



Fish Collection System

Produced: September 27, 2010

Water: Hickory Creek T/R/S: 04S 19W 35 Status: Approved
Primary county: Berrien
Dis. county: Berrien Survey begin: 08/18/1993 end: 08/23/1993
Special regs:
Purpose: General Survey
 Trout evaluation

Gear: stream shocker with 2 probes

Gear type: Stream Shocker Effort date range: 08/18/1993 11:30 - 08/18/1993 13:30
No. of gear used: 1 Effort qty.: 1 Hours Area covered: .59 acres
Coll. site no.: 1 Index site no: T/R/S: 05S 19W 10
Depth range: 3-42" Temperature range: 66°F Sample sites:
Location: Upstream of Glenlord Road 990 feet (5S, 19W, S10)
Cover: Overhanging brush, common; undercut banks, deeper runs, logs - scarce; concrete chunks at lower end of station.
Vegetation: Scarce.
Fish foods: Crayfish & midge larvae, abundant; mayfly, damselfly, & freshwater shrimp, common.
Water clarity: Clear Level: Normal
Conductivity: Electrofishing eff.: Good Temp. stratified:
Weather: Hot and humid Preceding: Hot and humid with rain
Stream length at site: 990 ft. Avg width: 26 ft. Avg depth: 1 ft.
Avg velocity: f/s Surface: f/s Discharge: cfs
Bottom type: Sand, 95%; silt, 4%; gravel, 1%.
Stream riffle: % Pool: % Run: %

Gear type: Stream Shocker Effort date range: 08/18/1993 13:40 - 08/18/1993 14:15
No. of gear used: 1 Effort qty.: 0.6 Hours Area covered: .37 acres
Coll. site no.: 2 Index site no: T/R/S: 05S 19W 22
Depth range: 1-38" Temperature range: 67°F Sample sites:
Location: From bridge at Marquette Woods Road, 630 feet upstream (T5S, R19W, S22)
Cover: Logs and branches - common; undercut banks, overhanging brush, deep runs - scarce.
Vegetation: None
Fish foods: Freshwater shrimp, abundant; caddis and damselfly, common; mayfly, scarce.
Water clarity: Slightly turbid Level: Normal
Conductivity: Good Electrofishing eff.: Good Temp. stratified:
Weather: Cloudy, hot and humid Preceding: Cloudy, hot and humid with rain
Stream length at site: 630 ft. Avg width: 26 ft. Avg depth: 0.83 ft.
Avg velocity: f/s Surface: f/s Discharge: cfs
Bottom type: Sand, 95%; silt, 3%; clay, 2%
Stream riffle: % Pool: % Run: %



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Gear type: Stream Shocker Effort date range: 08/20/1993 10:30 - 08/20/1993 11:00
No. of gear used: 1 Effort qty.: 0.5 Hours Area covered: .33 acres
Coll. site no.: 3 Index site no.: T/R/S: 05S 19W 28
Depth range: 4-42" Temperature range: 66°F Sample sites:
Location: From bridge at Stevensvill-Baroda Road 800 feet upstream (T5S, R19W, S28)
Cover: Logs and branches - common; undercut banks, holes, overhanging brush - scarce.
Vegetation: None observed
Fish foods: Crayfish, caddis, freshwater shrimp - abundant; mayfly and damselfly - scarce.
Water clarity: Slightly turbid Level: Normal
Conductivity: Good Electrofishing eff.: Good Temp. stratified:
Weather: Cloudy and warm Preceding: Hot, humid, scattered thundershowers
Stream length at site: 800 ft. Avg width: 18 ft. Avg depth: 1 ft.
Avg velocity: f/s Surface: f/s Discharge: cfs
Bottom type: Sand, 85%; silt, 10%; gravel, 5%

