

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY

2102-F21-R-45

Name: Grand River National Grasslands: Pasture 8 Ducks Unlimited (DU), Pasture 8 Kids Fishing Pond (KP), Pasture 6 Bottleneck, Pasture 6 South Ducks Unlimited (South DU), Pasture 6 North Ducks Unlimited (North DU).

County: Perkins

Dates of survey: 6-19-12, 6-20-12, 6-21-12, 6-26-12, & 7-11-12

Executive Summary

Five ponds were surveyed on the Grand River National Grasslands near Lemmon, South Dakota in June and July of 2012. These surveys were intended to evaluate the success of Largemouth Bass stockings conducted by South Dakota Game, Fish, and Parks (SDGF&P) in 2009 after protracted drought conditions in the early to mid-2000s, as well as to conduct a general survey of fish populations within the ponds. Age-3 (likely stocked) Largemouth Bass were collected in 2 out of the 5 ponds stocked with fingerlings in 2009. Only one pond (Pasture 8 DU) showed signs of recruitment with a year class of age-1 Largemouth Bass being present in the survey (Table 1).

Table 1. Largemouth Bass (LMB) and other fishes surveyed by on the Grand River National Grasslands, 2012.

Pond	Stocked in 2009	LMB (N) ^a	N	LMB Age-3 (N)		N	LMB Age-1 (N)		Other Species (N)
				Mean Length (mm)	Mean Wr ^b		Mean Length (mm)	Mean Wr ^b	
Pasture 8 (DU)	1000	40	8	176.4 (5.5)	118.6 (5.2)	32	343.9 (9.2)	113.8 (3.2)	None
Pasture 8 (KP)	1000	6	6	333.3 (8.9)	117.5 (9.7)	0	NA	NA	YEP (1) ^c , FHM (523) ^d , GSF (141) ^c , (16) ^d , FHM (86) ^d , STB (17) ^d
Pasture 6 (Bottle)	1000	0	0	NA	NA	0	NA	NA	FHM (302) ^d , (12) ^c
Pasture 6 (N DU)	1000	0	0	NA	NA	0	NA	NA	FHM (4) ^c
Pasture 6 (S DU)	1000	0	0	NA	NA	0	NA	NA	

^a Number of LMB angled, ^b Mean Wr for LMB ≥ 150 mm, ^c collected in trap net, ^d collected in seine

Pasture 8 DU

Legal description: S23, T20N, R16E

Location from nearest town: 1 mile west, 17½ miles south, and 3½ miles west of Lemmon, SD.

Surface Area (when full): 17 acres

Lake elevation (from full at time of survey): Three feet below full pool

Maximum depth (at time of survey): Unknown

Fish Species:

1. Largemouth Bass

Fishing Access

There is shoreline fishing access around much of the pond. Submergent vegetation was thick around much of the shoreline. Shore fishing was possible off of the dam. Several miles of travel on gravel and a low maintenance two-track path are necessary to reach the pond.

Observations of Water Quality and Aquatic Vegetation

It appears that cattle may use the pond for watering at times. No other water quality issues were identified at the time of the survey. There is abundant submergent vegetation around much of the pond.

Observations on condition of structures (i.e. spillway, outlet structures, etc)

No obvious problems with the dam were identified at the time of the survey.

Fish Survey Information

The Pasture 8 DU pond was surveyed on June 19 and 20, and July 11, 2012. The pond is owned by the United States Forest Service (USFS) and lies within the Grand River National Grasslands. Pasture 8 DU was surveyed using two modified fyke (trap) nets consisting of a 1.3 X 1.5 m frame, 19.1 mm (0.75 in) mesh and a 1.2 X 23 m (3.9 X 75.5 ft) lead and 3 seine hauls, and 3.7 angler hours (Figure 1). A total of 12 Largemouth Bass were collected from the trap nets. The mean total length of Largemouth Bass collected in the trap nets was 184.3 mm with the longest fish being 197 mm (7.8 in) and the shortest being 171 mm (6.7 in). Only one Largemouth Bass was collected during the three seine hauls. No age-0 Largemouth Bass were found during the survey.

