothers, an engineering firm that does work on the river, building dikes and levees—also helped me understand the concept of the Low Water Reference Point and how it applied to the Flood of 1993. He also sent me his take on how levees are built. You will find his name scattered throughout the footnotes of these articles. Robert and Doris Ripplemeyer toured their farm in the bottoms with me and gave me insight into the language of that special place.

Claude Strausser, retired chief of the Hydrologic and Hydraulic Branch of the St. Louis District, helped me understand the flood of 1993 and the release of floodwater from the American Bottom at Prairie du Rocher. Dr. Thomas M. Keevin, a fish biologist at the St. Louis District of the Corps of Engineers, supplied me with the maps he produced with Erin Marks Guntren, detailing the state of Jefferson Barracks, Calico, and Fort Chartres Chutes between 1890 and 2002. Dawn Lamm, an engineer the Applied River Engineering Center at the St. Louis District, answered any and all questions I had about side channels, the Jefferson Barracks Dike Field, and the chevron dikes at Beard Island. Kenneth S. Lubinski of the U.S. Geological Survey-Upper Midwest Environmental Sciences Center supplied me with the Fort Chartres graphic and his report on Side Channel Sedimentation. Larry Robinson, a cartographer at the Sciences Center, sent me .pdf and .jpg files of the 1890 maps created by the Mississippi River Commission.



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LIVING on the Color Line:

2800 Cass in a Period and Place of Transition

BY LUCAS DELORT

"Why, might it be asked, do Negroes continue migrating to Chicago in the face of a color-line? The answer is simple: 'That line is far less rigid than in the South.' It will be seen too that although Midwest Metropolis has a color-line, the Negro masses are not deprived of an education and are actually encouraged to vote. The color-line is not static; it bends and buckles and sometimes breaks. This process results in tension; but the very existence of the tension—and even of the violence that sometimes results—is the evidence of democracy at work."[1]

When one thinks about urban geography, this is in terms of boundaries: some streets or other physical markers act as strict distinctions and psychological barriers between neighborhoods.[2] In St. Louis, Delmar is often considered one of those boundaries: to the south, relatively wealthier, safer, whiter; to the north, relatively poorer, more dangerous, and blacker. The common perception is that city policies strictly dictated human movement to a point of stark separation. This sentiment is repeated in international media: a recent BBC report refers to Delmar as a dividing line, with gated communities to the south and poverty plaguing the north.[3] These repeated reports of stark barriers confirm and replicate cognitive barriers within the community, with little questioning of the validity of that view. These conclusions rely on top-down statistical and mapping techniques that necessarily obscure the decisions and interactions made by individuals on the ground. Close analysis of human movement along these boundaries at a household level can reveal the more nuanced residential patterns that exist at city- and neighborhood-determined boundaries, and that the micro-level economic and cultural interactions at the household level can be better predictors of residential patterns than the city's macro-level boundary distinctions.[4]

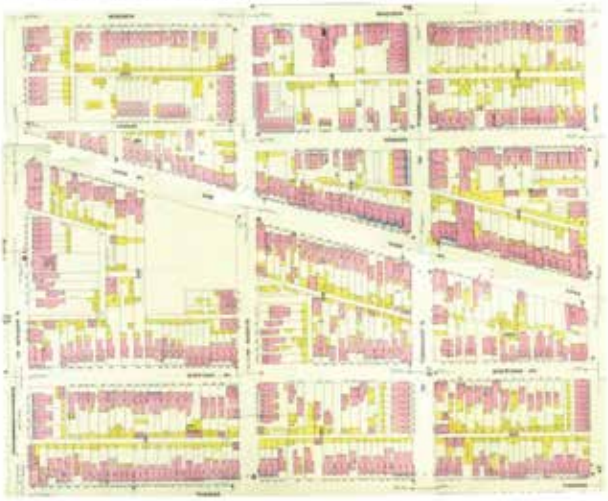
To demonstrate the micro-level view of the phenomenon of the boundary, the 2800 block of Cass Avenue will be used as the location for this analysis. This location lies on a number of physical and legal boundaries. For example, a streetcar line cut the neighborhood in half along Cass. Beginning in the 1920s, Cass was also on the edge of a number of restrictive real estate boundaries. To the south was a region recommended for sale and rental to blacks, and later deemed "obsolete" by the city. To the north was a restricted region, part of which was affected by restrictive covenants. During this same period, the region experienced ethnic and racial change. The region consisted largely of first-generation Western and Central European immigrants from 1900 to 1910, shifting with Eastern European Jewish immigration in 1920. By 1930, African-American in-migrants from the southern states had nearly become the majority of the area's household inhabitants.

While Cass Avenue in this period had the physical and legal ingredients to make it a boundary in the same way Delmar is described today, the resulting residential patterns did not follow what would have been predicted. Instead of blacks being confined to the unrestricted area and being completely shut off from the restricted areas, they moved to the north and south of Cass Avenue in ways not explainable by covenants, realtor agreements, or city distinctions. Instead, Cass Avenue itself served as a better deterrent to African-American residence, resisting the shift to a majority black block for a decade longer than restricted areas. Instead of legal restrictions dictating movement of individuals, the commercial nature of Cass Avenue, the block-by-block ethnic composition, and varied housing stock of the region continued to direct the movement of African-Americans throughout the region. This demonstrates that household-level decision-making, based on economic and cultural considerations, took precedence to, and in this case was a better predictor than, legal distinctions in determining actual neighborhood-level racial presence.

Constructing 2800 Cass

The block of 2800 Cass is located within the Yeatman neighborhood of St. Louis, now known as JeffVanderLou. The buildings on the block of 2800 Cass were constructed in the 1880s, all two stories and of brick construction. Most were free-standing structures, with only a few row

Map 1. 1909 Sanborn Fire Insurance Map, covering entire study area.



Source: Sanborn Map Company. Sanborn Map Company. February 1909, St. Louis, Missouri, nos. 77 and 79; October 1909, St. Louis, Missouri, volume 3, nos. 4 and 6.

Pictured left — Scenes like these lined Cass Avenue around the 2800 block by the early twentieth century. *(Images: Western Historical Manuscripts Collection, St. Louis)*

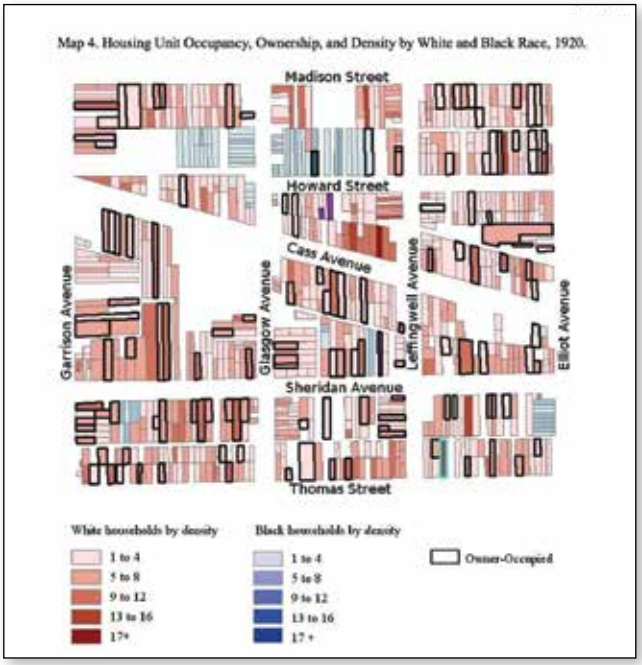
houses sharing walls. The block was majorly residential, but still contained important commercial structures. Of the nineteen lots, four buildings had storefronts. Twelve were exclusively single-unit dwellings, along with two two-flats and a duplex. Census documents indicate that the corner stores had no second-floor housing units, while the other two did. A streetcar line ran west along Cass, stopping at the corner of Cass and Glasgow Avenues before turning north.

Neighboring areas were similar in physical make-up, but not the same. The majority of the neighboring blocks had a subset of smaller housing units, with less than the standard 25' street frontage. Most blocks lacked the significant storefronts typical of Cass Avenue, with only one or two storefronts on a block, if any.

1900-1920: Setting the Stage

After the turn of the century, residents of 2800 Cass and the surrounding blocks were never exclusively white. In 1900, there were 28 black-occupied housing units, making up just over 5% of the households in the area.[5] Almost all these households resided in one specific area at the corner of Howard and Glasgow. This corner contained the smallest housing stock in the study area, with two houses per twenty-five foot lot. In general, whites lived in the larger housing stock, including the free-standing single-family homes along most streets, including Cass (see map 2). By 1910, the number of black households increased to 42. They were spread more freely throughout the area, no longer confined to the smaller housing stock at Howard and Glasgow. Cass Avenue still resisted this change, remaining entirely white.

By 1920, the number of black households in the area doubled, comprising just over 10% of area residnces. Almost all lived in regions of smaller housing stock, including a concentration at the corner of Howard and Glasgow as seen in 1900. Black residential density also doubled to almost nine blacks per housing unit, despite their concentration in smaller units. There are also two cases of blacks owning and occupying their buildings. During this time, Cass still remained entirely white.



Another demographic shift of note occurred south of Cass, along the Sheridan and Thomas corridors, in that the census reveals a significant influx of Eastern European Jews, largely from Romania and Russia. These immigrants created a homogenous community in the region. In 1920, Yiddish-speaking Russian and Romanian immigrants comprised over 80 percent of the households along both sides of Sheridan and the side of Thomas observed in this analysis. Some households contained lodgers who spoke other languages and came from different locations of origin, but the vast majority remained entirely of the same spoken language. Rates of ownership were slightly higher among Jews than other immigrant groups, and most units on these streets were subdivided into two-flats. The significance of this concentration and subdivision will be discussed in the following section.

1930: Resisting a Demographic Shift

Starting around 1910, residents began placing restrictive covenants on housing deeds with the purpose of restricting owners or tenants of color from purchasing or occupying those property. Largely a response to the inability of a city to zone based on race, these covenants were for the "mutual benefit and advantage of all parties" and intended to "preserve the character of said neighborhood as a desirable place of residence for persons of the Caucasian

race."[6] These covenants were often made in conjunction with the involvement of a more powerful party, such as a neighborhood improvement association and the St. Louis Real Estate Exchange, increasing its power as a legally binding document. Many were also positioned at a neighborhood level, and entire blocks were said to be covered by the covenant if signatories comprised 75 percent of the land area of that neighborhood.[7] In St. Louis, covenants were enacted during the period of 1910 to 1940, of which over 75 percent were signed between 1920 and 1930.[8] Eight city blocks north of Cass, bound by Glasgow on the west and Elliot on the east, were under restrictive covenants during this time period, up until at least 1942.[9]

Map 5. Restrictive Covenants

Red areas are those estimated to be affected by restrictive covenants, as predicted by Johnson and Lang (1947). The green rectangle is the area discussed in this paper, and Cass runs diagonally down the center and borders the restricted zone. Map adapted from "Restrictive Covenants, St. Louis, 1945." In: Colin Gordon, *Mapping Decline*, page 74.

