

Appendix 1: Ohio Streams and Rivers Antidegradation Tier Justification, SRW & SHQW

March 26, 2002

**Ohio Environmental Protection Agency
Division of Surface Water
Lazarus Government Center
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Columbus, Ohio 43215**

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH38 14 02-110	<i>Recommended Tier</i> SHQW URM: 59.00 LRM: 42.80 Miles 16.20	ALUM CREEK (HEADWATERS TO WEST BRANCH ALUM CREEK)	This stream segment should be assigned the SHQW tier because of :1) good populations of a key declining species (bigeye chub and brindled madtom), excellent habitat with QHEIs into the 80s, and EWH IBI and ICI scores. It also flow into a reservoir with high recreation use and that is a water supply for Columbus.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
BIGEYE CHUB - Years: 1996, 1997, 2000 - Number Collected: 171	None Endangered Unionids	None Special Concern Fish	--Year:2000----- 42.90 89.0 - 10.00 - Excellent Habitat 45.50 71.0 - 13.70 - 49.90 83.0 - 11.11 - Excellent Habitat	--Year:2000----- 55.30 32 - 49.90 56 - Superior IBI Scores 45.50 47 - Exceptional IBI 42.90 48 - Exceptional IBI	--Year:1996----- 44.00 50 - Exceptional ICI	
BRINDLED MADTOM - Years: 1996 - Number Collected: 2	--Living--Dead--Weathered--Subfossil--Name--- -- None	----- None	55.30 62.5 - 8.06 - --Year:1997----- 45.50 66.5 - 13.70 - --Year:1996----- 42.80 81.0 - 10.00 - Excellent Habitat 44.10 63.0 - 11.49 -	--Year:1996----- 44.10 49 - Exceptional IBI 44.10 49 - Exceptional IBI 42.80 45 - 42.80 45 -		

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Waterbody ID	Segment Description				
OH51 7 11-306	<i>Recommended Tier</i> SHQW URM: 11.02 LRM: 0.00 Miles 11.02	ANDERSON FORK (GROG RUN TO CAESAR CREEK LAKE) Anderson Fork in this reach has sufficient ecological attributes (good populations of declining fish species, [e.g., rosyface shiner], exceptional IBI scores, and good habitat) to warrant a SHQW antidegradation tier.			
Declining Fish ----- ROSYFACE SHINER - Years: 1984, 1988 - Number Collected: 213 ROSEFIN SHINER - Years: 1993, 1998 - Number Collected: 163 VARIEGATE DARTER - Years: 1988 - Number Collected: 1	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- ----- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1998----- 5.00 63.0 - 7.35 - 9.40 74.5 - 13.16 - --Year:1993----- 5.00 75.0 - 7.35 - Excellent Habitat --Year:1984----- 5.00 73.5 - 7.35 -	IBI Values --RM--IBI--Narrative ----- --Year:1998----- 9.40 50 - Exceptional IBI 5.00 40 - --Year:1988----- 1.20 52 - Exceptional IBI ----- --Year:1984-----	ICI Values --RM--ICI--Rating ----- --Year:1998----- 9.50 G - 4.90 36 - --Year:1993----- 5.00 30 - ----- --Year:1984-----

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Waterbody ID	Segment Description					
OH 8 18 06-420	<i>Recommended Tier</i> SHQW URM: 7.46 LRM: 0.00 Miles 7.46	ARCHERS FORK	Archers Fork is a nice stream that has exceptional IBI and ICI scores, populations of two declining fish species (southern redbelly dace, rosyface shiner), and excellent habitat. A SHQW tier is therefore warranted.			
Declining Fish ----- SOUTH. REDBELLY DACE - Years: 2000 - Number Collected: 18 ROSYFACE SHINER - Years: 1986, 2000 - Number Collected: 9	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- ----- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:2000----- 7.40 64.0 - 27.78 - 5.40 67.0 - 13.33 - 1.20 71.5 - 11.11 - --Year:1996----- 0.70 75.5 - 11.02 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:2000----- 7.40 42 - 6.70 40 - 5.40 48 - Exceptional IBI 4.00 40 - 3.10 46 - Exceptional IBI 2.20 56 - Superior IBI Scores 1.90 52 - Exceptional IBI 1.20 56 - Superior IBI Scores 0.70 50 - Exceptional IBI --Year:1996----- 2.20 52 - Exceptional IBI 0.70 46 - Exceptional IBI 0.70 46 - Exceptional IBI --Year:1986----- 2.80 50 - Exceptional IBI --Year:1983----- 2.20 50 - Exceptional IBI 2.20 44 -	ICI Values --RM--ICI--Rating ----- --Year:2000----- 7.40 E - Exceptional ICI 5.00 VG - 2.20 34 - Exceptional ICI 0.10 50 - Exceptional ICI --Year:1996----- 0.70 42 -	

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Waterbody ID	Segment Description
OH25 5 01-410	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;"> <i>Recommended Tier</i> SHQW </div> ARNEY RUN Arney Run has sufficient ecological attributes in its lower reaches (high IBI score, excellent habitat, good population of declining species) to warrant a SHQW antidegradation tier. In addition it flows into Clear Creek, another SHQW water.
URM: 2.20 LRM: 0.00 Miles 2.20	

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
LEAST BROOK LAMPREY - Years: 1995 - Number Collected: 46	None	None	-----	-----	-----
ROSYFACE SHINER - Years: 1995 - Number Collected: 97	Endangered Unionids	Special Concern Fish	--Year:1995-----	--Year:1995-----	--Year:1995-----
	--Living--Dead--Weathered--Subfossil--Name--	-----	0.10 81.0 - 24.00 - Excellent	4.30 38 -	4.30 MG -
	--	None	Habitat	2.20 43 -	3.70 F -
	None		2.20 72.0 - 37.04 -	0.10 53 - Exceptional IBI	0.10 G -
			4.30 36.5 - 6.94 -		

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Waterbody ID	Segment Description					
OH93 5 07-001	<i>Recommended Tier</i> SHQW	ASHTABULA RIVER	The Ashtabula River in its free-flowing reaches has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good populations of several sensitive declining species (rosyface shiner, river and bigeye chub, and mimic shiner), and good-excellent IBI and ICI scores. It also has good-excellent habitat.			
	URM: 27.54 LRM: 2.00 Miles 25.54					
Declining Fish		Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----		-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
LEAST BROOK LAMPREY - Years: 1995 - Number Collected: 2		None	None	-----	-----	-----
BIGEYE CHUB - Years: 1989, 1995 - Number Collected: 269		Endangered Unionids	Special Concern Fish	--Year:1995-----	--Year:1998-----	--Year:1996-----
ROSYFACE SHINER - Years: 1995 - Number Collected: 28		--Living--Dead--Weathered--Subfossil--Name-- --	None	0.30 33.0 - 0.10 -	2.00 0 -	2.50 0 -
MIMIC SHINER - Years: 1983, 1989, 1995 - Number Collected: 1124		None		1.30 45.0 - 0.10 -	1.30 0 -	--Year:1995-----
				2.00 54.5 - 0.10 -	1.10 0 -	25.60 32 -
				3.50 64.0 - 12.50 -	0.30 0 -	19.10 32 -
				6.30 72.5 - 17.54 -	--Year:1995-----	11.90 28 -
				12.10 77.5 - 11.36 - Excellent	19.10 47 - Exceptional IBI	3.60 46 - Exceptional ICI
				Habitat	12.10 41 -	2.50 0 -
				19.10 75.5 - 9.43 - Excellent	6.30 42 -	2.30 0 -
				Habitat	3.50 36 -	1.30 0 -
				27.20 84.5 - 8.55 - Excellent	3.50 36 -	0.80 0 -
				Habitat	2.00 0 -	--Year:1993-----
				--Year:1989-----	2.00 44 -	0.30 0 -
				0.10 53.0 - 0.10 -	1.30 0 -	0.30 0 -
				0.20 58.0 - 0.10 -	1.30 26 -	0.30 0 -
				0.50 35.0 - 0.10 -	0.30 0 -	--Year:1989-----
				1.30 50.5 - 0.10 -	0.30 21 -	10.00 42 -
				1.80 55.0 - 0.10 -	--Year:1993-----	1.90 0 -
				9.90 48.0 - 15.15 -	0.50 0 -	1.30 0 -
				--Year:1983-----	0.50 34 -	0.60 0 -
				27.20 75.5 - 8.55 - Excellent	--Year:1989-----	--Year:1983-----
				Habitat	1.80 0 -	25.90 34 -
					1.30 0 -	
					0.50 0 -	
					0.50 12 -	

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Waterbody ID	Segment Description								
OH70 17 04-100	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><i>Recommended Tier</i> SHQW</td> <td style="padding-left: 20px;">AUGLAIZE RIVER (PUSHETA CREEK TO TWOMILE CREEK)</td> </tr> <tr> <td style="padding-left: 5px;">URM: 77.32</td> <td style="padding-left: 20px;">The lower portion of this reach is given a SHQW tier to provide continuity with and protect the high quality SHQW segment downstream.</td> </tr> <tr> <td style="padding-left: 5px;">LRM: 72.28</td> <td></td> </tr> <tr> <td style="padding-left: 5px;">Miles 5.04</td> <td></td> </tr> </table>	<i>Recommended Tier</i> SHQW	AUGLAIZE RIVER (PUSHETA CREEK TO TWOMILE CREEK)	URM: 77.32	The lower portion of this reach is given a SHQW tier to provide continuity with and protect the high quality SHQW segment downstream.	LRM: 72.28		Miles 5.04	
<i>Recommended Tier</i> SHQW	AUGLAIZE RIVER (PUSHETA CREEK TO TWOMILE CREEK)								
URM: 77.32	The lower portion of this reach is given a SHQW tier to provide continuity with and protect the high quality SHQW segment downstream.								
LRM: 72.28									
Miles 5.04									

Declining Fish	Endangered Fish	Threatened Fish	IBI Values
HORNYHEAD CHUB - Years: 1991, 2000 - Number Collected: 24	None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	None Special Concern Fish ----- None	--RM---IBI---Narrative ----- --Year:2000----- 80.40 49 - Exceptional IBI

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Waterbody ID	Segment Description				
OH70 12 04-100	<i>Recommended Tier</i> SHQW URM: 62.31 LRM: 47.02 Miles 15.29	AUGLAIZE RIVER (SIXMILE CREEK. TO JENNINGS CREEK) This segment of the Auglaize River has improved significantly since 1990 such that IBI scores of 56 are now recorded, and the greater redhorse population is represented by several year classes. This population of greater redhorse represents a significant source population for the rest of the Maumee River basin; therefore a Superior High Quality Water antidegradation tier is warranted.			
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
None	None	GREATER REDHORSE - Years: 1991, 2000	-----	-----	-----
	Endangered Unionids	- Number Collected: 85	--Year:2000-----	--Year:2000-----	--Year:2000-----
	--Living--Dead--Weathered--Subfossil--Name---		61.80 57.0 - 0.73 -	61.80 48 - Exceptional IBI	62.30 44 - Exceptional ICI
	--	Special Concern Fish	58.40 66.0 - 2.53 -	61.80 42 -	58.00 46 - Exceptional ICI
	None	-----	52.70 64.5 - 2.34 -	58.40 48 - Exceptional IBI	52.60 50 - Exceptional ICI
		None	--Year:1991-----	58.40 36 -	--Year:1991-----
			58.40 55.0 - 2.53 -	52.70 52 - Exceptional IBI	58.00 50 - Exceptional ICI
			58.00 57.5 - 2.53 -	52.70 56 - Superior IBI	--Year:1985-----
			52.70 39.5 - 2.34 -	Scores	58.00 32 -
			--Year:1985-----	--Year:1991-----	52.70 28 -
			58.40 79.0 - 2.53 - Excellent	58.40 36 -	
			Habitat	58.00 29 -	
			52.70 71.5 - 2.34 -	52.70 31 -	
				--Year:1985-----	
				58.40 24 -	
				52.70 27 -	

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Waterbody ID	Segment Description					
OH70 13 04-100	<i>Recommended Tier</i> SHQW URM: 72.28 LRM: 62.31 Miles 9.97	AUGLAIZE RIVER (TWO MILE CREEK TO SIX MILE CREEK) This segment of the Auglaize River has improved significantly since 1991 such that IBI scores of 56 are now recorded, and the greater redhorse population is represented by several year classes. Also, several species that were locally extirpated have returned, including the hornyhead chub, a species with a declining statewide distribution. The population of greater redhorse in this stream segment represents a significant source population for the rest of the Maumee River basin; therefore, a Superior High Quality Water antidegradation tier is warranted.				
Declining Fish ----- HORNYHEAD CHUB - Years: 2000 - Number Collected: 6	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- GREATER REDHORSE - Years: 1985, 1986, 1991, 2000 - Number Collected: 51 ----- Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:2000----- 72.20 75.5 - 4.50 - Excellent Habitat 67.30 66.5 - 0.73 - 65.00 45.5 - 0.73 - --Year:1991----- 65.00 47.0 - 0.73 - 63.10 33.5 - 0.73 - --Year:1985----- 67.00 81.5 - 0.73 - Excellent Habitat 63.50 42.0 - 0.73 - 63.30 44.0 - 0.73 -	IBI Values --RM--IBI--Narrative ----- --Year:2000----- 72.20 54 - Superior IBI Scores 67.30 55 - Superior IBI Scores 65.00 46 - Exceptional IBI 65.00 50 - Exceptional IBI 63.10 50 - Exceptional IBI 63.10 54 - Superior IBI Scores --Year:1991----- 65.00 43 - 63.10 37 - --Year:1986----- 63.30 37 - --Year:1985----- 63.50 38 -	ICI Values --RM--ICI--Rating ----- --Year:2000----- 71.40 44 - Exceptional ICI 67.40 48 - Exceptional ICI 65.00 26 - 62.40 44 - Exceptional ICI --Year:1991----- 67.00 46 - Exceptional ICI 63.40 20 - --Year:1985----- 63.10 10 -	

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Waterbody ID	Segment Description					
OH90 10 15-005	<i>Recommended Tier</i> SRW URM: 17.08 LRM: 0.00 Miles 17.08	AURORA BRANCH (SR 82 TO CHAGRIN RIVER)	The Aurora Branch of the Chagrin River has sufficient ecological attributes and a State Scenic River designation that warrant a SRW antidegradation tier. It has good population of four sensitive headwater declining species (redside dace, rosyface shiner, river chub, and least brook lamprey), very high ICI scores and good -excellent habitat.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating	
LEAST BROOK LAMPREY - Years: 1995 - Number Collected: 6	None Endangered Unionids	None Special Concern Fish	--Year:1996----- 14.50 74.5 - 9.52 - 14.70 74.5 - 23.26 -	--Year:1998----- 11.40 12 - --Year:1996----- 14.50 26 -	--Year:1996----- 14.50 VG - --Year:1995----- 17.10 10 -	
RIVER CHUB - Years: 1986, 1990, 1995 - Number Collected: 1745	--Living--Dead--Weathered--Subfossil--Name-- --	None	--Year:1995----- 0.30 79.5 - 17.54 - Excellent Habitat	11.40 28 - 11.40 30 - 11.10 30 - 11.10 30 -	16.60 22 - 12.00 18 - 11.30 8 - 11.00 24 -	
REDSIDE DACE - Years: 1995 - Number Collected: 3	None		3.40 75.0 - 6.54 - Excellent Habitat	9.00 33 - 9.00 34 - --Year:1995----- 12.10 40 -	9.10 48 - Exceptional ICI 5.70 54 - Superior ICI Score 3.50 56 - Superior ICI Score	
ROSYFACE SHINER - Years: 1990, 1994, 1995 - Number Collected: 187			9.00 81.5 - 17.54 - Excellent Habitat	11.30 30 - 11.30 30 - 11.10 38 - 11.10 40 -	3.45 MG - 3.45 MG - 3.40 VG - 1.60 48 - Exceptional ICI	
			--Year:1991----- 9.00 78.0 - 17.54 - Excellent Habitat	9.00 40 - 5.60 38 - 3.50 33 -	0.30 E - Exceptional ICI --Year:1991----- 11.30 40 -	
			11.10 80.0 - 24.39 - Excellent Habitat	3.45 35 - 3.40 38 -	11.14 20 - 11.10 38 -	
			11.20 63.5 - 24.39 - 11.30 78.0 - 24.39 - Excellent Habitat	1.60 40 - 0.30 48 - Exceptional IBI	9.10 48 - Exceptional ICI	
			--Year:1990----- 0.30 76.0 - 17.54 - Excellent Habitat	--Year:1994----- 11.10 36 - 9.00 39 -	--Year:1990----- 8.90 50 - Exceptional ICI 3.50 46 - Exceptional ICI	
			3.30 69.5 - 3.27 - 3.90 79.0 - 17.24 - Excellent	--Year:1991----- 11.30 32 -	3.45 46 - Exceptional ICI 3.40 50 - Exceptional ICI	

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Habitat	11.20	25 -	2.00	54 - Superior ICI Score
9.00	79.5 - 17.54 - Excellent	11.20	25 -	
Habitat	11.10	27 -	0.30	48 - Exceptional ICI
--Year:1986-----	11.10	27 -	--Year:1986-----	
0.30	69.0 - 17.24 -	9.00	36 -	3.80
		9.00	36 -	2.00
		--Year:1990-----		0.30
		9.00	31 -	
		3.90	38 -	
		3.40	37 -	
		3.30	36 -	
		1.60	26 -	
		0.30	42 -	

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Waterbody ID	Segment Description					QHEI Values	IBI Values	ICI Values
OH59 7 14-505	BANTAS FORK	Recommended Tier SRW				--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
		URM: 16.80 LRM: 0.00 Miles 16.80	This is perhaps the highest quality major tributary to Twin Creek and is essential to the maintenance of the high quality fauna in Twin Creek. It consistently has very high IBI and ICI scores and outstanding QHEI scores into the 90s. It has a very high number of declining species for a stream of its size including bigeye chub. This stream would be very vulnerable to changes in water quality and watershed conditions.					
Declining Fish	Endangered Fish	Threatened Fish			Habitat			Habitat
RIVER CHUB - Years: 1986, 1995 - Number Collected: 102	None	None			0.60 84.0 - 14.49 - Excellent	9.50 55 - Superior IBI Scores	9.40 54 - Superior ICI Score	
BIGEYE CHUB - Years: 1995 - Number Collected: 116	Endangered Unionids	Special Concern Fish			1.40 96.5 - 15.87 - Outstanding	1.40 52 - Exceptional IBI	1.30 56 - Superior ICI Score	
ROSYFACE SHINER - Years: 1995 - Number Collected: 24	--Living--Dead--Weathered--Subfossil--Name--	None			9.50 74.0 - 28.57 -	0.60 55 - Superior IBI Scores	0.70 E - Exceptional ICI	
ROSEFIN SHINER - Years: 1995 - Number Collected: 225	None				1.30 88.5 - 15.87 - Excellent	1.30 45 -	0.20 54 - Superior ICI Score	
					9.40 82.0 - 28.57 - Excellent			7.80 VG -
								2.70 VG -
								1.30 VG -

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Waterbody ID	Segment Description				
OH91 26 03-022	<i>Recommended Tier</i> SHQW URM: 9.80 LRM: 0.00 Miles 9.80	BAUGHMAN CREEK	Baughman Creek is good quality creek and has sufficient ecological attributes especially related to a good population of northern brook lamprey, a state endangered species, to warrant a SHQW antidegradation tier.		
Declining Fish ----- NORTH BROOK LAMPREY - Years: 1984, 1995, 1999 - Number Collected: 69 HORNYHEAD CHUB - Years: 1995 - Number Collected: 137	Endangered Fish ----- NORTH BROOK LAMPREY - Years: 1984, 1995, 1999 - Number Collected: 69 Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1995----- 3.00 50.5 - 7.35 - --Year:1984----- 3.00 74.0 - 7.35 -	IBI Values --RM---IBI---Narrative ----- --Year:1999----- 3.30 40 - --Year:1984----- 3.00 38 -	ICI Values --RM---ICI---Rating ----- --Year:1995----- 4.10 50 - Exceptional ICI --Year:1984----- 4.10 50 - Exceptional ICI

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Waterbody ID	Segment Description				
OH44 52 02-650	<i>Recommended Tier</i> SHQW URM: 6.97 LRM: 0.00 Miles 6.97	BEECH FORK	This small stream should be assigned the SHQW tier because of :1) populations of declining species (including rosyface shiner), good habitat, and an EWH IBI score of 58.		
Declining Fish ----- ROSYFACE SHINER - Years: 1992 - Number Collected: 48	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1992----- 1.10 64.0 - 7.52 -	IBI Values --RM--IBI--Narrative ----- --Year:1992----- 1.10 58 - Superior IBI Scores	ICI Values --RM--ICI--Rating ----- No Data

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Waterbody ID	Segment Description					
OH 7 24 06-106	<i>Recommended Tier</i> SHQW URM: 4.00 LRM: 0.00 Miles 13.00	BEND FORK	Bend Fork should be a SHQW in its lowest reaches where habitat is of the highest quality, There it has IBI scores in the high 50s, large numbers of sensitive declining species (river chub, rosyface shiner, vareigate darter and redbside dace) and QHEI scores into the 80s.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
RIVER CHUB - Years: 1983, 1984, 1991 - Number Collected: 673	None	None	--Year:2000----- 12.50 63.0 - 57.14 -	--Year:2000----- 12.30 38 -	--Year:1991----- 0.30 42 -	
REDSIDE DACE - Years: 1983 - Number Collected: 52	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----	--Year:1996----- 12.30 49.5 - 57.14 -	--Year:1991----- 0.60 53 - Exceptional IBI	--Year:1983----- 11.50 F -	
ROSYFACE SHINER - Years: 1984, 1991 - Number Collected: 223	None	None	--Year:1991----- 0.60 84.5 - 15.63 - Excellent	--Year:1983----- 8.40 43 -	8.40 G -	
VAREIGATE DARTER - Years: 1984, 1991 - Number Collected: 101			Habitat --Year:1983----- 0.60 76.5 - 15.63 - Excellent	8.40 43 -	0.70 40 -	
			Habitat 8.40 76.0 - 27.78 - Excellent	0.60 50 - Exceptional IBI	0.40 E - Exceptional ICI	
			Habitat 11.50 42.5 - 28.57 -			
			12.30 52.5 - 57.14 -			

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Waterbody ID	Segment Description											
OH39 22 02-200	<i>Recommended Tier SRW</i> URM: 63.74 LRM: 50.92 Miles 12.82	BIG DARBY CREEK (BUCK RUN TO SUGAR RUN)	see WBID OH39 1 - Although some of the rarer species drop out in these upstream areas, the habitat (QHEIs into the 80s and 90s) and biological integrity of this portion of the stream have strong effects on downstream areas and this area should be protected as a SRW to protect downstream reaches.									
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values							
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating							
HORNYHEAD CHUB - Years: 1981, 1986, 1992, 1993 - Number Collected: 115	None	None	--Year:1997-----	--Year:1997-----	--Year:2000-----							
ROSYFACE SHINER - Years: 1981, 1986, 1992 - Number Collected: 558	Endangered Unionids	Special Concern Fish	51.00 53.0 - 12.05 -	53.20 48 - Exceptional IBI	54.20 50 - Exceptional ICI							
ROSEFIN SHINER - Years: 1981, 1986, 1992, 1993, 1997, - Number Collected: 1354	--Living--Dead--Weathered--Subfossil--Name-- --	RIVER REDHORSE - Years: 1981 - Number Collected: 3	51.90 78.0 - 5.21 - Excellent	51.90 39 -	--Year:1992-----							
BRINDLED MADTOM - Years: 1981, 1986, 1992, 1993, 1997 - Number Collected: 33	1 1 0 0 washboard - Megalonaias nervosa (Rafinesque, 1820) - Years: 86 1 17 0 6 rabbitsfoot - Quadrula cylindrica cylindrica (Say, 1817) - Years: 84, 86 8 130 0 0 northern riffleshell - Epioblasma rangiana (Lea, 1839) - Years: 83, 84, 85, 86, 90		53.20 79.0 - 3.50 - Excellent	51.00 37 -	54.20 50 - Exceptional ICI							
			53.40 51 - Exceptional IBI	53.40 52 - Exceptional IBI	53.10 42 -							
			--Year:1993-----	52.20 52 - Exceptional IBI	--Year:1986-----							
			51.90 81.5 - 5.21 - Excellent	51.90 49 - Exceptional IBI	62.60 50 - Exceptional ICI							
			Habitat	--Year:1992-----	54.20 46 - Exceptional ICI							
			52.20 89.5 - 5.21 - Excellent	54.40 48 - Exceptional IBI	53.90 38 -							
			Habitat	53.90 53 - Exceptional IBI	53.10 50 - Exceptional ICI							
			63.70 67.0 - 8.93 -	53.40 49 - Exceptional IBI	51.30 50 - Exceptional ICI							
			--Year:1992-----	51.60 49 - Exceptional IBI	--Year:1979-----							
			51.60 78.5 - 5.21 - Excellent	--Year:1986-----	58.70 30 -							
			Habitat	55.10 53 - Exceptional IBI	53.10 26 -							
			53.40 80.5 - 3.50 - Excellent	53.80 43 -	51.30 30 -							
			Habitat	53.40 42 -								
			53.90 95.0 - 4.76 - Outstanding	51.80 41 -								
			Habitat	--Year:1981-----								
			54.40 96.0 - 4.76 - Outstanding	62.50 42 -								
			Habitat	59.60 42 -								
			62.50 80.0 - 3.80 - Excellent	55.30 42 -								
			Habitat	54.50 36 -								
			--Year:1986-----	53.20 40 -								
			55.10 78.0 - 3.37 - Excellent	53.10 44 -								
			Habitat	51.50 37 -								
			63.70 66.0 - 8.93 -	51.50 46 - Exceptional IBI								
			--Year:1981-----	--Year:1979-----								
			55.30 85.5 - 3.37 - Excellent	58.80 49 - Exceptional IBI								

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Habitat		54.20	50 - Exceptional IBI
62.50	80.5 - 3.80 - Excellent	53.10	43 -
Habitat		51.50	48 - Exceptional IBI
--Year:1979-----			
54.20	83.0 - 4.76 - Excellent		
Habitat			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description			QHEI Values	IBI Values	ICI Values
OH39 1	BIG DARBY CREEK (DARBYVILLE TO SCIOTO RIVER)	Recommended Tier	SRW	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
02-200		URM:	12.94			
		LRM:	0.00			
		Miles	12.94			
<p>Big Darby is one of the prototypical State Resource Water streams in Ohio. It has frequent IBI and ICI scores in the high 50s, large number of declining species, each with large populations (e.g., we have captured over 840 variegate darters in this reach alone) state endangered and threatened fish (e.g., spotted darter, northern madtom) and unionid species (e.g., washboard, rabbitsfoot), Federally endangered unionid species (northern riffleshell), and QHEI scores in the 80s and 90s. This lowest reach has the greatest accumulation of these attributes in the State as scored by our screening method. Other data collected by ODNR and Columbus Metroparks, but not in our electronic databases, support the SRW ranking. This water is clearly a SRW at a minimum and should be considered for Outstanding National Resource Water. Big Darby Creek is also a State Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs that further justify a State Resource Water antidegradation tier.</p>						
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values	
-----	-----	-----	-----RM--QHEI--Gradient--Narrative	-----RM--IBI--Narrative	-----RM--ICI--Rating	
SILVER LAMPREY - Years: 1997 - Number Collected: 1	NORTHERN MADTOM - Years: 1989, 1992 - Number Collected: 17	BLUEBREAST DARTER - Years: 1981, 1983, 1984, 1988, 1989, - Number Collected: 130	---Year:1997----- 0.30 78.5 - 12.20 - Excellent	---Year:1997----- 2.40 38 -	---Year:1992----- 3.10 54 - Superior ICI Score	
LEAST BROOK LAMPREY - Years: 1997 - Number Collected: 3	SPOTTED DARTER - Years: 1983, 1984, 1988, 1992, 1997 - Number Collected: 85	TIPPECANOE DARTER - Years: 1981, 1983, 1984, 1987, 1988, - Number Collected: 173	Habitat 2.00 69.0 - 2.86 -	2.40 38 -		
STREAMLINE CHUB - Years: 1981, 1983, 1984, 1987, 1989, - Number Collected: 40	Endangered Unionids		2.40 81.5 - 2.86 - Excellent	2.00 56 - Superior IBI Scores		
ROSYFACE SHINER - Years: 1981, 1983, 1984, 1986, 1992, - Number Collected: 81	--Living--Dead--Weathered--Subfossil--Name--	Special Concern Fish	Habitat	2.00 56 - Superior IBI Scores		
ROSEFIN SHINER - Years: 1981, 1988, 1992 - Number Collected: 78	1 1 0 0 washboard -	RIVER REDHORSE - Years: 1979, 1981 - Number Collected: 11	---Year:1993----- 3.30 90.0 - 2.86 - Outstanding	0.30 54 - Superior IBI Scores		
MIMIC SHINER - Years: 1984, 1986, 1989, 1992, 1997 - Number Collected: 116	Megalonaias nervosa (Rafinesque, 1820) - Years: 86		Habitat	0.30 54 - Superior IBI Scores		
NORTHERN MADTOM - Years: 1989, 1992 - Number Collected: 17	1 17 0 6 rabbitsfoot - Quadrula cylindrica cylindrica (Say, 1817) - Years: 84, 86		---Year:1992----- 3.30 90.0 - 2.86 - Outstanding	---Year:1992-----		
BRINDLED MADTOM - Years: 1981, 1983, 1984, 1987, 1988, - Number Collected: 45	8 130 0 0 northern riffleshell -		Habitat	3.30 56 - Superior IBI Scores		
VARIEGATE DARTER - Years: 1979, 1981, 1983, 1984, 1986, - Number Collected: 848	Epioblasma rangiana (Lea, 1839) - Years: 83, 84, 85, 86, 90		---Year:1981----- 3.30 86.5 - 2.86 - Excellent	---Year:1987----- 3.20 42 -		
BLUEBREAST DARTER - Years: 1981, 1983, 1984, 1988, 1989, - Number Collected: 130			Habitat	---Year:1984----- 3.00 52 - Exceptional IBI		
TIPPECANOE DARTER - Years: 1981, 1983, 1984, 1987, 1988, - Number Collected: 173			Habitat	0.10 42 -		
			7.40 81.0 - 3.29 - Excellent	---Year:1981-----		
			Habitat	11.30 46 - Exceptional IBI		
			---Year:1979-----	10.90 43 -		
			3.20 85.5 - 2.86 - Excellent	7.40 42 -		
			Habitat	3.70 48 - Exceptional IBI		
				3.30 41 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