A total of 40 Largemouth Bass (10.9 LMB/angler hour) were sampled during 3.7 angler hours (Table 1). It is likely that catch rates are probably not representative of what the catch actually could have been as the survey was conducted with multiple lure sizes in an effort to collect multiple sizes of Largemouth Bass if present. The Largemouth Bass collected ranged in size (120-200 mm; 5-8 in).

Scales samples were collected from a subsample of Largemouth Bass. Two year classes were present in the sample: age-1 and age-3. The age-3 Largemouth Bass may be the original fingerlings stocked in 2009. The age-1 fish are likely a result of natural reproduction within the system.

Approximately 1,500 Largemouth Bass were collected and stocked into other ponds that were in need of supplemental stockings.

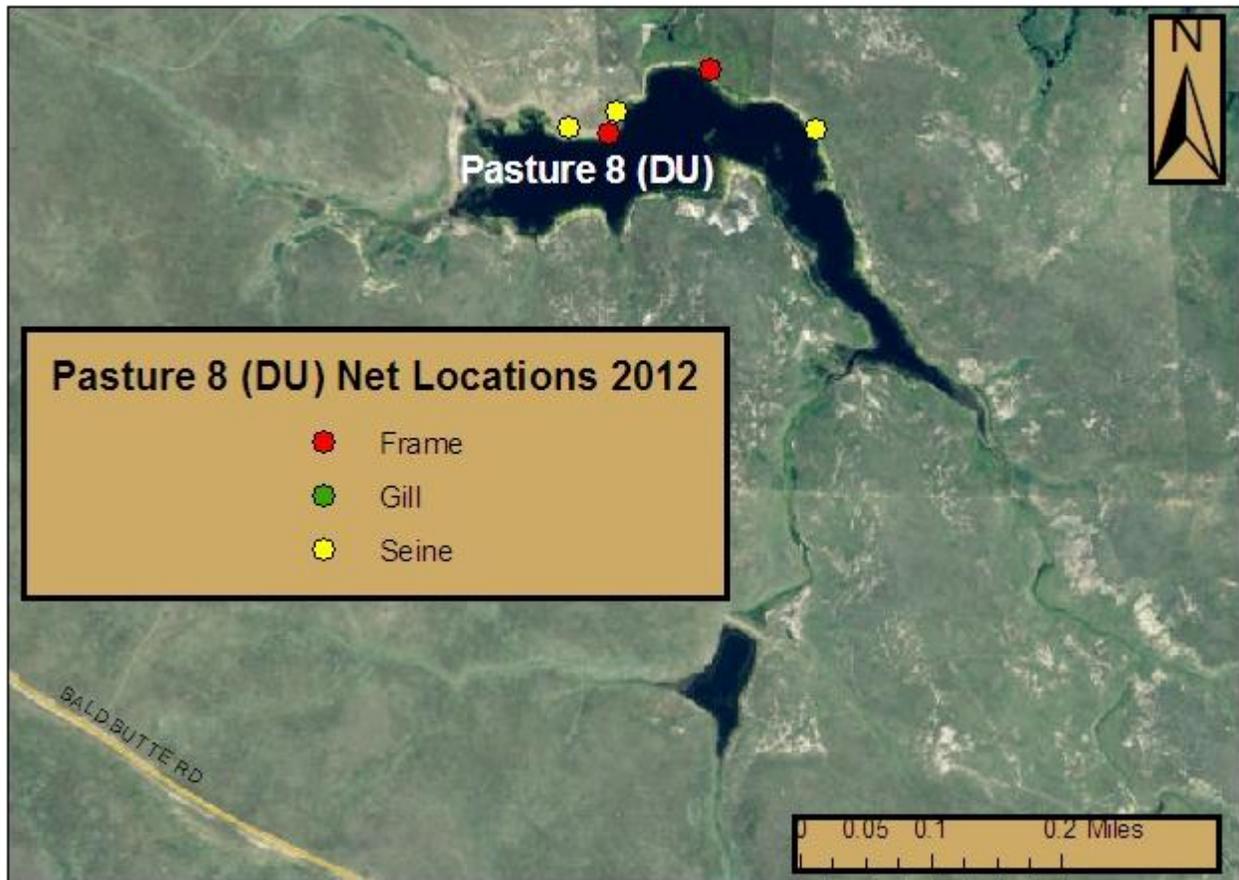


Figure 1. Locations of modified fyke (frame) nets and quarter-arc seine hauls during the fisheries survey of the Pasture 8 DU pond, Perkins County, South Dakota, 2012.