In 1923, the St. Louis Real Estate Exchange adopted the distinction of three unrestricted zones. The purpose of this change was to keep black residents within these boundaries, which were historically black and contained 80% of the city's African-American population, by forcing realtors by threat of loss of license to not sell or rent to black residents outside of this area.[10] The largest of these zones lay south of Cass Avenue, from Grand Avenue all the way east to the riverfront. The effect of this line, in theory, would be to create a sharp divide across Cass, with black residents residing only south of the line in the unrestricted area.

During this period, there was a significant racial transition throughout the U.S. National movements of African-Americans northwards during the Great Migration, along with the limited housing stock available to blacks as well as white residents slowly moving westward, created both the demand for and increased supply of housing in areas like Yeatman. The number of black housing units more than tripled to 274 between 1920 and 1930, nearing 50% of the housing units in the area.

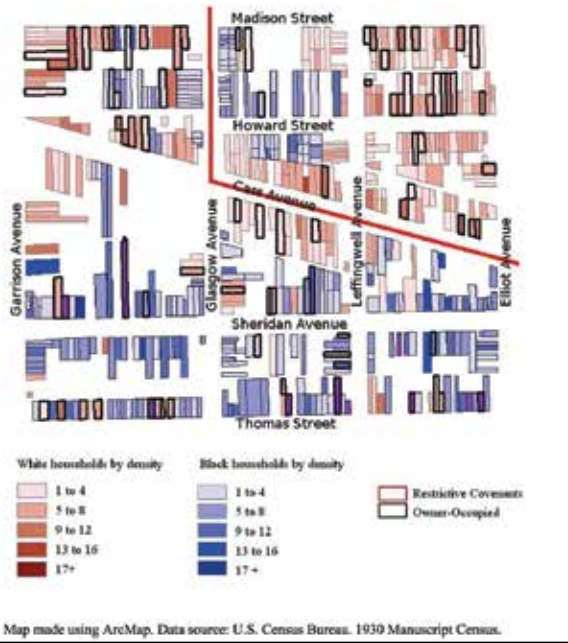
Map 6. Real Estate Exchange Restricted Zones, City Plan Commission (1923 & 1941)

The green rectangle is the area discussed in this paper, and Cass runs diagonally down the center and borders the unrestricted zone and the realtors' referendum. Map adapted from "Real Estate Exchange restricted zones, 1923 and 1941." In: Colin Gordon, *Mapping Decline*, page 85.

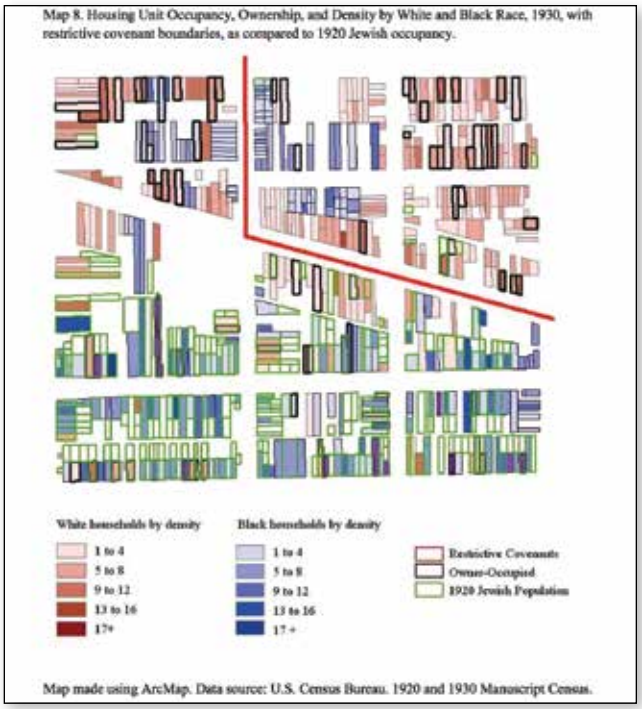
The number of blacks owning their units also increased to eleven, spread throughout the area. One of these cases of black ownership is within what Gordon marks as having been affected by restrictive real estate practices.

The 1930 example demonstrates that the lines separating blacks from whites cannot be viewed as strict lines of residential segregation. The distribution of blacks throughout the area can be better described as a gradient across boundaries, and this can be compared to the pattern of Jewish occupancy in 1920. Jewish immigrants self-segregated, tightly packing themselves into the few city blocks along Thomas and Sheridan. There were no legal

Map 7. Housing Unit Occupancy, Ownership, and Density by White and Black Race, 1930, with restrictive covenant boundaries.



Map made using ArcMap. Data source: U.S. Census Bureau. 1930 Manuscript Census.

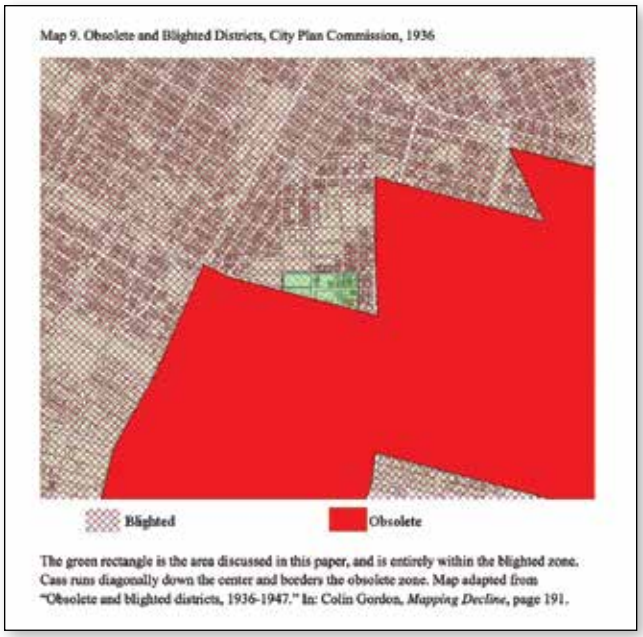


restrictions against Jewish residents in St. Louis, as the restricted areas and deed restrictions only acted against persons of color. Discrimination against and segregation of Jewish immigrants appears to have been minimal, if this occurred at all, as no major complaints have been found concerning Eastern European or Jewish immigrants in St. Louis.[11] James Neal Primm observes this phenomenon as well, noting that Eastern Jews stayed in "fake ghettoes," remaining together despite lack of legal mandate.[12] The fact that the line separating Jewish and non-Jewish residents was harsher than that separating blacks and non-blacks reveals that culturally determined, household-level movement choice directed occupancy more than the city's distinctions of areas' restrictions.

The 1930 map also raises the question of why the 2800 block of Cass remained entirely white. There are three possible reasons for this resistance to change. First, the largely commercial nature of this block likely acted against black residence. A streetcar line ran along Cass, and there was a highly-trafficked stop at Cass and Glasgow. The corner stores on the block were largely successful, such as the Pauly Hardware Store that occupied 2840 Cass for decades, expanding along Glasgow every few years. The Mound City Mattress Company occupied 2800 Cass for decades as well. Across the street, occupying four buildings from 2801-2807 Cass, was Portman Storage, ranked as one of the most important companies of North St. Louis in the 1910s.[13] This commercial success likely increased the perceived traffic and "status" of the block.

Next, the houses on Cass were not subdivided as extensively as the rest of the area. By 1930, most housing units on surrounding blocks were subdivided into two-flats, while over half of the units on Cass remained single-family homes. The rent was higher in these single-family units than in a two-flat or rear unit. The higher prices served as a deterrent to African-Americans who earned less than whites. The lower rents in smaller units nearby were thus more attractive to African-American families of more limited means.

Also, blacks tended to move into areas that had high rates of Eastern European Jewish tenants and property owners. The blocks of Sheridan and Thomas had a high concentration of Eastern European Jewish residence (see map 8). One reason for this relationship is that Eastern European Jews subdivided their housing units much more extensively than Western European immigrant groups, as described in the previous paragraph, resulting in high rates of subdivision on Sheridan and Thomas. However, there are many other reasons why this relationship is more direct as well. First, there is evidence in other cities that Jews were seen as "less desirable" than other white immigrants. St. Clair Drake and Horace Cayton, in *Black Metropolis*, state that in Chicago, the presence of Jews lowered property values.[14] If this was the case in St. Louis, lower property values in the immediate area would be more likely to attract black residents than areas of higher values along Cass. Second, tensions between blacks and Jews were much lower than those between blacks and non-Jewish immigrant groups. Drake and Cayton state that, in Chicago, Eastern Europeans and Italians were less likely to discriminate against blacks than Western European immigrants.[15] Thomas Sugrue notes that in Detroit, blacks moving into predominantly Jewish areas faced "minimal overt racial tension," especially when compared to the racism-fueled property damage faced in some Catholic neighborhoods. Instead of voicing their protests, many Jewish households just silently moved.[16] The result was a quick turnover from a predominantly Jewish neighborhood to a predominantly black neighborhood, as seen on Thomas and Sheridan Avenues between 1920 and 1930. Jews in St. Louis were also openly opposed to segregation against blacks, fearing that it would lead to the segregation of all minority groups.[17] Third, some evidence points to the higher likelihood of Jews renting to blacks. Anecdotal evidence from New York suggests that some Jews were very friendly to renting to blacks because of their shared history of discrimination.[18] Not all evidence points to the "friendliness" of Jewish landlords, though. Some Jewish homeowners left neighborhoods that were becoming more populated by blacks to rent to them. The demand for housing for blacks was high, thus pushing up rents for blacks. Jewish homeowners took advantage of this fact and rented to blacks while residing in other parts of the city.[19] Since Cass did not have the same concentration of Jewish residents in 1920 as seen on Sheridan and Thomas, consisting instead of descendants of Western European immigrants, this occupancy transition could not have occurred. By 1930, however, a few of the white residents were Jews and Italians, setting the stage for the transition by 1940.



