

Plant Exchange

# L&C Recreation Area — A Habitat For All

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**BY BRENDA K. JOHNSON**  
P&D Correspondent

Lewis & Clark Recreation Area is busy with campers, boaters, and bicyclists but there is something new this year. While this South Dakota state park workplace is productive year round, sometimes the spirit of cooperative endeavor resonates with staff in a new way.

**A PLACE BUTTERFLIES CALL HOME**

Butterfly habitat ideas caught fire when Pam Kallis found a new way for kids and families from Yankton and elsewhere to connect with Nature. Her job at Lewis & Clark Recreation Area is the park naturalist.

"Everyone loves butterflies," she said. "When I was a little girl, my grandfather had milkweeds right outside his living room window. We'd see the butterflies and watch the cocoons. It's something from my childhood I brought with me."

"I couldn't find monarch caterpillars here at the park," she said. Kallis is beginning her fourth year as naturalist. "If I did, they were quite rare."

"In research on butterflies (MonarchWatch.org) I found out that monarchs only lay eggs on milkweed. I started looking for milkweed here, but it's hard to find. 'We need to get some milkweed,' I thought. If we could get milkweed growing, we could have a Monarch Waystation." Such a waystation grows milkweed and flowers featuring nectar and pollen for butterfly food and native grasses for cover. It's a place to observe and perhaps track migrating Monarchs. She wanted some habitat at the park where butterflies would find flowers, lay eggs, rest on migration, and return here next year.

That's where retired soil scientist and park ground maintenance worker Kim Brannen came in. "Pam had identified some sites in the park that had milkweed," Brannen said. "Largest concentration is by the Midway Boat Ramp Amphitheater walkway. In my work going through the park, I also started looking for milkweed and other butterfly habitat."

"We couldn't find chrysalises (monarch cocoons)," Brannen said. "After discussion we thought that if we put in native wildflowers (including milkweed) that would help draw monarchs and other butterflies. We researched plant species that are adapted to this area and soils that would be preferred habitat for butterflies."

"This project gave us opportunity to tap into our passions and work together for a project that is exciting," she said. "Having the backing of park managers is outstanding."

"Every year visitors say they like coming here because of what they might see next," district park supervisor Shane Bertsch said. "This will be a new thing. We've talked before about adding more native plants but this is the spark to get this going."

**BUTTERFLY HABITAT**

Kallis stressed that butterflies need a safe place to lay their eggs and for chrysalises to develop. "They need food sources of pollen and nectar nearby, so they need lots of flowers." Native grasses provide cover. "In September during the monarch migration I see butterflies cover the zinnias (growing near the Welcome Center). We had some food sources to attract them. We needed more."

"So we're going to plant native wildflowers near the milkweed," Brannen said. Then food sources are close to the milkweed where they lay eggs. "We're trying to have habitat for the northern hemisphere part of the monarch life cycle."

Butterfly habitat can be grown in backyards as well as the park. These plants provide for butterfly breeding, feeding, and cover and are located in areas safe for butterflies and free of pesticides and herbicides. Examples of plants for butterflies include butterfly weed and common milkweed. Pollen and nectar sources include Indian blanket, Joe-Pye weed, scarlet sage, and non-native zinnias. Native grasses provide cover and include little bluestem and sideoats gramma. This United States Department of Agriculture website describes South Dakota or Nebraska plants of our region: <http://plants.usda.gov/java/>

"Once we have our ecosystem ready, we can purchase caterpillars to increase our population of monarchs," Kallis said.

**IDEAS TO ACTION**

Brannen brought her passion for native prairie as she works at Lewis & Clark Recreation Area. On



PHOTO: BRENDA K. JOHNSON

**ABOVE: Monarchs feed on nectar and pollen of blue asters, one of their favorite early fall blooming plants. Plants selected for butterfly habitat at Lewis & Clark Recreation Area span the season with native and naturalized flowers in bloom. RIGHT: Slopes by Midway Bay at Lewis & Clark Recreation Area are butterfly habitat sites. Six other sites are near bike trails around the park. Monarch habitat for food, breeding, and cover are located near the Amphitheater. Park naturalist Pam Kallis will start outings there. Steep slopes required hand seeding of milkweed and native flowers and grasses. Then Lewis & Clark Recreation Area staff installed erosion blanket to keep seeds in place until they germinate.**

her home acreage she has restored native plants. "I see some native plants already here, and (with) Pam's enthusiasm for monarchs and other butterfly habitat, we all put this project together."

Brannen said that Shane Bertsch and assistant park manager Melissa Ziegenhagen have a long-term view of the park that made the project possible. "You don't just talk about this year; while you do this project now, you look to the future."

Integrating this project with normal park operations is essential for positive results. "We don't want to put this habitat right in a common traffic path to be inconvenient for park users or park staff," she said. Such a project requires more skills, equipment, and resources than at any one agency. "We identified involved staff and what equipment we have, and who our partners are with similar interests that could help."

