



MINNESOTA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FISH AND WILDLIFE
STREAM ASSESSMENT REPORT

Region	Area	Stream Name	Tributary No.	Stream Length
3	Lake City	Zumbro River	M-34	57.6
County			Source (T, R, S)	Mouth (T, R, S)
Wabasha			109-14-27	110-9-31

Date(s) of Assessment: May 28 and May 30, 2014

Assessment Purpose: Determine the abundance and size structure of Smallmouth Bass in “Klein’s” station on the Zumbro River.

Station	Similar Reach	Stream Mile	Length (ft)	Mean Width (ft)	Acres	Water Temp (°F)	Air Temp (°F)	Downstream UTM's	
								utm _x (↔)	utm _y (↓)
Klein's	2	57.6	8400					541553	4899917

Summary:

Smallmouth Bass ≥ 7 inches are defined as stock size (Table 1).

Population estimates of stock size Smallmouth Bass were completed on “Klein’s” station on the Main Branch Zumbro River in 2014. Klein’s station has a long term data set dating back to 1997. The Hammond station was established in 2009 and lies between Zumbro Falls and Hammond. Typically, both stations are sample in the same time frame and compared. Due to high flows in 2014, there was no survey on the Hammond station. Sampling and estimates are made with a 2-pass, mark-recapture method using a caudal fin clip as a mark and a modified Chapman formula for estimates. Two, pulsed-DC electrofishing boats were used on the Klein’s station. Surveys prior to 2009 used a 3 pass Schnabel estimate, but were converted to Chapman estimates and all future estimates will rely on the 2-pass Chapman estimates.

Fishery Characteristics – Population Estimates

Methods:

On the first pass all gamefish were captured and measured. Smallmouth Bass of stock size were given a caudal fin clip and released. Muskellunge were measured and checked for both PIT and floy tags from previous surveys. Both PIT and floy tags were uniquely numbered. On the second pass, all Smallmouth Bass captured were measured and examined for caudal fin clips

Discussion of Fishery:

The population estimate of Smallmouth Bass greater than stock size was 388 (95% CL 255-520) in Klein's station. The estimate of Smallmouth Bass \geq quality length was 213 (95% CL 139-186) and the estimate of Smallmouth Bass \geq preferred length was 104 (CL 71-138). Long term population trends for size classes can be seen in attached graphs (Figures 1-3). As can be seen by the trend lines in the graphs, there is an overall upward trend of Smallmouth Bass populations in Klein's station. However, this year's estimates fall below the trend lines.

Klein's station is in a special regulation area of the Zumbro River in which Smallmouth Bass harvest is not allowed. In years that Klein's station is surveyed, another survey is typically done down river near the town of Hammond. The Hammond reach has no regulation on Smallmouth Bass harvest. A comparison between the two stations could not be done this year because the Hammond station was not surveyed.

Table 1. Size structure of Smallmouth Bass captured in the first and second run, and recaps in Klein's station.

	Run 1	Run 2	Recaps
No. > 7"	82	88	18
No > 11"	55	60	15
No > 14"	35	40	13

Table 2. Length frequency for all gamefish, except Smallmouth Bass, in first run of Klein's station.