1940: Failed Covenants

In 1936, the City Plan Commission drew their blighted and obsolete map, with Cass as the dividing line. A blighted distinction simply meant that the area was an economic liability, demanding more than it produced in revenues, while an obsolete distinction pinpointed areas to be considered for urban renewal projects. While both distinctions were negative, an obsolete distinction suggested a lack of any ability to change conditions.[20] This distinction was drawn in confirmation of the 1923 Realtor's Agreement lines, and followed very broad census-tract distinctions in racial makeup, with south of Cass being over 75 percent black and the north less than 75 percent black.[21] This, in effect, accelerated the shift from a predominantly white area to a black area and made that shift irreversible. While demographic shifts likely informed these distinctions, much demographic change follows a blighting. As Drake and Cayton, writing about Chicago, point out,

> The superficial observer believes that these areas are "blighted" because a large number of Negroes and Jews, Italians and Mexicans, homeless men and "vice" gravitate there. But real-estate boards, city planners, and ecologists know that the Negro, the foreign-born, the transients, pimps, and prostitutes are located there because the area has already been written off as blighted. The city's outcasts of every type have no choice but to huddle together where nobody else wants to live and where rents are relatively low.[22]

This is an example of exactly what is observed in this analysis. By 1940, black residency jumped again, to over 80 percent of the housing units (see map 10). The block of 2800 Cass was almost entirely black. The housing units that were still white comprised two households that had lived in the area for decades, resistant or not able to move, and one Jewish immigrant household. This also reveals some stark differences in owner-occupancy rates: almost all of the owner-occupants were confined to the white blocks to the northeast. Housing values also plummeted, with self-reported values of owner-occupied units dropping from an average of $3,600 to $1,400. City officials also bookended this shift by changing two white schools in the area to colored schools: the Glasgow School at 1415 Garrison Avenue became Curtis School in 1936, and the Penrose School at 2824 Madison became the Dunbar School in 1943, the latter of which was within the area of restrictive covenants.

In other parts of the city, there were fairly successful community-supported restriction groups that placed pressure on African-Americans who tried to move in, forcing them out.[23] For example, some groups raised money to purchase homes threatened with black ownership. However, these efforts are not seen in this area. The failing of the restrictive covenants north of 2800 Cass reveals important community dynamics in the area.

Primarily, this neighborhood was much more transitional. Most rented their properties, making them more susceptible to both voluntary and involuntary movement year by year. Directory data supports this: Between 1918 and 1940, the average residency of a head of household was two years, with about 60 percent moving out after just a year of residency, and just three households staying longer than a decade. The rate of turnover increased during the 1930s. The area was also fairly high in vacancies, especially by the 1930s, with vacancy reaching over 25 percent on Cass in the mid-'30s.[24] The high rate of turnover reveals that the area was a much more transitional neighborhood, with less community capital with which individuals could unify against what was seen as a "negro invasion" in other neighborhoods.[25] Gordon cites another example of a "restricted but transitional neighborhood" in St. Louis with a failed restriction. The transitional nature led landlords to claim that "their lot was 'worthless and without value as rental property unless it could be rented to negroes.'"[26]

Secondarily, the neighborhood was of low socioeconomic class, especially by the 1920s. Most residents worked in low-skill jobs, or survived as peddlers, leaving no excess financial resources to follow the trend of organizations purchasing houses out from under black owners.[27] Additionally, the area saw a sharp decline in housing values between 1930 and 1940, with the average value of an owner-occupied unit dropping from $3,600 to $1,400. Ownership decreased in this time as well, with owner-occupied units dropping from 134 to 83 from 1920 to 1930, then to 49 by 1940. This low housing value, combined with the fact that it was some of the oldest housing in the city, pushed away the whites who could

afford to live elsewhere, leaving vacancies available for the more desperate African-American households. By this point, landlords had no choice but to rent to blacks or risk leaving a unit vacant, as discussed above, even in the restricted areas.

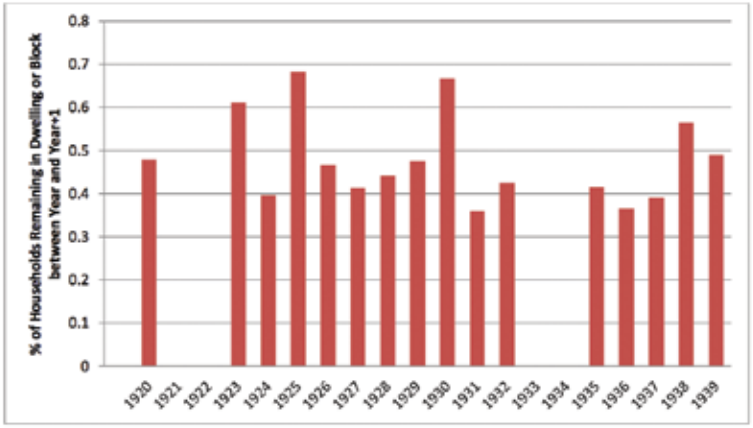
Additionally, the history of black occupancy in the area was an impediment to success from the start. It is much harder to uproot dozens of households and move them out than to prevent the movement of one. An additional reason for this impediment is in the nature of covenants as necessarily responsive in nature, rather than preventative. Colin Gordon states that covenants "pinpoint the location of contested neighborhoods but do not necessarily describe actual patterns of racial occupancy."[28] In this case, the point of contestation occurred far too late to really do much about actual black residency. The restrictive covenants can only be said to have been successful to the northeast, east of Leffingwell along the 2700 blocks of Howard and Madison avenues. These blocks were entirely white in 1900 and remained entirely white until 1940. The fact that these blocks were historically white would serve as a factor for sustaining their unique demographic through 1940. The 2800 blocks, however, saw black occupancy from 1900, making their ability to transition to a new demographic, a homogenous and white demographic, much less likely as a result of the covenant. Because of this, the white areas within the boundaries remained white more as a result of their historic racial makeup than the boundaries creating a demographic pattern. On the 2800 blocks, the covenants failed because they "could not be enforced where black occupancy had already eroded their legitimacy."[29] By this point, the St. Louis Real Estate Exchange decided to shift its energies away from the "failed" covenants to focus its resources on those areas more likely to be successful in restrictions, leaving the covenant north of Cass with no organized realtor support.[30]

Conclusion

The analysis of the 2800 block of Cass and the surrounding areas reveals that residential choices follow household-level cultural and economic interactions just as much, if not more than, following neighborhood or city distinctions of blight or restrictions. The failed restrictive covenants and city officials' recognition of this in the case of the all-black Dunbar School show that the desperation of landlords and the weakness of community ties direct movement. Additionally, the commercial nature of Cass worked as a better barrier to black occupancy than legal restrictions, and the demographic and housing stock on both sides of Cass influenced landlords' rental and tenants' movement decisions more than a consideration of restrictions. This analysis can be expanded to shed light on more micro-level movements of African Americans throughout St. Louis and other northern cities under restrictive real estate practices and among other immigrant groups.

This analysis forces the reconsideration of what is meant by thinking of a "boundary" or a moment of "transition." Abstract, macro-level distinctions never make their way to understanding completely direct human movement, even if theoretically intended to create hard boundaries between areas and people. Instead of viewing Cass, Delmar, or any other street or line as a boundary, these should be viewed as pinpointing the center of an important gradient,

Figure 1. Percent of Households Remaining in Dwelling between given year and the following year.*



Note: Data for 1922 and 1934 is not included; as a result, turnover rates for 1921 and 1933 could not be calculated.

a gradient that can hint at a difference across a line and reveal important decisions individuals and households make in negotiating that line, without ever completely defining it.

Using Directories to Derive Housing Turnover

Gould's Red-Blue Book and Gould's City Directory provide lists of individuals who lived at a specific dwelling in their reverse directories. Prior to 1918, Gould's Blue Book reverse directory did not provide detailed information for many residential areas, limiting their listings to wealthier residential units. Beginning in 1918, Gould's Red-Blue Book widened its coverage to working-class neighborhoods, which continued when the reverse directory was consolidated into the Gould's City Directory in 1930. Placing one year's directory next to an adjacent year can reveal who stayed at a given address, who moved to a different dwelling nearby, and who moved away completely. Combining this information for an entire block can reveal what level of housing turnover occurred in a specified region.

I analyzed data for the north half of Census Block 1845, which includes Cass Avenue property numbers 2800-2840, evens; North Leffingwell Avenue number 1425; and Glasgow Avenue numbers 1418, 1424, and 1432 for years 1920-1940. A dwelling was counted as turned over if the residents at that address, as listed in the reverse directory, did not appear anywhere in that block the following year or in a different dwelling, or if a resident occupying multiple dwellings vacated one or more but remained on the block, since this would introduce a net increase in residents on the block. Directories were missing for the years 1922 and 1934, so turnover rates for 1921, 1922, 1933, and 1944 are not included in this analysis.

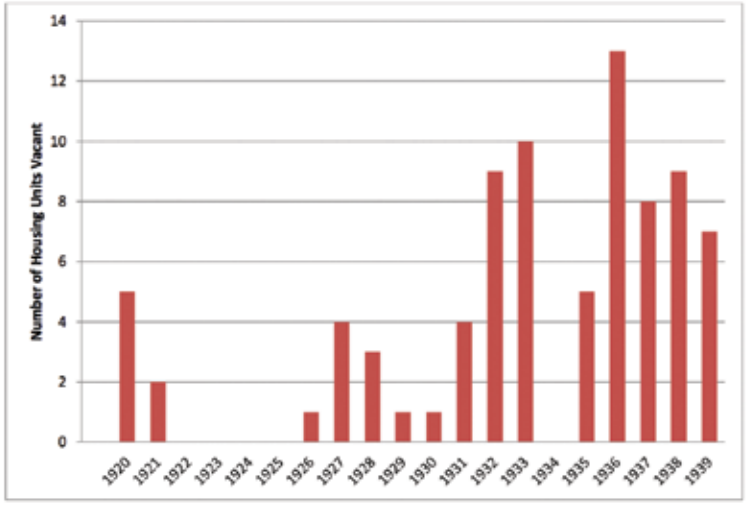
Between the years 1920 and 1940, year-to-year turnover averaged 53%, with 47% remaining in their dwelling from one year until the next. The number remaining in their dwelling reached a minimum of 36% from 1931-32 and peaked at 68% from 1925-26. There was no major trend of increasing or decreasing turnover over this twenty-year span.

High turnover does not imply lack of longevity in dwelling occupancy. Some residents remained in their dwellings for over a decade, and possibly more if time periods prior to 1920 or after 1940 were included. While no resident remained for the entire span from 1920-1940, John Kelleher remained at 2820 Cass Ave. from at least as early as 1920 until 1936, and Nicholas Polito moved into 2810 Cass Ave. in 1929 and remained at least until 1940. Additionally, Gerhard Pauly's Hardware Store remained at 2840 Cass Ave. for the entire twenty years, and Mound City Mattress Co. opened in 1926 and stayed open at least until 1940.

Rates of dwelling vacancy were also collected. Zero dwellings were vacant in 1923, 1924, and 1925. Peak vacancy was thirteen dwellings in 1936. Vacancies increased throughout the twenty-year span.

There are a few problems with using only the reverse directory to determine these turnover rates. First, some addresses do not include listings for every resident of the dwelling. Turnover rates do not include boarders not listed in the directory, occupants who may have a turnover rate of their own not accounted for in the directory. Comparing

Figure 2. Number of Housing Units Vacant



Note: Data for 1922 and 1934 are missing; 1923-1925 are true zeros.