--Year:1979-----

3.20 54 - Superior IBI Scores

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH39 19 02-200	<i>Recommended Tier SRW</i> URM: 44.96 LRM: 34.10 Miles 10.86	BIG DARBY CREEK (FITZGERALD DITCH TO L. DARBY CR.) see WBID OH39 1							
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----				
HORNYHEAD CHUB - Years: 1981, 1988, 1990, 1992, 1993, - Number Collected: 170	SPOTTED DARTER - Years: 1998 - Number Collected: 2	None	38.90 93.0 - 3.97 - Outstanding	34.20 56 - Superior IBI	42.00 E - Exceptional				
STREAMLINE CHUB - Years: 1998 - Number Collected: 10	Endangered Unionids	Special Concern Fish	Habitat	Scores	ICI				
ROSYFACE SHINER - Years: 1981, 1990, 1992, 1993, 1994, - Number Collected: 1027	--Living--Dead--Weathered--Subfossil--Name-- --	RIVER REDHORSE - Years: 1981, 1990, 1993 - Number Collected: 22	39.20 88.0 - 3.97 - Excellent	34.20 56 - Superior IBI	39.20 E - Exceptional				
ROSEFIN SHINER - Years: 1981, 1987, 1990, 1992, 1993, - Number Collected: 219	1 1 0 0 washboard -		Habitat	Scores	ICI				
BRINDLED MADTOM - Years: 1981, 1994, 1997 - Number Collected: 13	Megalonaias nervosa (Rafinesque, 1820) - Years: 86		41.50 65.5 - 5.32 -	--Year:1997-----	--Year:1992-----				
VARIEGATE DARTER - Years: 1988, 1998 - Number Collected: 26	1 17 0 6 rabbitsfoot - Quadrula cylindrica cylindrica (Say, 1817) - Years: 84, 86		Habitat	41.50 50 - Exceptional IBI	42.00 36 -				
	8 130 0 0 northern riffleshell - Epioblasma rangiana (Lea, 1839) - Years: 83, 84, 85, 86, 90		--Year:1994-----	39.20 53 - Exceptional IBI	39.20 34 -				
			41.90 79.0 - 5.32 - Excellent	38.90 52 - Exceptional IBI	--Year:1990-----				
			Habitat	34.10 48 - Exceptional IBI	39.20 42 -				
			43.40 83.5 - 9.80 - Excellent	--Year:1994-----	--Year:1986-----				
			Habitat	43.40 60 - Superior IBI	43.90 36 -				
			44.80 69.5 - 3.45 -	Scores	--Year:1979-----				
			--Year:1993-----	41.90 56 - Superior IBI	44.80 40 -				
			Habitat	Scores	42.00 42 -				
			42.00 87.5 - 7.40 - Excellent	--Year:1993-----	36.30 28 -				
			Habitat	42.00 53 - Exceptional IBI					
			44.80 71.5 - 3.45 -	39.20 56 - Superior IBI					
			--Year:1992-----	Scores					
			39.10 86.5 - 3.97 - Excellent	--Year:1992-----					
			Habitat	39.10 54 - Superior IBI					
			41.90 97.5 - 5.32 - Outstanding	Scores					
			Habitat	--Year:1988-----					
			--Year:1990-----	34.20 52 - Exceptional IBI					
			38.80 84.0 - 3.97 - Excellent	--Year:1981-----					
			Habitat	44.80 46 - Exceptional IBI					
			--Year:1981-----	42.00 49 - Exceptional IBI					
			42.00 82.5 - 7.40 - Excellent	41.80 48 - Exceptional IBI					
			Habitat	36.70 41 -					

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

---Year:1979-----			---Year:1979-----		
41.80	96.0 -	5.32 - Outstanding	41.80	56 -	Superior IBI
Habitat			Scores		
			36.30	48 -	Exceptional IBI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					QHEI Values	IBI Values	ICI Values
OH39 31	BIG DARBY CREEK (HEADWATERS TO SPAIN CREEK)	Declining Fish	Endangered Fish	Threatened Fish	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	
02-200	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p style="text-align: center; margin: 0;"><i>Recommended Tier</i> SRW</p> <p>URM: 83.70</p> <p>LRM: 74.30</p> <p>Miles 9.40</p> </div> <p style="text-align: center; margin-top: 10px;">This reach should be assigned the SRW tier because of its status as a Scenic River.</p>							
		-----	-----	-----	-----	-----	-----	
		LEAST BROOK LAMPREY - Years: 1979, 1981, 1987, 1988, 1989, - Number Collected: 71	None	None	--Year:1999-----	--Year:1999-----	--Year:1997-----	
		HORNYHEAD CHUB - Years: 1979, 1981, 1986, 1987, 1988, - Number Collected: 174	Endangered Unionids	Special Concern Fish	76.60 65.5 - 6.94 -	83.20 50 - Exceptional IBI	83.20 48 - Exceptional ICI	
		SOUTH. REDBELLY DACE - Years: 1986, 1987, 1988, 1990, 1991, - Number Collected: 812	--Living--Dead--Weathered--Subfossil--Name--	None	80.80 68.0 - 19.61 -	82.60 45 -	82.50 40 -	
		ROSYFACE SHINER - Years: 1981, 1985, 1986, 1988, 1989, - Number Collected: 438	1 1 0 0 washboard -		81.50 55.5 - 17.24 -	82.60 44 -	81.50 38 -	
		ROSEFIN SHINER - Years: 1981, 1985, 1986, 1987, 1988, - Number Collected: 1077	Megaloniais nervosa (Rafinesque, 1820) -		82.60 40.0 - 30.30 -	81.50 40 -	79.30 52 - Exceptional ICI	
		BRINDLED MADTOM - Years: 1979, 1981, 1985, 1986, 1987, - Number Collected: 63	Years: 86		--Year:1998-----	81.50 40 -	--Year:1992-----	
			1 17 0 6 rabbitsfoot - Quadrula		80.80 74.0 - 19.61 -	80.80 44 -	79.00 50 - Exceptional ICI	
			cylindrica cylindrica (Say, 1817) - Years: 84, 86		81.50 47.0 - 17.24 -	80.80 44 -	76.50 48 - Exceptional ICI	
			8 130 0 0 northern riffleshell -		82.60 26.0 - 30.30 -	76.60 42 -	--Year:1990-----	
			Epioblasma rangiana (Lea, 1839) - Years: 83, 84, 85, 86, 90		83.20 57.5 - 71.43 -	--Year:1997-----	76.60 54 - Superior ICI Score	
					--Year:1997-----	83.20 48 - Exceptional IBI		
					80.80 60.0 - 19.61 -	82.60 47 - Exceptional IBI	--Year:1988-----	
					80.80 62.0 - 19.61 -	82.60 50 - Exceptional IBI	79.20 G -	
					81.50 52.5 - 17.24 -	81.50 41 -	78.40 F -	
					81.50 47.0 - 17.24 -	81.50 42 -	76.50 G -	
					82.40 51.5 - 52.63 -	81.16 0 -	--Year:1979-----	
					82.50 49.0 - 43.48 -	80.80 41 -	79.30 24 -	
					82.60 41.0 - 30.30 -	80.80 20 -	76.60 30 -	
					82.60 31.0 - 30.30 -	76.60 42 -		
					82.80 30.5 - 31.25 -	--Year:1995-----		
					83.10 50.5 - 50.00 -	76.60 42 -		
					83.20 67.5 - 71.43 -	--Year:1993-----		
					--Year:1994-----	76.60 52 - Exceptional IBI		
					82.50 74.0 - 43.48 -	76.60 46 - Exceptional IBI		
					82.70 75.5 - 30.30 - Excellent	--Year:1992-----		
					Habitat	76.60 43 -		
					--Year:1993-----	76.60 50 - Exceptional IBI		
					76.60 79.0 - 6.94 - Excellent	--Year:1991-----		
					Habitat	76.60 50 - Exceptional IBI		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

76.70	70.5 - 6.94 -	--Year:1990-----
--Year:1992-----		76.60 46 - Exceptional IBI
76.60	71.0 - 6.94 -	--Year:1989-----
79.00	63.5 - 12.20 -	78.50 40 -
--Year:1988-----		78.20 51 - Exceptional IBI
79.30	72.5 - 12.20 -	76.60 48 - Exceptional IBI
--Year: 0-----		76.60 47 - Exceptional IBI
76.60	77.0 - 6.94 - Excellent	--Year:1988-----
Habitat		78.50 34 -
79.20	67.5 - 12.20 -	76.60 48 - Exceptional IBI
79.20	67.5 - 12.20 -	76.60 43 -
		75.70 42 -
		--Year:1987-----
		76.60 48 - Exceptional IBI
		76.60 48 - Exceptional IBI
		--Year:1986-----
		76.60 50 - Exceptional IBI
		--Year:1983-----
		82.60 50 - Exceptional IBI
		82.60 52 - Exceptional IBI
		--Year:1979-----
		79.20 49 - Exceptional IBI
		76.60 52 - Exceptional IBI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description										
OH39 2 02-200	<div style="text-align: center; border-bottom: 1px solid black;"> <i>Recommended Tier SRW</i> </div> <div style="padding: 5px;"> URM: 25.70 LRM: 12.94 Miles 12.76 </div>	BIG DARBY CREEK (HELLBRANCH RUN TO LIZZARD RUN) see WBID OH39 1									
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values						
-----	-----	-----	---RM---QHEI---Gradient---Narrative	---RM---IBI---Narrative	---RM---ICI---Rating						
STREAMLINE CHUB - Years: 1981, 1984, 1987, 1988, 1990, - Number Collected: 106	None	BLUEBREAST DARTER - Years: 1987, 1988, 1992, 1997 - Number Collected: 25	---Year:1997-----	---Year:1997-----	---Year:1993-----						
ROSYFACE SHINER - Years: 1981, 1984, 1987, 1992, 1993, - Number Collected: 175	--Living--Dead--Weathered--Subfossil--Name---	TIPPECANOE DARTER - Years: 1987, 1988, 1992, 1993, 1997 - Number Collected: 48	Habitat 23.80 83.5 - 4.37 - Excellent	Scores 23.80 54 - Superior IBI	25.10 50 - Exceptional ICI 13.40 50 - Exceptional ICI						
ROSEFIN SHINER - Years: 1981, 1984, 1992 - Number Collected: 206	1 1 0 0 washboard - Megalonaias nervosa (Rafinesque, 1820) - Years: 86	Special Concern Fish	Habitat 23.80 95.5 - 6.71 - Outstanding	Scores 13.20 56 - Superior IBI	---Year:1992----- 23.80 42 -						
MIMIC SHINER - Years: 1988, 1990, 1992, 1993, 1997 - Number Collected: 210	1 17 0 6 rabbitsfoot - Quadrula cylindrica cylindrica (Say, 1817) - Years: 84, 86	RIVER REDHORSE - Years: 1979, 1981, 1987, 1988, 1992, - Number Collected: 25	Habitat 23.60 90.5 - 6.71 - Outstanding	Scores 23.60 58 - Superior IBI	19.10 48 - Exceptional ICI 13.50 48 - Exceptional ICI						
BRINDLED MADTOM - Years: 1992 - Number Collected: 2	8 130 0 0 northern riffleshell - Epioblasma rangiana (Lea, 1839) - Years: 83, 84, 85, 86, 90		Habitat 13.50 91.0 - 4.37 - Outstanding	Scores 23.60 55 - Superior IBI	---Year:1990----- 13.40 54 - Superior ICI Score						
VARIEGATE DARTER - Years: 1979, 1981, 1984, 1987, 1988, - Number Collected: 331			Habitat 13.80 80.0 - 4.37 - Excellent	Scores 22.90 55 - Superior IBI	---Year:1988----- 13.40 50 - Exceptional ICI						
BLUEBREAST DARTER - Years: 1987, 1988, 1992, 1997 - Number Collected: 25			Habitat 20.20 98.5 - 4.22 - Outstanding	Scores 20.20 59 - Superior IBI	---Year:1979----- 13.40 50 - Exceptional ICI						
TIPPECANOE DARTER - Years: 1987, 1988, 1992, 1993, 1997 - Number Collected: 48			Habitat 22.90 87.5 - 4.10 - Excellent	Scores 13.50 56 - Superior IBI	25.20 44 - Exceptional ICI 21.70 48 - Exceptional ICI						
			Habitat 23.50 90.5 - 6.71 - Outstanding	Scores ---Year:1988----- 13.40 54 - Superior IBI	13.20 42 - ---Year:1977-----						
			Habitat 23.60 98.0 - 6.71 - Outstanding	Scores 13.20 54 - Superior IBI	13.20 34 -						
			Habitat ---Year:1990----- 13.40 86.5 - 4.37 - Excellent	Scores ---Year:1987----- 21.50 54 - Superior IBI							
			Habitat ---Year:1988----- 13.40 92.0 - 4.37 - Outstanding	Scores ---Year:1981----- 20.20 52 - Exceptional IBI							
			Habitat ---Year:1987----- 24.00 84.5 - 6.71 - Excellent	Scores 24.00 52 - Exceptional IBI 20.20 41 -							

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Habitat				---Year:1979-----
---Year:1979-----	25.00			54 - Superior IBI
25.00	82.5 -	7.87 -	Excellent	Scores
Habitat	21.30			54 - Superior IBI
				Scores

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description										
OH39 7 02-200	<div style="text-align: center; border-bottom: 1px solid black;"> <i>Recommended Tier</i> SRW </div> URM: 34.10 LRM: 25.70 Miles 8.40	BIG DARBY CREEK (L. DARBY CREEK TO HELLBRANCH RUN) see WBID OH39 1									
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values						
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating						
HORNYHEAD CHUB - Years: 1981, 1984, 1985, 1986, 1987, - Number Collected: 48	None	BLUEBREAST DARTER - Years: 1979, 1986, 1987, 1992, 1997 - Number Collected: 22	--Year:1997----- 29.10 63.5 - 4.52 -	--Year:1997----- 34.10 48 - Exceptional IBI	--Year:1992----- 33.50 46 - Exceptional ICI						
STREAMLINE CHUB - Years: 1981, 1985, 1986, 1987, 1988, - Number Collected: 217	--Living--Dead--Weathered--Subfossil--Name-- --	TIPPECANOE DARTER - Years: 1981, 1984, 1985, 1986, 1987, - Number Collected: 69	--Year:1992----- 29.30 94.0 - 4.52 - Outstanding	--Year:1992----- 34.00 51 - Exceptional IBI	--Year:1979----- 27.10 50 - Exceptional ICI						
ROSYFACE SHINER - Years: 1981, 1984, 1985, 1986, 1987, - Number Collected: 265	1 1 0 0 washboard - Megalonaias nervosa (Rafinesque, 1820) -	Special Concern Fish	Habitat 33.20 91.0 - 4.12 - Outstanding	Scores 29.10 45 -							
ROSEFIN SHINER - Years: 1981, 1984, 1986, 1987, 1988, - Number Collected: 134	Years: 86 1 17 0 6 rabbitsfoot - Quadrula	RIVER REDHORSE - Years: 1979, 1981, 1992, 1997 - Number Collected: 28	--Year:1981----- 29.30 83.0 - 4.52 - Excellent	--Year:1992----- 33.20 51 - Exceptional IBI							
MIMIC SHINER - Years: 1987, 1992, 1993, 1997 - Number Collected: 160	cylindrica cylindrica (Say, 1817) - Years: 84, 86 8 130 0 0 northern riffleshell -		Habitat --Year:1979----- 26.70 85.5 - 5.85 - Excellent	--Year:1987----- 33.70 54 - Superior IBI							
BRINDLED MADTOM - Years: 1987, 1993 - Number Collected: 16	Epioblasma rangiana (Lea, 1839) - Years: 83, 84, 85, 86, 90		Habitat 30.10 83.5 - 4.52 - Excellent	Scores --Year:1985----- 33.70 56 - Superior IBI							
VARIEGATE DARTER - Years: 1979, 1981, 1984, 1985, 1986, - Number Collected: 743			Habitat 31.80 80.5 - 5.71 - Excellent	Scores --Year:1981----- 33.60 46 - Exceptional IBI							
BLUEBREAST DARTER - Years: 1979, 1986, 1987, 1992, 1997 - Number Collected: 22				--Year:1979----- 33.60 37 -							
TIPPECANOE DARTER - Years: 1981, 1984, 1985, 1986, 1987, - Number Collected: 69				--Year:1979----- 29.30 45 -							
				--Year:1979----- 31.80 46 - Exceptional IBI							
				--Year:1979----- 30.10 56 - Superior IBI							
				Scores 28.80 50 - Exceptional IBI							
				Scores 26.70 56 - Superior IBI							
				Scores							

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH39 26 02-200	<p style="text-align: center;"><i>Recommended Tier</i> SHQW</p> <p>URM: 74.30 LRM: 63.74 Miles 10.56</p>	BIG DARBY CREEK (SPAIN CREEK TO BUCK RUN)	<p>This reach should be assigned the SHQW tier because of the good populations of declining headwater species. The habitat (QHEIs into the 70s or lower) is not as diverse or intact as downstream reaches and the biota here is not as vulnerable as downstream reaches, which is reflected in the IBI and ICI scores. Because of the importance of this reach to downstream SRW reaches the high quality portions of this reach should be aggressively protected.</p>		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
CREEK CHUBSUCKER - Years: 1979 - Number Collected: 1	None	None	--Year:1993----- 66.00 67.5 - 4.35 -	--Year:1993----- 69.40 56 - Superior IBI	--Year:2000----- 69.40 54 - Superior ICI Score
HORNYHEAD CHUB - Years: 1988, 1989 - Number Collected: 30	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish ----- None	69.40 78.5 - 5.92 - Excellent Habitat	Scores 66.00 54 - Superior IBI	--Year:1992----- 63.80 46 - Exceptional ICI
ROSYFACE SHINER - Years: 1985, 1988, 1989, 1993, 2000 - Number Collected: 227	1 1 0 0 washboard - Megalonaias nervosa (Rafinesque, 1820) -			63.80 48 - Exceptional IBI	--Year:1988----- 74.00 F -
ROSEFIN SHINER - Years: 1988, 1989, 1992, 1993 - Number Collected: 307	Years: 86 1 17 0 6 rabbitsfoot - Quadrula			74.00 52 - Exceptional IBI	--Year:1989----- 71.40 G -
BRINDLED MADTOM - Years: 1992, 1993 - Number Collected: 8	cylindrica cylindrica (Say, 1817) - Years: 84, 86 8 130 0 0 northern riffleshell - Epioblasma rangiana (Lea, 1839) - Years: 83, 84, 85, 86, 90			71.50 50 - Exceptional IBI	--Year:1979----- 71.30 34 -
				66.20 50 - Exceptional IBI	66.10 26 -
				64.00 52 - Exceptional IBI	
				--Year:1988----- 73.90 48 - Exceptional IBI	
				--Year:1979----- 71.40 38 -	
				66.10 54 - Superior IBI	
				Scores	

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Waterbody ID	Segment Description
OH39 21 02-200	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;"> <i>Recommended Tier</i> SRW </div> BIG DARBY CREEK (SUGAR RUN TO FITZGERALD DITCH) see WBID OH39 1
	URM: 50.92 LRM: 44.96 Miles 5.96

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
CREEK CHUBSUCKER - Years: 1993 - Number Collected: 1	None	None			
HORNYHEAD CHUB - Years: 1986, 1993 - Number Collected: 58	Endangered Unionids	Special Concern Fish	--Year:1994----- 45.00 73.5 - 3.45 -	--Year:1994----- 45.00 44 -	--Year:1986----- 49.60 50 - Exceptional ICI
ROSYFACE SHINER - Years: 1986, 1993, 1994 - Number Collected: 123	--Living--Dead--Weathered--Subfossil--Name-- --	None	--Year:1993----- 48.90 96.0 - 4.69 - Outstanding	--Year:1986----- 49.70 41 -	
ROSEFIN SHINER - Years: 1986 - Number Collected: 27	1 1 0 0 washboard - Megalonaias nervosa (Rafinesque, 1820) - Years: 86 1 17 0 6 rabbitsfoot - Quadrula cylindrica cylindrica (Say, 1817) - Years: 84, 86 8 130 0 0 northern riffleshell - Epioblasma rangiana (Lea, 1839) - Years: 83, 84, 85, 86, 90		Habitat	47.00 49 - Exceptional IBI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH27 17 01-130	<i>Recommended Tier</i> SHQW URM: 6.40 LRM: 0.00 Miles 6.40	BIG RUN	This stream and a number of other connected streams in this subwatershed have sufficient attributes to warrant SHQW antidegradation tiers. Most have very high IBI scores, good-excellent habitat, and good populations of declining species including redbside dace, southern redbelly dace, and least brook lampreys. These species undoubtedly move between these small tributaries freely and they should be protected as a group.		
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1995 - Number Collected: 6 REDSIDE DACE - Years: 1995 - Number Collected: 14	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1995----- 0.20 63.0 - 9.43 - 3.90 80.5 - 25.00 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1995----- 3.90 50 - Exceptional IBI 0.20 46 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description																																																																																																									
OH38 1 02-100	<i>Recommended Tier</i> SHQW	BIG WALNUT CREEK (ALUM/BLACKLICK CR. TO SCIOTO R.)																																																																																																								
	URM: 15.30 LRM: 0.00 Miles 15.30	This reach should be assigned the SHQW tier because of :1) good populations of declining species (including river chub, rosyface shiner, streamline chub, brindled madtom), endangered and threatened mussels and excellent habitat with QHEIs into the 80s, and EWH IBI and IBI scores. In addition it is a vital part of an aquatic corridor that connects the many high quality waters in central Ohio (Big Darby Creek, Scioto River, Rocky Fork)																																																																																																								
		<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Declining Fish</th> <th style="width: 20%;">Endangered Fish</th> <th style="width: 20%;">Threatened Fish</th> <th style="width: 20%;">QHEI Values</th> <th style="width: 20%;">IBI Values</th> <th style="width: 20%;">ICI Values</th> </tr> <tr> <td>-----</td> <td>-----</td> <td>-----</td> <td>---RM---QHEI---Gradient---Narrative</td> <td>---RM---IBI---Narrative</td> <td>---RM---ICI---Rating</td> </tr> </thead> <tbody> <tr> <td>SILVER LAMPREY - Years: 2000 - Number Collected: 1</td> <td>None</td> <td>None</td> <td>---</td> <td>---</td> <td>---</td> </tr> <tr> <td>STREAMLINE CHUB - Years: 1991, 1996, 2000 - Number Collected: 37</td> <td>Endangered Unionids</td> <td>Special Concern Fish</td> <td>---Year:2000-----</td> <td>---Year:2000-----</td> <td>---Year:1996-----</td> </tr> <tr> <td>ROSYFACE SHINER - Years: 2000 - Number Collected: 51</td> <td>--Living--Dead--Weathered--Subfossil--Name-- 0 0 0 1 northern riffleshell - Epioblasma rangiana (Lea, 1839) - Years: 84</td> <td>None</td> <td>1.70 84.0 - 5.13 - Excellent Habitat</td> <td>9.50 46 - Exceptional IBI</td> <td>4.20 48 - Exceptional ICI</td> </tr> <tr> <td>MIMIC SHINER - Years: 1991, 1996, 2000 - Number Collected: 25</td> <td></td> <td></td> <td>7.10 83.0 - 2.36 - Excellent Habitat</td> <td>9.50 40 -</td> <td>1.70 VG -</td> </tr> <tr> <td>SLENDERHEAD DARTER - Years: 2000 - Number Collected: 2</td> <td></td> <td></td> <td>---Year:1996-----</td> <td>7.10 48 - Exceptional IBI</td> <td>---Year:1991-----</td> </tr> <tr> <td></td> <td></td> <td></td> <td>1.70 81.5 - 5.13 - Excellent Habitat</td> <td>1.70 52 - Exceptional IBI</td> <td>12.00 46 - Exceptional ICI</td> </tr> <tr> <td></td> <td></td> <td></td> <td>3.80 81.0 - 1.81 - Excellent Habitat</td> <td>---Year:1996-----</td> <td>3.70 50 - Exceptional ICI</td> </tr> <tr> <td></td> <td></td> <td></td> <td>4.20 80.5 - 1.81 - Excellent Habitat</td> <td>1.70 38 -</td> <td>---Year:1986-----</td> </tr> <tr> <td></td> <td></td> <td></td> <td>---Year:1991-----</td> <td>1.70 40 -</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>3.40 63.0 - 1.81 -</td> <td>9.50 48 - Exceptional IBI</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>9.50 67.0 - 2.35 -</td> <td>---Year:1985-----</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>10.80 80.0 - 2.58 - Excellent Habitat</td> <td>7.00 42 -</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>---Year:1980-----</td> <td>---Year:1980-----</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>---Year:1986-----</td> <td>0.50 25 -</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>14.90 62.5 - 5.29 -</td> <td></td> <td></td> </tr> </tbody> </table>	Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values	-----	-----	-----	---RM---QHEI---Gradient---Narrative	---RM---IBI---Narrative	---RM---ICI---Rating	SILVER LAMPREY - Years: 2000 - Number Collected: 1	None	None	---	---	---	STREAMLINE CHUB - Years: 1991, 1996, 2000 - Number Collected: 37	Endangered Unionids	Special Concern Fish	---Year:2000-----	---Year:2000-----	---Year:1996-----	ROSYFACE SHINER - Years: 2000 - Number Collected: 51	--Living--Dead--Weathered--Subfossil--Name-- 0 0 0 1 northern riffleshell - Epioblasma rangiana (Lea, 1839) - Years: 84	None	1.70 84.0 - 5.13 - Excellent Habitat	9.50 46 - Exceptional IBI	4.20 48 - Exceptional ICI	MIMIC SHINER - Years: 1991, 1996, 2000 - Number Collected: 25			7.10 83.0 - 2.36 - Excellent Habitat	9.50 40 -	1.70 VG -	SLENDERHEAD DARTER - Years: 2000 - Number Collected: 2			---Year:1996-----	7.10 48 - Exceptional IBI	---Year:1991-----				1.70 81.5 - 5.13 - Excellent Habitat	1.70 52 - Exceptional IBI	12.00 46 - Exceptional ICI				3.80 81.0 - 1.81 - Excellent Habitat	---Year:1996-----	3.70 50 - Exceptional ICI				4.20 80.5 - 1.81 - Excellent Habitat	1.70 38 -	---Year:1986-----				---Year:1991-----	1.70 40 -					3.40 63.0 - 1.81 -	9.50 48 - Exceptional IBI					9.50 67.0 - 2.35 -	---Year:1985-----					10.80 80.0 - 2.58 - Excellent Habitat	7.00 42 -					---Year:1980-----	---Year:1980-----					---Year:1986-----	0.50 25 -					14.90 62.5 - 5.29 -				
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values																																																																																																					
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STREAMLINE CHUB - Years: 1991, 1996, 2000 - Number Collected: 37	Endangered Unionids	Special Concern Fish	---Year:2000-----	---Year:2000-----	---Year:1996-----																																																																																																					
ROSYFACE SHINER - Years: 2000 - Number Collected: 51	--Living--Dead--Weathered--Subfossil--Name-- 0 0 0 1 northern riffleshell - Epioblasma rangiana (Lea, 1839) - Years: 84	None	1.70 84.0 - 5.13 - Excellent Habitat	9.50 46 - Exceptional IBI	4.20 48 - Exceptional ICI																																																																																																					
MIMIC SHINER - Years: 1991, 1996, 2000 - Number Collected: 25			7.10 83.0 - 2.36 - Excellent Habitat	9.50 40 -	1.70 VG -																																																																																																					
SLENDERHEAD DARTER - Years: 2000 - Number Collected: 2			---Year:1996-----	7.10 48 - Exceptional IBI	---Year:1991-----																																																																																																					
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Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description						
OH38 18 02-100	<i>Recommended Tier</i> SHQW URM: 28.30 LRM: 15.81 Miles 12.49	BIG WALNUT CREEK (ROCKY FORK TO ALUM CREEK) This stream reach should be assigned the SHQW tier because of :1) good populations of declining species (rosyface shiner, mimic shiner, brindled madtom), excellent habitat with frequent QHEIs into the 80s, and EWH IBI and ICI scores. It also serves as an important corridor between the Scioto River and Rocky Fork.					
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values		
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating		
-----	-----	-----	-----	-----	-----		
HORNYHEAD CHUB - Years: 1996 - Number Collected: 3	None	None	15.80 84.5 - 5.29 - Excellent	26.70 52 - Exceptional IBI	27.40 38 -		
ROSYFACE SHINER - Years: 1986, 1991, 1996, 2000 - Number Collected: 89	Endangered Unionids	Special Concern Fish	Habitat 26.70 83.5 - 4.44 - Excellent	15.80 48 - Exceptional IBI	27.00 38 -		
MIMIC SHINER - Years: 1991, 1996, 2000 - Number Collected: 123	0 0 0 1 northern riffleshell - Epioblasma rangiana (Lea, 1839) - Years: 84	None	Habitat 25.70 83.5 - 4.44 - Excellent	26.20 42 -	26.20 42 -		
BRINDLED MADTOM - Years: 1996, 2000 - Number Collected: 32			---Year:1996----- Habitat 25.20 86.5 - 4.44 - Excellent	27.00 44 -	25.60 44 - Exceptional ICI		
			Habitat 25.50 79.0 - 4.44 - Excellent	26.20 37 -	25.50 48 - Exceptional ICI		
			Habitat 25.70 80.5 - 4.44 - Excellent	25.70 52 - Exceptional IBI	25.20 42 -		
			Habitat 26.20 74.5 - 4.44 -	25.50 48 - Exceptional IBI	---Year:1991----- 28.30 38 -		
			Habitat 27.00 80.0 - 5.32 - Excellent	25.50 36 -	26.80 46 - Exceptional ICI		
			Habitat 27.40 83.0 - 5.32 - Excellent	25.20 46 - Exceptional IBI	25.60 38 -		
			---Year:1991----- Habitat 15.80 89.0 - 5.29 - Excellent	25.20 50 - Exceptional IBI	18.40 30 -		
			Habitat 18.40 78.5 - 2.87 - Excellent	22.10 45 -	15.90 44 - Exceptional ICI		
			Habitat 24.90 88.5 - 4.44 - Excellent	24.90 49 - Exceptional IBI	---Year:1986----- 15.90 44 - Exceptional ICI		
			Habitat 27.10 81.0 - 5.32 - Excellent	18.40 46 - Exceptional IBI			
			Habitat 28.30 67.0 - 5.32 -	18.40 42 -			
			---Year:1986----- Habitat 15.80 80.0 - 5.29 - Excellent	15.80 45 -			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH46 51 02-737	<i>Recommended Tier</i> SHQW URM: 3.70 LRM: 0.00 Miles 3.70	BLUE CREEK	A large population of rosyside dace, a state threatened species, a high IBI score, and the downstream SRW Scioto Brush Creek warrant a SHQW antidegradation tier		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
SOUTH. REDBELLY DACE - Years: 1988, 1990, 1997 - Number Collected: 59	None Endangered Unionids	ROSYSIDE DACE - Years: 1990, 1997 - Number Collected: 91	No Data	--Year:1997----- 0.60 48 - Exceptional IBI	No Data
ROSYSIDE DACE - Years: 1990, 1997 - Number Collected: 91	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----		--Year:1988----- 0.60 32 -	
ROSEFIN SHINER - Years: 1986 - Number Collected: 56	None	None			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH27 23 01-151	<i>Recommended Tier</i> SHQW URM: 3.00 LRM: 0.00 Miles 3.00	BRILL RUN	This stream and a number of other connected streams in this subwatershed have sufficient attributes to warrant SHQW antidegradation tiers. Most have very high IBI scores, good-excellent habitat, and good populations of declining species including redbelly dace, southern redbelly dace, and least brook lampreys. These species undoubtedly move between these small tributaries freely and they should be protected as a group.		
Declining Fish ----- SOUTH. REDBELLY DACE - Years: 1995 - Number Collected: 201	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1995----- 0.10 79.5 - 35.09 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1995----- 0.10 56 - Superior IBI Scores	ICI Values --RM--ICI--Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH41 14 02-305	<i>Recommended Tier</i> SHQW URM: 5.30 LRM: 0.00 Miles 10.50	BUSKIRK CREEK	Buskirk Creek should be assigned the SHQW tier because of :1) good populations of declining species (including creek chubsuckers and southern redbelly dace), excellent habitat with QHEIs into the 70s, and EWH IBI and ICI scores.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
CREEK CHUBSUCKER - Years: 1995 - Number Collected: 6	None	None	--Year:1997----- 1.20 79.0 - 8.77 - Excellent	--Year:1997----- 1.20 46 - Exceptional IBI	--Year:1997----- 1.20 E - Exceptional ICI	
SOUTH. REDBELLY DACE - Years: 1995 - Number Collected: 12	--Living--Dead--Weathered--Subfossil--Name-- ----- None	Special Concern Fish ----- None	Habitat --Year:1995----- 2.20 75.5 - 20.00 - Excellent	--Year:1995----- 5.20 32 - 2.20 50 - Exceptional IBI	--Year:1995----- 2.20 50 - Exceptional IBI	
			Habitat 5.20 69.5 - 22.73 -			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description
OH51 1 11-300	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;"> <i>Recommended Tier</i> SHQW </div> CAESAR CREEK (CAESAR CREEK LAKE TO LITTLE MIAMI R) Caesar Creek in this reach has sufficient ecological attributes (good populations of declining fish species, [e.g., rosyface shiner], exceptional IBI and ICI scores, and outstanding habitat) to warrant a SHQW antidegradation tier.
URM: 13.92 LRM: 0.00 Miles 13.92	