	BKT	BLC	BLG	BNT	CCF	LMB	MUE	NOP	RKB	SAR	WAE	WHB	YEP
0.0-2.9	0	0	0	0	0	0	0	0	0	0	0	0	0
3.0-3.9	0	1	0	0	0	0	0	0	0	0	0	0	0
4.0-4.9	0	1	2	0	0	0	0	0	0	0	0	0	0
5.0-5.9	0	1	5	0	0	0	0	0	0	0	0	0	0
6.0-6.9	0	2	3	0	0	0	0	0	0	0	0	0	0
7.0-7.9	0	7	4	0	0	0	0	0	1	0	0	0	0
8.0-8.9	0	0	1	0	0	0	0	0	4	0	0	0	0
9.0-9.9	0	3	0	0	0	0	0	0	1	0	1	1	1
10.0-10.9	0	1	0	0	0	0	0	0	0	0	0	4	0
11.0-11.9	0	1	0	1	0	0	0	0	0	0	0	2	0
12.0-12.9	0	0	0	2	0	0	0	0	0	1	2	3	0
13.0-13.9	0	0	0	0	0	1	0	0	0	1	0	1	0
14.0-14.9	0	0	0	0	0	0	0	0	0	1	0	0	0
15.0-15.9	0	0	0	0	0	0	0	0	0	3	0	0	0
16.0-16.9	0	0	0	0	0	0	0	0	0	1	0	0	0
17.0-17.9	0	0	0	0	2	0	0	0	0	1	0	0	0
18.0-18.9	0	0	0	0	1	0	0	0	0	0	0	0	0
19.0-19.9	0	0	0	2	0	0	0	0	0	0	0	0	0
20.0-20.9	0	0	0	0	1	0	0	0	0	0	0	0	0
21.0-21.9	0	0	0	1	4	0	0	0	0	0	0	0	0
22.0-22.9	0	0	0	0	1	0	0	1	0	0	0	0	0
23.0-23.9	0	0	0	1	5	0	0	0	0	0	0	0	0
24.0-24.9	0	0	0	0	1	0	0	0	0	0	0	0	0
25.0-25.9	0	0	0	0	1	0	0	0	0	0	0	0	0
26.0-26.9	0	0	0	0	0	0	0	2	0	0	0	0	0
27.0-27.9	0	0	0	0	0	0	0	2	0	0	0	0	0
28.0-28.9	0	0	0	0	2	0	0	1	0	0	0	0	0
29.0-29.9	0	0	0	0	0	0	0	1	0	0	0	0	0
30.0-34.9	0	0	0	0	0	0	0	1	0	0	0	0	0
35.0-39.9	0	0	0	0	0	0	2	0	0	0	0	0	0
40.0-44.9	0	0	0	0	0	0	3	0	0	0	0	0	0
>44.9	0	0	0	0	0	0	4	0	0	0	0	0	0
Total	0	17	15	7	18	1	9	8	6	8	3	11	1
Mean TL	#DIV/0!	7.5	5.9	17.1	22.6	13.4	43.1	27.1	8.3	15.1	11.4	11.3	9.4

Table 3. Length frequency of Smallmouth Bass captured in runs 1 and 2 in Klein's station.

	SMB R1	SMB R2
0.0-2.9	0	0
3.0-3.9	0	0
4.0-4.9	0	0
5.0-5.9	0	0
6.0-6.9	3	0
7.0-7.9	9	10
8.0-8.9	9	8
9.0-9.9	5	5
10.0-10.9	4	5
11.0-11.9	7	7
12.0-12.9	5	9
13.0-13.9	8	4
14.0-14.9	7	9
15.0-15.9	9	13
16.0-16.9	13	12
17.0-17.9	3	3
18.0-18.9	3	2
19.0-19.9	0	1
20.0-20.9	0	0
Total	85	88
Mean TL	12.6	12.7

Figure 1. Population estimate of Smallmouth Bass $\geq 7''$ in Klein's station.