Pasture 8 Kids Pond (Dam No. 73)

Legal description: S20, T20N, R16E

Location from nearest town: 1 mile west, 18 miles south of Lemmon, SD

Surface Area (when full): 4 acres

Lake elevation (from full at time of survey): Two feet below full-pool

Maximum depth (at time of survey): Unknown

Fish Species:

1. Largemouth Bass
2. Fathead Minnow
3. Yellow Perch

Fishing Access

There is good shoreline fishing access around much of the pond. There are some areas where dense submergent and emergent vegetation could make shore fishing difficult without wading into the water. A short drive on a low maintenance road is necessary to reach the pond.

Observations of Water Quality and Aquatic Vegetation

There did not appear to be any water quality issues at the time of the survey. There is some emergent and submergent vegetation throughout the pond.

Observations on condition of structures (i.e. spillway, outlet structures, etc)

There were no apparent issues with the dam identified by GF&P personnel at the time of the survey.

Fish Survey Information

The Pasture 8 Kids Pond was surveyed on June 20, 2012. The pond is owned by the USFS and is located in the Grand River National Grasslands. Pasture 8 Kids Pond was surveyed using two trap nets, three seine hauls and four angler hours (Figure 2). A total of one Largemouth Bass (320 mm, 526 g; relative weight [*Wr*] 112.1) and 523 Fathead Minnows were collected in the seine hauls (Table 1). Only one Yellow Perch (256 mm, 246 g; *Wr* 99.6) was collected in two trap nets.

During four angler hours six Largemouth Bass were collected (1.5 LMB/angler hour). All the Largemouth Bass surveyed were age-3 with a mean total length of 333 mm. Fish were in good condition with a mean *Wr* of 117.5 (9.7).