<u>Stream riffle:</u>	%	<u>Pool:</u>	%	<u>Run:</u>	%
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Gear type: Stream Shocker Effort date range: 08/20/1993 12:55 - 08/20/1993 13:30
No. of gear used: 1 Effort qty.: 0.6 Hours Area covered: .25 acres
Coll. site no.: 4 Index site no.: T/R/S: 06S 19W 03
Depth range: 4-48" Temperature range: 66°F Sample sites:
Location: From Linco Road bridge upstream 700 feet (T6S, R19W, S3)
Cover: Deep runs, holes, and roots - common; logs, branches and undercut banks - scarce.
Vegetation: None observed.
Fish foods: Caddis - abundant; freshwater shrimp and mayfly - common; damselfly - scarce.
Water clarity: Very turbid Level: Normal
Conductivity: Fair Electrofishing eff.: Fair Temp. stratified:
Weather: Partly sunny and warm Preceding: Hot, humid, scattered thundershowers
Stream length at site: 700 ft. Avg width: 16 ft. Avg depth: 2 ft.
Avg velocity: f/s Surface: f/s Discharge: cfs
Bottom type: Sand, 75%; gravel, 15%; silt, 10%.

<u>Stream riffle:</u>	%	<u>Pool:</u>	%	<u>Run:</u>	%
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Gear type: Stream Shocker Effort date range: 08/23/1993 10:25 - 08/23/1993 11:00
No. of gear used: 1 Effort qty.: 0.6 Hours Area covered: .19 acres
Coll. site no.: 5 Index site no.: T/R/S: 06S 19W 11
Depth range: 3-30" Temperature range: 62°F Sample sites:
Location: Upstream from Hinchman Road to deep hole at willow stump on right (T06S, R19W, S11)
Cover: Undercut bank and pools - scarce; overhanging brush - scarce; very limited cover.
Vegetation: Curly leaf, sparse.
Fish foods: Crayfish, abundant; mayfly, scarce; caddis fly, common.
Water clarity: Brownish, very turbid Level: Not noted
Conductivity: Electrofishing eff.: Poor Temp. stratified:
Weather: Overcast Preceding: Sunny and mild
Stream length at site: 570 ft. Avg width: 15 ft. Avg depth: 1.5 ft.
Avg velocity: f/s Surface: f/s Discharge: cfs
Bottom type: Clay, 40%; gravel, 40%; sand, 10%; silt, 9%; boulder, 1%.

<u>Stream riffle:</u>	%	<u>Pool:</u>	%	<u>Run:</u>	%
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Gear type: Stream Shocker Effort date range: 08/23/1993 12:55 - 08/23/1993 13:30
No. of gear used: 1 Effort qty.: 0.6 Hours Area covered: .14 acres
Coll. site no.: 6 Index site no.: T/R/S: 06S 19W 14
Depth range: 3-45" Temperature range: 66°F Sample sites:
Location: Upstream from Lemon Creek to chain link fence at city park (T06S, R19W, S14)
Cover: Overhanging grass and undercut banks - abundant; pools- common; overhanging brush - common.
Vegetation: Curly leaf and watercress.
Fish foods: Caddis fly, abundant; freshwater shrimp, scarce; damselfly, scarce; mayfly, scarce; crayfish, scarce.
Water clarity: Brownish, turbid Level:
Conductivity: Electrofishing eff.: Good Temp. stratified:
Weather: Warm and hazy. Preceding: Clear and mild.
Stream length at site: 450 ft. Avg width: 14 ft. Avg depth: 1.5 ft.
Avg velocity: f/s Surface: f/s Discharge: cfs
Bottom type: Gravel, 30%; rock rubble, 30%; sand, 34%; silt, 10%, boulders, 1%.
Stream riffle: % Pool: % Run: %

Air temperatures		
Reading Datetime	Temperature	Collection/index site no.
08/18/1993 11:30:00	82°F	Coll. site 1
08/18/1993 13:40:00	83°F	Coll. site 2
08/20/1993 10:30:00	75°F	Coll. site 3
08/20/1993 12:55:00	78°F	Coll. site 4
08/23/1993 10:25:00	74°F	Coll. site 5
08/23/1993 12:55:00	81°F	Coll. site 6