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
ROSYFACE SHINER - Years: 1983, 1993, 1998 - Number Collected: 164	None	None	-----	-----	-----
ROSEFIN SHINER - Years: 1993, 1998 - Number Collected: 6	Endangered Unionids	Special Concern Fish	--Year:1998----- 0.20 95.0 - 8.20 - Outstanding	--Year:1998----- 0.20 48 - Exceptional IBI	--Year:1998----- 0.20 VG -
MIMIC SHINER - Years: 1993 - Number Collected: 5	--Living--Dead--Weathered--Subfossil--Name-- --	None	Habitat --Year:1993----- 0.10 81.5 - 8.20 - Excellent	--Year:1983----- 0.10 47 - Exceptional IBI	--Year:1993----- 0.10 F - --Year:1983----- 0.20 G -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description									
OH 7 18 06-100	<i>Recommended Tier</i> SRW <hr/> URM: 18.02 LRM: 0.71 <hr/> Miles 18.02	CAPTINA CREEK (BEND FORK TO SR 7)	Captina Creek should be a SRW down to where it is impounded by the Ohio River, It has frequent IBI scores in the high 50s, large numbers of declining species, each with large populations (e.g., over 250 variegate darters and 2000 rosyface shiners have been captured in this reach alone) and QHEI scores in the 70s.							
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----					
HORNYHEAD CHUB - Years: 1996 - Number Collected: 26	None	None	--Year:1996----- 14.50 73.5 - 9.62 -	--Year:2000----- 17.60 54 - Superior IBI	--Year:1996----- 14.30 44 - Exceptional ICI					
RIVER CHUB - Years: 1987, 1991, 2000 - Number Collected: 964	--Living--Dead--Weathered--Subfossil--Name-- ----- --	Special Concern Fish ----- None	Habitat --Year:1991----- 17.60 76.5 - 11.90 - Excellent	Scores 8.50 52 - Exceptional IBI	--Year:1983----- 17.60 48 - Exceptional ICI					
ROSYFACE SHINER - Years: 1987, 1991, 1996, 2000 - Number Collected: 2137	None	None	6.70 70.0 - 10.00 -	6.70 54 - Superior IBI Scores	12.00 VG -					
MIMIC SHINER - Years: 1991, 1996, 2000 - Number Collected: 67	None	None	17.60 84.5 - 11.90 - Excellent	--Year:1996----- 14.50 52 - Exceptional IBI	--Year:1991----- 3.30 MG -					
BRINDLED MADTOM - Years: 1991 - Number Collected: 105	None	None	Habitat --Year:1983----- 0.70 40.0 - 0.10 -	6.70 54 - Superior IBI Scores	--Year:1983----- 12.00 49 - Exceptional IBI					
VARIEGATE DARTER - Years: 1987, 1991, 1996, 2000 - Number Collected: 253	None	None	3.30 72.0 - 5.12 -	6.70 50 - Exceptional IBI	3.30 55 - Superior IBI Scores					
			6.70 75.5 - 10.00 - Excellent	--Year:1983----- 12.00 49 - Exceptional IBI	6.70 50 - Exceptional IBI					
			Habitat 12.00 69.5 - 11.49 -	3.30 55 - Superior IBI Scores	0.70 42 -					
			14.50 83.5 - 9.62 - Excellent							
			Habitat							

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description									
OH 7 28 06-100	<i>Recommended Tier</i> SRW <hr/> URM: 25.42 LRM: 18.02 <hr/> Miles 7.40	CAPTINA CREEK (NORTH/SOUTH FORKS TO BEND FORK)	Captina Creek should be a SRW tier in this reach. It has frequent IBI scores in the high 50s, large numbers of declining species, each with large populations and QHEI scores in the 70s.							
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----					
RIVER CHUB - Years: 1983, 1984 - Number Collected: 176	None	None	--Year:1996----- 20.50 71.0 - 10.26 -	--Year:2000----- 23.00 52 - Exceptional IBI	--Year:1983----- 23.70 E - Exceptional					
ROSYFACE SHINER - Years: 1984, 1996 - Number Collected: 437	--Living--Dead--Weathered--Subfossil--Name-- ----- --	Special Concern Fish ----- None	--Year:1983----- 20.50 82.5 - 10.26 - Excellent	18.20 52 - Exceptional IBI	ICI					
BRINDLED MADTOM - Years: 1983 - Number Collected: 1	None		Habitat	--Year:1983----- 20.50 57 - Superior IBI	Scores					
VARIEGATE DARTER - Years: 1984, 1996, 2000 - Number Collected: 61										

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH16 13 17-761	<i>Recommended Tier</i> SHQW URM: 9.60 LRM: 0.00 Miles 9.60	CEDAR FORK	Cedar Fork has good populations of declining fish species (including bigeye chub and rosyface shiner), exceptional IBI and ICI scores at multiple sites, and good-excellent habitat that warrants a SHQW antidegradation tier.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating	
LEAST BROOK LAMPREY - Years: 1986, 1998 - Number Collected: 6	None	None	-----	-----	-----	
BIGEYE CHUB - Years: 1998 - Number Collected: 58	Endangered Unionids	Special Concern Fish	--Year:1998-----	--Year:1998-----	--Year:1999-----	
REDSIDE DACE - Years: 1998 - Number Collected: 61	--Living--Dead--Weathered--Subfossil--Name--	None	0.80 66.5 - 10.53 - 3.20 72.0 - 13.51 -	8.00 60 - Superior IBI Scores	8.20 E - Exceptional ICI	
ROSYFACE SHINER - Years: 1998 - Number Collected: 35	None		8.00 76.0 - 23.26 - Excellent Habitat	3.20 46 - Exceptional IBI 0.80 44 -	3.20 VG - 0.80 VG -	
				--Year:1986-----		
				3.20 44 -		
				0.80 38 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description							
OH 5 12 06-203	<i>Recommended Tier</i> SHQW URM: 5.60 LRM: 0.00 Miles 5.60	CEDAR LICK CREEK This stream, albeit with somewhat limited data, has good populations of declining species, superior IBI scores, and excellent habitat that warrant this stream being designated as a SHQW.	Declining Fish ----- RIVER CHUB - Years: 1983 - Number Collected: 3 ROSYFACE SHINER - Years: 1983, 1996 - Number Collected: 29	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1996----- 0.10 77.5 - 13.25 - Excellent Habitat --Year:1983----- 0.10 73.0 - 13.25 - 4.90 54.5 - 133.33 -	IBI Values --RM--IBI--Narrative ----- --Year:1996----- 0.10 58 - Superior IBI Scores --Year:1983----- 0.10 52 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1983----- 5.00 MF - 0.10 E - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description
OH 5 73 06-933	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;"> <i>Recommended Tier</i> SHQW </div> CENTER FORK Center Fork, a coldwater stream, has significant populations of important declining species (rosyface shiner, least brook lamprey, and redbside dace), exceptional IBI and ICI scores, and good habitat and warrants a SHQW tier.
URM: 5.00 LRM: 0.00 Miles 5.00	

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
LEAST BROOK LAMPREY - Years: 1991 - Number Collected: 38	None	None	-----	-----	-----
REDSIDE DACE - Years: 1991 - Number Collected: 11	Endangered Unionids	Special Concern Fish	--Year:1991-----	--Year:1991-----	--Year:1991-----
ROSYFACE SHINER - Years: 1991 - Number Collected: 10	--Living--Dead--Weathered--Subfossil--Name--	-----	0.10 71.0 - 21.98 -	0.10 46 - Exceptional IBI	0.10 48 - Exceptional ICI
	--	None	--Year:1983-----	-----	--Year:1983-----
	None		0.10 72.0 - 21.98 -		0.40 E - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description							
OH90 7 15-001	<i>Recommended Tier</i> SHQW URM: 27.09 LRM: 11.10 Miles 15.99	CHAGRIN RIVER (AURORA BRANCH TO STATE ROUTE 6)						
		This segment of the Chagrin River supports two species with a declining statewide distribution (river chub and rosyface shiner), excellent habitat, and exceptional IBI and ICI scores. The Chagrin River is a State Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs. Consequently, all segments of the Chagrin River having a Scenic River designation are given a State Resource Water antidegradation tier.						
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values		IBI Values		ICI Values	
-----	-----	-----	--RM--QHEI--Gradient--Narrative		--RM--IBI--Narrative		--RM--ICI--Rating	
-----	-----	-----	-----		-----		-----	
RIVER CHUB - Years: 1977, 1985, 1986, 1987, 1995 - Number Collected: 1634	None	None	--Year:1995-----		--Year:1995-----		--Year:1995-----	
ROSYFACE SHINER - Years: 1977, 1985, 1986, 1987, 1995 - Number Collected: 587	Endangered Unionids	Special Concern Fish	13.10	71.0 - 11.76 -	26.50	41 -	26.70	46 - Exceptional ICI
	None	None	19.40	80.5 - 5.81 - Excellent	24.20	45 -	25.50	36 -
	None	None	Habitat		19.40	40 -	13.00	38 -
	None	None	24.20	79.5 - 11.24 - Excellent	13.10	43 -	12.50	38 -
	None	None	Habitat		--Year:1987-----		--Year:1986-----	
	None	None	26.50	85.5 - 16.13 - Excellent	18.20	48 - Exceptional IBI	25.30	46 - Exceptional ICI
	None	None	Habitat		--Year:1986-----		--Year:1986-----	
	None	None			25.20	40 -	13.00	42 -
	None	None			20.80	45 -		
	None	None			12.50	44 -		
	None	None			--Year:1977-----			
	None	None			20.90	40 -		
	None	None			16.80	46 - Exceptional IBI		
	None	None			5.10	36 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH58 25 14-120	<table border="1" style="border-collapse: collapse; width: 150px;"> <tr> <td style="text-align: center; padding: 5px;"><i>Recommended Tier</i> SHQW</td> </tr> <tr> <td style="padding: 5px;">URM: 10.00</td> </tr> <tr> <td style="padding: 5px;">LRM: 0.00</td> </tr> <tr> <td style="padding: 5px;">Miles 10.00</td> </tr> </table> <p style="margin-top: 10px;">CHAPMAN CREEK</p> <p style="margin-top: 10px;">This coldwater stream should be assigned the SHQW tier because of: large populations of declining species (including redbelly dace, and bigeye chub) and good habitat.</p>	<i>Recommended Tier</i> SHQW	URM: 10.00	LRM: 0.00	Miles 10.00
<i>Recommended Tier</i> SHQW					
URM: 10.00					
LRM: 0.00					
Miles 10.00					

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
BIGEYE CHUB - Years: 1984 - Number Collected: 1	None	None	-----	-----	-----
SOUTH. REDBELLY DACE - Years: 1994, 2000 - Number Collected: 349	Endangered Unionids	Special Concern Fish	--Year:2000----- 1.40 75.5 - 28.57 - Excellent Habitat	--Year:2000----- 2.60 36 - 2.10 37 -	--Year:1994----- 4.00 E - Exceptional ICI
REDSIDE DACE - Years: 1994, 2000 - Number Collected: 963	None	None	----- 2.60 75.0 - 17.54 - Excellent Habitat --Year:1994----- 0.90 47.0 - 20.41 - 4.00 57.5 - 26.32 - --Year:1984----- 4.00 80.0 - 26.32 - Excellent Habitat	--Year:1994----- 1.40 41 - 0.90 36 - --Year:1984----- 0.90 36 -	--Year:1984-----

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH25 4 01-400	<i>Recommended Tier</i> SHQW <hr/> URM: 9.52 LRM: 0.00 Miles 9.52	CLEAR CREEK	The lower 10 miles of this stream have sufficient ecological attributes (good populations of sensitive declining species, high IBI and ICI scores) to warrant a SHQW antidegradation tier. In addition, watershed restoration activities in the upper watershed should enhance these attributes.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating	
LEAST BROOK LAMPREY - Years: 1982, 1983, 1995 - Number Collected: 26	None Endangered Unionids	None Special Concern Fish	--Year:1998----- 2.00 80.5 - 4.12 - Excellent Habitat	--Year:1995----- 21.80 44 - 16.30 50 - Exceptional IBI	--Year:1995----- 22.00 P - 14.10 52 - Exceptional ICI	
SOUTH. REDBELLY DACE - Years: 1988, 1995 - Number Collected: 843	--Living--Dead--Weathered--Subfossil--Name-- --	None	2.00 85.5 - 4.12 - Excellent Habitat	14.20 39 - 13.10 42 -	13.10 44 - Exceptional ICI 9.50 54 - Superior ICI Score	
ROSYFACE SHINER - Years: 1983, 1984, 1990, 1995 - Number Collected: 709	None		--Year:1995----- 16.30 58.5 - 6.17 - 14.20 66.5 - 8.55 - 13.10 57.5 - 6.71 - 9.40 68.0 - 8.62 - 7.30 78.0 - 9.02 - Excellent Habitat	9.40 51 - Exceptional IBI 7.30 51 - Exceptional IBI 5.90 48 - Exceptional IBI 5.90 50 - Exceptional IBI 1.90 51 - Exceptional IBI	7.30 54 - Superior ICI Score 5.80 52 - Exceptional ICI 2.10 50 - Exceptional ICI	
BRINDLED MADTOM - Years: 1983, 1984, 1988, 1990, 1995 - Number Collected: 297			--Year:1988----- 13.20 58.0 - 6.71 - --Year:1982----- 14.20 48.0 - 8.55 - 13.10 48.0 - 6.71 - 9.40 70.0 - 8.62 - 7.30 89.5 - 9.02 - Excellent Habitat	--Year:1988----- 14.30 24 - 14.20 30 - 13.20 26 - --Year:1983----- 2.00 39 - --Year:1982----- 14.20 25 - 13.10 26 - 9.40 29 - 7.30 31 - 2.30 35 -	--Year:1990----- 2.00 50 - Exceptional ICI --Year:1988----- 16.10 MG - 14.10 P - 13.10 G - --Year:1984----- 2.10 46 - Exceptional ICI --Year:1983----- 2.10 50 - Exceptional ICI --Year:1982----- 16.10 40 - 14.20 34 - 13.10 40 - 9.50 32 - 2.00 44 - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH43 49 02-540	<i>Recommended Tier</i> SHQW URM: 11.90 LRM: 0.00 Miles 11.90	CLEAR CREEK	Clear Creek should be assigned the SHQW tier because of :1) large populations of declining species (including a very large population of bigeye chub), good habitat, and EWH IBI and ICI scores.			
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1985, 1997 - Number Collected: 27 BIGEYE CHUB - Years: 1985, 1998 - Number Collected: 219	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1998----- 8.30 68.0 - 16.13 - --Year:1997----- 1.70 65.5 - 5.81 - 5.20 62.0 - 11.17 - 6.60 66.0 - 10.87 - 6.80 67.0 - 10.87 - 8.50 72.5 - 16.13 - 8.50 43.5 - 16.13 - --Year:1985----- 0.90 49.0 - 0.10 - 1.70 67.5 - 5.81 - 3.00 62.5 - 5.81 - 5.20 71.0 - 11.17 - 6.60 74.5 - 10.87 - 6.80 77.5 - 10.87 - Excellent Habitat 8.30 70.0 - 16.13 - 8.50 82.5 - 16.13 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1998----- 8.30 54 - Superior IBI Scores --Year:1997----- 6.80 51 - Exceptional IBI 6.60 54 - Superior IBI Scores 5.20 46 - Exceptional IBI 1.70 44 - --Year:1985----- 8.30 54 - Superior IBI Scores 6.80 51 - Exceptional IBI 6.60 23 - 5.20 45 - 3.00 44 - 1.70 39 - 0.90 29 -	ICI Values --RM--ICI--Rating ----- --Year:1997----- 8.50 54 - Superior ICI Score 6.80 56 - Superior ICI Score 6.50 52 - Exceptional ICI 5.30 E - Exceptional ICI 2.20 54 - Superior ICI Score --Year:1985----- 8.20 50 - Exceptional ICI 6.80 26 - 6.60 0 - 5.40 18 - 3.00 20 - 2.00 32 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH43 15 02-522	<i>Recommended Tier</i> SHQW <hr/> URM: 19.90 LRM: 0.00 Miles 19.90	COMPTON CREEK	Compton Creek should be assigned the SHQW tier because of :1) good populations of declining species (including rosyface shiner, rosefin shiner, mimic shiner, and variegate darter), excellent habitat with QHEIs into the 80s, and EWH IBI and ICI scores.			
Declining Fish ----- ROSYFACE SHINER - Years: 1997 - Number Collected: 4 ROSEFIN SHINER - Years: 1997 - Number Collected: 274 MIMIC SHINER - Years: 1997 - Number Collected: 42 VARIEGATE DARTER - Years: 1983, 1997 - Number Collected: 27	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 1.40 83.0 - 8.70 - Excellent Habitat --Year:1983----- 1.40 83.0 - 8.70 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1997----- 1.40 51 - Exceptional IBI --Year:1983----- 1.40 50 - Exceptional ICI	ICI Values --RM--ICI--Rating ----- --Year:1997----- 1.10 50 - Exceptional ICI --Year:1983----- 1.40 50 - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH41 35 02-070	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><i>Recommended Tier</i> SHQW</td> </tr> <tr> <td style="padding: 2px;">URM:</td> <td style="padding: 2px; text-align: right;">8.50</td> </tr> <tr> <td style="padding: 2px;">LRM:</td> <td style="padding: 2px; text-align: right;">0.00</td> </tr> <tr> <td style="padding: 2px;">Miles</td> <td style="padding: 2px; text-align: right;">8.50</td> </tr> </table> <p style="margin-top: 10px;">CONGO CREEK</p> <p style="margin-top: 10px;">Congo Creek should be assigned the SHQW tier because of :1) good populations of declining species (including rosefin shiner, rosyface shiner and creek chubsucker), excellent habitat with QHEIs into the 70s, and EWH IBI scores.</p>	<i>Recommended Tier</i> SHQW		URM:	8.50	LRM:	0.00	Miles	8.50
<i>Recommended Tier</i> SHQW									
URM:	8.50								
LRM:	0.00								
Miles	8.50								