1930 Directory data to 1930 Census data reveals that some addresses had multiple families, while directories only listed a single family. For example, the directory lists only the Scherer family living at 2814 Cass Ave, while the census lists three additional lodging families at that address. The turnover rates of these families are unknown. Additionally, these directories do not reveal if a building was vacant for any period of time between occupancy, obscuring mid-year vacancy rates.

Directories only provide an annual cross-section of dwelling residency. Comparing the 1930 Directory to the 1930 Census reveals that only 57 percent of the heads of household correspond, implying a turnover rate of 43 percent within the same year. Capturing year-to-year turnover with the directory obscures any turnover that occurs in the same year between directory enumeration.

Directories also obscure any reason for dwelling turnover. Some residents may have passed away, thus vacating the unit. Some may have moved away for employment reasons, which may have been to a new location, a housing upgrade due to a raise, or a housing downgrade due to unemployment. Moving could have been by choice or forced eviction. These reasons have important implications for the meaning of this block: its class status, its shifting ethnic makeup, its neighborhood coherence, all of which are important but lost in the directories' lists of names.

While this analysis reveals an average year-to-year housing turnover rate of 53 percent for this block of Cass and adjacent units on Glasgow and Leffingwell, it is likely underestimating the true rate of turnover. The directories do not capture two important sources of resident instability. Same-year comparison of the directory and the census reveal that, within a year, turnover rates are quite high, the implication being that individuals do not live in dwellings year-by-year, but in time units of months. Additionally, lodgers or other live-in residents may move in and out without being captured by the directories. The directories must then be combined with other sources to find more accurate turnover rates and, more importantly, the meaning and implication of housing turnover for this block.

NOTES

[1] St. Clair Drake and Horace R. Clayton, *Black Metropolis: A Study of Negro Life in a Northern City* (New York: Harcourt, Brace, and Company, 1945), 101.

[2] Kevin Lynch, *Image of the City* (Cambridge, Massachusetts: MIT Press, 1960).

[3] "Crossing a St Louis street that divides communities," *BBC News Magazine*, 13 March 2012 (video). Accessed March 14, 2012, from http://www.bbc.co.uk/news/magazine-17361995.

[4] For another discussion on the nuances of boundary distinctions, see Bill Rankin's *Radical Cartography*, available at http://www.radicalcartography.net/. He states that using a smaller unit analysis allows us to see stark boundaries, gradients, and gaps more carefully, forcing "more nuance in the way we talk about urban geography," and concluding that "a cartography without boundaries can also make simplistic policy or urban design more difficult — in a good way."

[5] A housing unit is here defined as a unit marked in the manuscript census as having a separate address; for example, 2800 and 2800A would be two different housing units, and all the households within 2800 would be in the same housing unit. A black housing unit is one in which every household and lodger within a given address is black. See Table 1 for all the data presented in this section.

[6] Qtd. in Colin Gordon, *Mapping Decline: St. Louis and the Fate of the American City* (Philadelphia: University of Pennsylvania Press, 2008), 71.

[7] Herman H. Long and Charles S. Johnson, *People vs. Property? Race Restrictive Covenants in Housing* (Nashville: Fisk University Press, 1947), 10-11, 19-20.

[8] Research for this analysis did not reveal exactly when the covenants within the study area were signed. Since over 75% were signed between 1920-1930, I use that as the time frame of signing. Since black residents lived within the restricted area during the entire time period from 1900-1940, and no covenants were signed after 1940, the later discussion of these covenants would still be valid if this assumption proves to be false.

[9] Long and Johnson, *People vs. Property?* 12-15.

[10] Gordon, *Mapping Decline*, 84.

[11] Extensive searches of digitized *Post-Dispatch* issues brought forward no cases of anti-Jewish discrimination in St. Louis. Issues of unsanitary conditions or sub-standard housing stocks seemed to affect "immigrants" equally, with Italians experiencing the worst conditions. See: *St. Louis Post-Dispatch*, "Brands City's Ghetto Worst He Ever Saw," 10 Jan. 1910.

[12] James Neal Primm, *Lion of the Valley: St. Louis, Missouri* (Boulder: Pruett Publishing Co., 1990/1981, 2d ed.), 441.

[13] "Three Large Industries of North St. Louis: F. H. Portmann Storage Co," *North St. Louis*, (no publisher, 1906), 56; "F. H. Portmann Storage Company, Inc." In: North St. Louis Business Men's Association, *Who's Who in North St. Louis*, (St. Louis, Missouri: A. S. Werremeyer, 1925), 65.

[14] Drake and Cayton, *Black Metropolis,* 175.

[15] Ibid., 180.

[16] Thomas J. Sugrue, *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit* (Princeton: Princeton University Press, 1996), 242-43.

[17] Primm, *Lion of the Valley*, 438*; St. Louis Post-Dispatch*, "No Threat of Jewish Segregation," 27 Feb. 1916.

[18] *St. Louis Post-Dispatch*, "Refriending the Negro," 30 Jan. 1910.

[19] Drake and Cayton, *Black Metropolis*, 197-98.

[20] Gordon, *Mapping Decline*, 190

[21] Ibid., 95.

[22] Drake and Cayton, *Black Metropolis*, 206.

[23] Gordon discusses a number of powerful organizations, including the Marcus Avenue Improvement Association and the West End Protective Association, in "'The Steel Ring': Race and Realty in Greater St. Louis," in *Mapping Decline*.

[24] This comes from a statistical analysis of the changes in heads of households, as derived from the St. Louis Red-Blue Book Reverse Directories from 1918-1940. See page 45 for a fuller discussion of this analysis.

[25] One case of possible use of intimidation can be found near my study area, on the 3000 block of Sheridan. In 1918, a black family was reported to have moved in, and a community meeting was immediately organized. Two days later, it was reported to be a "mistake" and the "house would be vacated at once." This is the closest case of community organizing against black residents found in Yeatman. See "Negroes move into house opposite Glasgow School," 30 July 1918; "Miscellaneous: A committee of residents…" 1 Aug. 1918.

[26] Qtd. in Gordon, *Mapping Decline*, 78.

[27] Cases of communities purchasing homes to prevent black occupancy in South City and Northwest City can be found in the *Post-Dispatch*: "Home is offered to negroes after dooryard spats," 21 July 1913; "Negro's invasion rouses Cote Brilliante residents," 10 March 1910.

[28] Colin Gordon, Personal communication via email, April 27, 2012.

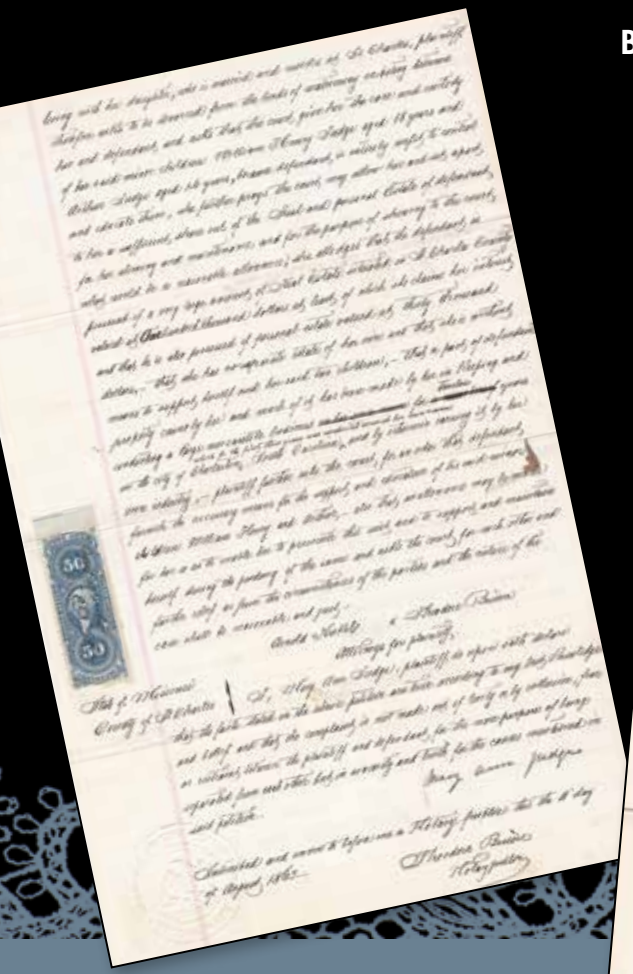
[29] Gordon, *Mapping Decline*, 78.

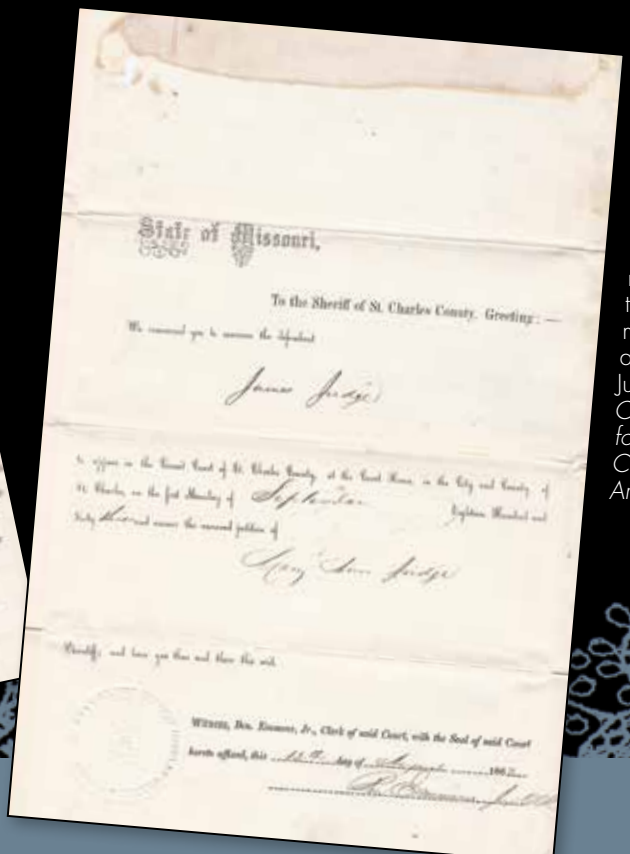
[30] Gordon, Personal communication, April 27, 2012.