Water temperature/oxygen readings						
Date/time	Reading depth	Temperature	Oxygen	pH	Collection/index site no.	SpCond mS/cm
08/18/1993 11:30:00	0'	66°F			Coll. site 1	
08/18/1993 13:40:00	0'	67°F			Coll. site 2	
08/20/1993 10:30:00	0'	66°F			Coll. site 3	
08/20/1993 12:55:00	0'	66°F			Coll. site 4	
08/23/1993 10:25:00	0'	62°F			Coll. site 5	
08/23/1993 12:55:00	0'	66°F			Coll. site 6	



Analysis: Collection site No. 1:

We missed three rainbow trout at 8-10". We also sampled one 28" rainbow (skamania strain) with LP clip. Observed one dead coho approximately 30" - no clips. This section is very sandy and open with limited cover.

Collection site No. 2:

This section is very sandy. The cover is limited to branches and logs with not much else. There is one deep hole at the upper end of station (38").

Collection site No. 3:

We missed two rainbow trout 8-9". We also missed numerous small sculpins. We sampled one rainbow trout (skamania strain) at 31 inches with BVLP clip.

Collection site No. 4:

We missed one rainbow trout - 30+". We also missed numerous small sculpins. The water was extremely turbid!

Collection site No. 5:

Extremely turbid water made for difficult collecting. We observed slight petroleum residue and floating duck weed and leaves. The bottom type was difficult to determine due to turbidity. It feels like clay, gravel and some sand. Habitat doesn't look adequate for fish stocking.

Collection site No. 6:

This section was not quite as turbid as Hinchman Road, but plenty dark in deeper water, making it difficult to determine the bottom type. Habitat too limited for fish stocking.

Analysis by: Jim Dexter, Fisheries Management Biologist

Collection by: Waite, Markham, Armijo

Id. by: Waite, Markham, Armijo



Water: Hickory Creek

Discharge county: Berrien

Survey begin: 08/18/1993 end: 08/23/1993

T/R/S: 04S 19W 35

Survey type: Inland Stream

Status: Approved

Primary purpose: General Survey

Note: Trout evaluation

Gear: No. used	Gear	Common name
1	Stream Shocker	stream shocker with 2 probes

Species	Number	Percent by number	Weight (lb.)	Percent by weight	Length range (in.)*	Average length (in.)	Percent legal size**
Bluegill	3	0.5	0.2	0.2	1-5		0
STRMSHK effort 0.6 Hours	1	0.2	0.0	0.0	1-1	1.5	0
STRMSHK effort 0.6 Hours	1	0.2	0.1	0.1	5-5	5.5	0
STRMSHK effort 0.6 Hours	1	0.2	0.1	0.1	5-5	5.5	0
Blacknose dace	2	0.3	0.0	0.0	2-3		100
STRMSHK effort 0.6 Hours	2	0.3	0.0	0.0	2-3	3.0	100
Brown trout	2	0.3	0.6	0.7	9-9		100
STRMSHK effort 1 Hours	2	0.3	0.6	0.7	9-9	9.5	100
Bullhead Catfishes (Family)	1	0.2	0.0	0.0	7-7		100
STRMSHK effort 0.6 Hours	1	0.2	0.0	0.0	7-7	7.5	100
Burbot	2	0.3	0.1	0.2	6-6		100
STRMSHK effort 0.5 Hours	1	0.2	0.1	0.1	6-6	6.5	100
STRMSHK effort 0.6 Hours	1	0.2	0.1	0.1	6-6	6.5	100
Carp and Minnows (Family)	2	0.3	0.0	0.0	22-25		100
STRMSHK effort 0.6 Hours	2	0.3	0.0	0.0	22-25	24.0	100
Common carp	2	0.3	5.6	6.1	14-20		100
STRMSHK effort 1 Hours	2	0.3	5.6	6.1	14-20	17.5	100
Creek chub	11	1.8	1.3	1.4	5-8		100
STRMSHK effort 0.6 Hours	7	1.1	0.9	1.0	5-7	7.1	100
STRMSHK effort 0.6 Hours	1	0.2	0.2	0.2	8-8	8.5	100
STRMSHK effort 0.6 Hours	3	0.5	0.2	0.2	5-5	5.5	100
Common shiner	3	0.5	0.2	0.3	4-6		100
STRMSHK effort 0.6 Hours	3	0.5	0.2	0.3	4-6	5.5	100



