Sustainable Rivers Program

Oxbow Restoration Education Report
Des Moines River below Saylorville Lake
Rock Island District

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Des Moines River Sustainable Rivers Project
Saylorville Lake – Oxbow Restoration
Education Report

The education report was written to provide a conceptual design that explores opportunities for education to take place in and around the floodplain/oxbow site. It will focus on access for roads, trails, docks and teaching areas. The report is designed to aid staff in the investigation into restoring the Saylorville floodplain. The area provides many promising educational components due to the inherent ecological features of the site, established Sustainable Rivers Program (SRP) involvement, other collaborative partnerships as well as its proximity to the largest metropolitan area within the State of Iowa.

Figure 1: SRP Group Observing Oxbow

Figure 2: Standing Water in Oxbow

Figure 3: Time-Lapse Photography Camera

Figure 4: Ranger Pointing Out Key Oxbow Features

Photos by Justin Edwards, USACE.

Saylorville Lake Oxbows

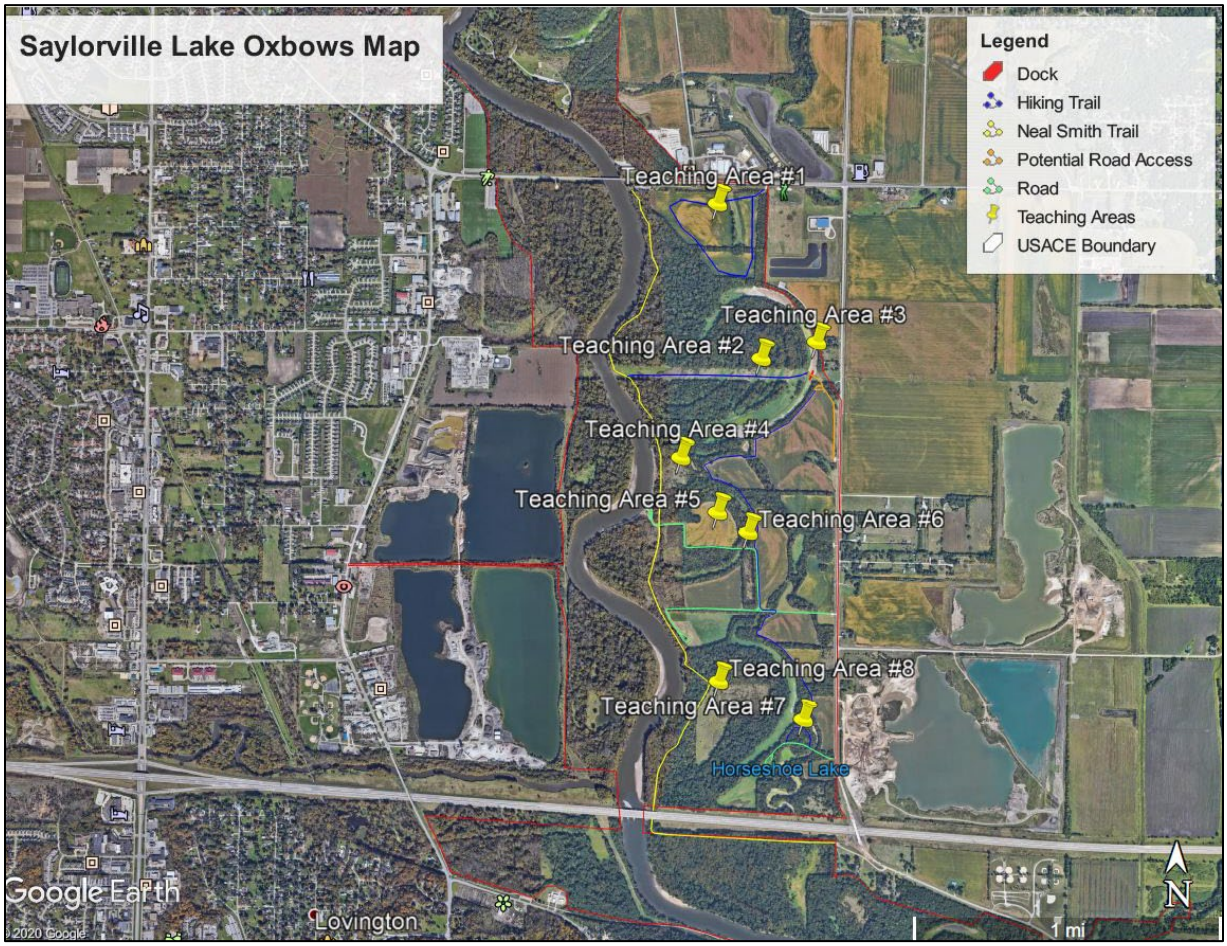

Figure 5: Saylorville Lake Oxbows Map

The Saylorville Lake Oxbows (Figure 5) are around 792ac which are located a couple miles south of the main dam, which are part of a 3100-acre floodplain. This fee titled area is all owned by USACE, but currently managed by the Iowa DNR. This project location is extremely unique because the remnant oxbows are within a metropolitan area. With relatively short distances to all the metro school systems. This area will provide an excellent outdoor classroom for teachers, students and general public.