To Love and To Cherish:

Marital Violence and Divorce in Nineteenth-Century America

BY JULIAN BARR





James Judge was summoned with this document in September 1863 to appear before the court after his wife Mary Ann filed for divorce. Such separations were relatively uncommon at the time, especially those making such claims for alimony as did that of the Judges. *(Image: 1863-70 Circuit Court files; Box 2 folder 48, Saint Charles County Historical Society Archives)*

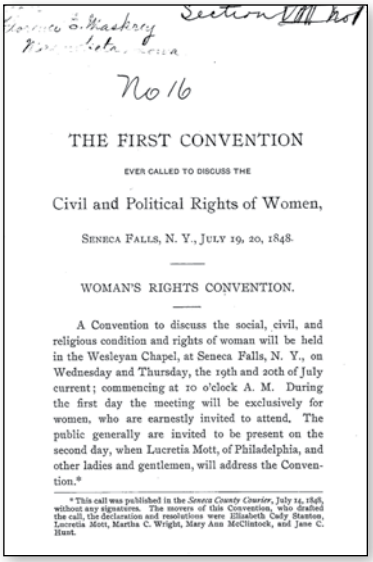
Violence against women in marriages has always been an issue for our society, and still the fight to prevent it continues. We know of famous survival stories, and the media often depicts domestic violence that turns into revenge tales. Popular culture depicts domestic violence in many ways, and with good reason, as it is a very real occurrence. A benefit of modern times is that the law tries to prevent domestic violence by making it a crime, and it is hard for some to imagine that this was not always the case in our legal system. Throughout history, even blissful marriages have sometimes turned violent, and local history provides real stories of real cases which illustrate that domestic violence is part of even bigger issues for women.

The 1863 St. Charles County, Missouri, divorce case of Mary Ann Judge was the perfect example of a marriage gone horribly wrong. When the marriage turned violent, Mary Ann Judge needed a way out and a way to stop her husband, James Judge, from beating her. Unlike today, she did not have the option of calling the police, but she did have the option of divorce. The case thus involved women's property rights, alimony, and of course, divorce. However, it also involved violence—the very intimate violence committed against a wife by a husband. It would not be until 1871 that Alabama became the first state to rescind the right of men to beat their wives, and it would still be about ten more years, in 1882, when Maryland became the first state to make wife beating a crime. What was a woman like Mary Ann Judge to do in 1863 if she were being beaten by her husband? This analysis examines the changing nature of divorce in the nineteenth century, and asks if divorce was in fact the only option for a woman in an abusive marriage. In addition to the social and economic consequences of divorce, the biggest consequence of a case like Mary Ann Judge's is that it put women's issues out in the open and allowed the public to see into the private sphere of a woman's life.

Historians have not ignored this issue in the lives of American women. Secondary sources on the topic can be split up into two categories, but these are not totally exclusive categories. One side looks at the act of marital violence, and the other side focuses more on American policy and laws regarding divorce. Even when a source focuses just on the act itself, it contains research on policy and law. Of course, the same thing can be said about research that only discusses policy and law—it also has to discuss the act. It is also helpful to note that sources use the phrases "marital violence" and "domestic violence" almost interchangeably. Before looking at existing scholarship, however, the issue should be understood at a human level.

At the time of Mary Ann Judge's case, common law mirrored religious doctrine, which put women and children under the legal control of the husband. The husband acted as head of household, creating a relationship based on superiority of the husband and inferiority of the wife. In 1848, the Declaration of Sentiments signed at the Seneca Falls convention acknowledged this issue and declared women to be "civilly dead" when they married. Some women joined this call for legal rights specifically

The first national woman's rights convention, portrayed here, was organized in Seneca Falls, and included both men and women. It passed its "Declaration of Sentiments," consciously modeled after the Declaration of Independence, stating that "We hold these truths to be self-evident: That all men and women are created equal." Among the 100 signers—68 women and 32 men—were such notable reformers as convention organizer Elizabeth Cady Standon, abolitionist Frederick Douglass,and Quaker abolitionist Lucretia Mott. *(Image: The First Convention Ever called to discuss the civil and political rights of women, Seneca Falls, N.Y., July 19, 20, 1848)*



No 16

THE FIRST CONVENTION

EVER CALLED TO DISCUSS THE

Civil and Political Rights of Women,

SENECA FALLS, N. Y., JULY 19, 20, 1848.

WOMAN'S RIGHTS CONVENTION.

A Convention to discuss the social, civil, and religious condition and rights of woman will be held in the Wesleyan Chapel, at Seneca Falls, N. Y., on Wednesday and Thursday, the 19th and 20th of July current; commencing at 10 o'clock A. M. During the first day the meeting will be exclusively for women, who are earnestly invited to attend. The public generally are invited to be present on the second day, when Lucretia Mott, of Philadelphia, and other ladies and gentlemen, will address the Convention.*

*This call was published in the *Seneca County Courier*, July 14, 1848, without any signatures. The movers of this Convention, who drafted the call, the declaration and resolutions were Elizabeth Cady Stanton, Lucretia Mott, Martha C. Wright, Mary Ann McClintock, and Jane C. Hunt.

to challenge the oppression of family life that led to abuse and financial and physical risk. The challenge for legal rights would eventually alter the idea of the husband being the legal representative of the family.[1]

Historian Francoise Basch follows this line of thinking but with a more focused view on marriage. She writes, "In the nineteenth century the oppression of women appeared starkly in the marriage relation: wedding bells rang in major inequalities between bride and bridegroom and sternly prescribed different gender roles." Basch argues that very early in the women's rights movement, the focus was on the idea that marriage was a form of slavery and a source of oppression, and that marriage represented the overall issues of the lack of rights for women. They used slavery as a comparison, because most of the women's rights activists were also abolitionists. Elizabeth Cady Stanton, Henry Blackwell, and Lucy Stone believed that

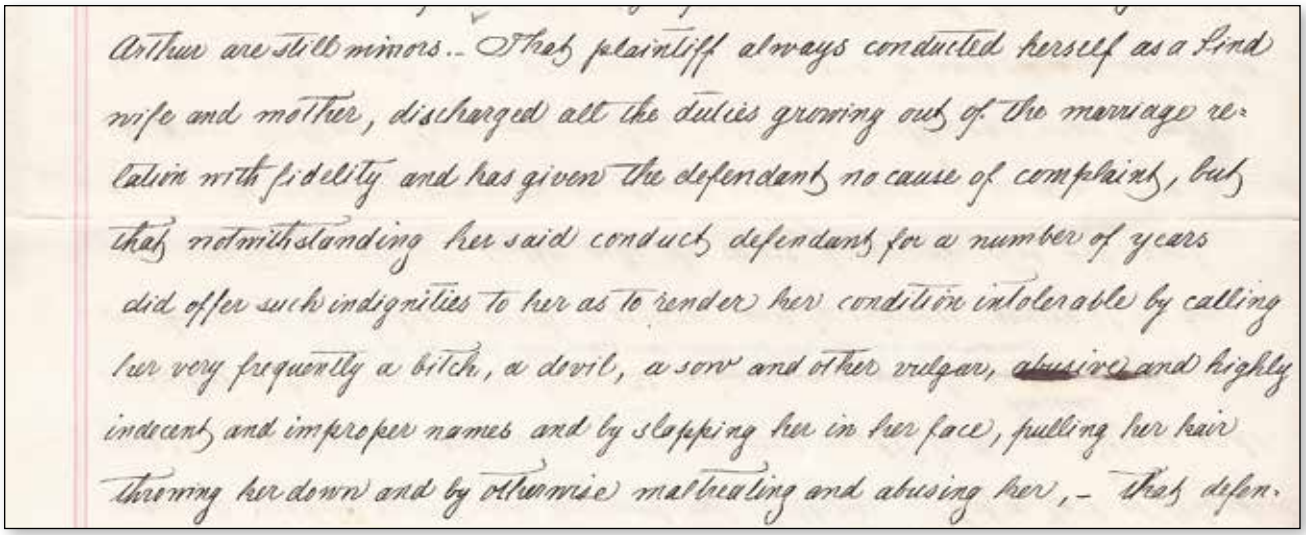
Elizabeth Cady Stanton (1815-1902) was the primary organizer of the woman's rights convention in Seneca Falls, New York. It spawned a series of subsequent national woman's rights conventions that more or less alternated between northeastern Ohio (such as Salem and Cleveland) and western New York (such as Rochester and Syracuse). Within three years, she was working with Susan B. Anthony (1820-1906), a prominent antislavery and temperance activist in Rochester, New York. In many ways, Stanton and Anthony, who became lifelong friends, represented the intersection of antebellum reform—temperance, antislavery, and woman's rights. *(Images: Library of Congress)*

women were like slaves because they lost their names and took the name of the person who essentially owned them; they lost all rights once this "transaction" occurred, and some were even sold to the highest bidder. These three factors can be seen within both the marriage relationship and the process of slavery. Stanton once said if she imagined Saint Peter asking her where she wanted to sit in Paradise she would respond "anywhere so I am neither a Negro nor a woman. Confer on me, good angel, the glory of white manhood, so that henceforth, sitting or standing, sitting up or lying down, I may enjoy the most unlimited freedom." The law was seen as making women *femme covert sub potestate* or, as one British lawyer put it, "the husband and wife are one, and that one is the husband."[2]

As a result of the demand for legal rights concerning marriage, there was also a push for more legal rights when it came to divorce.

The divorce case of Mary Ann and James Judge was a standard divorce of "she said, he said." The petition for the divorce was dated August 11, 1863, and after 33 years of marriage Mary Ann Judge was the one to file for the divorce. In the original petition, Mary Ann gave not only her side of the story, but also a background of the relationship that would turn violent. Census records paint a picture of what this family was like. According to the 1850 federal census, Mary Ann and James Judge were both born in England; Mary Ann in about 1818 and James around 1816.[3] In 1830, the couple married in England and emigrated to the United States the same year. Based on these sources, it is most likely that they went to Charleston, South Carolina, when they emigrated to the United States because they did at one point live in Charleston before they came to St. Charles, Missouri, in 1844. When they moved, the couple already had six children and James was a farmer with slaves in St. Charles.[4]

Before the divorce occurred in 1863, the 1850 and 1860 censuses show growing family wealth. In the 1850 census James described himself as a farmer and claimed the value of his real estate to be $70,000, and he had 16 hired laborers for his farm.[5] According to the slave schedules of the 1850 census, he had 17 slaves, five of whom were children.[6] In the 1860 census, he was still a farmer but then claimed $100,000 in real estate and $10,280 in personal estate while still having 16 farm hands.[7] However, by the census of 1860 his slave count decreased, and he had ten slaves left, two of whom were children.[8] Also by 1860, their four older children—John, Albert, Edmond, and Emily—had moved out and their two young sons, William and Arthur, still lived with them.[9] William Henry Judge


Arthur are still minors.. That plaintiff always conducted herself as a kind wife and mother, discharged all the duties growing out of the marriage relation with fidelity and has given the defendant no cause of complaint, but that notwithstanding her said conduct defendant for a number of years did offer such indignities to her as to render her condition intolerable by calling her very frequently a bitch, a devil, a sow and other vulgar, abusive and highly indecent and improper names and by slapping her in her face, pulling her hair throwing her down and by otherwise maltreating and abusing her,- That defen-

In this excerpt of Mary Ann Judge's affidavit, she claims James' abuse had become intolerable. *(Image: 1863-70 Circuit Court files; Box 2 folder 48, St. Charles County Historical Society Archives)*

(age 18) and Arthur Judge (14) would also be part of the case because of the issue of custody and child support.[10] It is important to note that at this time, according to the 1852 *Bouvier Law Dictionary*, a minor was anyone under the age of 21, unlike modern times.[11]

In her petition, Mary described herself as a "kind" wife, who fulfilled her duties as a wife and mother. When describing James, she claimed that he made life "intolerable" with verbal and physical abuse. She indicated that he would call her derogatory terms such as "a bitch, a devil, a sour," and committed other verbal abuses. The physical abuse included him kneeling on her chest and beating her, slapping her on the face, whipping, throwing her down, threatening to kill her, and even using weapons against her that could have been deadly. She also claimed he had been addicted to alcohol for the last two years, but she did not clearly state if the abuse began when he started drinking or if it was a preexisting issue. Later in the case, this was revealed to be ongoing behavior that had existed before he became an alcoholic. She said the abuse became so severe that she left him twice to live with one of the older sons, but he convinced her both times he would get better.[12] Unfortunately, he did not, and she finally could no longer continue in the marriage. On August 8, 1863, she left and moved in with her daughter, who also lived in St. Charles.