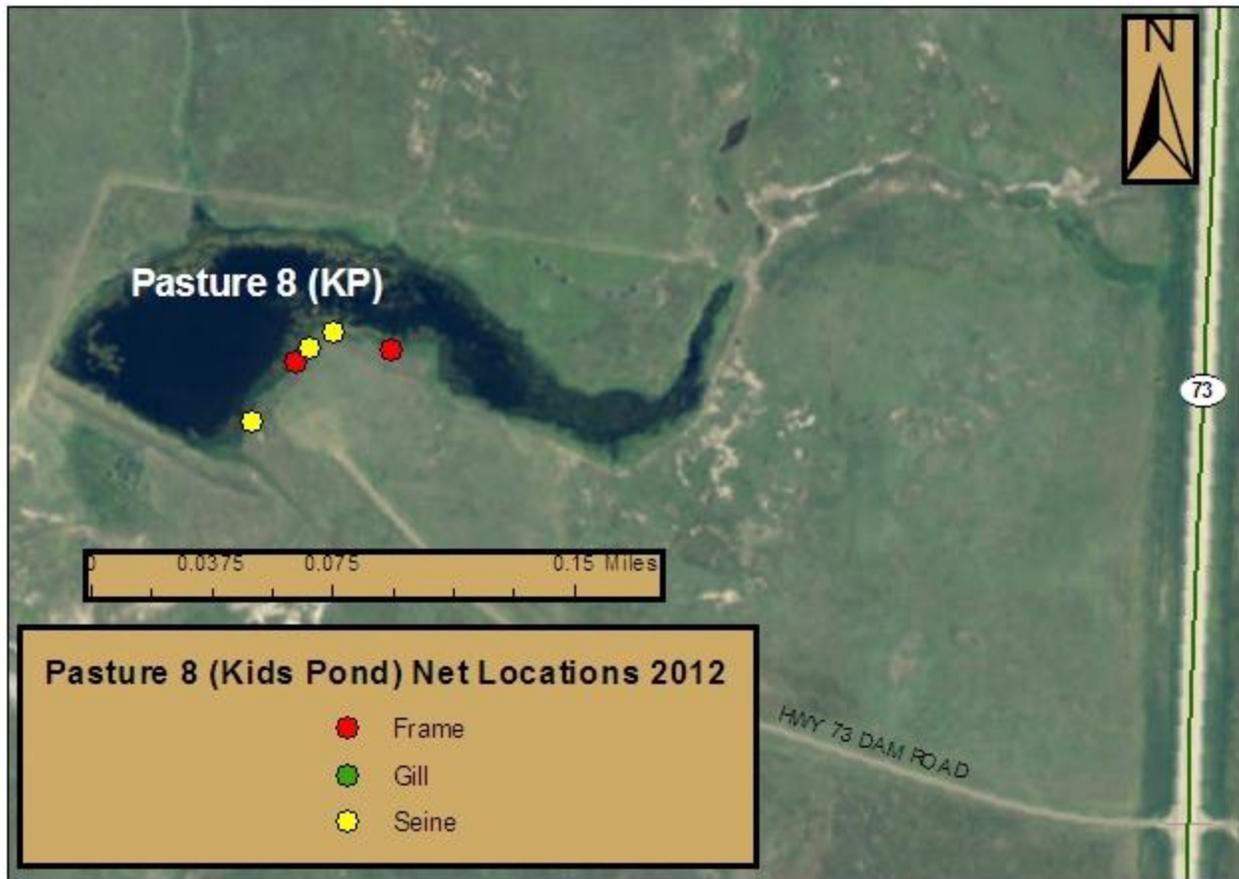


Figure 2. Locations of modified fyke (frame) nets and quarter-arc seine hauls during the fisheries survey of Pasture 8 Kids Fishing Pond, Perkins County, South Dakota, 2012.

Pasture 6 Bottleneck

Legal description: S25, T19N, R14E

Location from nearest town: 4 miles north and ¼ mile west of Bison, SD.

Surface Area (when full): 22 acres

Lake elevation (from full at time of survey): Three feet below full-pool

Maximum depth (at time of survey): Unknown

Fish Species:

1. Green Sunfish
2. Fathead Minnow
3. Brook Stickleback

Fishing Access

Most of the pond has good shoreline fishing access. Travel on a low maintenance two-track road that crosses a creek bottom is necessary to reach the west half of the pond by vehicle.

Observations of Water Quality and Aquatic Vegetation

There is some shoreline erosion and manure due to cattle. Most areas along the shoreline have abundant submergent vegetation.

Observations on condition of structures (i.e. spillway, outlet structures, etc)

There were no obvious issues with structures identified by personnel at the time of the survey.

Fish Survey Information

The Pasture 6 Bottleneck pond was surveyed on June 21, 2012 using four trap nets, three seine hauls and two angler hours (Figure 3). A total of 141 green sunfish were collected in the trap nets with a mean length of 114 mm and *Wr* of 130.4. The proportional stock density (PSD) of green sunfish was 17 and no fish over preferred length (200 mm) were collected. A total of 16 age-0 Green Sunfish, 86 Fathead Minnows and 17 Brook Sticklebacks were collected in the seine hauls as well. Green Sunfish were not stocked into the Pasture 6 Bottleneck pond by SDGF&P personnel and are likely the result of unauthorized stockings.

During two angler hours and the netting survey, no Largemouth Bass were collected. It appears that no Largemouth Bass persisted from the 2009 fingerling stocking. In an effort to establish a fishery, Pasture 6 Bottleneck was stocked with adult Yellow Perch and fingerling Smallmouth Bass in 2012 to determine if other species are better suited to the pond.