Saylorville Lake Oxbows – LiDAR

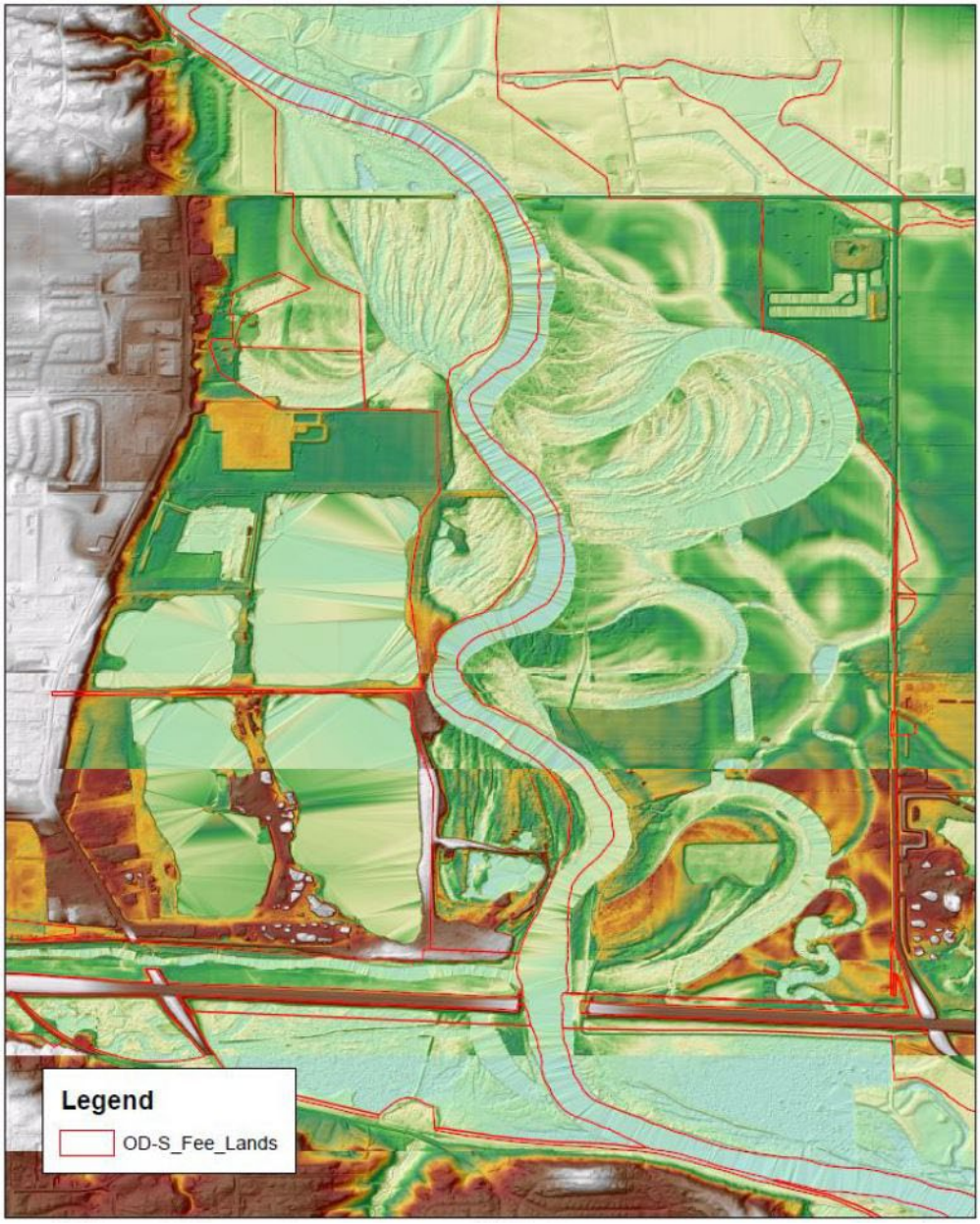

Figure 6: Saylorville Lake Oxbows - LiDAR

Light detection and ranging (LiDAR) imagery (Figure 6) provides a glimpse of the landscape below the vegetative canopy. It gives a detailed layout of the elevation changes that are occurring across the floodplain below the dam. The three main oxbows can be clearly seen in the project area on the East side of the Des Moines River. They are no longer directly connected to the main channel and are now only connected via trail culverts. There are also a variety of other landscape features that can be seen intermixed in this image.

Roads

Figure 7: Established Roads in and around Oxbows

The Oxbow area has been developed over the past many years with utilities, trails, and roadways that provide access throughout the site. Through a lease with Des Moines Water Works, much of the gravel roads (Figure 7) required in this conceptual design are already established and maintained. There are some older gravel roads that will require maintenance, but for the most part they are established and drivable. These roadways would be essential for moving students in and out of the oxbow site area safely. Only one major gravel roadway would need to be constructed on the north east side to provide access to the kayak/canoe dock. This would provide better transportation of students and equipment.