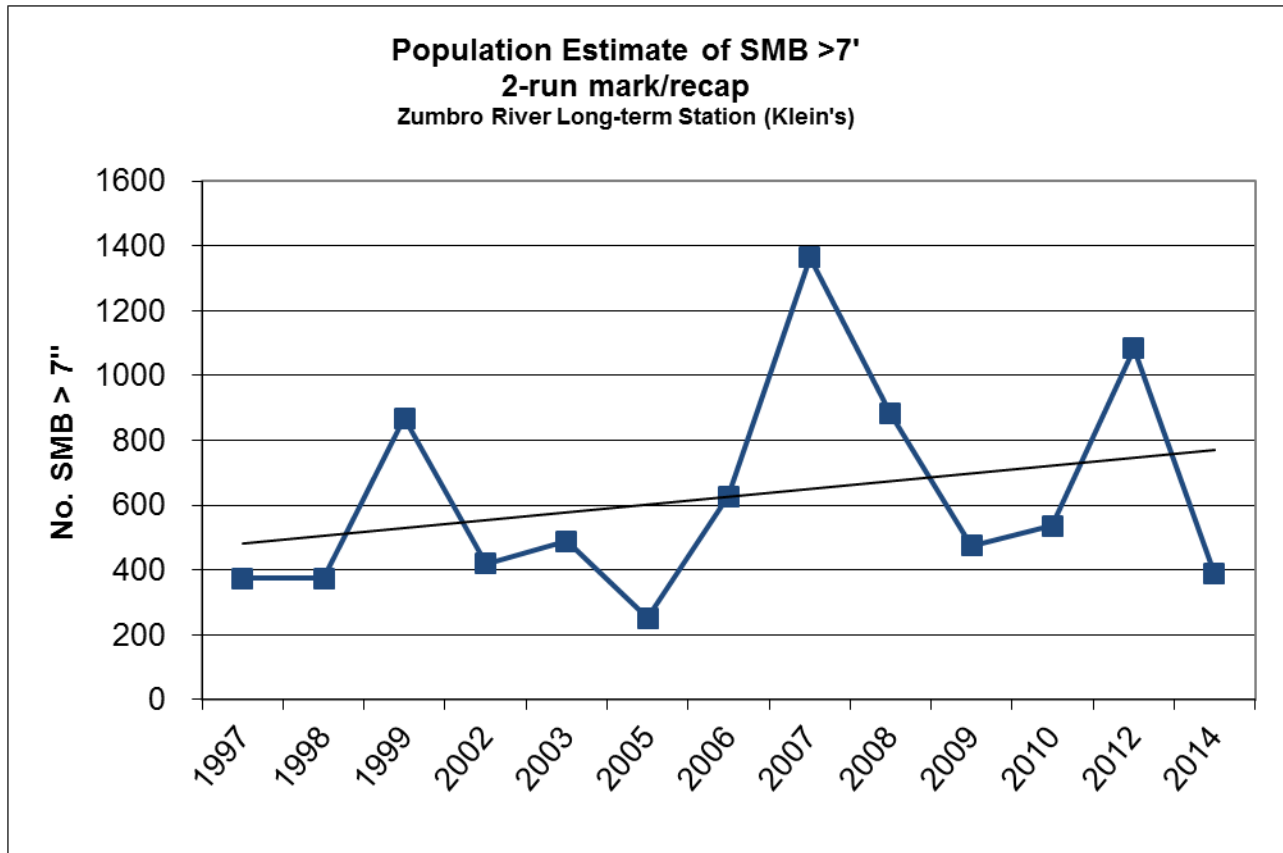


Figure 2. Population estimate of Smallmouth Bass $\geq 11''$ in Klein's station.

