

# Lake Nicholson

## Site Description

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### **Location**

Water designation number (WDN)	05-0010-00
Legal description	T118N-R54W-Sec 19 T118N-R55W-Sec 13,14,23,24
County (ies)	Codington
Location from nearest town	3.0 miles southwest of Florence, SD

### **Survey Dates and Sampling Information**

Survey dates	July 7, 2015 (GN)
Gill net sets (n)	3

### **Morphometry (Figure 1)**

Watershed area (acres)	31,671
Surface area (acres)	1,110
Maximum depth (ft)	≈12
Mean depth (ft)	unknown

### **Ownership and Public Access**

Lake Nicholson is a meandered lake owned by the State of South Dakota and the fishery is managed by the SDGFP. Currently, no formal boat ramp exists on the lake; however, future plans include construction of a primitive boat ramp (i.e., constructed using over-sized rock and gravel) on state-owned lands located in the northwest portion of the lake (Figure 1). Lands adjacent to Lake Nicholson are owned by the state of South Dakota and private individuals.

### **Watershed and Land Use**

The 31,671 acre Lake Nicholson sub-watershed (HUC-12) is located within the larger Lake Kampeska (HUC-10) watershed. Land use within the watershed is comprised of a mix of cropland, pasture or grassland, scattered shelterbelts, housing, and municipal.

### **Water Level Observations**

Water levels on Lake Nicholson are not monitored by SDDENR; however, it is probable that the lake has experienced water level fluctuations similar to Dry and Grass lakes, which are within close proximity.

### **Fish Management Information**

Primary species	walleye
Other species	none
Lake-specific regulations	none
Management classification	none
Fish consumption advisories	none

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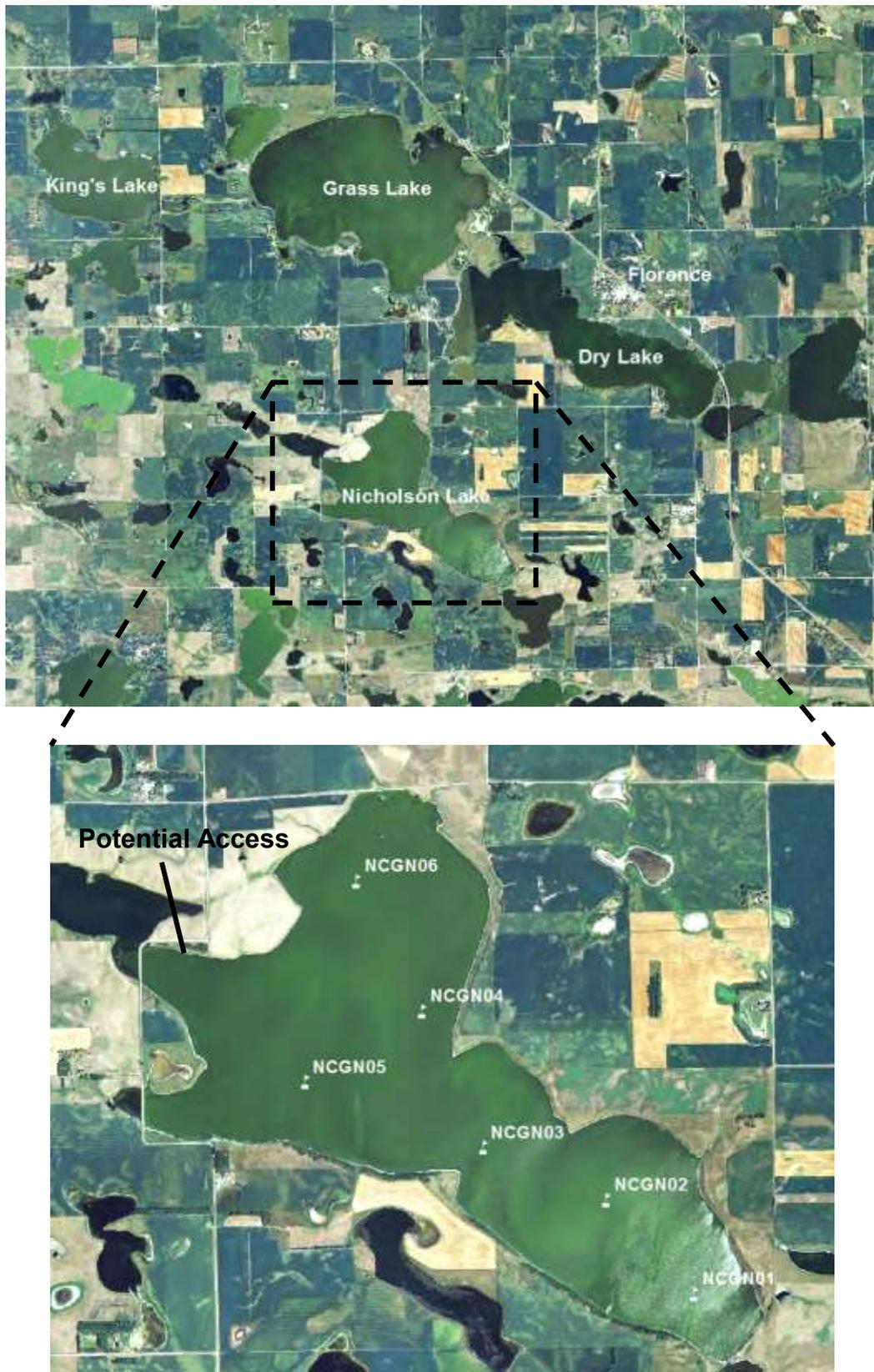