Trails

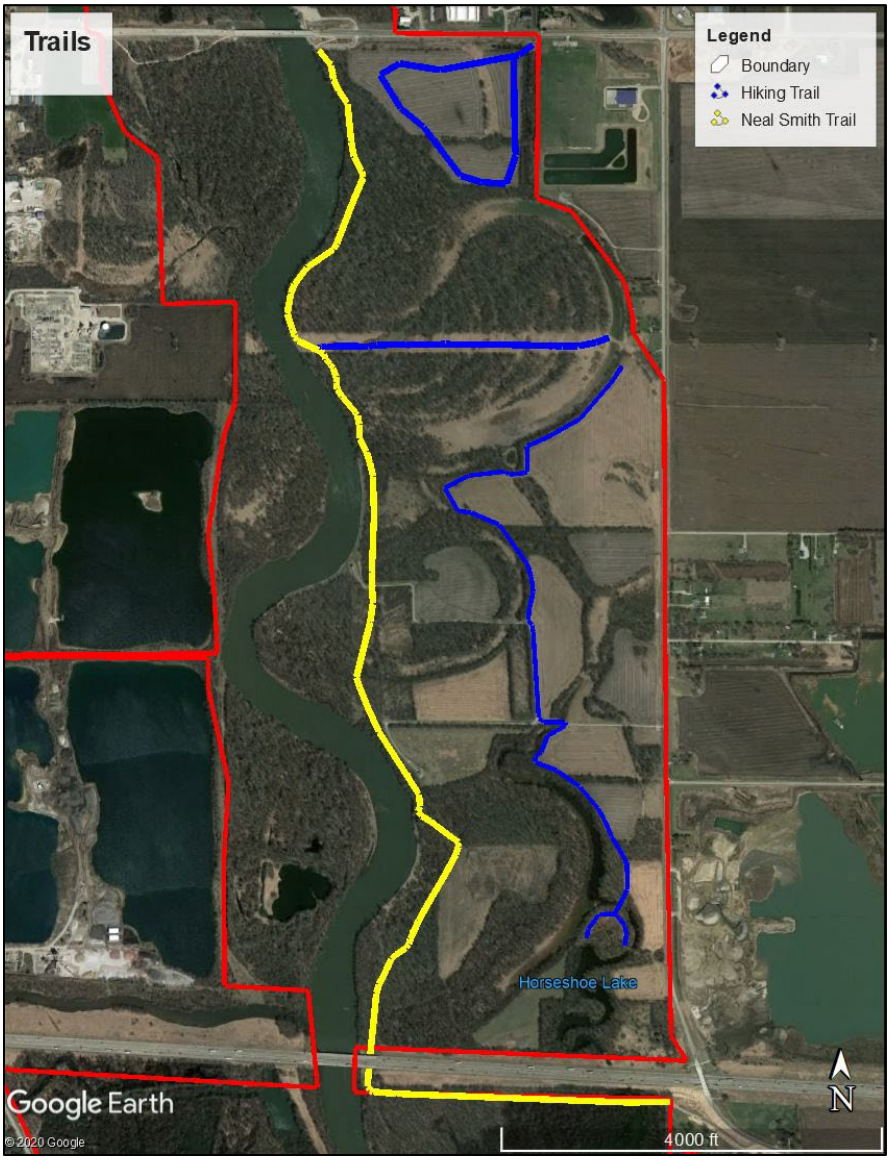

Figure 8:Existing and Proposed Trails

The main trail system in this area is the Neal Smith Trail (NST), which is part of a greater Des Moines trail system. Its concrete and asphalt surface provide excellent access along the west side of the oxbow restoration sites; however, more trails are to be considered (Figure 8). By adding ADA compliant trails to the east side of the oxbows and northern areas, this will provide greater overall access. For the new trails to be constructed in their potential locations, they would be constructed as compacted soil and wooden structures, when need. This would be the most affordable way to have them established. These trails have been chosen close to parking sites, which allow for easy access for park visitors.

