

Trout Stream Classification Checklist (revised 7/2012)

(This checklist should be completed and accompany any trout stream classification changes. Check the items as appropriate and attach comments if desired.)

Stream name:

Rush River

(if stream is known by another name please list both names with the more common name first)

County: Pierce WBIC: 2440300

Define the portion of the stream to be classified. Please provide both a written description and the coordinate locations of the upstream and downstream beginning and end points.

Pierce / St. Croix County line downstream
to STH 35

This written description should reference permanent, unambiguous landmarks that would allow a person unfamiliar with the area to locate the points (e.g., dams, road crossings, stream confluences, county lines, section lines, township lines)

Please provide coordinate locations in one of three formats:

Longitude/Latitude (Degrees, Minutes, Seconds): 89° 41' 28.7" W, 44° 55' 14.0" N

Longitude/Latitude (Decimal Degrees): -89.691332, 44.920576

WTM91 (easting and northing in meters): 544361, 494173

Upstream point coordinates: -92.409123 44.862273

Downstream point coordinates: -92.328669 44.570198

Classification proposed Class 1

Fish survey (including relative abundance, length distribution, and age structure) and habitat survey completed on water to be classified
Survey on file at what location Baldwin

Water leader has consulted with other Water Division Bureaus, especially for class III waters.
Date 6-14-13 Sent email 6-18-13

Public notice published in local newspaper or other media
Date 7-15-13

Notice sent to all clerks of the county, town, city, or village in which the stream is located
Date 7-16-13

Notice sent to legislators in the affected districts
Date 7-16-13

Notice sent to chairpersons of legislative committees with jurisdiction for natural resources issues
Date 7-16-13

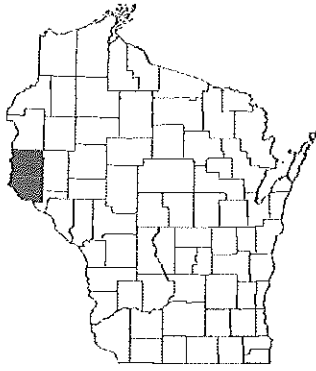
No hearing requested 30 days after public notice

Hearing requested, held, and classification recommended
Date _____

Signed: Author of Checklist Martin P. Engel Date 8-15-13

Fish Team Supervisor Maigwa Date 8/15/2013

Water Leader Don Habel Date 8/15/2013



Stream Classification Report

RUSH RIVER

WBIC: 2440300

Pierce and St. Croix County
Category 4 Trout Fishing Regulation
Class II Trout Stream



STREAM DESCRIPTION:

Length: 27.6 miles of Class II trout water in Pierce Co

and 3.0 miles of Class II trout water in St. Croix Co.