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
CREEK CHUBSUCKER - Years: 1993 - Number Collected: 28	None	None			
ROSYFACE SHINER - Years: 1993 - Number Collected: 16	Endangered Unionids	Special Concern Fish	--Year:1993-----	--Year:1994-----	No Data
ROSEFIN SHINER - Years: 1994 - Number Collected: 81	--Living--Dead--Weathered--Subfossil--Name--	None	0.30 73.5 - 12.50 - 2.20 64.5 - 7.69 - 4.40 73.0 - 11.76 -	2.28 46 - Exceptional IBI 2.27 50 - Exceptional IBI 2.26 41 - 2.25 48 - Exceptional IBI 2.24 48 - Exceptional IBI 2.23 42 - 2.22 49 - Exceptional IBI 2.21 41 -	
	None			--Year:1993----- 2.20 50 - Exceptional IBI 2.20 52 - Exceptional IBI 0.30 55 - Superior IBI Scores	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH93 3 07-100	<i>Recommended Tier</i> SRW	CONNEAUT CREEK (OH./PA. BORDER TO LAKE ERIE)	Conneaut Creek has sufficient ecological attributes to warrant a SRW antidegradation tier. It has good population of five declining species (rosyface shiner, river and bigeye chub, brindled madtom, and mimic shiner), high IBI and ICI scores, and relative abundances of pollution intolerant species exceeding two standard deviation compared to statewide samples of similar sized streams. It also has excellent-outstanding habitat and has impending status as a Scenic River.			
	URM: 23.83 LRM: 0.00 Miles 23.83					
Declining Fish		Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----		-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
RIVER CHUB - Years: 1986, 1989, 1995, 1999 - Number Collected: 258		None	None	-----	-----	-----
BIGEYE CHUB - Years: 1989, 1995, 1999 - Number Collected: 626		--Living--Dead--Weathered--Subfossil--Name--	Special Concern Fish	--Year:1995-----	--Year:1999-----	--Year:1996-----
ROSYFACE SHINER - Years: 1995, 1998, 1999 - Number Collected: 256		None	None	0.50 29.0 - 0.10 - 1.50 44.0 - 0.10 - 12.10 85.5 - 5.59 - Excellent Habitat	23.20 48 - Exceptional IBI 6.80 48 - Exceptional IBI	2.10 0 - 1.00 0 - 0.60 0 -
MIMIC SHINER - Years: 1995, 1999 - Number Collected: 316				23.10 88.0 - 8.93 - Excellent Habitat	0.20 0 - 0.10 0 -	23.30 46 - Exceptional ICI 12.60 46 - Exceptional ICI
BRINDLED MADTOM - Years: 1995, 1999 - Number Collected: 13				--Year:1989-----	--Year:1995-----	5.40 50 - Exceptional ICI
				0.10 56.0 - 0.10 - 0.30 35.0 - 0.10 - 2.10 94.0 - 8.30 - Outstanding Habitat	12.10 48 - Exceptional IBI 1.50 0 - 1.50 30 - 0.50 0 -	2.20 0 - 1.10 0 - 0.50 0 - 0.10 0 -
				6.70 59.0 - 10.53 -	0.50 13 -	--Year:1993-----
					--Year:1993-----	--Year:1989-----
					0.30 0 - 0.30 22 -	6.70 52 - Exceptional ICI 1.30 0 -
					--Year:1989-----	0.40 0 -
					2.10 0 -	--Year:1979-----
					0.30 0 - 0.30 0 - 0.30 14 -	6.70 48 - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH88 11 19-001	<i>Recommended Tier</i> SRW; SHQW <hr/> URM: 83.90 LRM: 56.82 <hr/> Miles 27.08	CUYAHOGA RIVER TROY-BURTON TWP. LINE TO CONGRESS LAKE OUTLET) The Cuyahoga River upstream from US 14 is a Scenic River, and the entire segment has a number of unique ecological attributes, including three declining fish species (rosyface shiner, hornyhead chub, river chub), EWH IBI and ICI scores, excellent habitat, and an endangered mussel species (eastern pondmussel) to warrant a SRW antidegradation tier for the Scenic River portion (23.15 miles), and SHQW tier for the lower 3.93 miles.				
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values	
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	
-----	-----	-----	-----	-----	-----	
HORNYHEAD CHUB - Years: 1984, 1988, 1989, 1991, 1996, - Number Collected: 383	None	None	---Year:2000-----	---Year:2000-----	---Year:1996-----	
RIVER CHUB - Years: 1988, 1989, 1991, 1996, 1999, - Number Collected: 599	Endangered Unionids	Special Concern Fish	64.50 89.0 - 5.62 - Excellent	64.30 47 - Exceptional IBI	75.80 44 - Exceptional ICI	
ROSYFACE SHINER - Years: 1996 - Number Collected: 11	--Living--Dead--Weathered--Subfossil--Name-- 24 17 0 0 eastern pondmussel - Ligumia nasuta (Say, 1817) - Years: 89	None	Habitat	---Year:1996-----	71.70 44 - Exceptional ICI	
			57.50 56.5 - 3.00 -	75.80 38 -	67.60 40 -	
			64.50 85.5 - 5.62 - Excellent	71.70 44 -	64.20 52 - Exceptional ICI	
			Habitat	65.10 47 - Exceptional IBI	57.60 24 -	
			65.10 78.5 - 5.62 - Excellent	64.50 39 -	---Year:1991-----	
			Habitat	57.50 35 -	75.80 40 -	
			71.70 75.5 - 1.69 - Excellent	---Year:1991-----	71.70 46 - Exceptional ICI	
			Habitat	71.70 50 - Exceptional IBI	67.60 48 - Exceptional ICI	
			75.80 69.0 - 1.69 -	67.50 51 - Exceptional IBI	64.20 54 - Superior ICI Score	
			---Year:1991-----	64.50 44 -	---Year:1988-----	
			64.50 83.0 - 5.62 - Excellent	---Year:1989-----	---Year:1988-----	
			Habitat	67.70 46 - Exceptional IBI	64.20 50 - Exceptional ICI	
			67.50 66.0 - 1.61 -	---Year:1988-----	---Year:1984-----	
			71.70 79.0 - 1.69 - Excellent	74.60 46 - Exceptional IBI	64.20 52 - Exceptional ICI	
			Habitat	71.60 48 - Exceptional IBI	57.60 8 -	
			75.80 70.5 - 1.69 -	67.70 40 -		
			---Year:1988-----	64.50 44 -		
			64.50 85.0 - 5.62 - Excellent	64.30 46 - Exceptional IBI		
			Habitat	---Year:1984-----		
			---Year:1984-----	57.60 29 -		
			64.50 82.0 - 5.62 - Excellent			
			Habitat			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH41 18 02-300	<i>Recommended Tier</i> SHQW URM: 41.22 LRM: 29.40 Miles 11.82	DEER CREEK (BRADFORD/SUGAR CREEK TO DEER CR. RES.)	This reach should be assigned the SHQW tier because of :1) good populations of declining species (including rosyface shiner and bluebreast darter), threatened and special concern fish species (bluebreast darter and river redhorse) and excellent habitat with QHEIs into the 80s, and EWH IBI and ICI scores.			
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values	
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	
ROSYFACE SHINER - Years: 1997 - Number Collected: 20	None	BLUEBREAST DARTER - Years: 1997 - Number Collected: 7	-----	-----	-----	
BLUEBREAST DARTER - Years: 1997 - Number Collected: 7	Endangered Unionids	Special Concern Fish	---Year:1997-----	---Year:1997-----	---Year:1997-----	
	--Living--Dead--Weathered--Subfossil--Name--	-----	31.10 85.0 - 6.02 - Excellent	36.40 46 - Exceptional IBI	36.40 46 - Exceptional ICI	
	None	RIVER REDHORSE - Years: 1985, 1997 - Number Collected: 20	Habitat	35.40 56 - Superior IBI	35.40 56 - Superior ICI Score	
			35.40 78.5 - 11.63 - Excellent	Scores		
			Habitat	35.40 42 -	31.10 50 - Exceptional ICI	
			36.40 72.5 - 4.63 -	31.10 45 -		
			---Year:1985-----	---Year:1987-----		
			31.10 78.0 - 6.02 - Excellent	37.50 40 -		
			Habitat	31.10 46 - Exceptional IBI		
			35.40 87.5 - 11.63 - Excellent	---Year:1985-----		
			Habitat	35.40 40 -		
			37.50 57.5 - 3.65 -	31.10 35 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH41 12 02-300	<i>Recommended Tier</i> SHQW <hr/> URM: 23.89 LRM: 16.86 Miles 7.03	DEER CREEK (DEER CREEK DAM TO DRY RUN)	This reach should be assigned the SHQW tier because of :1) good populations of declining species (including variegate darter, bluebreast darter, mimic shiner), excellent habitat with QHEIs into the 70s, and EWH IBI and ICI scores. It is also upstream of other SHQW reaches of Deer Creek.			
Declining Fish ----- MIMIC SHINER - Years: 1997 - Number Collected: 3 VARIEGATE DARTER - Years: 1987 - Number Collected: 3 BLUEBREAST DARTER - Years: 1997 - Number Collected: 23	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- --	Threatened Fish ----- BLUEBREAST DARTER - Years: 1997 - Number Collected: 23 Special Concern Fish ----- RIVER REDHORSE - Years: 1997 - Number Collected: 3	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 21.40 82.0 - 6.33 - Excellent Habitat 23.50 63.5 - 3.09 -	IBI Values --RM---IBI---Narrative ----- --Year:1997----- 23.50 47 - Exceptional IBI 21.40 41 -	ICI Values --RM---ICI---Rating ----- --Year:1997----- 23.50 40 - 21.30 50 - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH41 11 02-300	<i>Recommended Tier</i> SHQW <hr/> URM: 16.86 LRM: 7.21 Miles 9.65	DEER CREEK (DRY RUN TO HAY RUN)	This reach should be assigned the SHQW tier because of :1) good populations of declining species (including variegate darter, bluebreast darter, rosyface shiner and brindled madtom), excellent habitat with QHEIs into the 80s, and EWH IBI and ICI scores.			
Declining Fish ----- SILVER LAMPREY - Years: 1997 - Number Collected: 1 STREAMLINE CHUB - Years: 1997 - Number Collected: 2 ROSYFACE SHINER - Years: 1984, 1986, 1987, 1997 - Number Collected: 32 MIMIC SHINER - Years: 1984 - Number Collected: 1 VARIEGATE DARTER - Years: 1984, 1987, 1997 - Number Collected: 143 BLUEBREAST DARTER - Years: 1986, 1987, 1997 - Number Collected: 134 TIPPECANOE DARTER - Years: 1997 - Number Collected: 12	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- --	Threatened Fish ----- BLUEBREAST DARTER - Years: 1986, 1987, 1997 - Number Collected: 134 TIPPECANOE DARTER - Years: 1997 - Number Collected: 12 Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 11.60 85.0 - 8.20 - Excellent Habitat 11.90 72.0 - 8.20 - 14.80 75.0 - 5.68 - Excellent Habitat	IBI Values --RM---IBI---Narrative ----- --Year:1997----- 14.80 46 - Exceptional IBI 14.10 32 - 11.90 44 - 11.90 48 - Exceptional IBI 11.60 45 - --Year:1987----- 8.80 42 - 8.80 36 - --Year:1984----- 14.80 36 - 8.80 36 -	ICI Values --RM---ICI---Rating ----- --Year:1997----- 14.80 46 - Exceptional ICI 14.10 42 - 11.70 48 - Exceptional ICI --Year:1995----- 14.90 48 - Exceptional ICI 14.10 44 - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH41 7 02-300	<i>Recommended Tier</i> SHQW	DEER CREEK (HAY RUN TO SCIOTO RIVER) This reach should be assigned the SHQW tier because of :1) good populations of declining species (including variegate darter, bluebreast darter, rosyface shiner and tippecanoe darter), excellent habitat with QHEIs into the 70s, and EWH IBI and ICI scores.			
		URM: 7.21 LRM: 0.00 Miles 7.21			
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
STREAMLINE CHUB - Years: 1997 - Number Collected: 6	None	BLUEBREAST DARTER - Years: 1984, 1985, 1987, 1997 - Number Collected: 133	--Year:1997-----	--Year:1997-----	--Year:1997-----
ROSYFACE SHINER - Years: 1984, 1985, 1987, 1997 - Number Collected: 111	Endangered Unionids	TIPPECANOE DARTER - Years: 1985, 1987, 1997 - Number Collected: 37	1.70 75.5 - 5.95 - Excellent Habitat	5.60 47 - Exceptional IBI 1.70 47 - Exceptional IBI	5.80 44 - Exceptional ICI 1.00 VG -
BRINDLED MADTOM - Years: 1983, 1984, 1987, 1997 - Number Collected: 30	None	Special Concern Fish	-----	--Year:1987----- 1.20 36 -	-----
VARIEGATE DARTER - Years: 1983, 1984, 1985, 1987, 1997 - Number Collected: 163		RIVER REDHORSE - Years: 1997 - Number Collected: 3	-----	--Year:1985----- 0.30 36 -	-----
BLUEBREAST DARTER - Years: 1984, 1985, 1987, 1997 - Number Collected: 133				--Year:1984----- 1.80 36 -	
TIPPECANOE DARTER - Years: 1985, 1987, 1997 - Number Collected: 37				1.80 36 - 1.20 36 - 1.20 36 - 0.80 36 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH 8 48 06-444	<i>Recommended Tier</i> SHQW URM: 7.10 LRM: 0.00 Miles 7.10	DISMAL CREEK	Dismal Creek has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good population of two sensitive headwater declining species (southern redbelly dace and redbelly dace) and consistently high IBI scores. It also has very good habitat.		
Declining Fish ----- SOUTH. REDBELLY DACE - Years: 1998, 2000 - Number Collected: 37 REDSIDE DACE - Years: 2000 - Number Collected: 30	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:2000----- 1.80 72.0 - 19.80 -	IBI Values --RM--IBI--Narrative ----- --Year:2000----- 1.80 50 - Exceptional IBI 1.80 50 - Exceptional IBI --Year:1998----- 1.80 48 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH53 16 11-100	<i>Recommended Tier</i> SHQW URM: 20.50 LRM: 8.80 Miles 11.70	E. FK. LITTLE MIAMI (EAST FK LAKE TO STONELICK CR)		This reach of the East Fork Little Miami has sufficient ecological attributes, (including good populations of endangered mussels and the special interest river redbhorse, consistently high ICI scores, some high IBI scores and consistently excellent-outstanding habitat), to warrant a SHQW antidegradation tier.					
Declining Fish ----- ROSEFIN SHINER - Years: 1993, 1998 - Number Collected: 31 SLENDERHEAD DARTER - Years: 1998 - Number Collected: 3	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 1 20 12 0 little spectaclecase - Villosa lienosa (Conrad, 1834) - Years: 90	Threatened Fish ----- None Special Concern Fish ----- RIVER REDHORSE - Years: 1982, 1993 - Number Collected: 26	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1998----- 9.10 90.0 - 5.76 - Outstanding Habitat 11.50 83.5 - 5.76 - Excellent Habitat 12.50 91.0 - 8.20 - Outstanding Habitat 12.70 91.0 - 8.20 - Outstanding Habitat 13.70 90.5 - 8.20 - Outstanding Habitat 14.70 93.0 - 10.99 - Outstanding Habitat 18.30 89.5 - 7.46 - Excellent --Year:1993----- 9.20 89.0 - 5.76 - Excellent Habitat 12.40 87.0 - 7.58 - Excellent Habitat 12.70 83.5 - 7.58 - Excellent Habitat 15.50 86.0 - 10.99 - Excellent Habitat --Year:1982----- 15.50 78.5 - 10.99 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1998----- 18.30 38 - 14.70 42 - 13.70 46 - Exceptional IBI 12.70 46 - Exceptional IBI 12.59 37 - 12.50 44 - 11.50 46 - Exceptional IBI 9.10 34 - --Year:1993----- 12.70 47 - Exceptional IBI 9.20 44 - --Year:1982----- 13.70 45 - 12.20 45 - 10.10 49 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1998----- 19.70 40 - 15.50 52 - Exceptional ICI 13.70 58 - Superior ICI Score 12.70 48 - Exceptional ICI 12.59 G - 12.59 MG - 12.50 44 - Exceptional ICI 11.50 36 - 9.10 56 - Superior ICI Score --Year:1993----- 15.50 54 - Superior ICI Score 13.30 46 - Exceptional ICI 12.70 54 - Superior ICI Score 9.20 54 - Superior ICI Score --Year:1982----- 19.60 36 - 15.40 46 - Exceptional ICI 13.20 48 - Exceptional ICI 11.50 50 - Exceptional ICI 9.10 50 - Exceptional ICI				

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH53 20 11-100	<i>Recommended Tier</i> SHQW URM: 33.90 LRM: 30.10 Miles 3.80	E. FK. LITTLE MIAMI R. (EAST FORK LAKE) The reach of the East Fork Little Miami River upstream from East Fork Lake (RM30.1), has sufficient ecological attributes to warrant a SHQW antidegradation tier.							
Declining Fish ----- None	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 1 20 12 0 little spectaclecase - Villosa lienosa (Conrad, 1834) - Years: 19	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1998----- 30.80 93.5 - 9.09 - Outstanding Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1998----- 30.80 37 -	ICI Values --RM--ICI--Rating ----- --Year:1998----- 30.60 44 - Exceptional ICI				

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description										
OH53 36 11-100	<i>Recommended Tier</i> SHQW URM: 45.18 LRM: 33.90 Miles 11.28	E. FK. LITTLE MIAMI R. (HOWARD RUN TO TODD RUN) This reach of the East Fork Little Miami has sufficient ecological attributes, (including good populations of the declining species slenderhead darter and the special interest river redhorse, consistently high ICI scores, and excellent-outstanding habitat), to warrant a SHQW antidegradation tier.									
Declining Fish ----- ROSEFIN SHINER - Years: 1982, 1984, 1998 - Number Collected: 150 SLENDERHEAD DARTER - Years: 1984, 1998 - Number Collected: 37	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- 1 20 12 0 little spectaclecase - Villosa lienosa (Conrad, 1834) - Years: 90	Threatened Fish ----- None Special Concern Fish ----- RIVER REDHORSE - Years: 1982 - Number Collected: 2	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1998----- 34.70 87.0 - 11.49 - Excellent Habitat 35.10 88.5 - 12.50 - Excellent Habitat 41.10 94.5 - 5.56 - Outstanding Habitat 44.20 89.0 - 3.94 - Excellent Habitat --Year:1984----- 42.30 85.5 - 5.56 - Excellent Habitat --Year:1982----- 35.60 78.0 - 6.13 - Excellent Habitat 41.20 74.5 - 5.56 - 44.10 73.5 - 3.94 -	IBI Values --RM--IBI--Narrative ----- --Year:1998----- 44.20 40 - 41.10 44 - 35.10 45 - 34.70 43 - --Year:1982----- 44.10 43 - 41.20 52 - Exceptional IBI 35.60 55 - Superior IBI Scores 35.60 54 - Superior IBI Scores 34.70 31 -	ICI Values --RM--ICI--Rating ----- --Year:1998----- 44.40 44 - Exceptional ICI 41.10 48 - Exceptional ICI 35.80 44 - Exceptional ICI 34.90 48 - Exceptional ICI --Year:1984----- 41.00 48 - Exceptional ICI --Year:1982----- 44.10 32 - 41.00 44 - Exceptional ICI 35.90 G - 34.90 32 -						

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH53 1 11-100	<i>Recommended Tier</i> SHQW URM: 8.80 LRM: 0.00 Miles 8.80	E. FK. LITTLE MIAMI R. (STONELICK CR. TO L. MIAMI)		This reach of the East Fork Little Miami has sufficient ecological attributes, (including good populations of the endangered mountain madtom and the special interest river redhorse, consistently high ICI scores, and excellent habitat), to warrant a SHQW antidegradation tier.					
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values		IBI Values		ICI Values		
-----	-----	-----	--RM--QHEI--Gradient--Narrative		--RM--IBI--Narrative		--RM--ICI--Rating		
-----	-----	-----	-----		-----		-----		
MOUNTAIN MADTOM - Years: 1993 - Number Collected: 7	MOUNTAIN MADTOM - Years: 1993 - Number Collected: 7	None	--Year:1998-----		--Year:1998-----		--Year:1998-----		
SLENDERHEAD DARTER - Years: 1993, 1998 - Number Collected: 4	Endangered Unionids	RIVER REDHORSE - Years: 1982 - Number Collected: 8	0.80	62.5 - 3.22 -	6.70	46 - Exceptional IBI	6.70	52 - Exceptional ICI	
	--Living--Dead--Weathered--Subfossil--Name--		2.20	67.5 - 3.22 -	5.50	43 -	5.40	50 - Exceptional ICI	
	--		3.70	78.0 - 4.55 - Excellent	5.10	38 -	5.10	42 -	
	1 20 12 0 little spectaclecase -		Habitat		4.84	37 -	4.84	MG -	
	Villosa lienosa (Conrad, 1834) - Years: 90		4.80	78.0 - 4.55 - Excellent	4.80	45 -	4.84	F -	
			Habitat		3.70	46 - Exceptional IBI	4.70	48 - Exceptional ICI	
			5.10	82.5 - 4.55 - Excellent	2.20	39 -	4.20	48 - Exceptional ICI	
			Habitat		0.80	41 -	2.20	34 - Exceptional ICI	
			5.50	79.0 - 4.55 - Excellent	--Year:1993-----		0.80	48 - Exceptional ICI	
			Habitat		4.70	44 -	--Year:1993-----		
			6.70	88.5 - 4.55 - Excellent	1.70	36 -	6.70	46 - Exceptional ICI	
			Habitat		1.40	39 -	4.70	44 - Exceptional ICI	
			--Year:1993-----		--Year:1982-----		1.90	48 - Exceptional ICI	
			1.40	65.0 - 3.52 -	6.60	47 - Exceptional IBI	0.80	50 - Exceptional ICI	
			1.70	70.5 - 3.52 -	4.60	43 -	--Year:1983-----		
			4.70	68.5 - 4.55 -	2.40	40 -	0.80	G -	
			6.60	87.0 - 4.55 - Excellent	0.90	46 - Exceptional IBI	--Year:1982-----		
			Habitat				6.60	52 - Exceptional ICI	
							4.10	48 - Exceptional ICI	
							1.70	44 - Exceptional ICI	
							0.80	42 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH90 6 15-002	<i>Recommended Tier SRW</i> URM: 14.49 LRM: 0.00 Miles 14.49	EAST BRANCH CHAGRIN RIVER (HEATH ROAD TO CHAGRIN RIVER)	The East Branch Chagrin River is ecologically unique in Ohio as it is (or, unfortunately, was) the only large, natural coldwater stream in the state. Fish populations in the East Branch have a relative abundance of pollution intollerant species exceeding three standard deviations of similar-sized streams compared to statewide collections. The East Branch is also a Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs. Consequently, all segments of the Chagrin River having a Scenic River designation are given a State Resource Water antidegradation tier.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating	
BROOK TROUT - Years: 1990 - Number Collected: 1	None Endangered Unionids	BROOK TROUT - Years: 1990 - Number Collected: 1	----- --Year:1993----- 12.40 63.5 - 12.20 - 12.70 60.0 - 12.20 - 12.80 49.5 - 12.20 - 13.90 73.5 - 20.83 - --Year:1990----- 2.40 76.5 - 10.87 - Excellent Habitat 3.70 60.5 - 14.08 - 3.90 79.0 - 14.08 - Excellent	----- --Year:1993----- 13.90 52 - Exceptional IBI 12.40 48 - Exceptional IBI 12.39 44 - 12.38 48 - Exceptional IBI --Year:1990----- 6.60 40 - 3.70 38 - 2.40 45 - --Year:1987----- 14.50 40 -	----- --Year:1990----- 10.30 54 - Superior ICI Score 6.60 50 - Exceptional ICI 3.50 48 - Exceptional ICI 2.40 42 - --Year:1986-----	
RIVER CHUB - Years: 1990, 1993 - Number Collected: 1049	--Living--Dead--Weathered--Subfossil--Name--	Special Concern Fish -----				
REDSIDE DACE - Years: 1990 - Number Collected: 1	None	None				

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH18 7 17-656	<i>Recommended Tier</i> SHQW URM: 4.60 LRM: 0.00 Miles 4.60	EAST BRANCH JELLOWAY CREEK	East Branch Jelloway Creek has sufficient ecological attributes to warrant a SHQW antidegradation tier. This small stream has strong populations of redbelly dace, southern redbelly dace, and least brook lamprey, and exceptional IBI scores with good habitat.		
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1985 - Number Collected: 12 SOUTH. REDBELLY DACE - Years: 1998 - Number Collected: 532 REDSIDE DACE - Years: 1998 - Number Collected: 278	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1998----- 2.30 63.0 - 14.81 - --Year:1985----- 2.30 75.0 - 14.81 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1998----- 2.30 48 - Exceptional IBI --Year:1985----- 2.30 52 - Exceptional IBI 1.10 42 - 0.30 50 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH44 32 02-627	<i>Recommended Tier</i> SHQW URM: 6.50 LRM: 0.00 Miles 6.50	EAST FORK QUEER CREEK	This reach should be assigned the SHQW tier because of :1) populations of declining species (including variegate darter and least brook lamprey), good habitat with QHEIs into the 70s, and an EWH IBI score. Although data is somewhat sparse, variegate darter are an important indicator species tightly linked to SHQW conditions and it flows into another SHQW (Queer Creek).		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
LEAST BROOK LAMPREY - Years: 1992, 1999 - None Number Collected: 20	None	None	--Year:1999-----	--Year:1992-----	--Year:2000-----
REDSIDE DACE - Years: 1999 - Number Collected: 5	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -----	Special Concern Fish -----	2.80 78.0 - 15.38 - Excellent Habitat	0.30 54 - Superior IBI Scores	
VARIEGATE DARTER - Years: 1992 - Number Collected: 3	None	None	--Year:1992----- 0.30 74.5 - 15.38 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description									
OH 5 71 06-931	<i>Recommended Tier</i> SHQW URM: 8.90 LRM: 0.00 Miles 8.90	ELKHORN CREEK	Elkhorn Creek has significant populations of important declining species (variegate darter and redbside dace), high IBI and ICI scores, and excellent habitat and warrants a SHQW tier.							
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----					
LEAST BROOK LAMPREY - Years: 1983, 1991, 1996 - Number Collected: 16	None Endangered Unionids	None Special Concern Fish	--Year:1996----- 6.60 58.0 - 8.26 -	--Year:1996----- 6.60 50 - Exceptional IBI	--Year:1991----- 0.50 48 - Exceptional ICI					
REDSIDE DACE - Years: 1991, 1996 - Number Collected: 37	--Living--Dead--Weathered--Subfossil--Name-- --	None	--Year:1991----- 0.50 59.0 - 8.26 -	--Year:1991----- 0.50 46 - Exceptional IBI	--Year:1983----- 6.80 E - Exceptional ICI					
VARIEGATE DARTER - Years: 1991 - Number Collected: 24	None		--Year:1983----- 0.50 76.0 - 8.26 - Excellent Habitat 6.60 82.5 - 30.30 - Excellent Habitat	--Year:1983----- 0.50 34 -	0.20 E - Exceptional ICI					

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH27 19 01-131	<i>Recommended Tier</i> SHQW URM: 2.20 LRM: 0.00 Miles 2.20	ELLIS RUN	This stream and a number of other connected streams in this subwatershed have sufficient attributes to warrant SHQW antidegradation tiers. Most have very high IBI scores, good-excellent habitat, and good populations of declining species including redbelly dace, southern redbelly dace, and least brook lampreys. These species undoubtedly move between these small tributaries freely and they should be protected as a group.		
Declining Fish ----- SOUTH. REDBELLY DACE - Years: 1995 - Number Collected: 194	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1995----- 0.50 64.0 - 60.61 -	IBI Values --RM--IBI--Narrative ----- --Year:1995----- 0.50 54 - Superior IBI Scores	ICI Values --RM--ICI--Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH27 33 01-100	<i>Recommended Tier</i> SHQW URM: 16.21 LRM: 11.25 Miles 4.96	FEDERAL CREEK (HYDE FORK TO MCDOUGALL BRANCH) see other Federal Creek segment							
Declining Fish ----- None	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1990----- 11.40 81.5 - 8.30 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1990----- 11.40 45 -	ICI Values --RM--ICI--Rating ----- --Year:1990----- 11.70 46 - Exceptional ICI				

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH27 14 01-100	<i>Recommended Tier</i> SHQW URM: 11.25 LRM: 0.00 Miles 11.25	FEDERAL CREEK (MCDUGALL BRANCH TO HOCKING RIVER) This reach has sufficient ecological attributes including good populations of declining and special interest species (e.g., sand darter), high ICI score and excellent habitat, to warrant a SHQW antidegradation tier.			
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1984 - Number Collected: 5 MIMIC SHINER - Years: 1984 - Number Collected: 1 BRINDLED MADTOM - Years: 1990 - Number Collected: 26 EASTERN SAND DARTER - Years: 1990 - Number Collected: 11	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- None Special Concern Fish ----- EASTERN SAND DARTER - Years: 1990 - Number Collected: 11	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1990----- 1.30 75.5 - 2.57 - Excellent Habitat --Year:1984----- 1.30 74.0 - 2.57 -	IBI Values --RM---IBI---Narrative ----- --Year:1990----- 1.30 43 -	ICI Values --RM---ICI---Rating ----- --Year:1990----- 0.90 54 - Superior ICI Score ----- --Year:1984----- 0.90 38 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH65 27 04-405	<i>Recommended Tier</i> SHQW URM: 36.00 LRM: 29.37 Miles 6.63	FISH CREEK (HEADWATERS TO OH./IND. BORDER)	This reach of Fish Creek is assigned a SHQW antidegradation tier to maintain continuity with downstream reaches.		
Declining Fish ----- None	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 3 4 0 0 northern riffleshell - Epioblasma rangiana (Lea, 1839) - Years: 19	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year: 92----- 30.50 42.5 - 7.14 -	IBI Values --RM--IBI--Narrative ----- --Year:1992----- 30.50 44 -	ICI Values --RM--ICI--Rating ----- --Year:1992----- 30.50 F -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					QHEI Values	IBI Values	ICI Values
OH65 26	FISH CREEK (OH./IND. BORDER TO ST. JOSEPH RIVER)	Declining Fish	Endangered Fish	Threatened Fish	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	
04-405	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p style="text-align: center; margin: 0;"><i>Recommended Tier</i> SRW</p> <p>URM: 5.57</p> <p>LRM: 0.00</p> <p>Miles 5.57</p> </div>					<p>Fish creek has sufficient ecological attributes to warrant a SRW antidegradation tier. The presence of state and federally endangered mussel species make this stream vulnerable to changes in water quality and habitat and justify the more restrictive SRW tier.</p>		
		-----	-----	-----	-----			
		HORNYHEAD CHUB - Years: 1991 - Number Collected: 26	None	None	-----			
		RIVER CHUB - Years: 1989, 1991, 1992, 1993, 1994, - Number Collected: 443	Endangered Unionids	Special Concern Fish	--Year:1999-----	--Year:1997-----	--Year:1997-----	
		ROSYFACE SHINER - Years: 1989, 1991, 1992, 1994, 1995, - Number Collected: 36	--Living--Dead--Weathered--Subfossil--Name--	-----	0.40 63.5 - 2.67 -	5.40 42 -	5.40 40 -	
		BRINDLED MADTOM - Years: 1989, 1991, 1992, 1995, 1997 - Number Collected: 13	11 111 33 1 clubshell -	None	2.40 78.5 - 4.28 - Excellent	0.30 30 -	0.30 50 - Exceptional ICI	
			100 17 8 0 rabbitsfoot - Quadrula cylindrica cylindrica (Say, 1817) - Years: 86, 88		Habitat	--Year:1995-----	--Year:1995-----	
			0 0 2 0 purple lilliput -		5.50 70.0 - 3.96 -	5.40 44 -	5.40 50 - Exceptional ICI	
			Toxolasma lividus (Rafinesque, 1820) - Years: 86		--Year:1997-----	0.30 41 -	0.30 E - Exceptional ICI	
			0 18 2 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 85, 86, 88		0.30 69.0 - 2.67 -	--Year:1994-----	--Year:1994-----	
			1 3 1 0 white catspaw -		5.40 75.0 - 3.96 - Excellent	0.30 41 -	--Year:1994-----	
			Epioblasma obliquata perobliqua (Conrad, 1836) - Years: 88		Habitat	--Year:1993-----	--Year:1993-----	
			3 4 0 0 northern riffleshell -		--Year:1995-----	--Year:1993-----	--Year:1993-----	
			Epioblasma rangiana (Lea, 1839) - Years: 86, 88		0.30 64.0 - 2.67 -	2.60 40 -	0.30 50 - Exceptional ICI	
					5.40 74.0 - 3.96 -	0.40 32 -	5.40 20 -	
					--Year:1994-----	--Year:1992-----	0.30 36 -	
					0.30 64.0 - 2.67 -	0.20 44 -	--Year:1992-----	
					5.40 71.0 - 3.96 -	0.20 42 -	5.40 50 - Exceptional ICI	
					--Year:1992-----	--Year:1991-----	0.30 24 -	
					0.20 65.0 - 2.67 -	5.40 52 - Exceptional IBI	--Year:1991-----	
					5.40 77.0 - 3.96 - Excellent	2.60 44 -	5.40 E - Exceptional ICI	
					Habitat	0.40 26 -		
					--Year:1991-----			
					5.40 79.0 - 3.96 - Excellent			
					Habitat			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH89 24 19-020	<i>Recommended Tier</i> SHQW <hr/> URM: 10.40 LRM: 0.00 Miles 10.40	FURNACE RUN	Furnace Run has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good populations of two sensitive declining fish speices including river chub and redbside dace, an EWH IBI score and very good habitat.		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
RIVER CHUB - Years: 1984, 1991, 1996 - Number Collected: 121	None	None	--Year:1996-----	--Year:1996-----	--Year:1996-----
REDSIDE DACE - Years: 1996 - Number Collected: 4	--Living--Dead--Weathered--Subfossil--Name-- -- None	Special Concern Fish ----- None	0.90 70.0 - 32.26 -	0.90 48 - Exceptional IBI --Year:1984----- 0.20 38 -	0.90 E - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH59 8 14-506	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><i>Recommended Tier</i> SHQW</td> </tr> <tr> <td style="padding: 2px;">URM:</td> <td style="padding: 2px;">3.00</td> </tr> <tr> <td style="padding: 2px;">LRM:</td> <td style="padding: 2px;">0.00</td> </tr> <tr> <td style="padding: 2px;">Miles</td> <td style="padding: 2px;">3.00</td> </tr> </table> <p style="margin-top: 10px;">GOOSE RUN</p> <p style="margin-top: 10px;">Goose Run is tributary of Bantas Fork, a SRW stream. The lower 3 miles of this waterbody is recommended for SHQW because of high index scores, good populations of declining species (including southern redbelly dace), and its connection to SRWs: Bantas Fork and Twin Creek.</p>	<i>Recommended Tier</i> SHQW		URM:	3.00	LRM:	0.00	Miles	3.00
<i>Recommended Tier</i> SHQW									
URM:	3.00								
LRM:	0.00								
Miles	3.00								