Docks

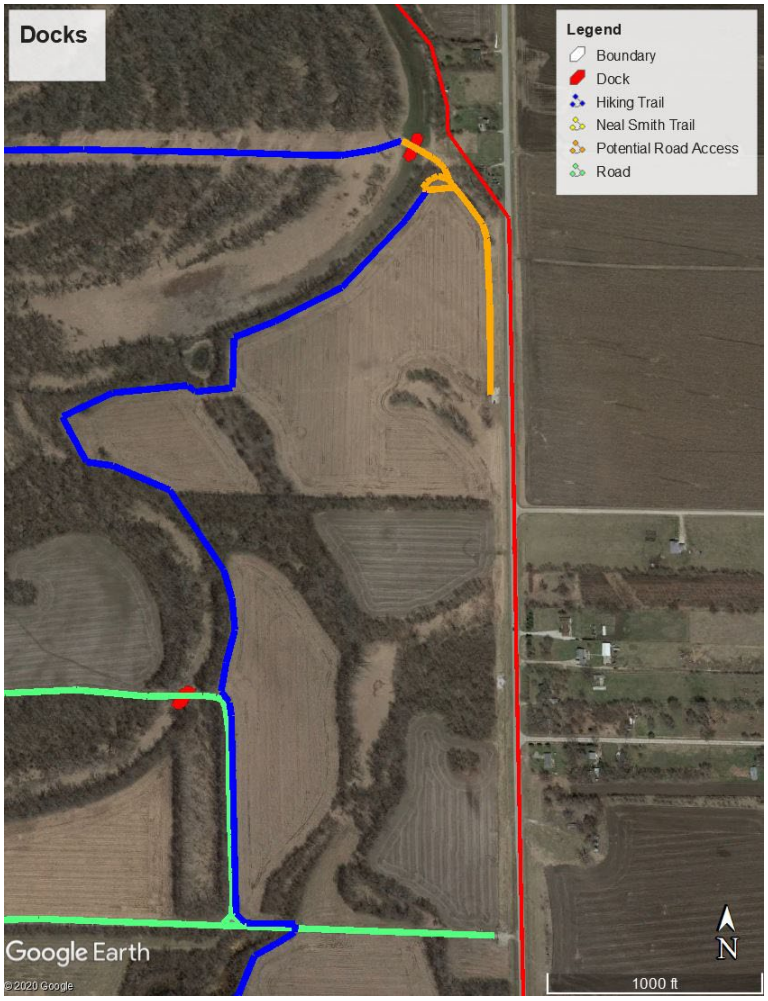

Figure 9: Proposed Docks

During wet years, the oxbows will typically hold water throughout majority of the year (except in drought years, like 2020). The docks (highlighted red in Figure 9) provide excellent opportunities for small kayaks or canoes to enter and explore the oxbow ecosystem. These have been proposed along established and proposed roadways. These will make it convenient for transporting single and/or multiple vessels to either site. More research into the style of port of entry should be done to find a cost-effective structure. A simple concrete/asphalt ramp could prove effective enough.