She requested custody of the two children who were minors, stating that James was an unfit father. She also requested alimony, which she said should be based on the fact that James owned a large amount of St. Charles real estate, which she claimed was worth $100,000, and that he had a personal estate of $30,000. She indicated that she needed the money so that she could support herself and her children because she had no property. Mary Ann also claimed that she had a right to the money because part of the wealth came from her running their mercantile business for twelve years in Charleston, and she claimed that for the first three years of business the company was in her name.[13] Though there is no official document to prove the claim, witnesses did discuss it within the case.

In the mid-nineteenth century, there were no laws protecting women concerning domestic violence. Historian Pamela Haag, when looking at violence in New York City during this time period, recognized that men saw it as their right to beat their wives. She also noticed in examining criminal trials of wife murders that neighbors would notice domestic violence and do nothing because they saw the beating as justifiable as long as no permanent injury was caused.[14] Other historians also argue that this time period saw an increase of violence against women because women's rights groups and the temperance movement were restructuring the traditional patriarchy.[15] Still, there were no laws protecting women, especially when violence happened in private; the only legal way for a woman to gain protection was through divorce.

Historian Robert L. Griswold has advanced the scholarship on domestic violence and divorce. Domestic violence against women was a private matter; it did not commonly happen out on the street, so researchers have to look at divorce cases and wife murder cases in order to understand domestic violence during this time. In this context, divorce was seen as a way to end domestic violence.

Marriage shifted from an economic arrangement to a loving purpose in the mid-eighteenth century; as the nineteenth century progressed and sex roles changed, people demanded more from their marriages and divorce became less uncommon. This can particularly be seen at the turn of the century considering that between 1867 and 1906, the United States courts granted 945,625 divorces. Of those, 616,909 were between 1886 and 1906, and 218,520 were granted based on cruelty, both physical and

mental, against a wife.[16]

Up until the 1840s, the American legal system followed the English system and focused on granting separation for cruelty but not absolute divorce; however, not all states followed this practice. In the late 1700s, some would grant absolute divorces for physical cruelty, starting with New Hampshire in 1791 and followed by states such as Vermont in 1798, Ohio in 1804, Pennsylvania in 1815, Michigan in 1832, and Texas in 1841. Missouri law did allow for an absolute divorce because of violence, but this was more of a northern idea; the south mostly followed the English and focused on granting separation for violence and would only grant absolute divorces on the grounds of adultery, desertion, and sometimes impotency.[17] It was very clear that physical violence could be a cause for divorce, but not mental agony and verbal abuse. Mary Ann Judge did accuse James not only of physical but also of mental abuse because he accused her of infidelity; verbal abuse and false accusation are both forms of violence.

Mental agony would not have been acknowledged by a court in 1820, and the court would have recommended other solutions, such as accommodation and religious guidance. America shifted away from the more conservative English viewpoint when the idea of mental cruelty became a justification for divorce; however, English law had a major effect on why it took until 1850 to look at factors other than physical abuse. In the 1790 English case of *Evans vs. Evans*, the judge, Lord Stowell, made it very clear that without physical harm there was no marital cruelty; American courts used this decision as a precedent to deny divorces on such grounds. Courts in states like Massachusetts in 1806 and Vermont in 1816 would follow the idea set up by Stowell. Rulings like one in Kentucky in 1829 made it clear that the cruelty had to be not only violent but also life threatening; so, for example, a man slapping a woman in the face could be seen as justifiable because it was not a real threat to life. An example of this can be found when the New Hampshire high court ruled against a woman after proving that her husband locked her in a room and whipped her twice because she was not submissive to him.[18] These cases show that very early on violence had to be life threatening to justify divorce. Without actual danger to life or permanent injury then, legally, violence against a wife was considered justifiable.

Central to Mary Ann Judge's case was domestic violence, which was more common in nineteenth-century America than one might think. This drawing, titled "Muscle: Home a Little Hell," was from a satirical booklet *The Tale of a Wedded Life in Ten Scenes*, which included sketches as varied as "smitten" and "betrothed" to "deserted and death" and "life a failure." *(Image: Library of Congress)*

In the mid-1800s this idea began to shift once the medical community examined the use of words on women's health. These findings seem to be anti-woman as they portrayed women as the weaker sex, but as false as that perception was, they did help women when it came to divorce. The medical community began to make the argument that mental agony could hurt the female nervous system because women were more sensitive, and that damage to the nervous system could cause issues for child bearing. This argument emerged in court cases such as the 1849 Pennsylvania case in which a judge allowed a divorce because he saw that mental cruelty could, in fact, hurt a woman physically. Like the Stowell position, this became a "watershed" case, and increasingly more state courts began acknowledging mental cruelty as a justification for divorce. By 1860, six states, including Missouri, passed statutes that declared that certain indignities including "rudeness, vulgarity, reproach, neglect, and ridicule" all justified divorce as long as they made life intolerable.[19] This shows courts shifting from a very narrow view of what is needed to justify divorce to a broader view that covers more than just life-threatening cruelty too other, lesser forms of maltreatment such as simple beating and verbal abuse.

One of the indignities that states like Missouri acknowledged was the false accusation of adultery. Although it is not deeply explored by the court in *Judge vs. Judge*, when James attacked Mary Ann's character, he accused her of infidelity. On the national stage, this was used as a way to get a divorce that Griswold examines extensively. These false accusations were more likely to be made public and therefore were seen as damaging to a woman's social standing. In addition, once identified as an adulteress, it was feared that the woman could become a victim for sexual predators. The result was that the

accepted standards for proving grounds for divorce began to spread beyond physical violence. The Indiana Supreme Court ruled in 1854 that a marriage was a bond between two people that should promote "social happiness," so a false adultery accusation would ruin that social happiness, making divorce justifiable. An adultery claim truly could ruin a woman's reputation, and courts were deeply concerned about the sexual threat that it could cause for a woman; for example, in one Wisconsin case, a man's false accusations caused one of his employees to try and have sex with his wife, unsuccessfully, but the court saw that the husband failed to protect his wife's honor, so a divorce was granted. Essentially, a woman after accusations of adultery would need a divorce and a chance to start anew in order to regain her reputation; that is why the states universally recognized the accusation of adultery to be a cause for divorce and a form of cruelty.[20]

Mental and physical cruelty was not the only reason for a divorce; another common issue of this time period was, as historian Beverly Schwartzberg phrases it, "marital fluidity." By this she means a situation in which one spouse leaves the other to find work, seek new attractions, raise their social status, migrate, or otherwise leave the spouse. This was seen as a form of cruelty to the victim because it involved desertion and sometimes bigamy. These were not separations by divorce, showing instead other ways that men and even women found to get out of marriage. However, desertion had a different effect on women because it usually undermined their social status. Luckily for women, desertion was an emerging reason for a divorce, so even though the case did not start as a divorce it would usually end as one. Also, some men and even women would just separate from a spouse, never divorce, and then start other relationships, essentially becoming bigamists; this could be used as grounds for divorce as well.[21] By the turn of the century, Griswold notes, the divorce rate was at an all-time high because so many additional factors were emerging as justifiable grounds for divorce.

James Judge responded on October 12, 1863, following her petition and rejecting all of her claims. He denied that she was a good wife and even suggests infidelity; he denied all of the physical and verbal abuse; and he denied the claim of alcoholism. He said she had no reason to leave him, including the times where she stayed with the elder son. Judge did not deny the property wealth but said she had no right to it and that she never ran the business. James said that the only reason she left him was so that she could irritate him, make a groundless divorce, and take large allowances from him. He felt she did not deserve any alimony because she left voluntarily after he gave her good living conditions. James said that the abuse in the marriage was actually on her part, and that she made life "intolerable" for him. He claimed that she locked him in a room with their elder son Albert and encouraged the son to assault him. He claimed that several times when the children slept over, he would have to sleep outside because he feared they would kill him under her influence. He claimed that their other son, Edwin, also tried to assault him, and that once again Mary was causing this to happen. He also asked for a divorce and custody of the minor children.[22]

In a rebuttal, Mary Ann denied all of James' claims. She said she and her children did not force him to sleep outside, that she had no knowledge of Edwin's attempted assault, and she gave a different account of the other assault story. She said her son Albert wanted to talk to him in private, so he took his father to a room connected to the kitchen and the son locked the door to the kitchen to keep the servants out, but there were other doors he could have escaped from if he felt he was in true danger.[23]

In her petition Mary Ann requested an order of maintenance for the term of the court case, which would make James give her money to maintain her life during the case. On September 24, 1863, the judge in the case granted an order of maintenance in St. Charles. James was ordered to pay Mary Ann $50 on October 13, 1863, $100 on November 12, 1863, and $150 every three months after that.[24] Unfortunately, a decision on the divorce was not determined in St. Charles because James Judge also filed for a change of venue on September 24, 1863. He claimed that the judge, Andrew King, had a prejudice against him and could not judge fairly on this case.[25] The reason the judge allowed the change is still a question; it is possible that the judge and James knew each other. The answer could also be connected to how active James was in the St. Charles legal system. James was very much involved in the court system as a plaintiff and as a defendant. Before 1863, James was a plaintiff in 25 separate cases in the St. Charles Circuit Court, with the earliest case dated 1848. After 1863, he was a plaintiff in 14 separate cases. As a defendant he was involved in 26 cases before 1863 and involved in 22 after 1863.[26] He was suing and being sued so much that his negative public reputation may have led to his changing the venue for the divorce case. Based on the index descriptions, these cases were all debts and loans he wanted to collect on or that people were collecting against him; they never seem to have dealt with violence or alcoholism.

The case officially moved to St. Louis on February 6, 1864, and became larger once it got there; many witnesses were called for both sides, and depositions were taken. Much of the focus was on the property aspect of the case, which was not essential to the domestic violence issue; however, depositions were taken that concerned the domestic violence.