Base Flow Stream Discharge: 3.68cms

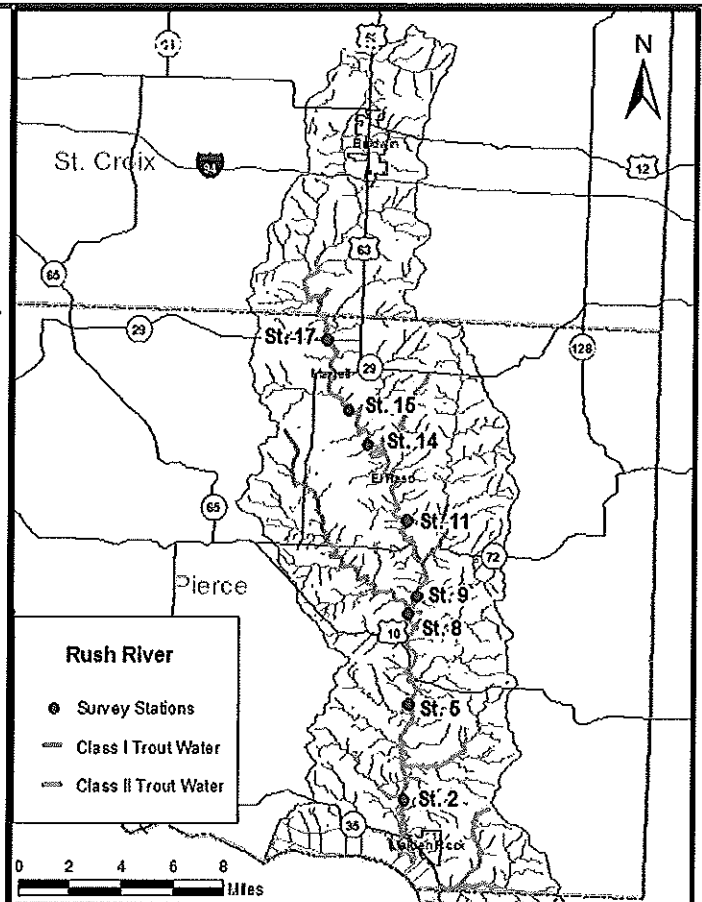
Stream Character: Coldwater

Stream Order: 5

Ecoregion: Western Corn Belt and Driftless Area

The infamous **RUSH RIVER** is one of the most popular trout streams in the State of Wisconsin. The watershed covers approximately 290 square miles in St. Croix, Pierce and Pepin counties. It originates in St. Croix County and flows south for about 31 miles where it enters the Mississippi River in southeastern Pierce county. It drains agricultural and wooded lands with many of its tributaries originating in steep coulees. Lost Creek (WBIC: 2441700) and Cave Creek (WBIC: 2442100) are two major tributaries of the Rush. Numerous smaller tributaries are found along the Rush as well. The Rush River is a large, limestone based trout stream with a base flow of 130 CFS near its mouth.

It is currently classified as a Class II trout stream in Pierce County for 29.7 miles (STH 35 upstream) and the remaining 3 miles of headwater in St. Croix County. The Rush had been dependent on stocking of brown and rainbow trout (fry, small and large fingerling, occasional yearling) to support its fishery from the 1960's through 2007. Trout habitat and cold water temperature regimes have begun to recover around 1990 due to improved farming practices, increased precipitation, stream bank protection and habitat restoration projects. Flash flooding and sedimentation are less of a problem today. Urban growth and manure run off from intensive dairy operations in the headwater areas remain a threat to the resource. The Rush receives heavy fishing pressure throughout the trout season and angler accessibility is very good. An aggressive fishing easement and procurement program began in 2005 with 4.1 miles of stream protected and available for angler use .

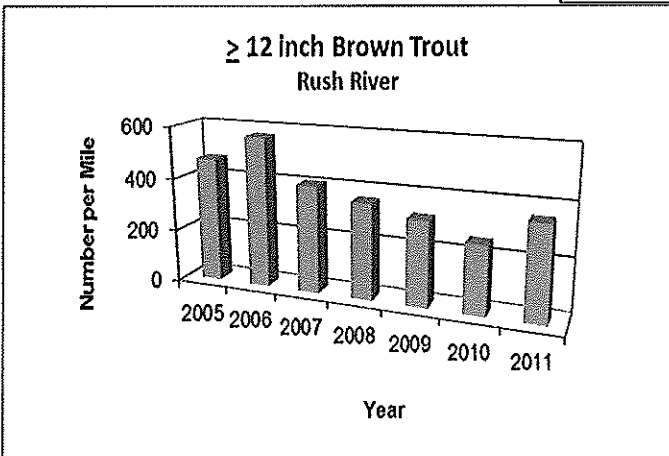
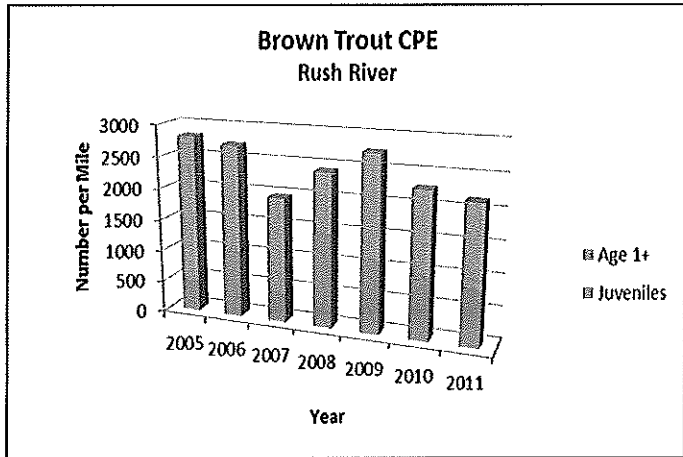