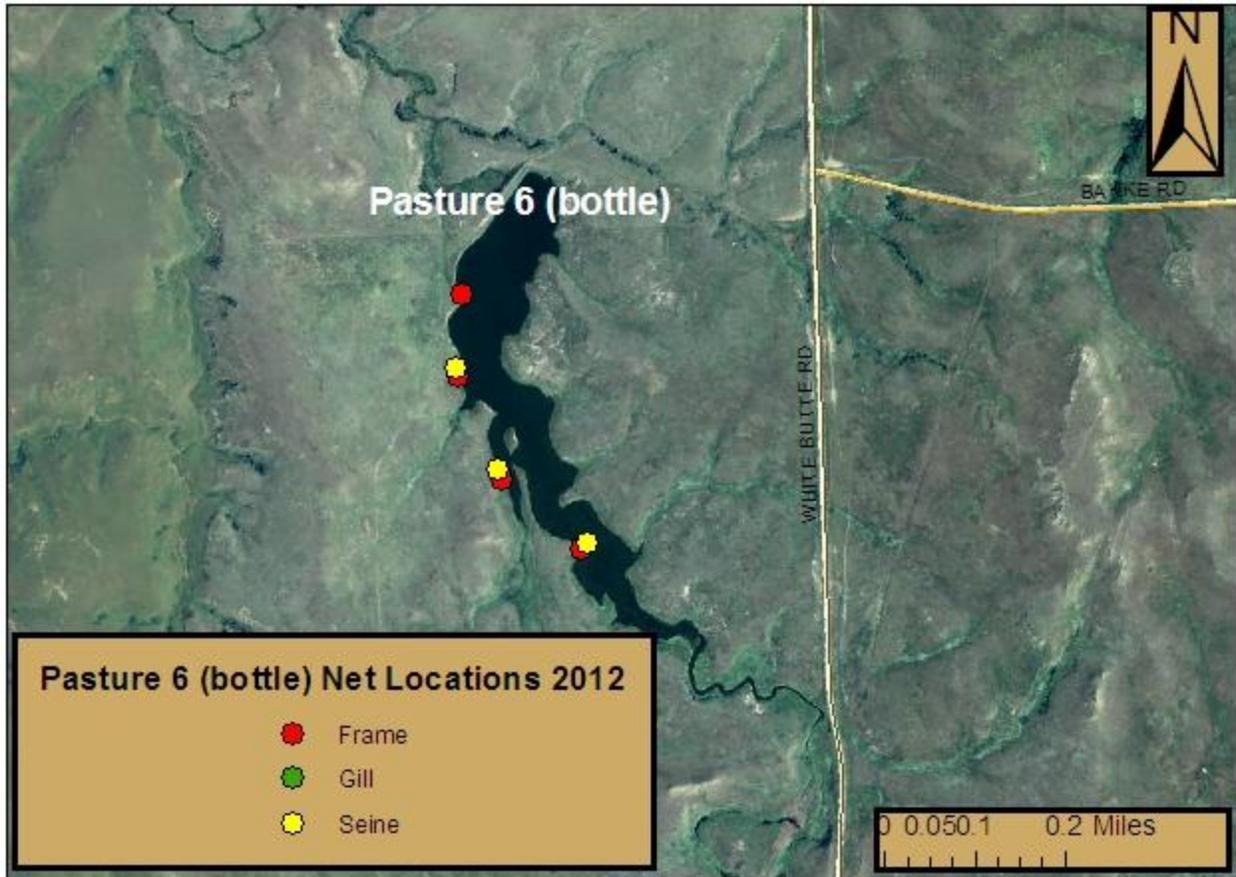


Figure 3. Locations of modified fyke (frame) and quarter-arc seine hauls during the fisheries survey of Pasture 6 Bottleneck, Perkins County, South Dakota, 2012.

Pasture 6 South DU

Legal description: S33, T20N, R13E

Location from nearest town: 9 miles north and 4 miles west of Bison, SD.

Surface Area (when full): 16 acres

Lake elevation (from full at time of survey): Three feet below full-pool

Maximum depth (at time of survey): Unknown

Fish Species:

1. Fathead Minnow

Fishing Access

The submergent vegetation was very thick around much of the shallow areas of the pond. Shore fishing was difficult in most areas without wading gear. To reach the pond anglers must travel several miles on low maintenance two-track roads.