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
BIGEYE CHUB - Years: 1995 - Number Collected: 1	None	None	-----	-----	-----
SOUTH. REDBELLY DACE - Years: 1995 - Number Collected: 16	Endangered Unionids	Special Concern Fish	--Year: 95-----	--Year:1995-----	--Year:1995-----
ROSEFIN SHINER - Years: 1995 - Number Collected: 7	--Living--Dead--Weathered--Subfossil--Name--	None	4.40 56.5 - 20.41 - 0.20 70.0 - 20.00 -	4.40 38 - 0.20 50 - Exceptional IBI	4.40 G - 0.40 E - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH91 14 03-001	<i>Recommended Tier SRW</i> URM: 67.08 LRM: 60.23 Miles 6.85	GRAND RIVER (SR 322 TO HOSKINS CREEK)	The Grand River is a State Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs. Consequently, this segment of the Grand River is given a State Resource Water antidegradation tier.			
Declining Fish ----- RIVER CHUB - Years: 1995 - Number Collected: 1	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1995----- 65.90 56.5 - 1.39 -	IBI Values --RM--IBI--Narrative ----- --Year:1995----- 65.90 45 -	ICI Values --RM--ICI--Rating ----- --Year:1995----- 65.80 46 - Exceptional ICI --Year:1983----- 65.90 44 - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description							
OH91 8 03-001	<i>Recommended Tier SRW</i> URM: 60.23 LRM: 50.59 Miles 9.64	GRAND RIVER (HOSKINS CREEK TO ROCK CREEK) The Grand River is a State Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs. Consequently, this segment of the Grand River is given a State Resource Water antidegradation tier.	Declining Fish ----- MIMIC SHINER - Years: 1982 - Number Collected: 3	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- None Special Concern Fish ----- RIVER REDHORSE - Years: 1982, 1995 - Number Collected: 2	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1995----- 52.70 62.0 - 1.08 -	IBI Values --RM--IBI--Narrative ----- --Year:1995----- 52.70 45 -	ICI Values --RM--ICI--Rating ----- --Year:1995----- 56.00 34 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH92 20 03-001	<i>Recommended Tier</i> SRW <hr/> URM: 41.28 LRM: 23.50 Miles 17.78	GRAND RIVER (MILL CREEK TO MILL CREEK)	As well as being a Scenic River, the Grand River in this reach has sufficient ecological attributes to warrant a SRW antidegradation tier. It has good population of seven sensitive declining species (rosyface shiner, river and hornyhead chub, sand darter, brindled madtom, and mimic shiner), three special concern species (sand darter, river redhorse, and muskellunge) and high IBI and ICI scores. It also has excellent habitat. Additionally, the Grand River is the only Lake Erie tributary in Ohio supporting a viable population of Great Lakes muskellunge.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating	
MUSKELLUNGE - Years: 1995 - Number Collected: 2	None	None	-----	-----	-----	
HORNYHEAD CHUB - Years: 1996 - Number Collected: 28	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--	Special Concern Fish -----	Habitat 29.50 77.5 - 8.85 - Excellent	Habitat 39.90 30 -	Habitat 30.60 46 - Exceptional ICI	
RIVER CHUB - Years: 1995, 1996, 1997 - Number Collected: 363	None	MUSKELLUNGE - Years: 1995 - Number Collected: 2	Habitat 30.30 81.0 - 9.71 - Excellent	Habitat 36.30 34 -	Habitat 32.90 E - Exceptional ICI	
ROSYFACE SHINER - Years: 1996, 1997 - Number Collected: 127		RIVER REDHORSE - Years: 1995 - Number Collected: 7	Habitat 30.70 75.5 - 9.71 - Excellent	Habitat 36.30 34 -	Habitat 28.40 54 - Superior ICI Score	
MIMIC SHINER - Years: 1995, 1996, 1997, 1998 - Number Collected: 328		EASTERN SAND DARTER - Years: 1997 - Number Collected: 4	Habitat 30.70 75.5 - 9.71 - Excellent	Habitat 36.30 18 -	Habitat -----	
BRINDLED MADTOM - Years: 1996, 1997 - Number Collected: 5			Habitat 28.40 81.5 - 7.14 - Excellent	Habitat 30.30 48 - Exceptional IBI	Habitat 28.40 48 - Exceptional ICI	
EASTERN SAND DARTER - Years: 1997 - Number Collected: 4			Habitat 34.00 60.0 - 0.82 -	Habitat 29.50 52 - Exceptional IBI	Habitat -----	
			Habitat 36.30 57.0 - 0.82 -	Habitat 30.70 44 -	Habitat -----	
			Habitat 40.90 66.5 - 0.82 -	Habitat 36.30 47 - Exceptional IBI	Habitat -----	
				Habitat 34.00 50 - Exceptional IBI	Habitat -----	
				Habitat 28.40 51 - Exceptional IBI	Habitat -----	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description																																																																																						
OH92 16 03-001	<i>Recommended Tier SRW</i> URM: 23.58 LRM: 14.31 Miles 9.27	GRAND RIVER (MILL CREEK TO PAINE CREEK) The Grand River is also a State Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs. Consequently, this segment of the Grand River is given a State Resource Water antidegradation tier. This segment of the river also has good populations of several declining species (rosyface shiner, river chub, mimic shiner), consistently high IBI and ICI scores, a high relative abundance of pollution intollerant species, and is the single remaining Lake Erie tributary in Ohio supporting a viable population of Great Lakes muskellunge, a threatened species, in Ohio. It also has excellent habitat.	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Declining Fish</th> <th style="text-align: left;">Endangered Fish</th> <th style="text-align: left;">Threatened Fish</th> <th style="text-align: left;">QHEI Values</th> <th style="text-align: left;">IBI Values</th> <th style="text-align: left;">ICI Values</th> </tr> <tr> <th style="text-align: left;">-----</th> <th style="text-align: left;">-----</th> <th style="text-align: left;">-----</th> <th style="text-align: left;">--RM--QHEI--Gradient--Narrative</th> <th style="text-align: left;">--RM--IBI--Narrative</th> <th style="text-align: left;">--RM--ICI--Rating</th> </tr> </thead> <tbody> <tr> <td>RIVER CHUB - Years: 1995, 1999 - Number Collected: 355</td> <td>None</td> <td>None</td> <td>-----</td> <td>-----</td> <td>-----</td> </tr> <tr> <td>ROSYFACE SHINER - Years: 1995, 1999 - Number Collected: 349</td> <td>Endangered Unionids</td> <td>Special Concern Fish</td> <td>--Year:1999-----</td> <td>--Year:1999-----</td> <td>--Year:1995-----</td> </tr> <tr> <td>MIMIC SHINER - Years: 1995, 1999 - Number Collected: 228</td> <td>--Living--Dead--Weathered--Subfossil--Name--</td> <td>RIVER REDHORSE - Years: 1999 - Number Collected: 2</td> <td>22.10 86.0 - 3.14 - Excellent</td> <td>22.10 46 - Exceptional IBI</td> <td>22.60 50 - Exceptional ICI</td> </tr> <tr> <td></td> <td>None</td> <td></td> <td>Habitat</td> <td>22.10 48 - Exceptional IBI</td> <td>--Year:1987-----</td> </tr> <tr> <td></td> <td></td> <td></td> <td>--Year:1995-----</td> <td>16.40 42 -</td> <td>22.60 46 - Exceptional ICI</td> </tr> <tr> <td></td> <td></td> <td></td> <td>22.10 87.5 - 3.14 - Excellent</td> <td>14.40 54 - Superior IBI</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>Habitat</td> <td>Scores</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>--Year:1987-----</td> <td>14.40 48 - Exceptional IBI</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>22.10 84.5 - 3.14 - Excellent</td> <td>--Year:1987-----</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>Habitat</td> <td>22.10 52 - Exceptional IBI</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>22.60 76.5 - 3.14 - Excellent</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>Habitat</td> <td></td> <td></td> </tr> </tbody> </table>	Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values	-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	RIVER CHUB - Years: 1995, 1999 - Number Collected: 355	None	None	-----	-----	-----	ROSYFACE SHINER - Years: 1995, 1999 - Number Collected: 349	Endangered Unionids	Special Concern Fish	--Year:1999-----	--Year:1999-----	--Year:1995-----	MIMIC SHINER - Years: 1995, 1999 - Number Collected: 228	--Living--Dead--Weathered--Subfossil--Name--	RIVER REDHORSE - Years: 1999 - Number Collected: 2	22.10 86.0 - 3.14 - Excellent	22.10 46 - Exceptional IBI	22.60 50 - Exceptional ICI		None		Habitat	22.10 48 - Exceptional IBI	--Year:1987-----				--Year:1995-----	16.40 42 -	22.60 46 - Exceptional ICI				22.10 87.5 - 3.14 - Excellent	14.40 54 - Superior IBI					Habitat	Scores					--Year:1987-----	14.40 48 - Exceptional IBI					22.10 84.5 - 3.14 - Excellent	--Year:1987-----					Habitat	22.10 52 - Exceptional IBI					22.60 76.5 - 3.14 - Excellent						Habitat		
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values																																																																																		
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating																																																																																		
RIVER CHUB - Years: 1995, 1999 - Number Collected: 355	None	None	-----	-----	-----																																																																																		
ROSYFACE SHINER - Years: 1995, 1999 - Number Collected: 349	Endangered Unionids	Special Concern Fish	--Year:1999-----	--Year:1999-----	--Year:1995-----																																																																																		
MIMIC SHINER - Years: 1995, 1999 - Number Collected: 228	--Living--Dead--Weathered--Subfossil--Name--	RIVER REDHORSE - Years: 1999 - Number Collected: 2	22.10 86.0 - 3.14 - Excellent	22.10 46 - Exceptional IBI	22.60 50 - Exceptional ICI																																																																																		
	None		Habitat	22.10 48 - Exceptional IBI	--Year:1987-----																																																																																		
			--Year:1995-----	16.40 42 -	22.60 46 - Exceptional ICI																																																																																		
			22.10 87.5 - 3.14 - Excellent	14.40 54 - Superior IBI																																																																																			
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			Habitat																																																																																				

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description			QHEI Values	IBI Values	ICI Values
OH92 1 03-001	GRAND RIVER (PAINE CREEK TO US 20)	Recommended Tier SRW	None	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
		URM: 14.31 LRM: 5.67 Miles 8.64				
<p>This segment of the Grand River has sufficient attributes to warrant a SRW antidegradation tier. It has good populations of declining species (bigeye chub, brindled madtom, rosyface and mimic shiner, and river chub), and a population of the special concern river redhorse. It also has EWH IBI and ICI scores, excellent-outstanding habitat conditions, and has populations of pollution intolerant species equalling or exceeding two standard deviations compared to other, similar-sized streams from around the state. The Grand River is also a State Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs. Consequently, this segment of the Grand River is given a State Resource Water antidegradation tier.</p>						
Declining Fish	Endangered Fish	Threatened Fish				
-----	-----	-----				
RIVER CHUB - Years: 1994, 1995 - Number Collected: 317	None	None				
BIGEYE CHUB - Years: 1993, 1995 - Number Collected: 10	Endangered Unionids	Special Concern Fish				
ROSYFACE SHINER - Years: 1993, 1994, 1995 - Number Collected: 352	--Living--Dead--Weathered--Subfossil--Name--	RIVER REDHORSE - Years: 1987, 1993, 1994, 1995 - Number Collected: 17				
MIMIC SHINER - Years: 1993, 1995 - Number Collected: 174						
BRINDLED MADTOM - Years: 1993, 1994, 1995 - Number Collected: 8						
			6.20 76.0 - 6.06 - Excellent	13.40 52 - Exceptional IBI	1.80 0 -	
			8.00 78.0 - 6.21 - Excellent	8.00 52 - Exceptional IBI	0.10 0 -	
			13.40 91.0 - 7.81 - Outstanding	6.20 47 - Exceptional IBI	--Year:1995-----	
			Habitat	4.60 0 -	13.60 52 - Exceptional ICI	
			--Year:1994-----	4.60 0 -	8.50 E - Exceptional ICI	
			3.20 53.5 - 0.10 -	4.60 49 - Exceptional IBI	--Year:1994-----	
			4.20 54.5 - 0.10 -	4.60 36 -	6.40 32 -	
			4.60 62.0 - 0.10 -	4.20 0 -	4.70 30 -	
			6.60 77.5 - 6.21 - Excellent	4.20 41 -	4.20 0 -	
			Habitat	3.20 0 -	3.10 0 -	
			--Year:1987-----	3.20 28 -	--Year:1993-----	
			0.60 51.0 - 0.10 -	2.10 0 -	3.80 0 -	
			2.00 52.5 - 0.10 -	2.00 0 -	3.80 0 -	
			3.00 50.5 - 0.10 -	2.00 42 -	3.80 0 -	
			4.40 59.0 - 0.10 -	--Year:1993-----	2.10 0 -	
			5.20 67.0 - 6.06 -	4.60 0 -	2.10 0 -	
			6.10 82.0 - 6.06 - Excellent	4.60 28 -	2.10 0 -	
			Habitat	2.00 0 -	0.70 0 -	
			9.00 81.5 - 5.75 - Excellent	2.00 0 -	0.70 0 -	
			Habitat	2.00 28 -	0.70 0 -	
			13.40 90.0 - 7.81 - Outstanding	0.80 0 -	--Year:1991-----	
			Habitat	--Year:1987-----	8.80 48 - Exceptional ICI	
				13.40 48 - Exceptional IBI	--Year:1988-----	
				13.40 49 - Exceptional IBI	8.40 34 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

9.00	52 - Exceptional IBI	---Year:1987-----	
9.00	42 -	13.60	50 - Exceptional ICI
9.00	52 - Exceptional IBI	8.60	E - Exceptional ICI
9.00	49 - Exceptional IBI		
6.10	54 - Superior IBI Scores	6.20	46 - Exceptional ICI
		5.40	E - Exceptional ICI
5.20	36 -		
5.20	48 - Exceptional IBI	4.30	0 -
4.40	0 -	3.00	0 -
4.30	0 -	2.10	0 -
3.00	0 -	0.80	0 -
2.90	0 -	---Year:1979-----	
2.00	0 -	8.40	40 -
1.90	0 -		
0.60	0 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description	
OH92 29 03-001	<i>Recommended Tier SRW</i> URM: 50.59 LRM: 41.28 Miles 9.31	GRAND RIVER (ROCK CREEK TO MILL CREEK) The Grand River is a State Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs. Consequently, this segment of the Grand River is given a State Resource Water antidegradation tier. The Grand River is the single remaining Lake Erie tributary in Ohio supporting a viable population of Great Lakes muskellunge in Ohio. The low gradient, swamp habitat in this reach of the river is an essential habitat component of the muskellunge population.
Declining Fish ----- None	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None
	QHEI Values --RM--QHEI--Gradient--Narrative ----- No Data	IBI Values --RM--IBI--Narrative ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description							
OH55 2 14-001	<i>Recommended Tier</i> SHQW URM: 143.40 LRM: 134.80 Miles 8.60	GREAT MIAMI RIVER (QUINCY DAM TO PASCO-MONTRA RD.) This segment of the Great Miami River has sufficient ecological attributes to warrant a SHQW tier. It has good populations of declining species (rosyface shiner, hornyhead and river chub, brindled madtom), EWH IBI and ICI scores and good-excellent habitat. (see upstream segment for more data).	Declining Fish ----- RIVER CHUB - Years: 1994, 1997 - Number Collected: 9 ROSYFACE SHINER - Years: 1997 - Number Collected: 15	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1994----- 133.10 60.0 - 2.05 - 138.20 71.0 - 2.07 -	IBI Values --RM--IBI--Narrative ----- --Year:1997----- 138.20 48 - Exceptional IBI 138.20 48 - Exceptional IBI --Year:1994----- 133.10 53 - Exceptional IBI --Year:1982----- 133.50 50 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1994----- 138.50 56 - Superior ICI Score 133.20 40 - --Year:1982-----

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description			QHEI Values	IBI Values	ICI Values	
OH56 1 14-001	GREAT MIAMI RIVER (LOST CREEK TO STILLWATER RIVER)	Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <i>Recommended Tier</i> SHQW </div>						
	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> URM: 100.00 LRM: 84.50 Miles 15.50 </div>						
		This reach of the Great Miami River should be assigned the SHQW tier because of :1) populations of declining species (including river chub, honyhead chub and redbfin shiner) and special concern species (river redhorse), excellent habitat with QHEIs into the 90s, and consistently high (EWH) IBI and ICI scores.					
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values		
			--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating		
HORNYHEAD CHUB - Years: 1994 - Number Collected: 2	None	None	--Year:1995-----	--Year:2000-----	--Year:1995-----		
RIVER CHUB - Years: 1995, 2000 - Number Collected: 100	Endangered Unionids	Special Concern Fish	83.30 44.0 - 0.10 -	91.10 54 - Superior IBI	87.70 E - Exceptional		
ROSEFIN SHINER - Years: 1980, 1994 - Number Collected: 2	--Living--Dead--Weathered--Subfossil--Name--	RIVER REDHORSE - Years: 1982, 1994 - Number Collected: 2	85.20 82.5 - 6.45 - Excellent	Scores	ICI		
	None		Habitat	--Year:1995-----	85.90 46 - Exceptional ICI		
			87.30 84.5 - 6.45 - Excellent	95.20 54 - Superior IBI	--Year:1994-----		
			Habitat	Scores	95.70 52 - Exceptional ICI		
			--Year:1994-----	83.30 34 -	91.10 56 - Superior ICI Score		
			85.00 72.0 - 6.45 -	83.30 30 -			
			87.30 80.5 - 6.45 - Excellent	--Year:1994-----	87.70 52 - Exceptional ICI		
			Habitat	95.90 57 - Superior IBI	86.60 22 -		
			91.00 68.0 - 2.03 -	Scores	85.90 38 -		
			93.80 78.0 - 2.72 - Excellent	93.80 56 - Superior IBI	--Year:1993-----		
			Habitat	Scores	85.90 56 - Superior ICI Score		
			95.90 88.0 - 2.72 - Excellent	91.00 54 - Superior IBI			
			Habitat	Scores	--Year:1989-----		
			98.70 77.0 - 1.81 - Excellent	87.30 54 - Superior IBI	91.10 56 - Superior ICI Score		
			Habitat	Scores			
			--Year:1989-----	86.70 47 - Exceptional IBI	85.90 48 - Exceptional ICI		
			82.90 36.0 - 0.10 -	85.00 56 - Superior IBI	--Year:1987-----		
			86.50 69.0 - 6.37 -	Scores	87.00 30 -		
			87.00 73.5 - 6.37 -	--Year:1989-----	--Year:1982-----		
			88.10 91.0 - 2.03 - Outstanding	88.10 50 - Exceptional IBI	95.70 48 - Exceptional ICI		
			Habitat	87.00 38 -	92.60 50 - Exceptional ICI		
			91.00 71.5 - 2.03 -	86.50 44 -	--Year:1980-----		
			--Year:1982-----	82.90 32 -	91.10 44 - Exceptional ICI		
			95.60 76.0 - 2.70 - Excellent	--Year:1982-----	87.70 38 -		
			Habitat	95.60 49 - Exceptional IBI	87.00 42 -		
			98.50 81.0 - 1.81 - Excellent	94.00 51 - Exceptional IBI			
			Habitat	--Year:1980-----			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

---Year:1980-----		88.10	32 -
83.30	57.0 - 0.10 -	86.20	35 -
88.10	84.0 - 2.03 - Excellent	83.30	27 -
Habitat			
91.00	82.5 - 2.03 - Excellent		
Habitat			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH56 36 14-001	<i>Recommended Tier</i> SHQW URM: 130.20 LRM: 119.90 Miles 10.30	GREAT MIAMI RIVER (PLUM CREEK TO LORAMIE CREEK)		The EWH reach of this segment of the Great Miami River has sufficient ecological attributes to warrant a SHQW tier. It has good populations of declining species (rosyface shiner, hornyhead and river chub), EWH IBI scores and good habitat.					
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----		IBI Values --RM--IBI--Narrative -----		ICI Values --RM--ICI--Rating -----		
HORNYHEAD CHUB - Years: 1982 - Number Collected: 4	None	None	--Year:1994-----		--Year:1994-----		--Year:1994-----		
RIVER CHUB - Years: 1994 - Number Collected: 264	Endangered Unionids	Special Concern Fish	123.90	61.0 - 8.13 -	130.00	59 - Superior IBI	130.10	40 -	
ROSYFACE SHINER - Years: 1994 - Number Collected: 31	None	None	127.70	74.0 - 5.71 -	Scores		128.60	47 - Exceptional IBI	
ROSEFIN SHINER - Years: 1994 - Number Collected: 7			130.00	69.0 - 12.34 -	--Year:1982-----		127.70	57 - Superior IBI	
			130.00	73.5 - 12.35 -	Scores		123.90	57 - Superior IBI	
					--Year:1982-----		123.90	46 - Exceptional ICI	
					Scores		127.60	40 -	
					--Year:1982-----		128.00	47 - Exceptional IBI	
					Scores		124.20	37 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH57 21 14-220	<i>Recommended Tier</i> SHQW	GREENVILLE CREEK (DIVIDING BR. TO STILLWATER R.)			
	URM: 15.20 LRM: 0.00 Miles 15.20	This reach of the Stillwater River should be assigned the SHQW tier because of :1) populations of declining species (including hornyhead chub, and rosyface shiner), excellent habitat with QHEIs into the 90s, and consistently high (EWH) IBI and ICI scores.			
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
HORNYHEAD CHUB - Years: 1999 - Number Collected: 52	None	None	-----	-----	-----
ROSYFACE SHINER - Years: 1999 - Number Collected: 3	--Living--Dead--Weathered--Subfossil--Name-- 0 0 0 1 clubshell - Pleurobema clava (Lamarck, 1819) - Years: 19	Special Concern Fish RIVER REDHORSE - Years: 1982 - Number Collected: 2	1.40 75.5 - 12.50 - Excellent Habitat 3.70 75.0 - 4.31 - Excellent Habitat 6.10 83.5 - 3.23 - Excellent Habitat 13.70 80.5 - 15.15 - Excellent Habitat 0.10 89.0 - 14.71 - Excellent Habitat 4.20 84.5 - 6.49 - Excellent Habitat 5.00 100.0 - 6.49 - Outstanding Habitat 10.30 92.5 - 4.95 - Outstanding Habitat 10.60 98.5 - 4.95 - Outstanding Habitat 11.90 92.5 - 4.55 - Outstanding Habitat 12.00 84.0 - 4.55 - Excellent Habitat 14.30 59.5 - 0.10 - Habitat 0.10 60.5 - 14.71 - 5.00 80.0 - 6.49 - Excellent Habitat	13.70 46 - Exceptional IBI 13.70 46 - Exceptional IBI 10.80 48 - Exceptional IBI 10.80 48 - Exceptional IBI 6.10 46 - Exceptional IBI 6.10 46 - Exceptional IBI 3.70 38 - 1.40 55 - Superior IBI Scores 1.40 56 - Superior IBI Scores 11.90 35 - 10.30 42 - 5.00 40 - 4.20 42 - 0.10 51 - Exceptional IBI 11.90 33 - 10.30 35 - 6.10 36 - 5.00 37 - 0.10 47 - Exceptional IBI	13.40 E - Exceptional ICI 10.90 50 - Exceptional ICI 6.20 44 - Exceptional ICI 1.40 46 - Exceptional ICI 0.10 50 - Exceptional ICI ----- 13.70 50 - Exceptional ICI 10.50 50 - Exceptional ICI 5.50 48 - Exceptional ICI ----- 13.70 40 - 10.50 46 - Exceptional ICI 5.60 50 - Exceptional ICI 1.40 40 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

6.10	71.0 - 3.23 -
10.30	77.0 - 4.95 - Excellent
Habitat	
11.90	81.5 - 4.55 - Excellent
Habitat	
14.10	49.0 - 0.10 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description											
OH57 32 14-220	<i>Recommended Tier</i> SRW URM: 40.50 LRM: 24.30 Miles 16.20	GREENVILLE CREEK (HEADWATERS TO WEST BRANCH) This reach of the Greenville Creek should be assigned the SRW tier because it has exceptional IBI and ICI score, excellent habitat, supports a declining species (hornyhead chub) and a threatened species (least darter). It is also designated as a Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs.										
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values			IBI Values			ICI Values			
-----	-----	-----	--RM--	--QHEI--	--Gradient--	--Narrative	--RM--	--IBI--	--Narrative	--RM--	--ICI--	--Rating
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
HORNYHEAD CHUB - Years: 1982, 1990, 1999	None	None	--Year:1999--	--Year:1999--	--Year:1999--	--Year:1999--	--Year:1999--	--Year:1999--	--Year:1999--	--Year:1999--	--Year:1999--	--Year:1999--
- Number Collected: 268	Endangered Unionids	Special Concern Fish	24.60	71.5	4.42	-	33.00	52	Exceptional IBI	34.30	58	Superior ICI Score
LEAST DARTER - Years: 1990 - Number	--Living--Dead--Weathered--Subfossil--Name--	LEAST DARTER - Years: 1990 - Number	26.50	56.5	3.82	-	33.00	52	Exceptional IBI	34.30	58	Superior ICI Score
Collected: 5	--	Collected: 5	28.90	48.5	4.76	-	30.20	48	Exceptional IBI	30.20	42	-
	0 0 0 1 clubshell - Pleurobema		30.20	61.0	9.80	-	30.20	48	Exceptional IBI	28.90	50	Exceptional ICI
	clava (Lamarck, 1819) - Years: 19		33.00	76.0	17.24	Excellent	28.90	45	-	26.70	46	Exceptional ICI
			Habitat				28.90	46	Exceptional IBI	24.70	50	Exceptional ICI
			--Year:1990--	--Year:1990--	--Year:1990--	--Year:1990--	--Year:1990--	--Year:1990--	--Year:1990--	--Year:1990--	--Year:1990--	--Year:1990--
			29.00	68.0	4.76	-	26.50	48	Exceptional IBI	34.20	52	Exceptional ICI
			34.20	83.5	8.69	Excellent	24.60	50	Exceptional IBI	28.90	54	Superior ICI Score
			Habitat				24.60	50	Exceptional IBI			
			--Year:1982--	--Year:1982--	--Year:1982--	--Year:1982--	--Year:1982--	--Year:1982--	--Year:1982--	--Year:1982--	--Year:1982--	--Year:1982--
			28.80	70.0	4.76	-	29.00	51	Exceptional IBI	26.80	50	Exceptional ICI
			30.10	67.5	9.80	-	--Year:1982--	--Year:1982--	--Year:1982--	--Year:1982--	--Year:1982--	--Year:1982--
			34.40	64.0	8.69	-	34.40	53	Exceptional IBI	34.50	42	-
							30.10	37	-	28.90	36	-
							28.80	32	-			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH57 26 14-220	<i>Recommended Tier</i> SRW	GREENVILLE CREEK (WEST BR. TO DIVIDING BR.)			
	URM: 24.30 LRM: 15.20 Miles 9.10	This reach of the Greenville Creek should be assigned the SRW tier because of its designation as a Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs.			
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
HORNYHEAD CHUB - Years: 1990, 1999 - Number Collected: 36	None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 0 0 0 1 clubshell - Pleurobema clava (Lamarck, 1819) - Years: 19	None Special Concern Fish ----- None	----- --Year:1999----- 16.20 71.0 - 1.57 - 18.30 53.0 - 1.24 - 19.60 45.0 - 1.24 - 21.70 71.5 - 6.85 - 23.10 48.5 - 4.10 - --Year:1990----- 15.40 61.0 - 1.57 - 17.30 68.5 - 1.24 - 19.20 67.0 - 1.24 - 19.30 69.0 - 1.24 - 19.60 61.0 - 1.24 - 20.60 72.5 - 1.24 - 23.20 87.0 - 0.85 - Excellent Habitat --Year:1982----- 15.40 53.0 - 1.57 - 17.30 62.5 - 1.24 - 18.50 54.0 - 1.24 - 19.70 71.0 - 1.24 - 20.70 50.5 - 1.24 - 22.60 51.0 - 0.10 -	----- --Year:1999----- 23.20 37 - 22.30 47 - Exceptional IBI 21.70 47 - Exceptional IBI 19.60 39 - 19.30 34 - 18.30 36 - 16.20 37 - --Year:1990----- 20.60 39 - 19.60 34 - 19.30 34 - 19.20 30 - 15.40 29 - --Year:1982----- 20.70 33 - 19.70 32 - 18.50 32 - 17.30 28 - 15.40 33 -	----- --Year:1999----- 22.60 14 - 22.30 42 - 19.50 34 - 19.30 F - 19.30 F - 19.20 30 - 18.40 26 - 16.30 54 - Superior ICI Score ----- --Year:1990----- 20.80 56 - Superior ICI Score ----- 19.50 50 - Exceptional ICI 19.30 48 - Exceptional ICI 19.10 42 - 18.30 50 - Exceptional ICI ----- --Year:1982----- 16.20 VG - ----- 19.50 30 - 18.90 20 - 18.00 18 - 16.20 28 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description
OH41 9 02-302	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;"> <i>Recommended Tier</i> SHQW </div> HAY RUN Hay Run should be assigned the SHQW tier because of :1) good populations of declining species (including bigeye chub and creek chubsucker), excellent habitat with QHEIs into the 70s, and EWH IBI scores.
URM: 7.00 LRM: 0.00 Miles 7.00	