Stocking

The Rush River was stocked with rainbow trout until 2002 and brown trout until 2007 (Table 1). Approximately 55,000 domestic strain spring fingerling and 20,000 fall fingerling brown trout were scatter planted at accessible locations along the main stem annually since 2002. In 1998, 136,000 brown trout fry were stocked and in 1999 10,000 holdover browns were stocked. Engel and Michalek, 2002 noted strong natural reproduction of brown trout from STH 29 (Site 17) downstream to 690th Ave. (Site 14). Spring fingerling stocking were discontinued in 2006 and fall fingerlings were

discontinued in 2007.

Rainbow trout were stocked annually at a rate of 50,000 fry and 5,000 spring or fall fingerlings or yearlings as they were available. Rainbow trout had poor survival in the Rush. In a survey in 2000, a catch rate of 18 rainbow trout per mile (less than 1% of the total trout population) was recorded (Engel and Michalek, 2002). During that year 50,000 fry, 5,000 fall fingerlings and 5,000 yearlings were stocked. Rainbow trout stocking was dis-

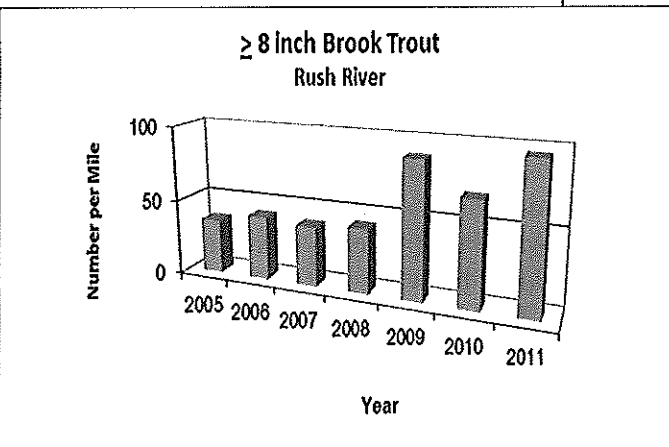
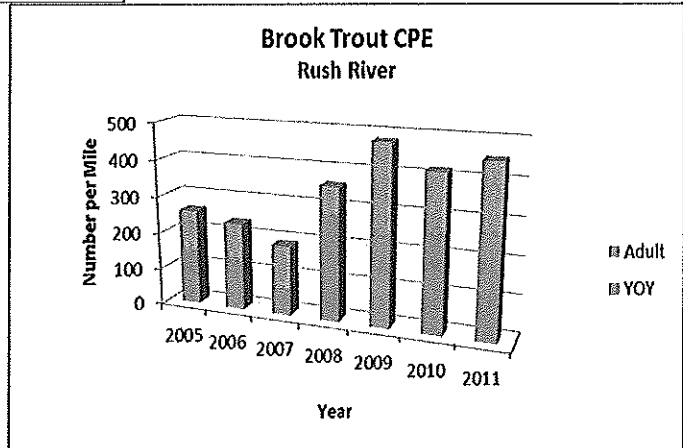


continued in 2002. The Rush currently has a naturally reproducing brown and brook trout fishery.

FISHERY

Eight stations were surveyed annually from 2005 to 2011. All stations were averaged yearly to calculate catch rates. Total catch per unit effort (CPE) varied from 1964 to 2817 brown trout per mile during that time. Total numbers of brown trout

declined only slightly post stocking. Juvenile CPE ranged from 469 to 1498 per mile. Average numbers of juveniles increased by 67%. Age 1+ CPE varied from 918 to 2315 per mile showing a decline of 31% post stocking. Numbers of preferred size brown trout (12 inches and greater) also declined somewhat (33%) post stocking. The Rush has a mean CPE of 390 brown trout per mile



greater than 12 inches. Memorable (15''+) and trophy (18''+) brown trout can still be found in the Rush in good numbers. Browns 15 inches and greater have increased in number by 6% to 36 per mile. Browns 18'' and larger are still to be found in densities of around 2 per mile. The Rush falls into the 98th percentile for large streams in this region for browns 12''+ and the 88th percentile for total