Teaching Areas

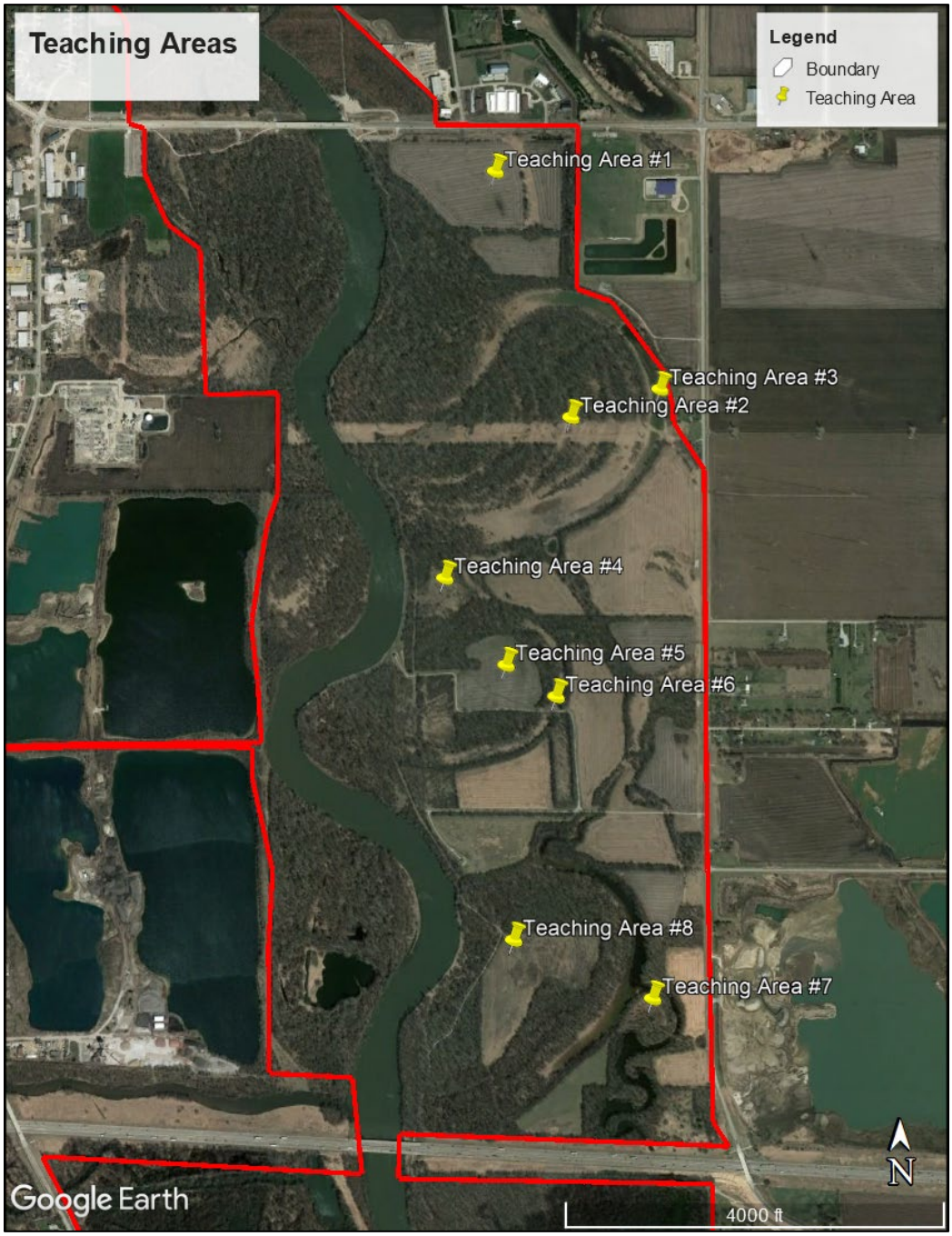

Figure 10: Proposed Teaching Areas

Teaching Areas (TA) are located throughout the project area that will serve as potential learning sites or stops for students visiting the Des Moines River Oxbows (Figure 10). They will be scattered throughout the property from North to South with the idea of highlighting unique and identifying features of floodplain natural resources and the oxbow system. This will diversify the classroom teachings as well as the exposure student will receive while on their field trip.