The deposition of Ferdinand Neckemeyer is an example. Requested by Mary Ann Judge, it was taken on April 20, 1864, and read to the court on April 26. Neckemeyer had known the Judges for 17 years, and 14 years prior to the divorce he witnessed a fight between the couple when he was living with them for a short time. The "eating of the hands" apparently precipitated the fight, that ended with James striking Mary in the face and her asking the farmhands to help protect her against James. He also testified to another incident five years prior when he went to the house and heard "laud [sic] talk"; the children told him that James was whipping Mary Ann and that he should

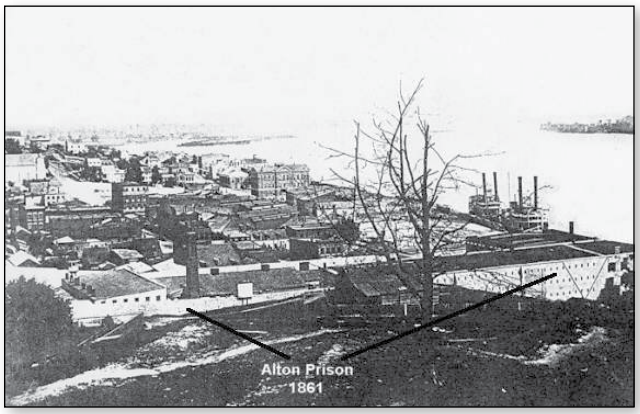
help their mother. When Neckemeyer went to the house, Mary Ann came running out looking distressed as James was running after her and James went to strike her again, but as he lifted his hand Neckemeyer stopped him. In response, James tried to hit him, but Neckemeyer defended himself. The next time he saw James was a couple of years later in St. Louis, and they agreed to be friends again. Neckemeyer was also questioned by the defense, and that is when he testified that he believed this fight was over a verbal argument between the Judges when Mary Ann questioned why James was burning something on the property when conditions were not favorable for burning.[27]

Neckemeyer described Mary Ann as a woman who "has more to say than she ought to have" and he indicated that the fight would have never happened had she just not talked back to James. Even though Neckemeyer defended her physically, he did blame her for the beating. He then describes James as a "peaceful" man with whom he never had a real problem.[28] This deposition was chosen as an example, because Neckemeyer seemed unbiased between the two and genuinely did respect James. His testimony dealt with what this paper analyzes, which is domestic violence as a cause for divorce. He shows that Mary Ann Judge was abused, that it was over very basic arguments, and that the children were very aware of the abuse. This deposition also provides an opportunity to get into the private sphere because, for the most part in this time period, the only way to actually prove domestic violence was if witnesses were present, like in this example. Most of the witnesses, for the rest of the case, would focus on if she had any right to the property because of the business in South Carolina.

It is hard with these court documents to pinpoint the exact date when the divorce was granted, but gathering from the sequence of motions filed, the divorce and alimony were granted in late April of 1864. This assumption can be made due to a motion filed on April 25, 1864, in which James Judge argued that the alimony decree was illegal and unjust (and it is revealed that the alimony was a lump sum settlement of $50,000). The motion argued that James could not handle the alimony amount and that his wealth could not sustain it.[29] On May 18, 1864, the St. Charles County Sheriff issued a real estate sale in order to pay the alimony because he was required to pay it.[30] Then a sheriff's statement said that James must pay $5,000 a year until reaching the amount of $50,000 and that she had already received $15,000 from the sheriff's real estate sale.[31] Essentially, after the real estate sale failed at achieving the $50,000, James was allowed to make a payment plan to get to the final amount. James then tried to set aside the alimony several times but essentially made the same argument every time. In his third attempt, he made a motion with a new argument.

James Judge was sent to Alton Military Prison during this case, and he was also fined $10,000, so he used that to argue that his wealth had changed enough for the court to change the alimony, but this failed.[32] According to the Union Provost Marshall papers, James was brought in front of the Military Commission on May 12, 1864, and found guilty by the commission for the "violation of the oath of allegiance to the United States Government" and for disloyalty to the United States. He was charged with breaking his 1862 oath because he openly stated that the Confederacy was the only salvation this country had left and he sympathized with the rebels; he did this outside of a St. Louis saloon.[33] He was not only fined but also sent to Alton Military prison until the war ended.

Along with the violence and the divorce of this case, there was one more very surprising aspect of this case—the alimony. It was not the idea of alimony that was shocking, but the amount. As indicated earlier, James Judge was order to pay alimony of $5,000 a year in order to achieve a lump sum settlement of $50,000. Naturally, this broader context must acknowledge that this is a significant amount. No reason for it can be found in the record, and research of other court cases of the period shows that it was not a normal amount. Alimony was



More than 11,000 prisoners were held at the Alton (Illinois) military prison during the Civil War. Originally built as the first Illinois State Penitentiary in 1833, it was a prison for Confederates and Confederate sympathizers during the war. Given the mortality rate and poor conditions, James Judge was lucky to survive the conditions there. The prison closed in July 1865. *(Image: altonweb.com)*

something that existed in the English system as well, and it was always separate from child support; this system still exists today. The essential purpose was the idea that it was the husband's role to support and nourish his wife with a portion of this property. Alimony could be a yearly payment or it also could be ruled as a lump sum settlement, as in this case. Some states, like Indiana in 1852, made it law that alimony had to be a lump sum; however, most followed states like New York, which made it more like an annual payment, but most of the power for distribution of alimony was given to the court. Missouri was like this and gave the court the power to determine the amount and how it should be given. Courts in general considered the wife's need in order to establish what was fair alimony. One of the biggest issues concerning alimony was what a woman brought into the marriage. The idea was that if a woman brought in something like a dowry she should get that amount back with the alimony, but

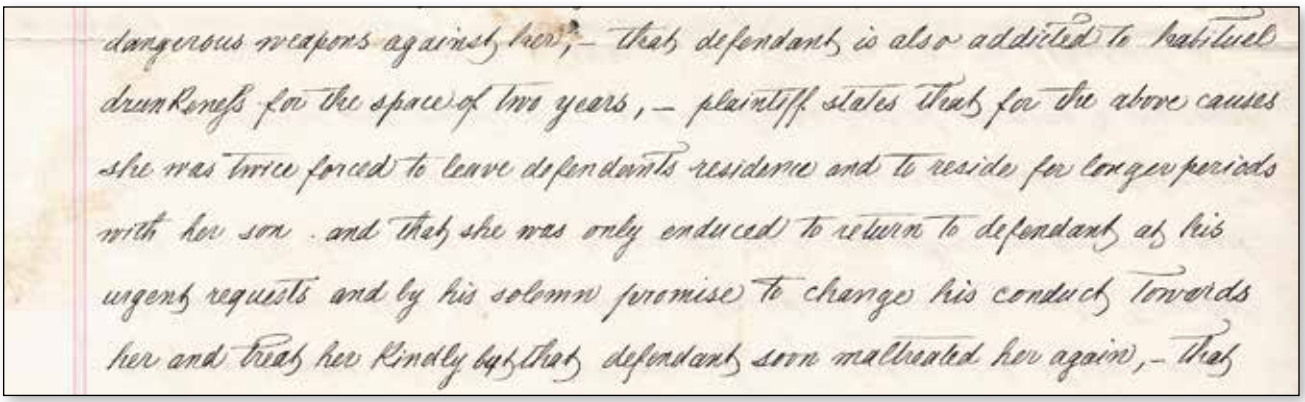
While men were more likely to drink to excess than women in the nineteenth century, temperance advocates saw it as a women's issue, arguing that wives were the primary victims. Drunken husbands, they said, took money from the household for drink and beat women and children in drunken rages. By 1882, when this cover of Puck appeared, some in the temperance movement suggested that it ought to be precisely that—temperance—and that the choices of pious tee-totaler and drunkard were not the only options. *(Image: Library of Congress)*

historian Norma Basch argues that women would have to prove that the husband used the money wrongly. Alimony laws also forced men to look at personal wealth and, with the help of attorneys, downplay the wealth in order to pay less alimony. According to Basch, this was very common practice, and it can be seen in *Judge vs. Judge*. Like in the Judges' divorce case, men would try and adjust alimony if they felt wronged not only in the amount, but also how it would be paid. In Basch's research there is nothing to explain why James Judge was sentenced to such a high alimony. She would argue that for most cases in America there was no alimony given because most concerned people were not wealthy and financial troubles would sometimes be the reasons for a divorce, so women were not able go after alimony.[34] Also, the alimony examples Basch provides are always seen as enough for the women to sustain life, and they are never extraordinarily high. However, it needs to be established that it was up to the judge, so the alimony amount relied on the judge and possibly his opinion of the husband. In addition, some states would cap alimony based on a percentage of the husband's wealth. For instance, in North Carolina, the alimony for a wife could not exceed over one third of the husband's wealth. Also, North Carolina's law was clear in that a husband who was a "spendthrift" or a "drunkard" could be forced to pay more alimony because of his treatment of money.[35]

Mary Ann was ultimately granted her divorce, but she died in November of 1864, shortly after the divorce was finalized. The St. Louis court case had to address the issue of her death because it occurred after the divorce was granted. James Judge wanted to stop the alimony payments because she had died, but Mary Ann's heirs wanted the next alimony payment, which was due in January of 1865.[36] James Judge even made an attempt to take the case to the Missouri Supreme Court, but it never made it that far in the legal system. One of the final motions in St. Louis was dated January 1867, when James Judge still was fighting to stop the alimony. The court finally agreed to stop the alimony, two years after Mary Ann had died.[37]

Unfortunately, other than what was recorded in the divorce files, not much is known about Mary Ann Judge, including her death. James remarried on June 21, 1866, to Charlotte Elson.[38] James Judge died on January 5, 1872, when a tree branch fell on him.[39] In his will, he still had considerable wealth, and according to a newspaper listing for his real estate sale, he still had several plots of land throughout the county, including his farm in north St. Charles where he resided. He left his stepson $2,000, while most of his property was spilt between his second wife and a church he helped found in the 1840s, the New Church General Convention of St. Louis. He left each of his six biological children with Mary Ann only ten dollars each.[40]

Although violence was the main issue driving *Judge vs. Judge*, Mary Ann Judge clearly connected the violence to James' alcoholism. The temperance movement, which began before this divorce, was, according to historian Elizabeth Pleck, "the first American reform campaign to depict for the public the cruelty of domestic violence. Temperance reformers regarded family violence not as [a] distinct social problem, but an evil consequence of alcohol." Temperance activists recognized that male violence was caused by alcohol, so they wanted it outlawed. These activists seldom promoted policies to help the female victims, focusing instead on the men, though some would advocate that grounds for divorce should include male drunkenness because it was a threat to a woman's life. This became a women's rights issue because reformers thought that it was not a wife's responsibility to help her drunken husband and that she was better off without him. As a result, they advocated for more women's rights, including property rights, to make separation possible. Elizabeth Cady Stanton is an example of one these reformers. She pushed for divorce laws covering drunkenness in New York, which had passed the state house but not the senate. In a speech to the New York State Woman's Temperance Society in 1852, Stanton



dangerous weapons against her; – that defendant is also addicted to habitual drunkenness for the space of two years, – plaintiff states that for the above causes she was twice forced to leave defendants residence and to reside for longer periods with her son . and that she was only induced to return to defendant at his urgent requests and by his solemn promise to change his conduct towards her and treat her kindly but that defendant soon maltreated her again, – that