Observations of Water Quality and Aquatic Vegetation

Cattle utilize the pond for watering at times which has led to nutrient loading and erosion of shorelines. No other water quality issues were identified.

Observations on condition of structures (i.e. spillway, outlet structures, etc)

There were no obvious issues with the dam identified.

Fish Survey Information

Pasture 6 South DU is owned by the USFS in the Grand River National Grasslands. Pasture 6 South DU was surveyed on June 26, 2012. The pond was surveyed using two trap nets, three seine hauls, and 1.5 angler hours (Figure 4). Pasture 6 South DU was stocked with a 1,000 fingerling largemouth bass in 2009. A total of four Fathead Minnows were collected from the trap nets (Table 1). No fish were collected during the three seine hauls. Heavy submergent vegetation made it difficult to successfully complete seine hauls.

During 1.5 angler hours, no Largemouth Bass were surveyed. No Largemouth Bass were collected in the net survey, and no Largemouth Bass were seen surfacing or swimming in the shallow water.

Pasture 6 North DU

Legal description: S29, T20N, R13E

Location from nearest town: 10 miles north and 5 miles west of Bison, SD.

Surface Area (when full): 14 acres

Lake elevation (from full at time of survey): Three feet below full-pool

Maximum depth (at time of survey): Unknown

Fish Species:

1. Fathead Minnow

Fishing Access

Shore fishing was difficult in many areas due to the amount of submergent vegetation. Wading gear may prove useful for fishing the pond. To reach the pond anglers must travel several miles on low maintenance two-track roads.

Observations of Water Quality and Aquatic Vegetation

Cattle use the pond for watering which is causing some shoreline erosion. There is dense submergent vegetation throughout the shallow areas of the pond.

Observations on condition of structures (i.e. spillway, outlet structures, etc)

There were no obvious problems with the dam identified at the time of the survey.

Fish Survey Information

Pasture 6 North DU was surveyed on June 26, 2012. The pond is owned by the USFS and lies within the Grand River National Grasslands. The pond was surveyed using two trap nets, three seine hauls, and 1.3 angler hours (Figure 4). A total of 12 fathead minnows were collected in trap nets, and 302 fathead minnows were collected in the seine hauls (Table 1).

Largemouth Bass were not collected during the angling or netting surveys. There was no visual evidence of Largemouth Bass survival as well.