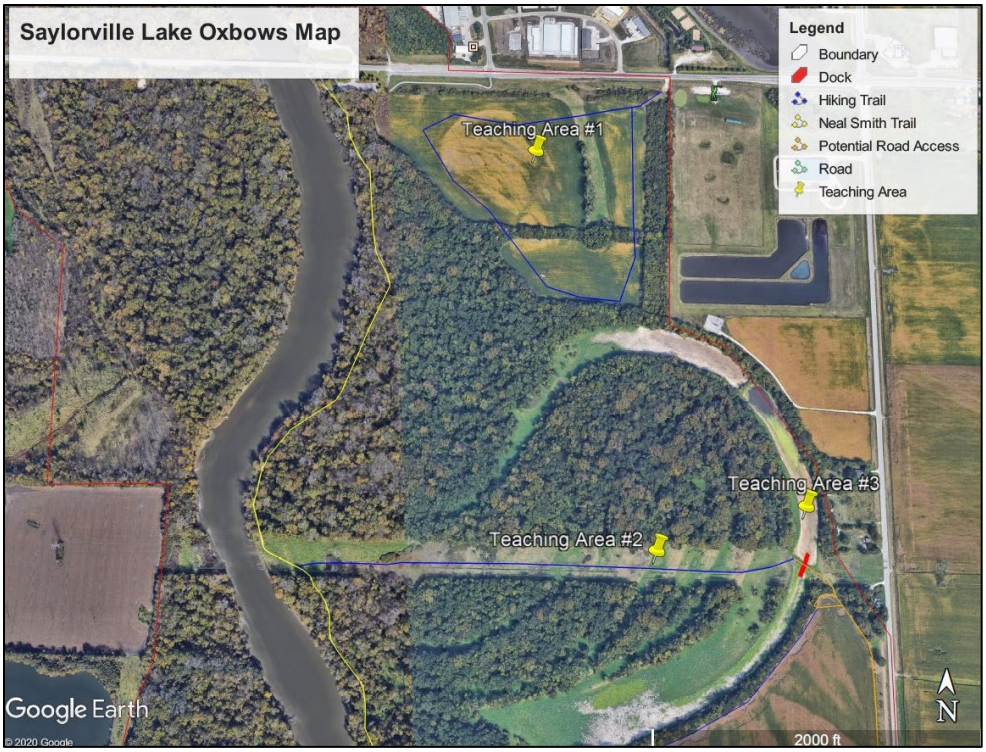

Figure 11: Teaching Areas #1-3

TA#1 – This site (Figure 11) has potential to be restored as a tall grass prairie site. A proposed trail system can be built throughout the prairie. Learning stations, workout areas, or even wildlife viewing stations could be extremely beneficial in addition to the walking path. The walking path would be made of compacted soil and wooden structure; where appropriate.

TA#2 – This site runs along the power line utility route and if you look closely at the LiDAR image (from LiDAR section), you can see many oxbow striations in the landscape. This has potential to have many unique wetland sites for wildlife and birds. A proposed trail could be established through this area to provide access to each of these areas. The trail would be best suited as a wooden walking path.

TA#3 – The north oxbow typically holds water year-round in this area of the oxbow. With a proposed dock nearby, would allow visitors easy access with kayak and canoes to explore.