numbers of brown trout. As a stream for memorable trout, the Rush is in the 91st percentile. Brook trout are found in the main stem of the Rush in low densities, with numbers tending to be higher in the vicinity of tributaries. Brook trout have always been self-sustaining in the Rush. Reproductive success has increased since cessation of brown trout stocking. Mean CPE more than doubled from 122 per mile to 268 per mile. Numbers of adults increased as well with brook trout eight inches and greater showing an increase of 91%, from 39 per mile to 74 per mile. The Rush River also ranks fairly well as a brook trout stream. It is in the 93rd percentile for total CPE and in the 73rd percentile for brook trout eight inches and larger compared to other large streams in this ecoregion.

Conclusion

Engel and Holzer, 1992 reported that less than 1% of trout in the Rush River came from natural reproduction and that the Rush was highly dependent on stocking. Engel and Michalek, 2002 noted strong natural reproduction on parts of the Rush River. Stocking was totally discontinued in 2007 and the Rush River has since developed a robust year class structure. Today, brown trout populations appear to be self sustaining and the Rush continues to produce excellent numbers of preferred size (≥ 12 inches), good numbers of memorable (≥ 15 inches) and trophy (≥ 18 inches) size brown trout. In addition, self sustaining brook trout populations are on the rise. The Rush River meets the definition of a Class I trout stream. It has natural reproduction and enough population to fully utilize available food and space. Downstream of STH 35, the Rush doesn't have an appropriate thermal regime or substrate to support trout and is not considered to be trout water.

Recommendations

Based on these findings, it is recommended that the Rush River be reclassified in Pierce County from 29.7 miles of Class II trout water to 29.7 miles of Class I brook and brown trout water. St. Croix County waters remain transitional from warm surface water to coldwater and therefore should remain as Class II trout water for 3.0 miles.

Continue to monitor trout populations through Wadable Streams Tier One sampling program.

Continue to acquire streambank protections through procurement, easements and habitat projects. Continue to work with local clubs and St. Croix, Pierce, and Pepin County Land Conservation Offices on potential instream habitat restoration activities.

Continue to work with county Land Conservation Offices and local Natural Resources Conservation Service (NRCS) office to implement Best Management Practices (BMP's) that reduce flooding, soil erosion, nutrient runoff and increase stormwater infiltration from agricultural fields, Concentrated Animal Feeding Operations (CAFO's), commercial and urban development areas.

Continue to work with local communities in sensitive headwater areas to address rapid urban development and the need for storm water management and expanded sewage treatment facilities in order to prevent pollution, reduce flooding and sedimentation of waterways and to encourage groundwater recharge.

Table 1 Trout stocking in the Rush River, 1997– 2007.

Year	Brown Trout				Rainbow trout			
	Fry	Small Fingerling	Large Fingerling	Yearling	Fry	Small Fingerling	Large Fingerling	Yearling
2007		0	20,004					
2006		55,006	21,000					
2005		55,217	20,000					
2004		58,700	20,400					
2003		54,987	20,000					
2002		52,640	19,998			4,997		
2001		20,000	20,000		50,000			
2000		77,000	20,000		50,000		5,000	5,000
1999		88,750	20,000	10,000	50,000			
1998	136,000	115,350	20,000		50,000		5,000	
1997		20,000	22,000		50,000		5,000	

References

Engel M.P. and J. A. Holzer. 1992. Population Dynamics, Stock Survival and Angling characteristics of the Rush River, a Class II Brown and Rainbow Trout Stream in Pierce County, Wisconsin. WDNR, Madison, Wi.

Engel, Martin P. and William J. Michalek, Jr. 2002. Rush River Watershed Comprehensive Surface Water Resource Report. St. Croix, Pierce and Pepin Counties, Wisconsin. WDNR, Madison, Wi.

For more information on Rush River, you can contact the following persons:

Marty Engel, Senior Fisheries Biologist
Wisconsin DNR

890 Spruce Street
Baldwin, WI 54002

(715) 684-2914 ext. 110
Marty.Engel@wisconsin.gov

Matt Andre, Fisheries Technician
Wisconsin DNR

890 Spruce Street
Baldwin, WI 54002

(715) 684-2914 ext. 136
Matt.Andre@wisconsin.gov