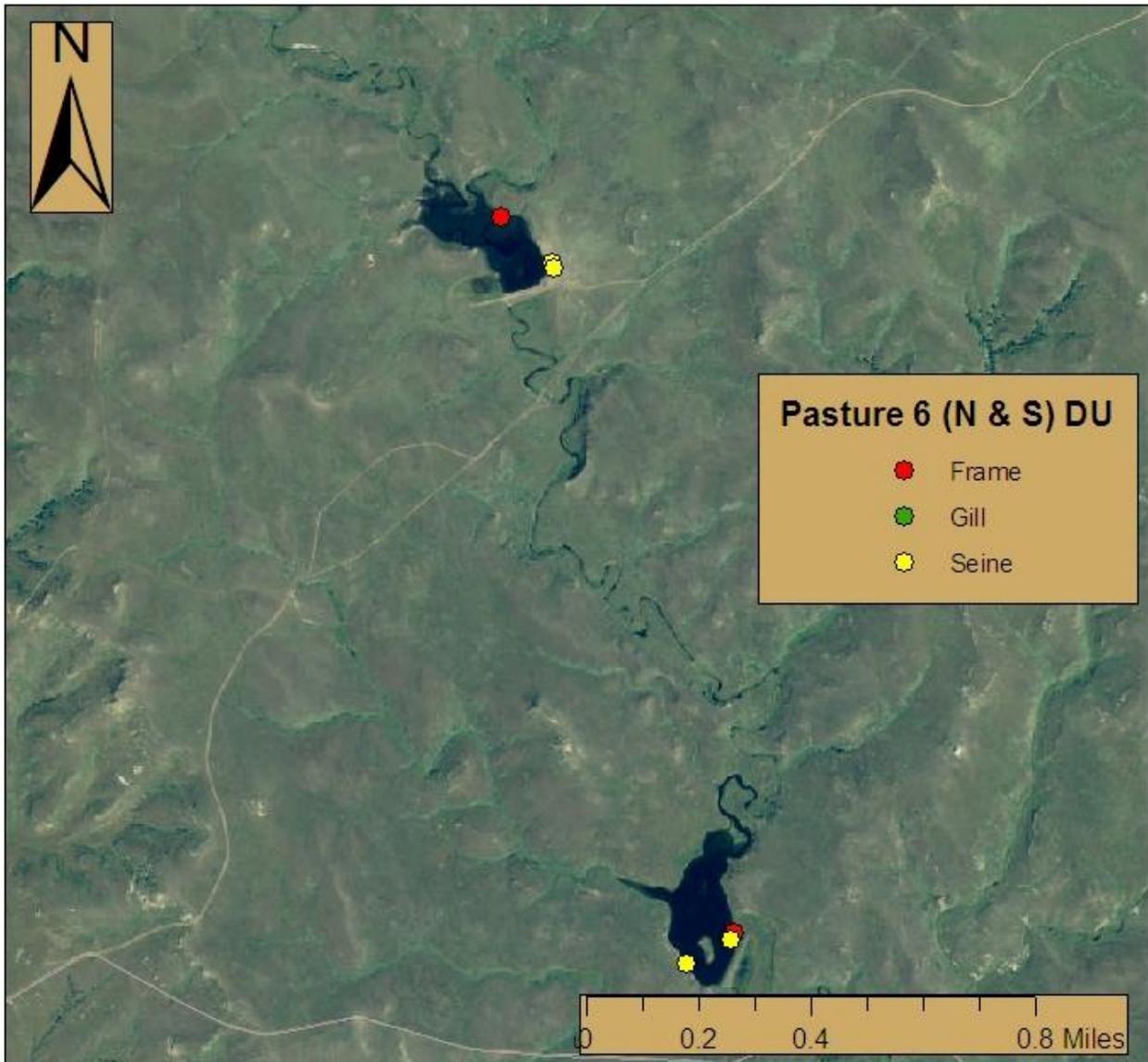


Figure 4. Locations of modified fyke (frame) nets and quarter-arc seine hauls used during the fisheries surveys of Pasture 6 DU North and South, Perkins County, South Dakota, 2012.

RECOMMENDATIONS

1. Survey Largemouth Bass populations as needed to evaluate success of stockings and fish condition and growth.
2. Survey the panfish populations every five years or as needed to evaluate the fishery.
3. During the next fisheries survey of the Grand River National Grassland ponds take dissolved oxygen, temperature, and water depth readings to determine the suitability of each pond for fish (they were not taken in 2012 due to time constraints and boat launch suitability).

APPENDIX

Appendix A. Stocking history, including pond name, year, species, size and number of fish stocked for Grand River Grasslands, Perkins County, South Dakota, 2005-2012.

Pond	Year	Species	Size	Number Stocked
Pasture 8 DU	2005	Largemouth bass	Fingerlings	1,500
Pasture 8 DU	2009	Largemouth bass	Fingerlings	1,000
Pasture 8 KP (73)	2005	Largemouth bass	Fingerlings	1,500
Pasture 8 KP (73)	2009	Largemouth bass	Fingerlings	1,000
Pasture 8 KP (73)	2011	Golden shiner	Adult	20
Pasture 8 KP (73)	2011	Yellow perch	Adult	100
Pasture 6 Bottleneck	2009	Largemouth bass	Fingerlings	1,000
Pasture 6 Bottleneck	2012	Yellow perch	Adult	220
Pasture 6 Bottleneck	2012	Smallmouth bass	Fingerlings	2,160
Pasture 6 North DU	2009	Largemouth bass	Fingerlings	1,000
Pasture 6 North DU	2012	Largemouth bass	Fingerlings	1,300
Pasture 6 South DU	2012	Largemouth bass	Fingerlings	1,300