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Species	Number	Percent by number	Weight (lb.)	Percent by weight	Length range (in.)*	Average length (in.)	Percent legal size**
White sucker	79	13.0	37.8	41.3	2-18		100
STRMSHK effort 1 Hours	20	3.3	4.1	4.4	2-15	6.1	100
STRMSHK effort 0.6 Hours	11	1.8	1.5	1.7	4-9	6.7	100
STRMSHK effort 0.5 Hours	18	3.0	6.6	7.2	2-17	8.3	100
STRMSHK effort 0.6 Hours	16	2.6	16.4	18.0	7-18	13.0	100
STRMSHK effort 0.6 Hours	2	0.3	1.4	1.6	10-13	12.0	100
STRMSHK effort 0.6 Hours	12	2.0	7.8	8.5	6-17	10.9	100
Goldfish	1	0.2	0.0	0.0	6-6		100
STRMSHK effort 0.6 Hours	1	0.2	0.0	0.0	6-6	6.5	100
Grass pickerel	28	4.6	1.4	1.6	3-9		100
STRMSHK effort 1 Hours	1	0.2	0.2	0.2	9-9	9.5	100
STRMSHK effort 0.6 Hours	1	0.2	0.1	0.1	6-6	6.5	100
STRMSHK effort 0.5 Hours	9	1.5	0.2	0.2	3-7	4.8	100
STRMSHK effort 0.6 Hours	4	0.7	0.2	0.2	3-7	5.8	100
STRMSHK effort 0.6 Hours	2	0.3	0.1	0.1	6-6	6.5	100
STRMSHK effort 0.6 Hours	11	1.8	0.7	0.8	4-9	6.4	100
Green sunfish	19	3.1	0.5	0.6	1-5		0
STRMSHK effort 1 Hours	1	0.2	0.0	0.0	3-3	3.5	0
STRMSHK effort 0.6 Hours	3	0.5	0.1	0.1	1-5	3.2	0
STRMSHK effort 0.5 Hours	6	1.0	0.1	0.1	1-3	2.5	0
STRMSHK effort 0.6 Hours	5	0.8	0.1	0.1	2-3	3.3	0
STRMSHK effort 0.6 Hours	1	0.2	0.0	0.0	3-3	3.5	0
STRMSHK effort 0.6 Hours	3	0.5	0.2	0.2	3-5	4.2	0
Hybrid Sunfish Hybrid	15	2.5	0.8	0.9	3-5		0
STRMSHK effort 0.5 Hours	3	0.5	0.1	0.1	3-3	3.5	0
STRMSHK effort 0.6 Hours	5	0.8	0.3	0.4	3-5	4.5	0
STRMSHK effort 0.6 Hours	4	0.7	0.2	0.2	3-4	3.8	0
STRMSHK effort 0.6 Hours	3	0.5	0.2	0.2	3-5	4.5	0
Johnny darter	2	0.3	0.0	0.0	2-2		100
STRMSHK effort 0.6 Hours	2	0.3	0.0	0.0	2-2	2.5	100
Logperch	1	0.2	0.0	0.0	2-2		100
STRMSHK effort 1 Hours	1	0.2	0.0	0.0	2-2	2.5	100
Mottled sculpin	397	65.2	4.9	5.3	1-4		100
STRMSHK effort 1 Hours	128	21.0	1.4	1.5	1-4	2.6	100
STRMSHK effort 0.6 Hours	78	12.8	1.2	1.3	1-4	2.8	100