"Yankton County Conservation District did the seed drilling at no cost, as their contribution to this conservation effort."

"Natural Resources Conservation Service in Yankton helped us with recommendations for plant species, site preparations, and actual establishment on the day we drilled the seeds. They continue to provide technical assistance, as we need it. They had contacts with area seed companies. Milborn Seed, Inc. in Brookings ended up donating native grass seed for demonstration plots at Pierson Ranch." She said Milborn Seed, Inc. was supportive of establishing native prairie to increase public interest.

"Lewis & Clark Recreation Area bought wildflower and native grass seed for butterfly habitat and the staff provided technical assistance (to establish plants)," she said. Also a part was maintenance foreman Jim Gunderson who provided staff for site preparation. Beyond the seed planting, conservation foreman Dale Dawson will provide staff for continuing site maintenance. Kim Brannen will document project work. Pam Kallis leads the Monarch Waystation Project and future monarch educational efforts with the public.

A few sites required reclamation. "We borrowed the Fecon (mulching machine) from the Wildlife Division of South Dakota Game, Fish, & Parks," Bertsch said. "It's a big stump grinder mounted on a skid steer to get rid of unwanted vegetation."

Bertsch added that Yankton Rural Fire Department has also been an asset with native grasses to do controlled burns in the past. Lewis & Clark Recreation Area has several stands of established mixed native grasses.

**HABITAT PROJECT SO FAR**

Eight butterfly habitat sites for



PHOTO COURTESY OF KIM BRANNEN

planting wildflowers and native grasses were established around Lewis & Clark Recreation Area and native grass demonstration plots were started at Pierson Ranch last fall. Land for the project totaled about the size of a football field. Each site was staked and glyphosate herbicide was applied to kill existing plants. Native plants with low maintenance requirements were selected. To offset weed competition, they chose seed of Plateau-tolerant native plants for the plots. Plateau is a selective herbicide that requires a chemical license for application. Spring treatments are planned, together with timed mowing (if possible) to control weeds as warm season native plants emerge.

Examples of their Plateau-tolerant plants include Partridge Pea, Wild Bergamot, Little Bluestem, Indiangrass, and Smooth Blue Aster. Brannen pointed out that homeowners could use additional, but carefully timed spring mowings or hand weeding to control weeds instead of a spring selective herbicide.

Seeds were mostly drill-planted behind a tractor last fall except for one site that required hand planting due to the site slope. Because of variable seed size and shape of seed mixture, a bulking agent of Lawn Starter Pro was added to the mix only to help seed flow through the drill. "In general, you don't fertilize when planting native seed because you also fertilize the weeds. The goal is to minimize weeds and non-natives," Brannen said. Drills scoured the soil, and the deposited seeds were barely covered by soil.

Where wildflowers and grasses were planted together, the ratio of grasses to flowers was much less. "Grasses eventually choke out flowers over time," Dawson said.

"We used 20% grass seed to 80% flower seed because we wanted a mixture with less competition," Brannen added.

"We can take out some grasses if needed later," Dawson said.

Drought conditions for fall planting did not stop the project. "It was a dry dormant seeding," Dawson said. "We didn't want seeds to germinate in the fall. It

was so dry. Plants would have struggled and possibly died. We're hoping for a normal spring to get a good environment for germination."

Brannen said that dormant seeding is a common establishment practice in drought years. "You get the benefit of snow settling the seed (into soil)." Natural cold treatment benefits plants.

"It keeps seed damp (over winter)," Dawson added. "Hopefully all of this will contribute. We do have some means to water (this season) but it is limited. We expect about 90% from Mother Nature and the rest is our part."

"We have a new 400 gallon water tank with a pump," Bertsch said. Water is taken from the lake.

"Air and soil temperature and moisture determine the season and how well plants thrive. We know that seed can stay in the ground several years awaiting optimal growing conditions," Brannen said. "We're not sure we'll get full germination this year. That's interesting about native ecosystems; Nature does her thing and plants respond." She remarked that native grasses at her acreage were shorter last year due to the drought.

**VISIBLE THIS SEASON**

Staked wildflower and grass sites are located by Midway Bay near the amphitheater and along the bike trail in the Yankton, Midway, and Gavins Point Sections of the park. Mixed native grass plot is located north of the Welcome Center. Demonstration plots of individual native grasses are located by the bike trail near the Gavins Point Dam at Pierson Ranch. Since the grasses and wildflowers were established last fall and are now just germinating and growing, they may be small plants this season.

"Some (visitors) may be a bit disappointed to the first year, because establishment takes a while," conservation technician Brad Jones said. "After three or four years, it may look really good. It's what was there before brome grass."

"Watch the natural develop-

ment at the sites," Brannen said. She encourages visitor to see habitat appear firsthand over time.