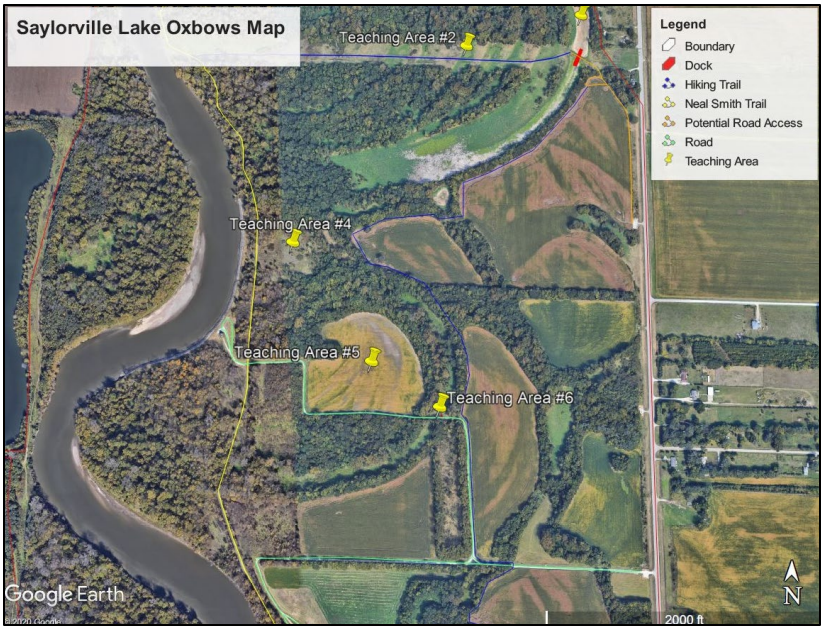

Figure 12: Teaching Areas #4-6

TA#4 – This area (Figure 12), with relatively easy access off the bike trail, could serve as an excellent teaching area for floodplain forestry lessons and discussions on oxbow connection points.

TA#5 – This area is currently being farmed under an ag lease with the Iowa DNR. There is a requirement under the ag lease that at least 10% of the crops will remain over the winter for a nutritional wildlife food source. This area could be utilized as a fulltime food plot area for wildlife. This would not only provide a food source for animals and shelter, but also can provide wildlife viewing areas for large and small animals.

TA#6 - The middle oxbow can hold water, but in drought-stricken years is completely dry. With a proposed dock nearby, this would allow visitors (during wetter years) easy access with kayak and canoes to explore.

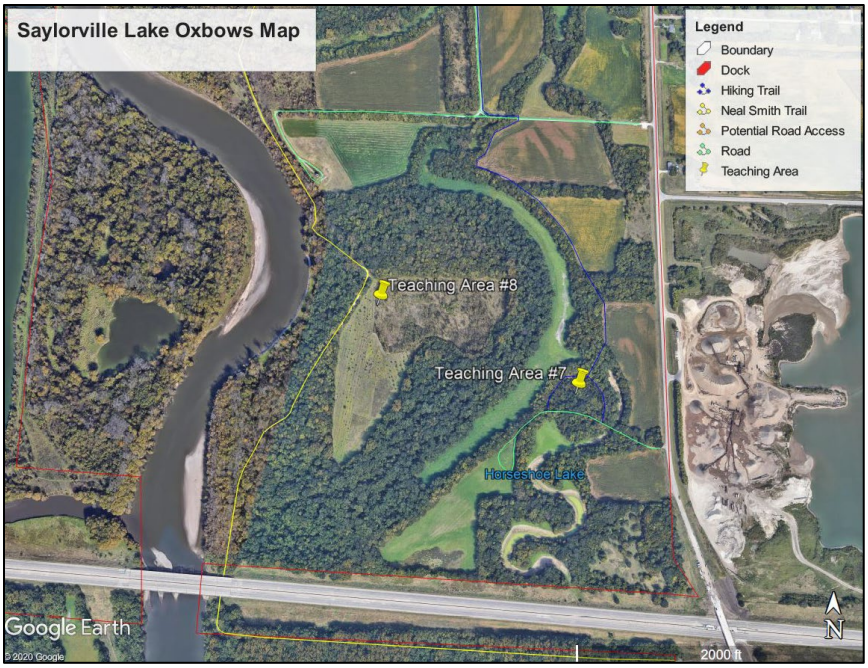

Figure 13: Teaching Areas #7 & 8

TA#7 – The southern oxbows can also hold water but can also become dry during drought years. Access around this area is limited, so a trail system would be extremely beneficial to move in and around this area (Figure 13). There is an existing old home settlement driveway that could be easily maintained with a turnaround loop added.

TA#8 – This mitigation site has been slowly planted in with native tree species over the years. There are several sites within this area with varying stand ages, species and densities could serve as staging area for forest floodplain forestry lessons.