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Mottled sculpin	397	65.2	4.9	5.3	1-4		100
STRMSHK effort 0.5 Hours	100	16.4	0.8	0.9	1-4	2.1	100
STRMSHK effort 0.6 Hours	22	3.6	0.4	0.4	1-4	2.9	100
STRMSHK effort 0.6 Hours	25	4.1	0.2	0.3	1-4	2.1	100
STRMSHK effort 0.6 Hours	44	7.2	0.9	1.0	1-4	2.8	100
Central mudminnow	9	1.5	0.1	0.1	1-3		100
STRMSHK effort 1 Hours	1	0.2	0.0	0.0	3-3	3.5	100
STRMSHK effort 0.6 Hours	3	0.5	0.0	0.0	1-3	2.8	100
STRMSHK effort 0.5 Hours	1	0.2	0.0	0.0	3-3	3.5	100
STRMSHK effort 0.6 Hours	1	0.2	0.0	0.0	2-2	2.5	100
STRMSHK effort 0.6 Hours	3	0.5	0.0	0.0	2-3	3.2	100
Pumpkinseed	1	0.2	0.1	0.1	4-4		0
STRMSHK effort 0.6 Hours	1	0.2	0.1	0.1	4-4	4.5	0
Rainbow darter	7	1.1	0.0	0.0	1-2		100
STRMSHK effort 1 Hours	4	0.7	0.0	0.0	1-2	2.0	100
STRMSHK effort 0.6 Hours	2	0.3	0.0	0.0	1-1	1.5	100
STRMSHK effort 0.5 Hours	1	0.2	0.0	0.0	2-2	2.5	100
Rainbow trout	12	2.0	30.6	33.4	7-31		92
STRMSHK effort 1 Hours	6	1.0	5.9	6.4	8-23	11.3	100
STRMSHK effort 0.6 Hours	2	0.3	0.4	0.4	7-8	8.0	50
STRMSHK effort 0.5 Hours	2	0.3	11.6	12.7	8-31	20.0	100
STRMSHK effort 0.6 Hours	1	0.2	6.0	6.5	25-25	25.5	100
STRMSHK effort 0.6 Hours	1	0.2	6.7	7.4	26-26	26.5	100
Rock bass	1	0.2	0.3	0.3	7-7		100
STRMSHK effort 1 Hours	1	0.2	0.3	0.3	7-7	7.5	100
Shorthead redhorse	4	0.7	6.1	6.6	14-17		100
STRMSHK effort 0.6 Hours	1	0.2	2.1	2.3	17-17	17.5	100
STRMSHK effort 0.6 Hours	3	0.5	3.9	4.3	14-15	14.8	100
Smallmouth bass	2	0.3	0.6	0.7	8-8		0
STRMSHK effort 1 Hours	2	0.3	0.6	0.7	8-8	8.5	0
Trout-perch	1	0.2	0.0	0.0	4-4		100
STRMSHK effort 1 Hours	1	0.2	0.0	0.0	4-4	4.5	100
Warmouth	2	0.3	0.1	0.1	3-4		0
STRMSHK effort 1 Hours	1	0.2	0.1	0.1	4-4	4.5	0



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Species	Number	Percent by number	Weight (lb.)	Percent by weight	Length range (in.)*	Average length (in.)	Percent legal size**
Warmouth	2	0.3	0.1	0.1	3-4		0
STRMSHK effort 0.6 Hours	1	0.2	0.0	0.0	3-3	3.5	0
All species totals:	609		91.4				

* Note some fish may be measured to 0.1 inch, others to inch group: e.g., "5" = 5.0 to 5.9 inches; "12" = 12.0 to 12.9 inches; etc.

** Percent legal or acceptable size for angling.