According to Kallis, "We assume many of these native plants were here before the pioneers. I would love to see local kids make Saturday morning a time to go to the park to see 'How is my caterpillar doing?' 'Last time a chrysalis was forming. Will a butterfly come out?' We meet at the amphitheater, and ten steps away we're in monarch habitat." She plans to host hikes and volunteer events at Lewis & Clark Recreation Area that feature the sites as developing butterfly habitat. She and volunteers plan to weed and thin the plots. She plans to look for signs of butterflies and keep a scrapbook/journal with entries by campers, while providing education to campers and visitors. Welcome Center is the point of contact about butterfly habitat.

**PROJECT BENEFITS ALREADY**

Interest in monarchs flowed to Spanish class at Yankton High School where Kallis also teaches. "We had a unit on Mexico," she said. "We talked about how the monarchs go to Mexico to the forest. All the monarchs east of the Rockies migrate to a central valley in Mexico." Students sensed her enthusiasm for monarchs. "Students looked at me like 'You're kind of strange, Senora.'"

"Fir trees (where monarchs overwinter) grow at 10,000 feet above sea level and have high protective canopy. Frequent fog is the butterfly water source." She said that this specific land lost to development, pesticides, and herbicides are problems that the Mexican government is trying to address. "We'll do our part here (in North America)," she said of the plan to feature and track the butterflies.

"We're giving the camper or visitor an enhanced natural experience in the fringe areas of the park," Brannen said. "We were careful to put plantings away from campsites if bees are attracted to flowers too. We started with small planting areas, which is appropriate. In a drought year it will be interesting what we get and how it grows."

"In the future, native landscaping (at the park) means less maintenance, less water, and it is attractive," Bertsch said.

According to Jones, "Once you get the native grasses and wildflowers established, they thrive on their own."

"Grass plots of grasses at Pierson Ranch show the public what native grasses look like that could be done at home," Brannen said. Signs and other forms of information about the native plants are planned.

"Visitors come in and say 'What is that? I'd like to use that at my house.'" Melissa Ziegenhagen said. Sites are staked for visitors to stop and see changes over time.

"In the past we've been through flood cleanup and then drought maintenance," Bertsch said. "Now we can focus on details, things we want to do but didn't have time to do."

"This is the infancy of the grasses and wildflowers. You can see them from bare ground to what they will be," Kallis ended. Watch for her park activity announcements on Facebook: <https://www.facebook.com/LewisAndClarkRecreationArea>

**May Plant Tips**

Diane Dickes, owner of Diane's Greenhouse, Fordyce NE, (402) 357-3754, has designed many containers and baskets for the season. "I look forward to helping you find the perfect plant for any container," Diane said. "Become a fan on Facebook for offers and tips." Website: [dianesgreenhouse.com](http://dianesgreenhouse.com) Diane Dickes shares these plant container tips:

- Start with the biggest container your spot can handle. The bigger the container, the easier it is to maintain.

- Fill the entire container with a good quality potting mix, such as Pro Mix sold at the greenhouse. This is the base of how to grow a fantastic container or baskets. Do not put rocks or objects on the bottom of the container to use up space. You want as much potting soil as possible, to hold as much water as possible. Also, never mix in soil from the ground. Clay soil in a container becomes a rock and cannot absorb water. If you use a good quality potting mix, you are able to reuse it year after year.

- When designing a container, keep in mind, thriller, spiller and filler. The thriller is your eye-catching plant, probably something with some height for the center. Your spiller and filler are around the edges. You don't have to use all flowering plants. I always like to use light and dark colors together.

- Watering your container properly is very important to your success. Temperature is often cooler earlier in the season, so your container may not need water every day. But in the heat of summer, you will have to water a couple of times a day. That's when the size of your container can become less work.

- Fertilizing is important. We use "Daniels". It's a soy-based fertilizer and the plants love it. We recommend fertilizing your container 2 - 4 times / week. You will have many more blooms, and they will be larger and brighter!

**Dibbles & Bits**

- Monarch butterfly photos from National Geographic show the emergence of a monarch from chrysalis to adult in "Migration Photos: Butterfly Life Cycle":

[http://www.nationalgeographic.com/great-migrations-educator-resources/gallery/monarchs/#/monarch-butterfly-emerges\\_24313\\_600x450.jpg](http://www.nationalgeographic.com/great-migrations-educator-resources/gallery/monarchs/#/monarch-butterfly-emerges_24313_600x450.jpg)

- Honeycrisp is a good apple to grow in Eastern South Dakota, according to Dr. John Ball, SDSU Extension and Forester for South Dakota of Agriculture. "Yes this is a relatively recent introduction from Minnesota that has shown good hardiness across the central part of that state. Honeycrisp is a midseason apple that is very crisp, juicy (and) has excellent storage life. The tree has low to moderate susceptibility to apple scab and moderate susceptibility to fireblight. It is not quick to bear, however, so you might wait five years or more before you see fruit on the tree." Source: "The Update" April 10th <http://sdda.sd.gov/conservation-forestry/tree-pest-alerts/>

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