Court documents, here, sought to besmirch James Judge's reputation by calling him "a habitual drunkard." *(Image: 1863-70 Circuit Court files; Box 2 folder 48, St. Charles County Historical Society Archives)*

called drunken husbands the "moral monster" and said that women were the greatest victims of intemperance, yet they did not have the power to end this suffering at the ballot box. She also argued a very common sentiment regarding women who stayed with drunken husbands, that they should not bear children with them because they thought alcoholism was inherited. Stanton and others pushed the idea that this was distinctly a women's issue, that violence was caused directly by alcohol, and that alcohol prevented men from representing the family properly at the ballot box.[41]

This movement, however, was not successful. When women like Stanton in the summer of 1852 gathered signatures for a petition in New York to outlaw the sale of alcohol, the legislators brushed it aside, saying that politics was not the business of women. Even within the temperance movement, men wanted to move away from the women's rights issues and just focus on the moral grounds for temperance. Stanton saw this position as hypocrisy because she felt there was an established connection between temperance and women's rights.[42] Also, there was a religious argument against divorce. Stanton would argue that the church's position was wrong and that it sanctioned drunken men to beat their wives. Unfortunately, even the Women's Rights Convention of 1860 would oppose Stanton's view on divorce on the basis of drunkenness.[43] This caused Stanton and others like Susan B. Anthony to back down on divorce and focus on other women's issues; they would not bring divorce back as an issue until well after 1860. Because this did not work, women's rights activists then pushed to focus on criminal law to punish abusive men.[44] Even though Mary Ann Judge did not use alcoholism as a cause for divorce, she made the point very clearly that James Judge was an alcoholic, suggesting that alcoholism and violence were connected and could also be used as an excuse for a husband's action.

Divorce can be called a remedy for abuse, but it does have consequences. The inability of women to own property hurt them financially, but Norma Basch would say what divorce truly did for women was make them single, which in turn allowed them to remarry. Without

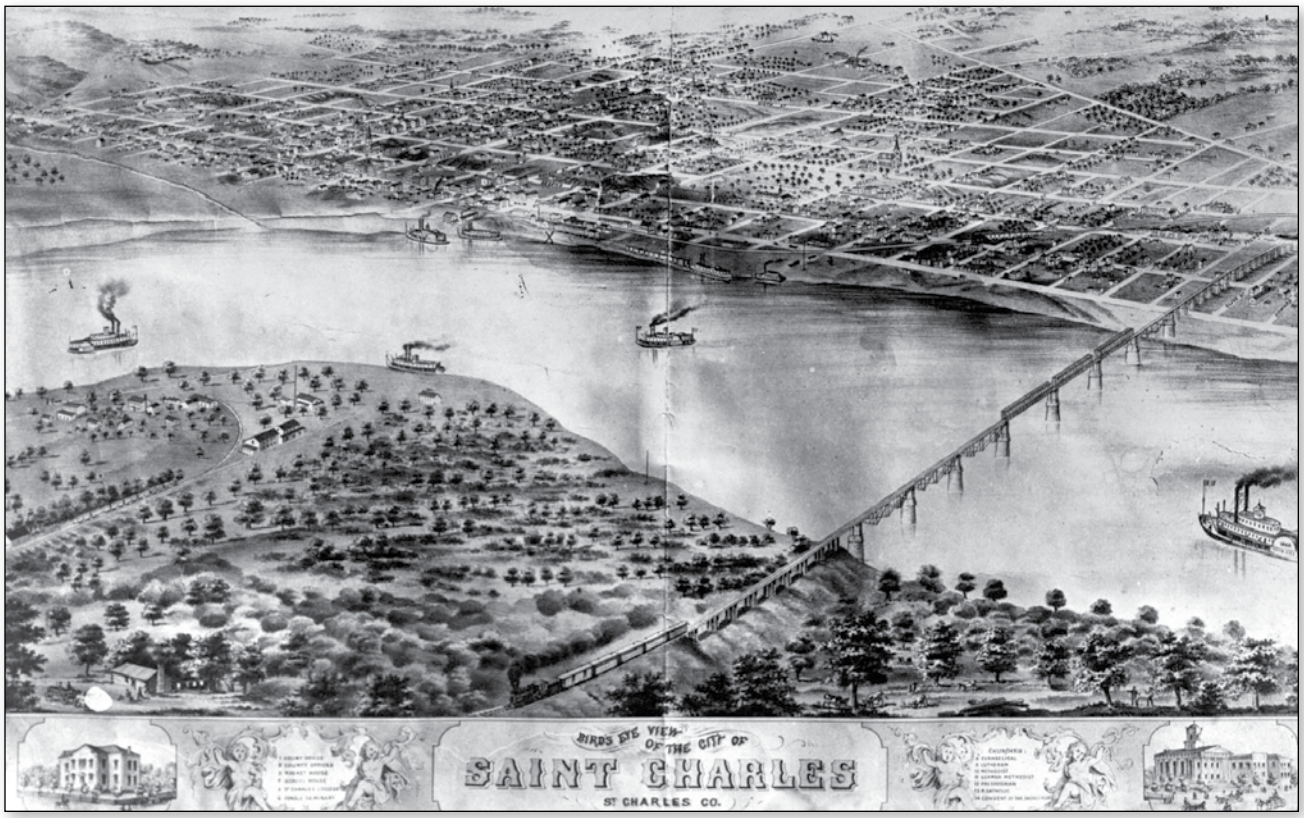
Images like this one from *Puck* in 1896, titled "It Never Loses Its Popularity," reinforced idealized notions of marriage, which made arguments like those of Mary Ann Judge even more difficult to refute. *(Image: Library of Congress)*

remarrying, the financial burden could be very high, despite some getting alimony; but at least they did get out of relationships that hurt them and that were not working. This also had a great social consequence, because while the financial issues could be overcome, the social and moral issues sometimes could not. Divorce cases put a women's issue out in the open, and society thought of women as the moral order of a family; when these immoral issues came out, a woman could be blamed easily. However, these women should be also praised for their willingness to stand up and let their personal lives be exposed to the public. Basch argues that this shows the confidence women gained in the American divorce system.[45] They felt the system would fairly help them and allow them to escape bad marriages.

The mid-nineteenth century was a time of great change for divorce in the American legal system. More and more divorces were filed, leading up to an explosion at the turn of the century. During this time, divorce law was defined as more reasons and justifications for divorce emerged. The courts redefined and liberalized ideas about and definitions of cruelty, for example. Simply hitting a wife could now justify divorce; the abuse did not have to cause permanent injury. Verbal and mental abuse was finally considered a form of abuse and grounds for divorce. As women gained rights within the marriage relationship, divorce was also reevaluated.

Mary Ann Judge lived in a time when a woman had a way out of marriage that was not healthy and at times dangerous. She tried to change her husband, but she was not successful, so she came to the conclusion that she had to leave him. Fortunately, she had the option to do so, and she, like many women, benefited from the changing attitude toward divorce. She faced the public's attitudes, but perhaps women like her understood that those did not matter. What mattered in her life was to end her abuse. She clearly remained in her marriage as long as she could, and there seemed to be a strong effort on her part to fight for her marriage, but she failed. She came out of the divorce abuse free and financially stable. Although she died without seeing a life without abuse, she did succeed against James. One can determine that James was abusive and some of his actions can be seen as less than kind, for example, leaving his own children only ten dollars when he died. Even though he remarried, he now rests at Oak Grove Cemetery in St. Charles, Missouri, next to seven empty lots that his heirs purchased but never used. He lays in rest forever alone. As much as this divorce seems like a tragedy, it must also be viewed at as a victory for a woman who needed a victory.

St. Charles was a prospering town at the time the Judges divorced, as seen in this 1869 birdseye map of the city. *(Image: St. Charles County Historical Society)*



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Congratulations

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The Award is presented biannually, and published in *The Confuence*. This year, Julian Barr and Lucas Delort are Tatom Award recipients; their articles appear in this issue of *The Confluence*.

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IN MEMORIAM

All of us at *The Confluence* were saddened by the passing of David L. Straight in October 2012. Straight was a regular contributor to *The Confluence*, writing a regular feature on postal history. His articles were compelling and interesting, and he used the history of the mail to bring fresh insights into the history of the region. He was a talented writer and fine historian; we'll miss him.

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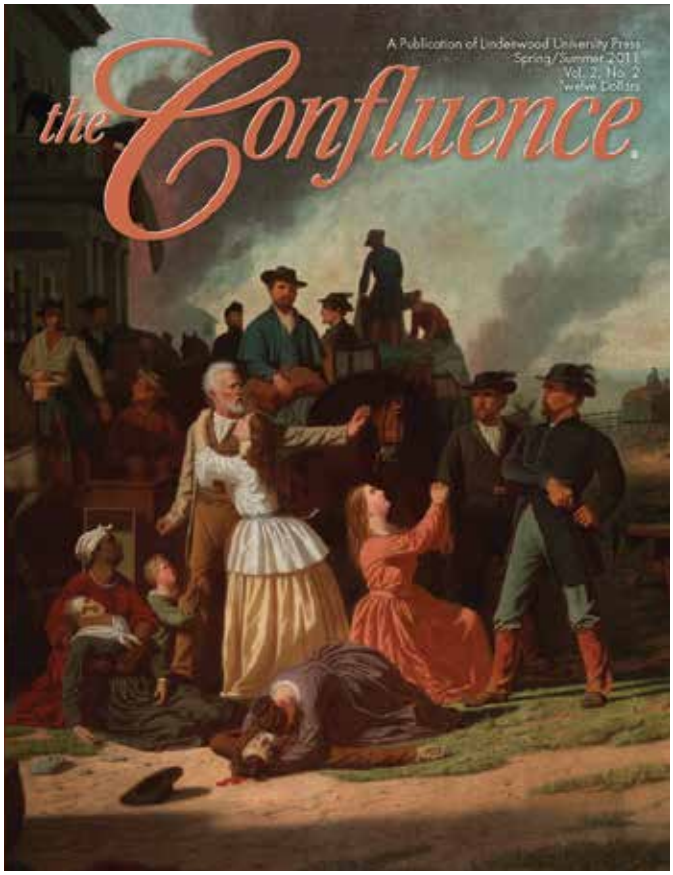

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