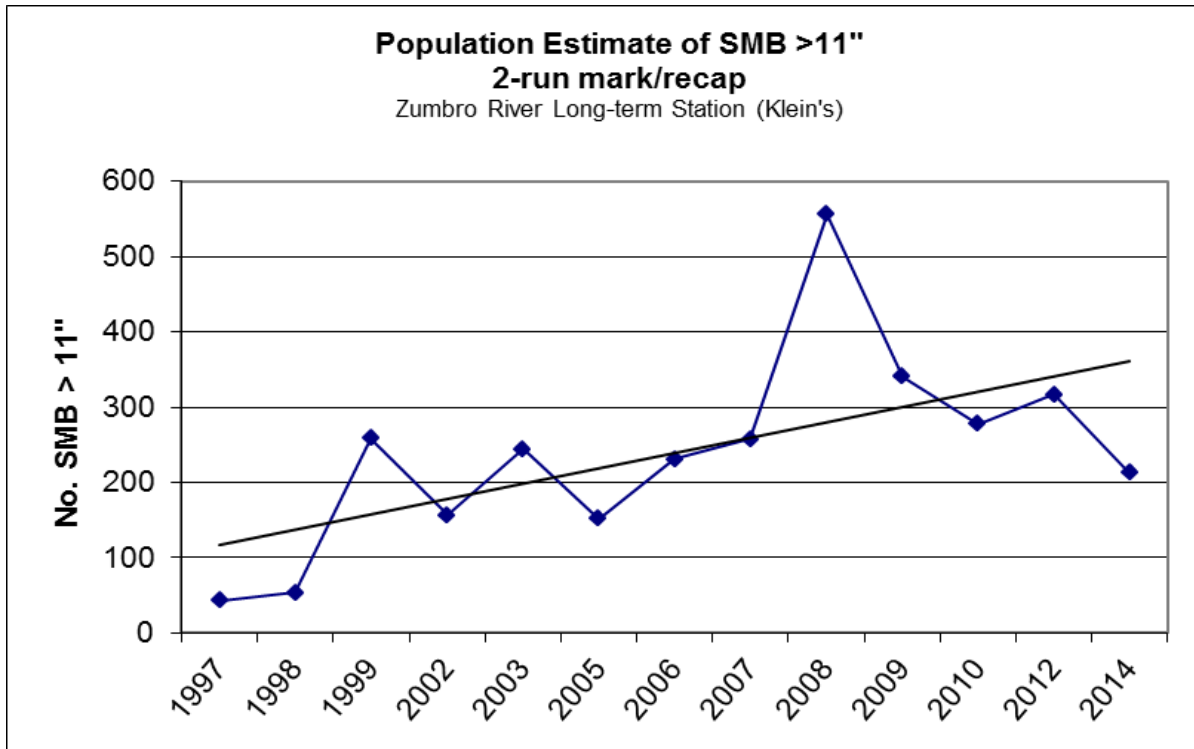
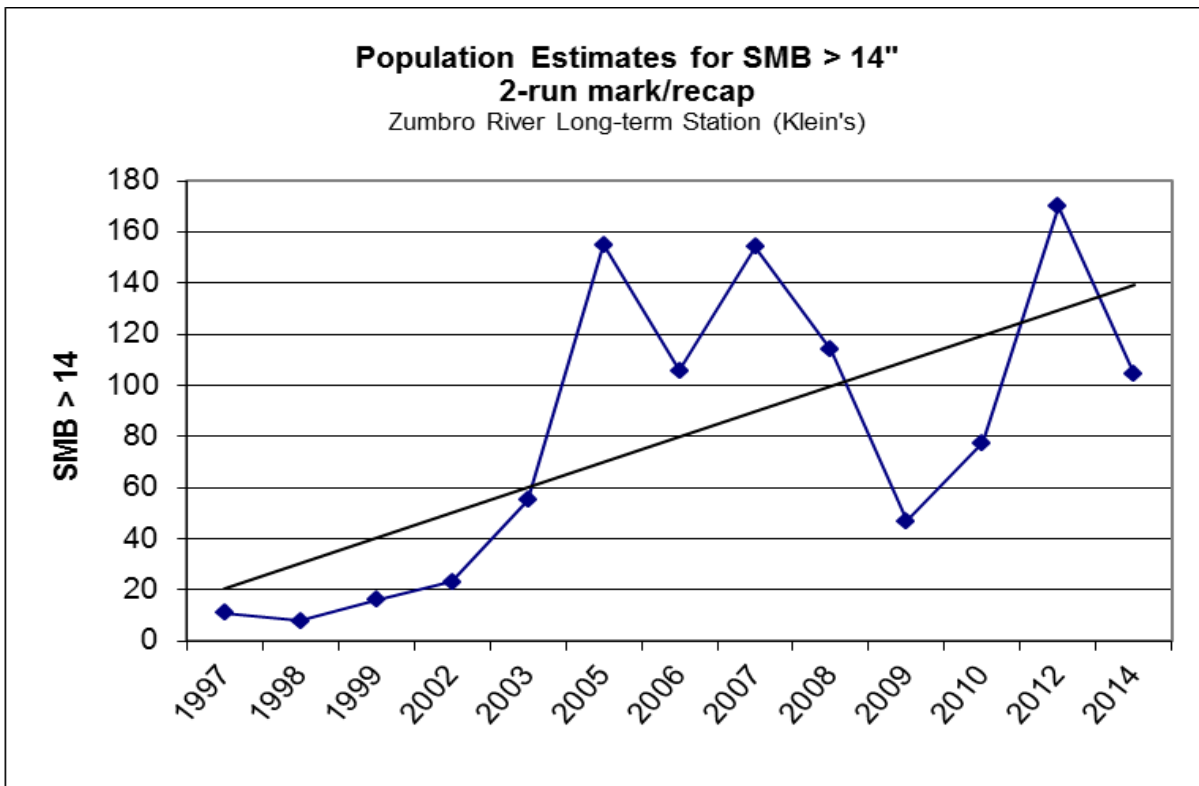



Figure 3. Population estimate of Smallmouth Bass $\geq 14''$ in Klein's station.

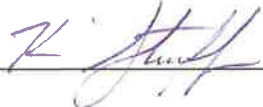



Credits and Signatures:

Field Crew:		
Randy Binder, Dan Dieterman, Nick Schlessler, Daniel Spence		
Report completed by:		
Name:	Title:	Date:
Daniel Spence	Fisheries Specialist	3/3/2015
Approved by:		
Area Fisheries Supervisor's Signature	Regional Fisheries Manager's Signature	Date:
		

Stream: Zumbro River
Tributary: M-34
Survey Year: 2014

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Name:	Title:	Date:
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		5-26-15