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
CREEK CHUBSUCKER - Years: 1987 - Number Collected: 7	None	None			
BIGEYE CHUB - Years: 1997, 1999 - Number Collected: 19	Endangered Unionids	Special Concern Fish	--Year:1999----- 4.00 73.5 - 10.00 -	--Year:1999----- 4.00 47 - Exceptional IBI	--Year:1999-----
ROSEFIN SHINER - Years: 1999 - Number Collected: 19	--Living--Dead--Weathered--Subfossil--Name--	None	--Year:1997----- 3.90 59.0 - 10.00 -	--Year:1987----- 4.00 52 - Exceptional IBI	
	None		--Year:1987----- 4.00 63.5 - 10.00 -	3.90 12 - 1.00 52 - Exceptional IBI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH39 6 02-204	<i>Recommended Tier</i> SHQW	HELLBRANCH RUN This reach should be assigned the SHQW tier in the lower 5 miles because of :1) good populations of declining species (including rosyface and rosefin shiner), excellent habitat with QHEIs into the 80s, and the vulnerability of the Big Darby Creek SRW to which Hellbranch Run discharges. Because of the importance of this reach to downstream SRW reaches, the high quality portions of this reach should be aggressively protected.			
	URM: 5.05 LRM: 0.00 Miles 5.05				
Declining Fish		Endangered Fish	Threatened Fish	QHEI Values	IBI Values
-----		-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative
BIGEYE CHUB - Years: 1997 - Number Collected: 1		None	None	-----	-----
ROSYFACE SHINER - Years: 1981, 1990, 1997 - Number Collected: 53		Endangered Unionids	Special Concern Fish	--Year:1997-----	--Year:1997-----
ROSEFIN SHINER - Years: 1986, 1990, 1991, 1992, 1993, - Number Collected: 490		--Living--Dead--Weathered--Subfossil--Name--	-----	0.50 70.5 - 11.36 -	6.20 40 -
MIMIC SHINER - Years: 1992, 1997 - Number Collected: 320		None	RIVER REDHORSE - Years: 1993 - Number Collected: 1	1.00 80.0 - 11.36 - Excellent	5.00 48 - Exceptional IBI
				Habitat	1.00 52 - Exceptional IBI
				5.00 75.0 - 16.67 - Excellent	0.50 50 - Exceptional IBI
				Habitat	--Year:1993-----
				6.20 45.5 - 7.30 -	7.60 40 -
				--Year:1993-----	--Year:1992-----
				7.60 69.5 - 7.52 -	7.40 34 -
				8.80 64.5 - 3.37 -	6.10 48 - Exceptional IBI
				--Year:1992-----	4.80 45 -
				0.50 49.5 - 11.36 -	3.80 46 - Exceptional IBI
				0.50 49.5 - 11.36 -	1.20 50 - Exceptional IBI
				1.20 85.5 - 20.83 - Excellent	0.50 50 - Exceptional IBI
				Habitat	--Year:1990-----
				3.80 85.0 - 16.67 - Excellent	1.00 48 - Exceptional IBI
				Habitat	--Year:1981-----
				4.80 88.0 - 16.67 - Excellent	1.00 47 - Exceptional IBI
				Habitat	
				6.10 43.5 - 7.30 -	
				7.40 74.5 - 7.52 -	
				10.20 47.5 - 3.37 -	
				--Year:1990-----	
				1.00 72.0 - 11.36 -	
				--Year:1981-----	
				1.00 76.0 - 11.36 - Excellent	
				Habitat	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH56 3 14-043	<i>Recommended Tier</i> SHQW URM: 18.60 LRM: 0.00 Miles 18.60	HONEY CREEK	Honey Creek should be assigned the SHQW tier because of :1) populations of declining species (including river chub, bigeye chub and river chub), excellent habitat with QHEIs into the 80s, and EWH IBI and ICI scores.			
Declining Fish ----- RIVER CHUB - Years: 1994, 2001 - Number Collected: 3 BIGEYE CHUB - Years: 1984, 1994 - Number Collected: 79	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1994----- 3.20 67.5 - 5.21 - 8.00 85.0 - 15.15 - Excellent Habitat 10.00 70.5 - 11.36 - --Year:1982----- 3.20 84.0 - 5.21 - Excellent Habitat 10.00 75.0 - 11.36 - Excellent Habitat	IBI Values --RM---IBI---Narrative ----- --Year:1994----- 10.00 44 - 8.00 48 - Exceptional IBI 3.20 48 - Exceptional IBI --Year:1982----- 3.20 48 - Exceptional IBI	ICI Values --RM---ICI---Rating ----- --Year:1994----- 10.10 44 - Exceptional ICI 9.90 E - Exceptional ICI 8.10 30 - 3.20 40 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description			QHEI Values	IBI Values	ICI Values			
-----	-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating			
OH84 1 12-001	<i>Recommended Tier</i> SHQW URM: 14.70 LRM: 9.10 Miles 5.60	HURON RIVER	This reach of the Huron River, within the Eastern Corn Belt Plain ecoregion has strong populations of sensitive declining species including the bigeye chub, rosyface shiner, and mimic shiner. It also has exceptional IBI and ICI scores and good to outstanding habitat.	Declining Fish ----- BIGEYE CHUB - Years: 1984, 1993, 1998 - Number Collected: 73 ROSYFACE SHINER - Years: 1993, 1998 - Number Collected: 165 MIMIC SHINER - Years: 1993, 1998 - Number Collected: 61	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- ----- -- None	Threatened Fish ----- None Special Concern Fish ----- None	--Year:1998----- 11.90 74.0 - 11.80 - 12.30 64.5 - 11.80 - 14.50 72.0 - 8.62 - --Year:1993----- 3.20 45.5 - 0.10 - 9.80 62.5 - 0.10 - --Year:1984----- 3.80 51.0 - 0.10 - 5.00 63.5 - 0.10 - 7.80 63.5 - 0.10 - 10.30 50.5 - 0.54 - 12.30 90.5 - 11.80 - Outstanding Habitat 14.50 61.5 - 8.62 - --Year:1982----- 0.00 54.0 - 0.10 - 0.70 44.5 - 0.10 - 1.30 40.0 - 0.10 - 2.50 44.5 - 0.10 - 3.40 48.5 - 0.10 - 6.50 48.0 - 0.10 - 9.10 62.0 - 0.10 - --Year:1984----- 12.30 44 - 10.30 23 - 7.80 0 - 5.50 0 - 3.80 0 - --Year:1982-----	--Year:1998----- 14.50 46 - Exceptional IBI 12.30 46 - Exceptional IBI 11.90 45 - 9.80 0 - 6.50 0 - 3.20 0 - 2.90 0 - 0.60 0 - 0.20 0 - --Year:1994----- 1.00 0 - --Year:1993----- 9.80 0 - 9.80 30 - 3.20 0 - 2.20 22 - 1.60 13 - 1.10 0 - 1.10 24 - 0.20 0 - 0.10 0 - --Year:1984----- 12.30 44 - 10.30 23 - 7.80 0 - 5.50 0 - 3.80 0 - --Year:1982-----	--Year:1998----- 13.00 48 - Exceptional ICI 12.30 54 - Superior ICI Score 6.60 0 - 3.20 0 - 0.50 0 - 0.20 0 - --Year:1996----- 10.00 0 - 7.90 0 - 5.20 0 - 0.10 0 - --Year:1995----- 12.30 42 - --Year:1993----- 12.30 52 - Exceptional ICI 9.80 0 - 9.80 0 - 3.20 0 - 3.20 0 - 3.20 0 - 0.10 0 - 0.10 0 - 0.10 0 - --Year:1988----- 12.30 44 - Exceptional ICI --Year:1984----- 13.10 48 - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

6.50	0 -	12.30	28 -
6.50	0 -	9.50	0 -
3.40	0 -	---Year:1979-----	
3.40	0 -	12.30	34 -
2.50	0 -		
2.30	14 -		
1.30	0 -		
1.10	22 -		
0.70	0 -		
0.70	0 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH18 18 17-666	<i>Recommended Tier</i> SHQW URM: 6.50 LRM: 0.00 Miles 6.50	INDIANFIELD RUN	Indianfield Run has sufficient ecological attributes to warrant a SHQW antidegradation tier. This small stream has hornyhead chub and a good population of redbreast dace, an exceptional IBI score, and good habitat.		
Declining Fish ----- HORNYHEAD CHUB - Years: 1997 - Number Collected: 2 REDSIDE DACE - Years: 1997 - Number Collected: 23	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 2.50 75.5 - 45.45 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1997----- 2.50 54 - Superior IBI Scores	ICI Values --RM--ICI--Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH18 5 17-654	<i>Recommended Tier</i> SHQW <hr/> URM: 13.30 LRM: 0.00 Miles 13.30	JELLOWAY CREEK Jelloway Creek has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has large populations of sensitive declining species, including bigeye chubs, river shubs, redbreast dace and rosyface shiner. It also has exceptional IBI and ICI scores and good to excellent habitat.				
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1987 - Number Collected: 2 RIVER CHUB - Years: 1983, 1987, 1998 - Number Collected: 86 BIGEYE CHUB - Years: 1998 - Number Collected: 61 REDSIDE DACE - Years: 1998 - Number Collected: 10 ROSYFACE SHINER - Years: 1987, 1998 - Number Collected: 327 MIMIC SHINER - Years: 1998 - Number Collected: 6	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1998----- 0.10 77.5 - 9.85 - Excellent Habitat 2.70 71.5 - 11.11 - 4.40 74.5 - 9.52 - --Year:1987----- 3.00 59.0 - 11.56 - 4.40 78.5 - 9.52 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1998----- 4.40 50 - Exceptional IBI 4.40 50 - Exceptional IBI 2.70 42 - 2.70 42 - 0.10 53 - Exceptional IBI 0.10 53 - Exceptional IBI --Year:1987----- 3.00 49 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1987----- 1.60 E - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH27 18 01-132	<i>Recommended Tier</i> SHQW URM: 2.10 LRM: 0.00 Miles 2.10	JOES RUN	This stream and a number of other connected streams in this subwatershed have sufficient attributes to warrant SHQW antidegradation tiers. Most have very high IBI scores, good-excellent habitat, and good populations of declining species including redbelly dace, southern redbelly dace, and least brook lampreys. These species undoubtedly move between these small tributaries freely and they should be protected as a group.		
Declining Fish ----- SOUTH. REDBELLY DACE - Years: 1995 - Number Collected: 92	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1995----- 0.10 68.5 - 32.26 -	IBI Values --RM--IBI--Narrative ----- --Year:1995----- 0.10 54 - Superior IBI Scores	ICI Values --RM--ICI--Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH18 34 17-650	<i>Recommended Tier SRW</i> URM: 57.20 LRM: 29.70 Miles 27.50	KOKOSING RIVER (HEADWATERS TO N. BR. KOKOSING R.)	This reach of the Kokosing River clearly has sufficient ecological attributes to deserve a State Resource Water (SRW) antidegradation tier. It has large populations of sensitive declining species, including bigeye and river chubs and rosyface shiner. These species make this river vulnerable to chemical and habitat changes in the watershed. It has exceptional IBI and ICI scores and excellent to outstanding habitat. It is also a State Scenic River.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating	
HORNYHEAD CHUB - Years: 1987, 1998 - Number Collected: 388	None	None	-----	-----	-----	
RIVER CHUB - Years: 1998 - Number Collected: 12	Endangered Unionids	Special Concern Fish	--Year:1998-----	--Year:1998-----	--Year:1987-----	
BIGEYE CHUB - Years: 1998 - Number Collected: 14	None	None	35.10 71.5 - 5.59 - 40.50 76.0 - 3.20 - Excellent Habitat	49.80 55 - Superior IBI Scores	49.80 38 - 48.40 46 - Exceptional ICI	
ROSYFACE SHINER - Years: 1998 - Number Collected: 706			45.40 73.5 - 5.26 - 46.30 83.0 - 10.26 - Excellent Habitat	45.40 47 - Exceptional IBI 40.50 49 - Exceptional IBI	45.20 44 - Exceptional ICI 40.50 48 - Exceptional ICI	
MIMIC SHINER - Years: 1998 - Number Collected: 108			49.80 71.5 - 8.00 - --Year:1987----- 30.70 72.0 - 3.30 - 36.60 65.0 - 2.80 - 40.60 68.5 - 3.20 - 45.30 36.5 - 5.26 - 46.40 87.5 - 10.26 - Excellent Habitat	35.10 51 - Exceptional IBI --Year:1987----- 46.40 50 - Exceptional IBI 45.30 47 - Exceptional IBI 40.60 51 - Exceptional IBI 36.60 46 - Exceptional IBI 30.70 43 -	35.00 48 - Exceptional ICI 30.60 48 - Exceptional ICI	
			49.80 85.0 - 8.00 - Excellent Habitat			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH18 1 17-650	<i>Recommended Tier SRW</i> URM: 11.40 LRM: 0.00 Miles 11.40	KOKOSING RIVER (JELLOWAY CREEK TO MOHICAN RIVER)	This reach of the Kokosing River clearly has sufficient ecological attributes to deserve a State Resource Water (SRW) antidegradation tier. It has large populations of sensitive declining species, including bigeye and streamline chubs and variegate darter and state endangered fish (spotted darter and mountain brook lamprey). These species make this river vulnerable to chemical and habitat changes in the watershed. It also has exceptional IBI and ICI scores and excellent to outstanding habitat. It is also a State Scenic River.						
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----		IBI Values --RM--IBI--Narrative -----		ICI Values --RM--ICI--Rating -----		
RIVER CHUB - Years: 1984, 1986, 1987, 1989, 1997, - Number Collected: 675	MNT. BROOK LAMPREY - Years: 1987, 1989 - Number Collected: 80	BLUEBREAST DARTER - Years: 1984, 1987, 1989, 1998 - Number Collected: 100	0.50	82.0 - 4.78 - Excellent	11.40	56 - Superior IBI	8.70	38 -	
BIGEYE CHUB - Years: 1984, 1986, 1987, 1989, 1997, - Number Collected: 320	SPOTTED DARTER - Years: 1987 - Number Collected: 11	Special Concern Fish -----	Habitat	11.40	83.5 - 6.25 - Excellent	0.50	52 - Exceptional IBI	6.20	52 - Exceptional ICI
STREAMLINE CHUB - Years: 1986, 1987, 1989, 1998 - Number Collected: 68	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--	RIVER REDHORSE - Years: 1987 - Number Collected: 1	Habitat	0.50	87.0 - 4.78 - Excellent	6.30	54 - Superior IBI Scores		
ROSYFACE SHINER - Years: 1983, 1984, 1986, 1987, 1989, - Number Collected: 884	--		Habitat	6.30	92.5 - 4.42 - Outstanding	0.50	46 - Exceptional IBI		
MIMIC SHINER - Years: 1987, 1989 - Number Collected: 40	None		Habitat	8.80	93.5 - 6.30 - Outstanding				
VARIEGATE DARTER - Years: 1983, 1984, 1986, 1987, 1989 - Number Collected: 172			Habitat						
BLUEBREAST DARTER - Years: 1984, 1987, 1989, 1998 - Number Collected: 100			Habitat						

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH18 22 17-650	<i>Recommended Tier SRW</i> URM: 29.70 LRM: 21.40 Miles 8.30	KOKOSING RIVER (N. BR. KOKOSING R. TO WOLF RUN)	This reach of the Kokosing River clearly has sufficient ecological attributes to deserve a State Resource Water (SRW) antidegradation tier. It has large populations of declining species, including rosyface shiner and river chub, exceptional IBI and ICI scores, and excellent to outstanding habitat. It is also a State Scenic River.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
HORNYHEAD CHUB - Years: 1987 - Number Collected: 1	None	None	--Year:1998----- 28.50 73.5 - 3.08 -	--Year:1998----- 28.50 50 - Exceptional IBI	--Year:1987----- 28.60 48 - Exceptional ICI	
RIVER CHUB - Years: 1998 - Number Collected: 103	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish ----- None	--Year:1987----- 23.00 90.5 - 5.19 - Outstanding Habitat	--Year:1987----- 25.50 51 - Exceptional IBI 25.50 51 - Exceptional IBI	25.20 46 - Exceptional ICI 24.20 46 - Exceptional ICI	
STREAMLINE CHUB - Years: 1998 - Number Collected: 4	None		24.00 91.5 - 5.19 - Outstanding Habitat	23.00 48 - Exceptional IBI		
ROSYFACE SHINER - Years: 1998 - Number Collected: 130			25.50 78.0 - 4.13 - Excellent Habitat			
VARIEGATE DARTER - Years: 1987 - Number Collected: 3			28.70 79.0 - 3.08 - Excellent Habitat			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				QHEI Values	ICI Values
ID	Description	Declining Fish	Endangered Fish	Threatened Fish	---RM---QHEI---Gradient---Narrative	---RM---ICI---Rating
OH18 12 17-650	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 5px;"> <i>Recommended Tier SRW</i> </div> KOKOSING RIVER (WOLF RUN TO JELLOWAY CREEK)					
	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 5px;"> URM: 21.40 LRM: 11.40 Miles 10.00 </div> This reach of the Kokosing River clearly has sufficient ecological attributes to deserve a State Resource Water (SRW) antidegradation tier. It has large populations of sensitive declining species, including bigeye and streamline chubs and variegate and bluebreast darter and state endangered fish (mountain brook lamprey). These species make this river vulnerable to chemical and habitat changes in the watershed. It has exceptional IBI and ICI scores and excellent to outstanding habitat. It is also a State Scenic River.					
		Declining Fish ----- RIVER CHUB - Years: 1983, 1987, 1998 - Number Collected: 202 BIGEYE CHUB - Years: 1986, 1987, 1998 - Number Collected: 94 STREAMLINE CHUB - Years: 1987, 1998 - Number Collected: 5 ROSYFACE SHINER - Years: 1986, 1987, 1998 - Number Collected: 311 VARIEGATE DARTER - Years: 1981, 1983, 1986, 1987 - Number Collected: 53 BLUEBREAST DARTER - Years: 1983, 1987, 1998 - Number Collected: 6	Endangered Fish ----- MNT. BROOK LAMPREY - Years: 1987 - Number Collected: 15 Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- BLUEBREAST DARTER - Years: 1983, 1987, 1998 - Number Collected: 6 Special Concern Fish ----- None	QHEI Values ----- ---Year:1998----- 11.40 83.5 - 6.25 - Excellent Habitat 20.60 85.5 - 5.19 - Excellent Habitat ---Year:1987----- 11.70 97.5 - 6.25 - Outstanding Habitat 16.10 80.0 - 2.65 - Excellent Habitat 20.90 76.0 - 5.19 - Excellent Habitat	ICI Values ----- ---Year:1987----- 18.00 46 - Exceptional ICI 16.20 46 - Exceptional ICI 11.60 54 - Superior ICI Score

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH44 44 02-640	<i>Recommended Tier</i> SHQW <hr/> URM: 13.30 LRM: 0.00 Miles 13.30	LAUREL RUN	This reach should be assigned the SHQW tier because of :1) populations of declining species (including rosyface shiner, and variegate darter), good habitat, and an IBI of 56.		
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
LEAST BROOK LAMPREY - Years: 1992 - Number Collected: 2	None	None	-----	-----	-----
ROSYFACE SHINER - Years: 1992 - Number Collected: 8	Endangered Unionids	Special Concern Fish	--Year:1992-----	--Year:1992-----	No Data
VARIEGATE DARTER - Years: 1992 - Number Collected: 2	--Living--Dead--Weathered--Subfossil--Name-- -----	None	1.80 65.5 - 9.71 -	1.80 56 - Superior IBI Scores	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH 8 78 06-013	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><i>Recommended Tier</i> SHQW</td> </tr> <tr> <td style="padding: 2px;">URM:</td> <td style="padding: 2px; text-align: right;">8.40</td> </tr> <tr> <td style="padding: 2px;">LRM:</td> <td style="padding: 2px; text-align: right;">0.00</td> </tr> <tr> <td style="padding: 2px;">Miles</td> <td style="padding: 2px; text-align: right;">8.40</td> </tr> </table> <p style="margin-top: 10px;">LEITH RUN</p> <p>Although data is somewhat sparse, this reach should be assigned the SHQW tier because of :1) good populations of declining species (including river chub, rosyface shiner, and southern redbelly dace), good-excellent habitat with QHEIs into the 80s, and an EWH IBI score. Collection of more data in the future may refine the extent of this designation which is made on relatively little data.</p>	<i>Recommended Tier</i> SHQW		URM:	8.40	LRM:	0.00	Miles	8.40
<i>Recommended Tier</i> SHQW									
URM:	8.40								
LRM:	0.00								
Miles	8.40								

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
RIVER CHUB - Years: 1983 - Number Collected: 1	None	None			
SOUTH. REDBELLY DACE - Years: 1991, 2000 - Number Collected: 105	Endangered Unionids	Special Concern Fish	--Year:2000----- 2.80 65.5 - 29.85 -	--Year:2000----- 2.80 50 - Exceptional IBI	--Year:1991----- 2.20 38 -
ROSYFACE SHINER - Years: 1983 - Number Collected: 1	None	None	--Year:1991----- 2.80 71.0 - 29.85 -	--Year:1988----- 0.30 30 -	--Year:1984----- 2.80 18 -
			--Year:1983----- 2.80 87.0 - 29.85 - Excellent	0.20 34 -	
			Habitat	0.10 32 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH 4 14 08-001	<i>Recommended Tier SRW</i> URM: 15.82 LRM: 7.80 Miles 8.02	LITTLE BEAVER CREEK (MIDDLE FORK TO NORTH FORK)	This stream has good populations of declining fish species, high IBI scores, excellent habitat, and harbors a population of hellbender, an endangered aquatic amphibian. In addition, the natural and aesthetic quality of this river have been recognized by its designation as an Ohio Wild and Scenic River. The presence of the Hellbender, only found in very high quality river systems indicates this reach would be vulnerable to significant changes in water quality or habitat conditions.			
Declining Fish ----- HORNYHEAD CHUB - Years: 1999 - Number Collected: 1 RIVER CHUB - Years: 1985, 1987, 1997, 1999 - Number Collected: 320 ROSYFACE SHINER - Years: 1985, 1987, 1997, 1999 - Number Collected: 292 VARIEGATE DARTER - Years: 1982, 1985, 1997, 1999 - Number Collected: 21	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- --	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1999----- 8.00 76.5 - 10.15 - Excellent Habitat 15.00 77.5 - 11.11 - Excellent Habitat --Year:1997----- 15.00 80.5 - 11.11 - Excellent Habitat --Year:1985----- 8.00 82.0 - 10.15 - Excellent Habitat 15.00 83.0 - 11.11 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1999----- 15.00 53 - Exceptional IBI 15.00 53 - Exceptional IBI 15.00 53 - Exceptional IBI 8.00 46 - Exceptional IBI 8.00 48 - Exceptional IBI 8.00 46 - Exceptional IBI 8.00 48 - Exceptional IBI 8.00 49 - Exceptional IBI 8.00 49 - Exceptional IBI --Year:1987----- 8.00 50 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1999----- 15.00 48 - Exceptional ICI 8.50 46 - Exceptional ICI --Year:1985----- 15.00 50 - Exceptional ICI 8.00 52 - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH 4 1 08-001	<i>Recommended Tier SRW</i> URM: 7.80 LRM: 0.00 Miles 7.80	LITTLE BEAVER CREEK (NORTH FORK TO OHIO RIVER)	See comments for the upstream reach. Most of the data was collected in the reach upstream of this segment, however, this segment has excellent habitat and is an integral component of this high quality river system. Little Beaver is also designated as a Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
RIVER CHUB - Years: 1985, 1999 - Number Collected: 6	None Endangered Unionids	None Special Concern Fish	--Year:1999----- 4.50 77.0 - 8.51 - Excellent Habitat	--Year:1999----- 4.50 42 - 4.50 42 - 4.50 42 -	--Year:1999----- --Year:1994----- 4.50 40 - --Year:1987----- 4.50 48 - Exceptional ICI --Year:1985-----	
ROSYFACE SHINER - Years: 1999 - Number Collected: 15	--Living--Dead--Weathered--Subfossil--Name-- -- None	----- None	--Year:1985----- 4.00 87.0 - 8.51 - Excellent Habitat 4.50 88.0 - 8.51 - Excellent Habitat	4.50 42 - 4.50 44 - 4.50 42 - 4.50 44 -	4.50 38 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH39 32 02-251	<i>Recommended Tier</i> SHQW URM: 6.00 LRM: 0.00 Miles 6.00	LITTLE DARBY CREEK	Little Darby Creek of Big Darby Creek, a small tributary, merits a SHQW designation because of: 1.) high IBI scores at most sites , 3.) excellent habitat (QHEI of 88 near mouth) habitat, and 4.) its importance and proximity to Big Darby Creek. Part of the natural character of Big Darby Creek is dependent on the high quality of some of its trees.		
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1988 - Number Collected: 2 ROSEFIN SHINER - Years: 1989 - Number Collected: 2 BRINDLED MADTOM - Years: 1989 - Number Collected: 3	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1988----- 0.50 88.5 - 26.32 - Excellent Habitat 3.70 63.5 - 31.25 -	IBI Values --RM--IBI--Narrative ----- --Year:1989----- 0.50 57 - Superior IBI Scores --Year:1988----- 0.50 52 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1988----- 0.40 G -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description										
OH39 15 02-210	<i>Recommended Tier SRW</i> URM: 45.00 LRM: 31.30 Miles 13.70	LITTLE DARBY CREEK (HEADWATERS TO TREACLE CREEK)				See previous segment, Little Darby is a Scenic River and should have the SRW tier.					
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----						
HORNYHEAD CHUB - Years: 1987, 1991, 1992, 1993, 1994, - Number Collected: 67	None	None	--Year:1997----- 34.80 56.5 - 4.72 -	--Year:1998----- 41.20 42 -	--Year:1997----- 41.20 54 - Superior ICI Score						
ROSYFACE SHINER - Years: 1991, 1994, 1998 - Number Collected: 27	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -----	Special Concern Fish -----	38.90 77.0 - 12.99 - Excellent	38.80 38 -	Habitat 34.20 50 - Exceptional IBI						
ROSEFIN SHINER - Years: 1991, 1992, 1994, 1997, 1998 - Number Collected: 27	7 5 0 0 rabbitsfoot - Quadrula cylindrica cylindrica (Say, 1817) - Years: 85, 86, 90 19 31 0 0 clubshell - Pleurobema clava (Lamarck, 1819) - Years: 84, 85, 86, 87, 90	None	Habitat 41.20 69.5 - 43.47 - --Year:1994----- 34.00 60.0 - 5.43 - --Year:1992----- 33.40 41.5 - 4.50 - 38.80 74.5 - 12.99 - 40.90 75.0 - 43.47 - Excellent	34.20 50 - Exceptional IBI --Year:1997----- 38.80 39 - 34.80 42 - --Year:1994----- 41.20 38 - 41.20 38 - 38.80 40 - 38.80 36 - 34.20 52 - Exceptional IBI 34.20 44 - Habitat 34.20 44 - --Year:1993----- 38.80 42 - 34.20 45 - --Year:1992----- 41.70 48 - Exceptional IBI 39.10 50 - Exceptional IBI 38.80 42 - 38.80 46 - Exceptional IBI 33.60 48 - Exceptional ICI 33.60 46 - Exceptional IBI --Year:1987----- 39.30 34 - 39.10 28 -	38.80 48 - Exceptional ICI 34.70 58 - Superior ICI Score						