Figure 1. Map depicting geographic location of several Codington County, South Dakota, lakes including Nicholson Lake (top). Also noted are standardized net locations for Nicholson Lake (bottom). NCGN = gill nets

## **Management Objectives**

- 1) Establish and maintain a mean gill net CPUE of stock-length walleye  $\geq 10$ , a PSD of 30-60, and a PSD-P of 5-10.
- 2) Establish and maintain a mean gill net CPUE of stock-length yellow perch  $\geq 30$ , a PSD of 30-60, and a PSD-P of 5-10.

## **Results and Discussion**

Lake Nicholson is a shallow-natural lake located southwest of the city of Florence, Codington County, South Dakota. To our knowledge, the lake has not supported a sport fishery in the past. However, above normal precipitation during the mid to late 1990s and again from 2010-2012 have increased the probability that sport fish may survive and provide angling opportunities in the lake. Thus, the decision was made to begin managing Lake Nicholson as a fishery. An initial assessment of the fishery took place on July 7, 2015 using three overnight gill net sets; no fish were captured.

Introductory walleye stockings will be conducted for three consecutive years (2015-2017); subsequent stockings will be conducted biennially provided initial stockings are successful and water levels remain sufficient. Additionally, yellow perch (i.e., pre-spawn adults) will be stocked in the spring of 2016 and the lake will be managed as walleye and yellow perch fishery.

## Management Recommendations

- 1) Conduct fish community assessment surveys on an every fourth year basis (next surveyed scheduled for summer 2020) to monitor fish relative abundance, fish population size structures, fish growth, and stocking success.
- 2) Complete introductory walleye stockings ( $\approx 500$  fry/acre) for three consecutive years (2015-2017) to establish the population.
- 3) Following the introductory stocking period (2015-2017), stock walleye ( $\approx 500$  fry/ acre) on a biennial basis (even years) provided water levels remain sufficient.
- 4) Stock adult pre-spawn yellow perch to establish a population.
- 5) Collect otoliths from walleye and yellow perch to assess age structure and growth rates of each population.
- 6) Establish a public boat ramp and parking on Lake Nicholson, provided fish stockings are successful and a fishery develops.
- 7) Monitor winter and summer kill events. In cases of substantial winter or summer kill the need to re-establish a fishery in Lake Nicholson should be evaluated. If water levels are sufficient, walleye and yellow perch should be stocked to re-establish a fish community.

Table 1. Stocking history including size and number for fishes stocked into Lake Nicholson, 2015. WAE= walleye

Year	Species	Size	Number
2015	WAE	fry	600,000