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description	Recommended Tier SRW
OH39 8 02-210	LITTLE DARBY CREEK (SPRING FORK TO BIG DARBY CR.)	URM: 17.46 LRM: 0.00 Miles 17.46
<p>Little Darby Creek as an important tributary to Big Darby is one of the prototypical State Resource Water streams in Ohio. It has frequent IBI and ICI scores in the high 50s (including one of the few 60 IBI scores in Ohio), a large number of declining species, each with large populations (e.g., we have captured over 2500 variegate darters and 2600 rosyface shiners in this reach alone) state endangered and threatened fish (e.g., spotted darter) and unionid species, Federally endangered unionid species, and QHEI scores in the 80s and 90s (and one of the few 100 scores in our database). Since the removal of a dam near its confluence with Big Darby Creek, endangered and threatened fish species have been collected more frequently by biologists in Little Darby Creek. This reach is clearly a SRW. Little Darby Creek is also a State Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs that further justify a State Resource Water antidegradation tier.</p>		
Declining Fish	Endangered Fish	Threatened Fish
HORNYHEAD CHUB - Years: 1979, 1981, 1983, 1984, 1985, - Number Collected: 1247 STREAMLINE CHUB - Years: 1992, 1996, 1997, 1999 - Number Collected: 46 ROSYFACE SHINER - Years: 1981, 1983, 1984, 1985, 1986, - Number Collected: 2660 ROSEFIN SHINER - Years: 1981, 1983, 1984, 1985, 1986, - Number Collected: 1511 MIMIC SHINER - Years: 1992, 1994, 1996, 1997 - Number Collected: 101 BRINDLED MADTOM - Years: 1984, 1985, 1986, 1990, 1991, - Number Collected: 14 VARIEGATE DARTER - Years: 1981, 1983, 1984, 1985, 1986, - Number Collected: 2544 TIPPECANOE DARTER - Years: 1992, 1997, 1999 - Number Collected: 9	None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 7 5 0 0 rabbitsfoot - Quadrula cylindrica cylindrica (Say, 1817) - Years: 85, 86, 90 19 31 0 0 clubshell - Pleurobema clava (Lamarck, 1819) - Years: 84, 85, 86, 87, 90	TIPPECANOE DARTER - Years: 1992, 1997, 1999 - Number Collected: 9 Special Concern Fish None
QHEI Values	IBI Values	ICI Values
--RM--QHEI--Gradient--Narrative ---Year:1997----- 0.10 63.5 - 9.90 - 0.10 75.5 - 9.90 - Excellent Habitat 0.50 77.0 - 7.30 - Excellent Habitat 0.60 82.0 - 7.30 - Excellent Habitat 0.60 84.5 - 7.30 - Excellent Habitat 3.90 98.0 - 5.59 - Outstanding Habitat 6.40 87.0 - 8.47 - Excellent Habitat ---Year:1996----- 0.20 57.0 - 9.90 - 4.00 95.0 - 5.59 - Outstanding Habitat 9.00 91.0 - 5.15 - Outstanding Habitat ---Year:1994----- 4.00 94.0 - 5.59 - Outstanding Habitat 15.30 92.5 - 2.69 - Outstanding Habitat	---RM---IBI---Narrative ---Year:1999----- 0.40 48 - Exceptional IBI ---Year:1998----- 0.70 52 - Exceptional IBI ---Year:1997----- 6.40 52 - Exceptional IBI ---Year:1997----- 4.00 55 - Superior IBI Scores ---Year:1996----- 3.90 55 - Superior IBI Scores ---Year:1993----- 0.70 54 - Superior IBI Scores ---Year:1992----- 0.60 58 - Superior IBI Scores ---Year:1991----- 0.60 52 - Exceptional IBI ---Year:1990----- 0.10 50 - Exceptional IBI ---Year:1996----- 6.40 52 - Exceptional IBI ---Year:1996----- 4.00 58 - Superior IBI Scores ---Year:1987----- 7.30 50 - Exceptional ICI 3.50 44 - Exceptional ICI ---Year:1991----- 3.90 VG - ---Year:1990----- 15.30 42 - ---Year:1987----- 7.30 E - Exceptional ICI 5.20 MG - 2.50 E - Exceptional ICI	---RM---ICI---Rating ---Year:1998----- 0.70 50 - Exceptional ICI ---Year:1997----- 7.30 52 - Exceptional ICI ---Year:1997----- 3.90 46 - Exceptional ICI ---Year:1997----- 0.70 50 - Exceptional ICI ---Year:1996----- 0.70 48 - Exceptional ICI ---Year:1993----- 15.30 34 - ---Year:1992----- 15.30 40 - ---Year:1991----- 7.30 50 - Exceptional ICI 3.50 44 - Exceptional ICI ---Year:1991----- 3.90 VG - ---Year:1990----- 15.30 42 - ---Year:1987----- 7.30 E - Exceptional ICI 5.20 MG - 2.50 E - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

---Year:1992----- 0.30 56.0 - 9.90 - 4.10 100.0 - 5.59 - Outstanding Habitat 6.30 95.0 - 8.47 - Outstanding Habitat ---Year:1991----- 15.20 83.0 - 2.69 - Excellent Habitat ---Year:1984----- 15.20 91.0 - 2.69 - Outstanding Habitat ---Year: 0----- 15.20 88.0 - 2.69 - Excellent Habitat	---Year:1995----- 15.30 54 - Superior IBI Scores ---Year:1994----- 15.30 48 - Exceptional IBI 4.10 54 - Superior IBI Scores 4.00 52 - Exceptional IBI 4.00 54 - Superior IBI Scores ---Year:1993----- 4.00 52 - Exceptional IBI ---Year:1992----- 6.30 59 - Superior IBI Scores 4.10 57 - Superior IBI Scores 4.00 57 - Superior IBI Scores 0.30 48 - Exceptional IBI ---Year:1991----- 6.50 58 - Superior IBI Scores 4.00 48 - Exceptional IBI ---Year:1990----- 4.00 56 - Superior IBI Scores 0.20 42 - ---Year:1987----- 17.30 48 - Exceptional IBI 6.30 48 - Exceptional IBI 5.20 50 - Exceptional IBI 4.00 60 - Superior IBI Scores 4.00 60 - Superior IBI Scores ---Year:1986----- 15.60 44 - 15.50 47 - Exceptional IBI 15.40 47 - Exceptional IBI 15.30 42 - 15.30 51 - Exceptional IBI	---Year:1983----- 15.30 30 - ---Year:1979----- 14.90 36 - 8.30 38 - 4.00 26 -
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Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

15.30 42 -
15.20 43 -
15.20 44 -
15.10 47 - Exceptional IBI
9.40 52 - Exceptional IBI
6.70 54 - Superior IBI Scores

---Year:1985-----

15.50 46 - Exceptional IBI
15.40 40 -
15.30 46 - Exceptional IBI
15.30 48 - Exceptional IBI
15.20 44 -
15.20 48 - Exceptional IBI
15.10 48 - Exceptional IBI
15.10 48 - Exceptional IBI
14.90 52 - Exceptional IBI
6.50 44 -
5.30 38 -
4.00 60 - Superior IBI Scores

4.00 60 - Superior IBI Scores

0.80 54 - Superior IBI Scores

---Year:1984-----

15.60 44 -
15.50 50 - Exceptional IBI
15.50 48 - Exceptional IBI
15.40 47 - Exceptional IBI
15.40 40 -
15.30 47 - Exceptional IBI
15.30 48 - Exceptional IBI
15.20 47 - Exceptional IBI
15.20 48 - Exceptional IBI
15.10 48 - Exceptional IBI
15.10 46 - Exceptional IBI

---Year:1983-----

15.20 48 - Exceptional IBI

---Year:1981-----

15.20 44 -

---Year:1979-----

15.40 48 - Exceptional IBI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

15.30 48 - Exceptional IBI

15.20 50 - Exceptional IBI

4.00 47 - Exceptional IBI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description						
OH39 10 02-210	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;"> <i>Recommended Tier</i> SRW </div> LITTLE DARBY CREEK (TREACLE CREEK TO SPRING FORK)						
	See previous segment, Little Darby is a Scenic River and should have the SRW tier.						
	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 2px;">URM:</td> <td style="padding: 2px;">31.30</td> </tr> <tr> <td style="padding: 2px;">LRM:</td> <td style="padding: 2px;">17.46</td> </tr> <tr> <td style="padding: 2px;">Miles</td> <td style="padding: 2px;">13.84</td> </tr> </table>	URM:	31.30	LRM:	17.46	Miles	13.84
URM:	31.30						
LRM:	17.46						
Miles	13.84						

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
HORNYHEAD CHUB - Years: 1986, 1987, 1991, 1992, 1993, - Number Collected: 72	None	None	-----	-----	-----
ROSYFACE SHINER - Years: 1991, 1993, 1997 - Number Collected: 42	Endangered Unionids	Special Concern Fish	---Year:1997-----	---Year:1998-----	---Year:1997-----
ROSEFIN SHINER - Years: 1986, 1991, 1992, 1993, 1994, - Number Collected: 139	--Living--Dead--Weathered--Subfossil--Name--	-----	19.50 62.0 - 2.56 -	24.50 50 - Exceptional IBI	30.80 52 - Exceptional ICI
VARIEGATE DARTER - Years: 1985, 1986, 1987, 1994, 1997 - Number Collected: 78	7 5 0 0 rabbitsfoot - Quadrula cylindrica cylindrica (Say, 1817) - Years: 85, 86, 90	None	24.50 66.0 - 2.02 -	---Year:1997-----	24.50 46 - Exceptional ICI
	19 31 0 0 clubshell - Pleurobema clava (Lamarck, 1819) - Years: 84, 85, 86, 87, 90		28.20 74.5 - 2.67 -	28.20 54 - Superior IBI	19.50 52 - Exceptional ICI
			---Year:1992-----	Scores	---Year:1991-----
			24.50 56.5 - 2.02 -	24.50 51 - Exceptional IBI	24.50 46 - Exceptional ICI
			---Year:1991-----	19.50 50 - Exceptional IBI	
			19.50 64.5 - 2.56 -	---Year:1994-----	
				24.50 54 - Superior IBI	
				Scores	
				---Year:1992-----	
				24.50 48 - Exceptional IBI	
				24.50 50 - Exceptional IBI	
				---Year:1987-----	
				19.50 50 - Exceptional IBI	
				---Year:1985-----	
				27.50 42 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description										
OH54 7 11-001	<div style="text-align: center; border-bottom: 1px solid black;"> <i>Recommended Tier</i> SRW </div> <div style="padding: 5px;"> URM: 24.00 LRM: 11.50 Miles 12.50 </div>	LITTLE MIAMI R. (O'BANNON CR. TO E. FK. L. MIAMI) This reach of the Little Miami River has sufficient ecological attributes, including good populations of declining species (e.g., slenderhead darter), the special interest river redhorse, and endangered mussels. It also has consistently high ICI scores, excellent habitat, and has a Scenic River designation, all warranting a SRW antidegradation tier.									
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative			IBI Values --RM--IBI--Narrative			ICI Values --RM--ICI--Rating		
MOONEYE - Years: 1983, 1993 - Number Collected: 7	None	None	--Year:1998-----			--Year:1998-----			--Year:1998-----		
MIMIC SHINER - Years: 1982, 1998 - Number Collected: 5	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--	Special Concern Fish -----	13.50	81.0	5.52 - Excellent	23.90	41 -	21.90	48 - Exceptional ICI		
SLENDERHEAD DARTER - Years: 1993, 1998 - Number Collected: 34	1 0 0 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 90	RIVER REDHORSE - Years: 1988, 1993, 1998 - Number Collected: 34	Habitat	18.50	79.0 - 6.58 - Excellent	21.80	35 -	21.80	F -		
			Habitat	21.10	81.5 - 3.85 - Excellent	18.50	40 -	19.10	E - Exceptional		
			Habitat	21.90	76.5 - 4.65 - Excellent	--Year:1993-----		13.60	VG -		
			Habitat	23.90	82.5 - 3.98 - Excellent	22.10	46 - Exceptional IBI	--Year:1993-----			
			Habitat	20.90	80.0 - 3.85 - Excellent	21.50	49 - Exceptional IBI	23.90	50 - Exceptional ICI		
			--Year:1993-----	13.30	86.5 - 5.52 - Excellent	20.90	45 -	22.20	32 -		
			Habitat	18.50	72.5 - 6.58 -	18.50	40 -	21.40	56 - Superior ICI Score		
			Habitat	20.90	80.0 - 3.85 - Excellent	--Year:1983-----		20.60	58 - Superior ICI Score		
			Habitat	21.50	84.0 - 3.85 - Excellent	20.90	39 -	18.90	VG -		
			Habitat	22.10	63.5 - 4.65 -	18.50	39 -	13.10	32 -		
			Habitat	23.90	82.5 - 3.98 - Excellent	13.10	34 -	--Year:1983-----			
			--Year:1983-----	13.10	89.5 - 5.52 - Excellent	23.90	52 - Exceptional ICI	20.90	40 -		
			Habitat	18.50	83.0 - 6.58 - Excellent	18.50	42 -	13.10	44 - Exceptional ICI		
			Habitat	20.90	90.0 - 3.85 - Outstanding	--Year:1983-----					
			Habitat								

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description
OH50 4 11-001	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;"> <i>Recommended Tier</i> SRW </div> LITTLE MIAMI RIVER (BEAVER CREEK TO GLADY RUN) <p style="margin-top: 10px;">This reach of the Little Miami River has sufficient ecological attributes, including good populations of the declining species [e.g., river chub, rosyface shiner], endangered mussels, consistently high ICI scores, excellent habitat, and a Scenic River designation all warranting a SRW antidegradation tier.</p>
URM: 72.70 LRM: 63.70 Miles 9.00	

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
RIVER CHUB - Years: 1983, 1993, 1998 - Number Collected: 64	None	None	-----	-----	-----
ROSYFACE SHINER - Years: 1993, 1998 - Number Collected: 23	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 1 0 0 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 19	Special Concern Fish ----- None	---Year:1998----- 64.20 74.5 - 2.60 - 65.60 77.0 - 2.60 - Excellent Habitat 69.30 79.0 - 3.06 - Excellent Habitat 72.30 82.0 - 4.78 - Excellent Habitat ---Year:1993----- 64.20 74.0 - 2.60 - 64.40 62.5 - 2.60 - 64.70 73.0 - 2.60 - 71.80 77.5 - 4.78 - Excellent Habitat	---Year:1998----- 72.30 48 - Exceptional IBI 69.30 47 - Exceptional IBI 65.60 43 - 64.40 34 - 64.20 42 - ---Year:1993----- 64.70 41 - 64.40 33 - ---Year:1983----- 64.20 46 - Exceptional IBI ---Year:1983----- 72.50 45 - 66.60 31 -	---Year:1998----- 72.30 46 - Exceptional ICI 69.90 46 - Exceptional ICI 66.90 46 - Exceptional ICI 64.50 50 - Exceptional ICI 64.40 MG - 64.40 P - 64.20 46 - Exceptional ICI ---Year:1993----- 72.30 52 - Exceptional ICI 65.60 44 - Exceptional ICI 64.40 38 - 64.20 46 - Exceptional ICI ---Year:1983----- 72.30 28 - 66.60 32 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description
OH54 30 11-001	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;"> <i>Recommended Tier SRW</i> URM: 50.90 LRM: 38.50 Miles 12.40 </div> LITTLE MIAMI RIVER (CAESAR CREEK TO TODD FORK) See the narrative for the Glady Run to Caesar Creek segment.

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
MOONEYE - Years: 1983 - Number Collected: 4	None	None	-----	-----	-----
RIVER CHUB - Years: 1993, 1998 - Number Collected: 2	Endangered Unionids	Special Concern Fish	---Year:1998-----	---Year:1998-----	---Year:1998-----
ROSYFACE SHINER - Years: 1998 - Number Collected: 4	--Living--Dead--Weathered--Subfossil--Name-- --	None	38.50 81.0 - 4.22 - Excellent Habitat	45.70 42 - 43.80 46 - Exceptional IBI	50.70 48 - Exceptional ICI 47.50 52 - Exceptional ICI
MIMIC SHINER - Years: 1998 - Number Collected: 4	1 0 0 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 90		43.80 82.0 - 4.50 - Excellent Habitat	38.50 43 - ---Year:1993-----	43.90 48 - Exceptional ICI ---Year:1993-----
SLENDERHEAD DARTER - Years: 1998 - Number Collected: 6			45.70 78.5 - 5.03 - Excellent Habitat	44.20 49 - Exceptional IBI 38.60 47 - Exceptional IBI	47.50 34 - 43.70 48 - Exceptional ICI
			---Year:1993-----	---Year:1983-----	38.60 50 - Exceptional ICI
			38.60 83.5 - 4.22 - Excellent Habitat	44.20 44 - 38.60 48 - Exceptional IBI	---Year:1983----- 47.30 G -
			44.20 83.5 - 4.50 - Excellent Habitat		43.70 32 -
			47.50 76.5 - 5.68 - Excellent Habitat		38.70 G -
			---Year:1983-----		
			44.20 84.5 - 4.50 - Excellent Habitat		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH54 1 11-001	<i>Recommended Tier SRW</i> URM: 11.50 LRM: 0.00 Miles 11.50	LITTLE MIAMI RIVER (E. FK. L. MIAMI R. TO OHIO R.) This reach of the Little Miami River has sufficient ecological attributes, (including good populations of the declining species [rosyface shiner, mooneye, and slenderhead darter], the special interest river redhorse, endangered mussels, and the endangered mountain madtom], consistently high ICI scores, and excellent-outstanding habitat), and a Scenic River designation all warranting a SRW antidegradation tier.			
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
----- MOONEYE - Years: 1983, 1993, 1998 - Number Collected: 20 RIVER CHUB - Years: 1977 - Number Collected: 2 ROSYFACE SHINER - Years: 1988 - Number Collected: 341 MIMIC SHINER - Years: 1988, 1989, 1998 - Number Collected: 23 MOUNTAIN MADTOM - Years: 1993, 1998 - Number Collected: 215 SLENDERHEAD DARTER - Years: 1988, 1993, 1998 - Number Collected: 8	----- MOUNTAIN MADTOM - Years: 1993, 1998 - Number Collected: 215 Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- 1 0 0 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 90	----- None Special Concern Fish ----- RIVER REDHORSE - Years: 1993, 1998 - Number Collected: 8	--RM---QHEI---Gradient---Narrative ----- --Year:1998----- 3.50 75.5 - 5.62 - Excellent Habitat 10.90 84.5 - 4.98 - Excellent Habitat --Year:1993----- 0.20 50.0 - 0.10 - 1.60 51.0 - 0.10 - 3.50 81.5 - 5.62 - Excellent Habitat 8.00 82.0 - 3.95 - Excellent Habitat 8.30 73.0 - 3.95 - --Year:1983----- 0.40 48.5 - 0.10 - 1.60 49.5 - 0.10 - 8.40 87.5 - 3.95 - Excellent Habitat	--RM---IBI---Narrative ----- --Year:1998----- 10.90 39 - 3.70 22 - 3.50 38 - --Year:1993----- 8.00 43 - 3.50 40 - 1.60 33 - 0.20 29 - --Year:1983----- 8.40 41 - 1.60 35 - 0.40 33 -	--RM---ICI---Rating ----- --Year:1998----- 8.80 E - Exceptional ICI ----- --Year:1993----- 8.80 52 - Exceptional ICI ----- --Year:1983----- 8.80 48 - Exceptional ICI 3.30 20 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH50 1 11-001	<i>Recommended Tier</i> SRW URM: 63.70 LRM: 50.90 Miles 12.80	LITTLE MIAMI RIVER (GLADY RUN TO CAESAR CREEK)			
		This reach of the Little Miami River has sufficient ecological attributes, including good populations of the declining species [e.g., rosyface shiner, mooneye], endangered mussels, consistently high ICI scores, excellent habitat, and a Scenic River designation all warranting a SRW antidegradation tier.			
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	---RM---QHEI---Gradient---Narrative	---RM---IBI---Narrative	---RM---ICI---Rating
MOONEYE - Years: 1993 - Number Collected: 1	None	None	-----	-----	-----
ROSYFACE SHINER - Years: 1993, 1998 - Number Collected: 23	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 1 0 0 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 19	Special Concern Fish ----- None	---Year:1998----- 51.20 85.5 - 4.57 - Excellent Habitat 53.60 65.0 - 3.28 - 54.00 76.5 - 3.28 - Excellent Habitat 59.80 77.0 - 4.44 - Excellent Habitat 63.30 78.0 - 2.60 - Excellent Habitat ---Year:1993----- 53.50 65.0 - 3.28 - 63.40 71.0 - 2.60 -	---Year:1998----- 63.30 44 - 59.80 44 - 54.00 50 - Exceptional IBI 53.80 28 - 51.20 46 - Exceptional IBI ---Year:1993----- 53.50 33 - ---Year:1983----- 53.60 34 - 53.10 39 -	---Year:1998----- 63.00 56 - Superior ICI Score 60.90 56 - Superior ICI Score 54.30 40 - 53.20 44 - Exceptional ICI ---Year:1993----- 63.00 46 - Exceptional ICI 53.20 40 - ---Year:1983----- 63.20 34 - 53.90 38 - 52.80 36 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH50 23 11-001	<i>Recommended Tier</i> SRW URM: 105.50 LRM: 91.60 Miles 13.90	LITTLE MIAMI RIVER (HEADWATERS TO NORTH FORK)				The Little Miami River has a Scenic River designation. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs. Consequently, the Little Miami River is given a State Resource Water antidegradation tier.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative		IBI Values --RM--IBI--Narrative		ICI Values --RM--ICI--Rating		
CREEK CHUBSUCKER - Years: 1983, 1993, 1998, 1999, 2000 - Number Collected: 106	None	None	--Year:1998-----		--Year:1998-----		--Year:1998-----		
LEAST DARTER - Years: 1999 - Number Collected: 4	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 1 0 0 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 19	Special Concern Fish ----- LEAST DARTER - Years: 1999 - Number Collected: 4	92.20	67.0 - 5.59 -	104.90	28 -	104.90	P -	
			98.30	54.0 - 8.33 -	101.30	41 -	101.80	18 -	
			101.30	44.5 - 6.58 -	98.30	37 -	98.80	44 - Exceptional ICI	
			104.90	47.5 - 8.33 -	92.20	40 -	92.10	50 - Exceptional ICI	
			--Year:1993-----		--Year:1993-----		--Year:1993-----		
			92.20	68.5 - 5.59 -	98.30	36 -	101.50	E - Exceptional	
			98.30	75.0 - 8.33 - Excellent	92.20	35 -	ICI		
			Habitat		--Year:1983-----		98.80 50 - Exceptional ICI		
			102.10	62.0 - 6.94 -	101.30	35 -	--Year:1983-----		
			--Year:1983-----		98.90 29 -		101.40 38 -		
			101.30	51.5 - 6.58 -	92.10	32 -	98.70 18 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description
OH50 10 11-001	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;"> <i>Recommended Tier</i> SRW </div> LITTLE MIAMI RIVER (MASSIES CREEK TO BEAVER CREEK) <p style="margin-top: 10px;">This reach of the Little Miami River has sufficient ecological attributes, including good populations of the declining species [e.g., rosyface shiner, river chub], endangered mussels, consistently high ICI scores, excellent habitat, and a Scenic River designation all warranting a SRW antidegradation tier.</p>
URM: 79.50 LRM: 72.70 Miles 6.80	

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
RIVER CHUB - Years: 1987, 1993, 1998 - Number Collected: 188	None	None	-----	-----	-----
ROSYFACE SHINER - Years: 1993, 1998 - Number Collected: 213	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 1 0 0 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 19	Special Concern Fish ----- None	--Year:1998----- 76.80 79.5 - 5.13 - Excellent Habitat --Year:1993----- 74.50 77.5 - 5.38 - Excellent Habitat 76.80 76.0 - 5.13 - Excellent Habitat 77.00 63.5 - 5.13 - 77.30 78.0 - 5.13 - Excellent Habitat	--Year:1998----- 77.00 39 - 76.80 47 - Exceptional IBI --Year:1993----- 77.00 42 - 76.80 49 - Exceptional IBI 74.50 48 - Exceptional IBI --Year:1983----- 74.50 45 -	--Year:1998----- 77.10 E - Exceptional ICI 77.00 G - 77.00 F - 76.90 50 - Exceptional ICI 74.60 52 - Exceptional ICI --Year:1993----- 77.00 G - 76.70 44 - Exceptional ICI 74.60 E - Exceptional ICI --Year:1983----- 76.20 38 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH50 17 11-001	<i>Recommended Tier</i> SRW	LITTLE MIAMI RIVER (NORTH FORK TO MASSIES CREEK) This reach of the Little Miami River has sufficient ecological attributes, including good populations of the declining species [e.g., creek chubsucker, river chub, rosyface shiner], the threatened tonguetied minnow, endangered mussels, consistently high ICI scores, excellent habitat, and a Scenic River designation all warranting a SRW antidegradation tier.				
	URM: 91.60 LRM: 79.50 Miles 12.10					
Declining Fish		Endangered Fish	Threatened Fish	QHEI Values	IBI Values	
-----		-----	-----	---RM---QHEI---Gradient---Narrative	---RM---IBI---Narrative	ICI Values
-----		-----	-----	-----	-----	---RM---ICI---Rating
CREEK CHUBSUCKER - Years: 2000 - Number Collected: 1	None	TONGUETIED MINNOW - Years: 1983, 1993, 2000 - Number Collected: 11		---Year:1998-----	---Year:1998-----	---Year:1998-----
RIVER CHUB - Years: 1983, 1987, 1993, 1998 - Number Collected: 711	--Living--Dead--Weathered--Subfossil---Name---	Special Concern Fish		80.60 79.0 - 2.96 - Excellent	85.40 38 -	88.00 G -
TONGUETIED MINNOW - Years: 1983, 1993, 2000 - Number Collected: 11	--	-----		Habitat	83.10 48 - Exceptional IBI	85.30 38 -
ROSYFACE SHINER - Years: 1987, 1993, 1998, 2000 - Number Collected: 507	1 0 0 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 19	None		83.10 81.5 - 25.00 - Excellent	83.10 48 - Exceptional IBI	83.10 40 -
				Habitat	80.60 46 - Exceptional IBI	80.60 48 - Exceptional ICI
				85.90 68.0 - 4.90 -	80.60 44 -	---Year:1993-----
				---Year:1993-----	---Year:1993-----	89.20 E - Exceptional
				83.10 76.5 - 25.00 - Excellent	83.10 45 -	ICI
				Habitat	---Year:1987-----	85.30 46 - Exceptional ICI
				85.40 87.0 - 4.90 - Excellent	83.10 42 -	83.10 48 - Exceptional ICI
				Habitat	80.60 50 - Exceptional IBI	80.60 46 - Exceptional ICI
				---Year:1983-----	---Year:1983-----	---Year:1991-----
				83.10 75.0 - 25.00 - Excellent	83.10 49 - Exceptional IBI	80.60 50 - Exceptional ICI
				Habitat	80.80 48 - Exceptional IBI	---Year:1989-----
				85.40 88.0 - 4.90 - Excellent		80.60 46 - Exceptional ICI
				Habitat		---Year:1987-----
						80.60 34 -
						---Year:1984-----
						80.60 44 - Exceptional ICI
						---Year:1983-----
						89.10 20 -
						86.40 36 -
						83.10 34 -
						80.60 34 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description
OH54 27 11-001	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;"> <i>Recommended Tier</i> SRW </div> LITTLE MIAMI RIVER (TODD FORK TO TURTLE CREEK) See the narrative for the Glady Run to Caesar Creek segment.
URM: 38.50 LRM: 33.20 Miles 5.30	

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
MOONEYE - Years: 1983, 1998 - Number Collected: 2	None	None	-----	-----	-----
ROSYFACE SHINER - Years: 1998 - Number Collected: 3	Endangered Unionids	Special Concern Fish	--Year:1998-----	--Year:1998-----	--Year:1998-----
MIMIC SHINER - Years: 1998 - Number Collected: 4	--Living--Dead--Weathered--Subfossil--Name--	-----	33.60 81.0 - 2.79 - Excellent	38.50 43 -	36.00 42 -
VARIEGATE DARTER - Years: 1993 - Number Collected: 1	1 0 0 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 90	None	Habitat	33.60 45 -	--Year:1993-----
			38.50 81.0 - 4.22 - Excellent	--Year:1983-----	35.90 34 -
			Habitat	36.00 45 -	--Year:1983-----
			--Year:1993-----		35.90 42 -
			35.50 76.5 - 7.52 - Excellent		
			Habitat		
			--Year:1983-----		
			36.00 85.5 - 7.52 - Excellent		
			Habitat		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description											
OH54 16 11-001	<div style="text-align: center; border-bottom: 1px solid black;"> <i>Recommended Tier</i> SRW </div> <div style="padding: 5px;"> URM: 33.20 LRM: 24.00 Miles 9.20 </div>	LITTLE MIAMI RIVER (TURTLE CR. TO O'BANNON CR.) This reach of the Little Miami River has sufficient ecological attributes, including good populations of declining species (e.g., slenderhead darter, mooneye), the special interest river redhorse, and endangered mussels. It also has consistently high ICI scores, excellent habitat, and has a Scenic River designation, all warranting a SRW antidegradation tier.										
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values			IBI Values			ICI Values			
-----	-----	-----	--RM--	--QHEI--	--Gradient--	--Narrative	--RM--	--IBI--	--Narrative	--RM--	--ICI--	--Rating
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
MOONEYE - Years: 1983, 1998 - Number Collected: 10	None	None	27.90	81.5	4.95	Excellent	32.10	44	-	32.90	38	-
SLENDERHEAD DARTER - Years: 1993, 1998 - Number Collected: 9	Endangered Unionids rayed bean - Villosa fabalis (Lea, 1831) - Years: 90	Special Concern Fish RIVER REDHORSE - Years: 1993, 1998 - Number Collected: 4	Habitat 28.30	80.5	3.56	Excellent	Habitat 28.30	48	Exceptional IBI	Habitat 32.10	MG	-
			32.00	84.0	2.79	Excellent	Habitat 27.90	44	-	Habitat 32.00	48	Exceptional ICI
			32.10	77.0	2.79	Excellent	Habitat 32.10	37	-	Habitat 29.20	48	Exceptional ICI
			27.90	80.0	4.95	Excellent	Habitat 27.90	50	Exceptional IBI	Habitat 28.00	42	-
			28.30	57.5	3.56	-	Habitat 31.90	41	-	Habitat 24.20	48	Exceptional ICI
			31.90	86.5	2.79	Excellent	Habitat 29.50	39	-	Habitat 32.00	56	Superior ICI Score
			32.10	77.0	2.79	Excellent	Habitat 27.10	42	-	Habitat 30.70	52	Exceptional ICI
			32.90	74.0	2.79	-	Habitat 32.90	42	-	Habitat 29.20	52	Exceptional ICI
			24.20	81.0	3.98	Excellent	Habitat 24.20	50	Exceptional IBI	Habitat 28.00	E	Exceptional ICI
										Habitat 33.00	44	Exceptional ICI
										Habitat 30.70	44	Exceptional ICI
										Habitat 29.20	46	Exceptional ICI
										Habitat 28.00	44	Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH 8 15 06-400	<i>Recommended Tier</i> SHQW URM: 34.47 LRM: 14.75 Miles 19.72	LITTLE MUSKINGUM R. (CLEAR FK. TO FIFTEEN MILE CR)	This reach of the Little Muskingum River should be a SHQW tier. It has EWH IBI scores, large numbers of declining species, most with good populations (rosyface shiner, mimic shiner, muskellunge (native), river chub, and brindled madtom), the endangered Ohio lamprey and QHEI scores into the 70s.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
MUSKELLUNGE - Years: 2000 - Number Collected: 5	OHIO LAMPREY - Years: 1983, 1985 - Number Collected: 2	None Special Concern Fish	17.20 77.0 - 2.19 - Excellent Habitat	30.20 56 - Superior IBI Scores	17.20 36 - --Year:1991----- 16.90 42 - --Year:1983-----	
RIVER CHUB - Years: 1985, 1991 - Number Collected: 20	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--	MUSKELLUNGE - Years: 2000 - Number Collected: 5	22.00 68.5 - 2.19 - 25.80 60.0 - 1.95 - 30.00 68.5 - 1.95 - --Year:1991-----	30.20 56 - Superior IBI Scores		
ROSYFACE SHINER - Years: 1983, 1985, 1991 - Number Collected: 310	--		17.30 75.5 - 2.19 - Excellent Habitat	27.80 48 - Exceptional IBI 25.80 48 - Exceptional IBI		
MIMIC SHINER - Years: 1985, 1991 - Number Collected: 43	None		17.30 75.5 - 2.19 - Excellent Habitat	22.00 48 - Exceptional IBI		
BRINDLED MADTOM - Years: 1985, 1991 - Number Collected: 8			17.30 73.5 - 2.19 - --Year:1983-----	22.00 48 - Exceptional IBI 17.20 52 - Exceptional IBI 17.20 52 - Exceptional IBI --Year:1986----- 17.20 44 - --Year:1985----- 25.30 42 - 21.20 40 - 21.20 40 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description
OH 8 36 06-400	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;"> <i>Recommended Tier</i> SHQW </div> LITTLE MUSKINGUM R. (WITTEN FORK TO CLEAR FORK) <p style="margin-left: 20px;">This reach of the Little Muskingum River should be a SHQW tier. It has EWH IBI scores, populations of declining species, (rosyface shiner, muskellunge (native), and brindled madtom), and good habitat.</p>
URM: 46.44 LRM: 34.47 Miles 8.97	

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
MUSKELLUNGE - Years: 1985 - Number Collected: 1	None	None			
ROSYFACE SHINER - Years: 2000 - Number Collected: 27	Endangered Unionids	Special Concern Fish	--Year:2000-----	--Year:2000-----	No Data
BRINDLED MADTOM - Years: 1985, 2000 - Number Collected: 3	--Living--Dead--Weathered--Subfossil--Name--	MUSKELLUNGE - Years: 1985 - Number Collected: 1	37.50 63.5 - 2.53 -	42.50 50 - Exceptional IBI	
	None		42.50 62.5 - 2.53 -	42.50 50 - Exceptional IBI	
				37.50 46 - Exceptional IBI	
				37.50 46 - Exceptional IBI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH22 15 17-215	<i>Recommended Tier</i> SHQW URM: 5.30 LRM: 0.00 Miles 5.30	LONG RUN	Long Run has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good populations of three sensitive headwater declining species (southern redbelly dace, rosefin shiner, and least brook lamprey) and consistently high IBI scores. It also has good -excellent habitat.		
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1986, 1999 - Number Collected: 30 SOUTH. REDBELLY DACE - Years: 1986 - Number Collected: 16 ROSEFIN SHINER - Years: 1999 - Number Collected: 24	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1999----- 0.20 61.5 - 18.35 - 0.40 86.0 - 18.35 - Excellent Habitat --Year:1986----- 0.40 71.0 - 18.35 -	IBI Values --RM--IBI--Narrative ----- --Year:1999----- 0.40 56 - Superior IBI Scores 0.20 50 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1986----- 0.40 28 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH56 8 14-048	<i>Recommended Tier</i> SHQW <hr/> URM: 17.40 LRM: 0.00 Miles 17.40	LOST CREEK	Lost Creek should be assigned the SHQW tier because of :1) populations of declining species (including hornyhead chub, and bigeye chub), excellent habitat with QHEIs into the 80s, and an EWH ICI score.		
Declining Fish <hr/> HORNYHEAD CHUB - Years: 1982, 1994 - Number Collected: 16 BIGEYE CHUB - Years: 1982, 1994, 2001 - Number Collected: 155	Endangered Fish <hr/> None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish <hr/> None Special Concern Fish <hr/> None	QHEI Values --RM--QHEI--Gradient--Narrative <hr/> --Year:1994----- 2.50 54.0 - 8.06 - 9.80 87.5 - 16.13 - Excellent Habitat --Year:1982----- 2.50 74.0 - 8.06 - 8.20 81.5 - 10.20 - Excellent Habitat 9.70 84.0 - 16.13 - Excellent Habitat	IBI Values --RM--IBI--Narrative <hr/> --Year:1994----- 9.80 45 - 2.50 44 - --Year:1982----- 8.20 40 - 2.50 41 -	ICI Values --RM--ICI--Rating <hr/> --Year:1994----- 9.90 32 - 9.80 E - Exceptional ICI --Year:1982----- 2.50 VG - --Year:1982-----

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH22 11 17-211	<i>Recommended Tier</i> SHQW URM: 10.20 LRM: 0.00 Miles 10.20	LOST RUN	Lost Run has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good populations of three sensitive headwater declining species (rosyface shiner, river chub, and least brook lamprey) and consistently high IBI and ICI scores. It also has good -excellent habitat.		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
LEAST BROOK LAMPREY - Years: 1986, 1999 - Number Collected: 32	None	None	--Year:1999----- 0.20 80.0 - 10.47 - Excellent Habitat	--Year:1999----- 4.10 52 - Exceptional IBI 0.20 53 - Exceptional IBI	--Year:1986----- 4.10 52 - Exceptional ICI 0.40 50 - Exceptional ICI
RIVER CHUB - Years: 1999 - Number Collected: 185	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish ----- None	4.10 70.5 - 14.60 - 4.10 77.5 - 14.60 - Excellent Habitat	--Year:1986----- 0.30 48 - Exceptional IBI	
ROSYFACE SHINER - Years: 1999 - Number Collected: 221	None		--Year:1986----- 0.30 83.0 - 10.47 - Excellent Habitat		
			4.10 71.5 - 14.60 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH47 89 10-082	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <i>Recommended Tier</i> SHQW </div>	LOWER TWIN CREEK	A large population of rosyside dace, a state endangered species, high IBI and ICI scores, and excellent habitat quality warrant a SHQW antidegradation tier.			
	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> URM: 7.70 LRM: 0.00 Miles 7.70 </div>					
Declining Fish ----- SOUTH. REDBELLY DACE - Years: 1997 - Number Collected: 1 ROSYSIDE DACE - Years: 1990, 1997 - Number Collected: 223 ROSEFIN SHINER - Years: 1990, 1997 - Number Collected: 244	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- ROSYSIDE DACE - Years: 1990, 1997 - Number Collected: 223 Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 2.30 85.5 - 28.57 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1997----- 2.40 47 - Exceptional IBI 2.30 44 -	ICI Values --RM--ICI--Rating ----- --Year:1997----- 2.10 44 - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH44 8 02-611	<i>Recommended Tier</i> SHQW URM: 23.77 LRM: 4.37 Miles 19.40	M. FK. SALT CREEK (HEADWATERS TO PIGEON CR.)				This reach should be assigned the SHQW tier because of :1) populations of declining species (including rosefin shiner, southern redbelly dace, brindled madtom, silver and least brook lampreys), an endangered unionid (little spectaclecase), good habitat with QHEIs into the 70s, and EWH IBI scores.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----				
SILVER LAMPREY - Years: 1997 - Number Collected: 3	None	None	--Year:1997-----	--Year:1997-----	--Year:1988-----				
LEAST BROOK LAMPREY - Years: 1986, 1988, 1997 - Number Collected: 66	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----	4.70 71.0 - 3.85 - 22.10 69.0 - 25.97 -	22.10 55 - Superior IBI Scores	21.90 MG - 21.90 MG -				
SOUTH. REDBELLY DACE - Years: 1997 - Number Collected: 233	1 3 2 0 little spectaclecase - Villosa lienosa (Conrad, 1834) - Years: 87	None	22.10 73.5 - 25.97 - --Year:1986-----	4.70 42 - --Year:1988-----	21.60 G - 21.60 MG -				
ROSEFIN SHINER - Years: 1988, 1997 - Number Collected: 163			22.10 68.5 - 25.97 -	22.10 52 - Exceptional IBI 21.60 54 - Superior IBI Scores	4.70 F - --Year:1986----- 4.70 38 -				
BRINDLED MADTOM - Years: 1997 - Number Collected: 8				21.60 44 - 18.10 44 - 16.20 49 - Exceptional IBI 14.90 43 -					

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH44 4 02-611	<i>Recommended Tier</i> SHQW URM: 4.37 LRM: 0.00 Miles 4.37	M. FK. SALT CREEK (PIGEON CR TO SALT LICK CR) This stream should be assigned the SHQW tier because of :1) populations of declining species (including rosefin and mimic shiner, river chub, brindled madtom), good habitat with QHEIs into the 70s, and EWH IBI scores.			
Declining Fish ----- SILVER LAMPREY - Years: 1988 - Number Collected: 2 RIVER CHUB - Years: 1988, 1997 - Number Collected: 2 ROSEFIN SHINER - Years: 1988 - Number Collected: 5 MIMIC SHINER - Years: 1997 - Number Collected: 170 BRINDLED MADTOM - Years: 1997 - Number Collected: 5	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 1 3 2 0 little spectaclecase - Villosa lienosa (Conrad, 1834) - Years: 87	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 0.30 74.0 - 2.24 - --Year:1986----- 0.30 65.0 - 2.24 -	IBI Values --RM--IBI--Narrative ----- --Year:1997----- 0.30 50 - Exceptional IBI --Year:1988----- 0.10 50 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description													
OH58 52 14-139	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><i>Recommended Tier</i> SHQW</td> </tr> <tr> <td style="width: 15%;">URM:</td> <td style="text-align: center;">8.20</td> </tr> <tr> <td>LRM:</td> <td style="text-align: center;">0.00</td> </tr> <tr> <td>Miles</td> <td style="text-align: center;">8.20</td> </tr> </table>	<i>Recommended Tier</i> SHQW		URM:	8.20	LRM:	0.00	Miles	8.20	MACOCHEE CREEK	<p>This coldwater stream should be assigned the SHQW tier because of populations of declining species (including reddsides, dace, tongue-tied minnow and least brook lamprey), a threatened species (tongue-tied minnow), high ICI scores, and good habitat. It is also an important part of the overall habitat area for Ohio's major population center of tongue-tied minnow.</p>			
<i>Recommended Tier</i> SHQW														
URM:	8.20													
LRM:	0.00													
Miles	8.20													
<p>Declining Fish</p> <p>-----</p> <p>LEAST BROOK LAMPREY - Years: 1997 - Number Collected: 1</p> <p>TONGUETIED MINNOW - Years: 1986, 1994 - Number Collected: 7</p> <p>REDSIDE DACE - Years: 1994 - Number Collected: 2</p>	<p>Endangered Fish</p> <p>-----</p> <p>None</p> <p>Endangered Unionids</p> <p>--Living--Dead--Weathered--Subfossil--Name--</p> <p>--</p> <p>None</p>	<p>Threatened Fish</p> <p>-----</p> <p>TONGUETIED MINNOW - Years: 1986, 1994 - Number Collected: 7</p> <p>Special Concern Fish</p> <p>-----</p> <p>None</p>	<p>QHEI Values</p> <p>--RM--QHEI--Gradient--Narrative</p> <p>-----</p> <p>--Year:1994-----</p> <p>2.40 67.5 - 8.47 -</p> <p>3.10 72.0 - 8.47 -</p> <p>--Year:1986-----</p> <p>2.80 82.0 - 16.13 - Excellent</p> <p>Habitat</p>	<p>IBI Values</p> <p>--RM--IBI--Narrative</p> <p>-----</p> <p>--Year:1997-----</p> <p>2.20 36 -</p> <p>--Year:1994-----</p> <p>2.40 44 -</p>	<p>ICI Values</p> <p>--RM--ICI--Rating</p> <p>-----</p> <p>--Year:1994-----</p> <p>2.90 48 - Exceptional ICI</p> <p>2.20 E - Exceptional ICI</p> <p>--Year:1991-----</p> <p>0.40 48 - Exceptional ICI</p> <p>--Year:1986-----</p> <p>0.50 56 - Superior ICI Score</p>									

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH58 51 14-100	<i>Recommended Tier</i> SHQW URM: 65.92 LRM: 51.75 Miles 14.17	MAD RIVER (HEADWATERS TO MACOCHEE CREEK)	This coldwater stream should be assigned the SHQW tier because of: large populations of declining species (including redbelly dace, tonguetied minnow and creek chubsucker), a threatened species (tonguetied minnow), high ICI scores, and good habitat.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
CREEK CHUBSUCKER - Years: 1986 - Number Collected: 11	None	TONGUETIED MINNOW - Years: 1986, 1994 - Number Collected: 200	--Year:1994----- 52.10 77.0 - 4.76 - Excellent	--Year:1994----- 60.90 44 -	--Year:1994----- 61.10 36 -	
TONGUETIED MINNOW - Years: 1986, 1994 - Number Collected: 200	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----	Habitat 52.30 63.0 - 4.76 -	58.40 38 -	58.50 52 - Exceptional ICI	
SOUTH. REDBELLY DACE - Years: 1994 - Number Collected: 80	None	None -----	53.20 55.5 - 4.76 -	52.30 38 -	53.20 54 - Superior ICI Score	
REDSIDE DACE - Years: 1986, 1994 - Number Collected: 172			58.40 71.5 - 13.33 -	52.10 37 -	--Year:1986----- 61.10 46 - Exceptional ICI	
			60.90 74.0 - 71.43 -	--Year:1986----- 54.80 38 -	--Year:1984----- 53.20 44 - Exceptional ICI	
			--Year:1986----- 60.90 69.0 - 71.43 -	53.10 38 -	--Year:1984----- 52.10 50 - Exceptional ICI	
			--Year:1984----- 53.20 59.0 - 4.76 -	--Year:1984----- 52.10 31 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH27 22 01-150	<i>Recommended Tier</i> SHQW URM: 6.10 LRM: 0.00 Miles 6.10	MARIETTA RUN	This stream and a number of other connected streams in this subwatershed have sufficient attributes to warrant SHQW antidegradation tiers. Most have very high IBI scores, good-excellent habitat, and good populations of declining species including redbside dace, southern redbelly dace, and least brook lampreys. These species undoubtedly move between these small tributaries freely and they should be protected as a group.		
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1995 - Number Collected: 5	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1995----- 0.10 68.5 - 10.58 -	IBI Values --RM---IBI---Narrative ----- --Year:1995----- 0.10 48 - Exceptional IBI	ICI Values --RM---ICI---Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH50 12 11-400	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><i>Recommended Tier</i> SHQW</td> </tr> <tr> <td style="padding: 2px;">URM:</td> <td style="padding: 2px; text-align: center;">9.95</td> </tr> <tr> <td style="padding: 2px;">LRM:</td> <td style="padding: 2px; text-align: center;">0.00</td> </tr> <tr> <td style="padding: 2px;">Miles</td> <td style="padding: 2px; text-align: center;">9.95</td> </tr> </table> <p style="margin-top: 10px;">MASSIES CREEK</p> <p>Massies Creek has sufficient ecological attributes (good populations of declining fish species, [river chub, rosyface shiner], exceptional ICI scores, and consistently excellent habitats) to warrant a SHQW antidegradation tier. In addition, it drains into the Little Miami River, a SRW, and this high level of water quality is important for maintainance the Little Maimi system.</p>	<i>Recommended Tier</i> SHQW		URM:	9.95	LRM:	0.00	Miles	9.95
<i>Recommended Tier</i> SHQW									
URM:	9.95								
LRM:	0.00								
Miles	9.95								

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
RIVER CHUB - Years: 1983, 1987, 1993, 1998 - Number Collected: 124	None	None	-----	-----	-----
ROSYFACE SHINER - Years: 1998 - Number Collected: 96	Endangered Unionids	Special Concern Fish	--Year:1998----- 1.20 80.5 - 11.11 - Excellent Habitat	--Year:1998----- 7.70 42 - 5.60 42 -	--Year:1998----- 7.70 46 - Exceptional ICI 5.50 46 - Exceptional ICI
ROSEFIN SHINER - Years: 1987, 1993, 1998 - Number Collected: 107	None	None	----- 4.30 88.0 - 10.75 - Excellent Habitat 5.60 82.5 - 11.24 - Excellent Habitat 7.70 88.0 - 11.76 - Excellent Habitat ----- 0.30 67.5 - 18.18 -	----- 4.30 38 - 1.20 42 - ----- 7.70 38 - 5.60 42 - ----- 2.70 48 - Exceptional IBI 0.30 38 - ----- 7.70 45 - 0.30 45 -	----- 4.40 44 - Exceptional ICI 1.20 46 - Exceptional ICI ----- 0.30 G - ----- 9.70 G - 7.70 G - 0.20 G -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH46 10 02-703	<i>Recommended Tier</i> SHQW URM: 4.60 LRM: 0.00 Miles 4.60	MCCULLOUGH CREEK	The population of rosyside dace, a state threatened species and the downstream SRW Scioto Brush Creek warrant a SHQW antidegradation tier		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating
SOUTH. REDBELLY DACE - Years: 1988, 1990 - Number Collected: 2	None Endangered Unionids	ROSYSIDE DACE - Years: 1990 - Number Collected: 32	No Data	--Year:1988----- 3.00 38 - 1.00 44 -	No Data
ROSYSIDE DACE - Years: 1990 - Number Collected: 32	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----			
ROSEFIN SHINER - Years: 1985, 1988, 1990 - Number Collected: 240	None	None			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH55 16 14-075	<i>Recommended Tier</i> SHQW URM: 10.20 LRM: 0.00 Miles 10.20	MCKEE CREEK	This reach should be assigned the SHQW tier because of :1) populations of declining species (including rosyface shiner, river and hornyhead chubs), good habitat with QHEIs into the 70s, and consistent EWH IBI and ICI scores.		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
HORNYHEAD CHUB - Years: 1982, 1994 - Number Collected: 101	None	None	--Year:1994-----	--Year:1994-----	--Year:1994-----
RIVER CHUB - Years: 1994 - Number Collected: 19	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----	0.70 62.0 - 18.18 - 9.50 53.5 - 66.67 -	9.50 54 - Superior IBI Scores	0.90 52 - Exceptional ICI --Year:1982-----
ROSYFACE SHINER - Years: 1994 - Number Collected: 14	None	None	--Year:1982----- 0.50 83.0 - 18.18 - Excellent Habitat	0.70 54 - Superior IBI Scores	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH 4 17 08-200	<i>Recommended Tier SRW</i> URM: 8.57 LRM: 0.00 Miles 8.57	MIDDLE FORK (MIDDLE RUN TO WEST FORK)	This stream has good populations of declining fish species, high IBI scores, excellent habitat, and harbors a population of bluebreast darter, an threatened fish species. In addition, the natural and aesthetic quality of this river have been recognized by its designation as an Ohio Scenic River and is part of a system that includes reach designated as "Wild" Rivers			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
RIVER CHUB - Years: 1985, 1999 - Number Collected: 2	None	None	--Year:1999----- 1.90 77.5 - 10.50 - Excellent Habitat	--Year:1999----- 8.40 48 - Exceptional IBI 8.40 46 - Exceptional IBI	--Year:1999----- 8.40 50 - Exceptional ICI 4.40 40 -	
ROSYFACE SHINER - Years: 1985, 1997, 1999 - Number Collected: 44	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish ----- None	4.40 76.5 - 11.76 - Excellent Habitat	4.40 45 - 1.90 50 - Exceptional IBI	1.90 42 - --Year:1985-----	
VARIEGATE DARTER - Years: 1999 - Number Collected: 1	None		8.40 71.0 - 5.78 - --Year:1997----- 1.90 59.5 - 10.50 - --Year:1985----- 1.90 83.0 - 10.50 - Excellent Habitat	--Year:1985----- 1.90 48 - Exceptional IBI	1.90 46 - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH44 47 02-643	<table border="1" style="border-collapse: collapse; width: 150px;"> <tr> <td colspan="2" style="text-align: center;"><i>Recommended Tier</i> SHQW</td> </tr> <tr> <td style="padding: 2px;">URM:</td> <td style="padding: 2px; text-align: right;">6.20</td> </tr> <tr> <td style="padding: 2px;">LRM:</td> <td style="padding: 2px; text-align: right;">0.00</td> </tr> <tr> <td style="padding: 2px;">Miles</td> <td style="padding: 2px; text-align: right;">6.20</td> </tr> </table> <p style="margin-top: 10px;">MIDDLE FORK LAUREL RUN</p> <p style="margin-top: 10px;">This small stream should be assigned the SHQW tier because of :1) populations of declining species (including rosyface shiner), good habitat, and an IBI of 56.</p>	<i>Recommended Tier</i> SHQW		URM:	6.20	LRM:	0.00	Miles	6.20
<i>Recommended Tier</i> SHQW									
URM:	6.20								
LRM:	0.00								
Miles	6.20								

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
LEAST BROOK LAMPREY - Years: 1992 - Number Collected: 5	None	None	-----	-----	-----
ROSYFACE SHINER - Years: 1992 - Number Collected: 18	Endangered Unionids	Special Concern Fish	--Year:1992----- 0.10 70.5 - 29.85 -	--Year:1992----- 0.10 56 - Superior IBI Scores	No Data
BRINDLED MADTOM - Years: 1992 - Number Collected: 1	--Living--Dead--Weathered--Subfossil--Name-- --	None			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH46 42 02-728	<i>Recommended Tier</i> SHQW URM: 5.00 LRM: 0.00 Miles 5.00	MILL CREEK	The population of rosyzide dace, a state threatened species, high IBI scores (including a 60) and the downstream SRW Scioto Brush Creek warrant a SHQW antidegradation tier		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
LEAST BROOK LAMPREY - Years: 1987, 1997 - None Number Collected: 5	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- --	ROSYSIDE DACE - Years: 1997 - Number Collected: 6	--Year:1997----- 1.00 76.0 - 9.38 - Excellent Habitat	--Year:1997----- 2.20 51 - Exceptional IBI 1.00 60 - Superior IBI Scores	--Year:1987----- 0.80 G -
ROSYSIDE DACE - Years: 1997 - Number Collected: 6	None	Special Concern Fish -----	--Year:1987----- 1.00 77.0 - 9.38 - Excellent Habitat	1.00 54 - Superior IBI Scores	
ROSEFIN SHINER - Years: 1990, 1997 - Number Collected: 254		None			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH17 4 17-700	<i>Recommended Tier</i> SHQW URM: 27.60 LRM: 16.10 Miles 11.50	MOHICAN RIVER (ROCKY FORK TO UNNAMED TRIB.) Data in electronic files is sufficient to warrant a SHQW antidegradation tier for this reach, however, there is insufficient evidence without more data to suggest a SRW tier.			
Declining Fish ----- RIVER CHUB - Years: 1998 - Number Collected: 3 STREAMLINE CHUB - Years: 1998 - Number Collected: 14	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 0 0 3 0 rabbitsfoot - <i>Quadrula cylindrica cylindrica</i> (Say, 1817) - Years: 83 0 0 1 0 clubshell - <i>Pleurobema clava</i> (Lamarck, 1819) - Years: 83	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1998----- 16.60 65.0 - 1.60 -	IBI Values --RM--IBI--Narrative ----- --Year:1998----- 16.60 43 -	ICI Values --RM--ICI--Rating ----- --Year:1994----- 16.40 56 - Superior ICI Score --Year:1992----- 16.40 56 - Superior ICI Score --Year:1990----- 16.40 46 - Exceptional ICI --Year:1989----- 16.40 46 - Exceptional ICI --Year:1987----- 16.40 50 - Exceptional ICI --Year:1982----- 16.40 52 - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH45 11 02-809	<i>Recommended Tier</i> SHQW URM: 7.80 LRM: 0.00 Miles 7.80	MORGAN FORK	Although data is somewhat sparse, this stream should be assigned the SHQW tier on the strength of :1) large populations of declining species (including southern redbelly and rosyside dace, and redfin and bigeye shiner) two of which are also threatened species (rosyside dace and bigeye shiner), and an EWH IBI score. This will be reassessed when more data is collected.		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
SOUTH. REDBELLY DACE - Years: 1988, 1990 - Number Collected: 30	None Endangered Unionids	ROSYSIDE DACE - Years: 1990 - Number Collected: 20	No Data	--Year:1988----- 2.70 46 - Exceptional IBI 1.70 38 -	No Data
ROSYSIDE DACE - Years: 1990 - Number Collected: 20	--Living--Dead--Weathered--Subfossil--Name-- --	BIGEYE SHINER - Years: 1990 - Number Collected: 140			
ROSEFIN SHINER - Years: 1990 - Number Collected: 224	None	Special Concern Fish -----			
BIGEYE SHINER - Years: 1990 - Number Collected: 140		None			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH24 1 17-001	<i>Recommended Tier</i> SHQW <hr/> URM: 14.10 LRM: 7.70 Miles 6.40	MUSKINGUM RIVER (LOWELL DAM TO RAINBOW CREEK) This upper portion of segment downstream of lock and dam # 4 has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good populations of many declining fish species including slenderhead darter, tippiecanoe darter, mooneye, threatened fish species (channel and tippiecanoe darter) and endangered fish species (mountain madtom). Also, populations of state endangered or threatened mussels (butterfly, long-solid, sheeppnose, Ohio pigtoe, monkeyface) and the federally endangered fanshell are present downstream of the lock and dam and excellent habitat in certain reaches.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating
MOONEYE - Years: 1988 - Number Collected: 8	MOUNTAIN MADTOM - Years: 1984, 1987 - Number Collected: 15	CHANNEL DARTER - Years: 1987 - Number Collected: 24	----- --Year:1988-----	----- --Year:1988-----	----- --Year:1988-----
RIVER CHUB - Years: 1987 - Number Collected: 1	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--	TIPPECANOE DARTER - Years: 1987 - Number Collected: 6	2.70 65.5 - 0.10 - 5.70 63.0 - 0.10 -	14.00 40 - 9.40 36 -	5.70 20 - 5.60 18 -
MIMIC SHINER - Years: 1987, 1988 - Number Collected: 825	--	Special Concern Fish -----	9.40 69.0 - 0.10 - 14.00 82.5 - 1.10 - Excellent	5.70 33 - 2.70 35 -	
MOUNTAIN MADTOM - Years: 1984, 1987 - Number Collected: 15	0 1 0 0 Ohio pigtoe - Pleurobema cordatum (Rafinesque, 1820) -	None	Habitat	--Year:1987----- 14.00 40 -	
SLENDERHEAD DARTER - Years: 1984, 1987, 1988 - Number Collected: 49	Years: 86			5.70 46 - Exceptional IBI --Year:1983-----	
TIPPECANOE DARTER - Years: 1987 - Number Collected: 6				14.00 37 - 5.70 27 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH23 15 17-001	<i>Recommended Tier</i> SHQW URM: 76.20 LRM: 73.50 Miles 2.70	MUSKINGUM RIVER (LICKING RIVER TO MOXAHALA CREEK)				This segment downstream of lock and dam # 10 has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good populations of many declining fish species including, variegate darter, mimic shiner, mooneye, sand darter and rosyface shiner, and endangered (northern and mountain madtoms) fish species. Also, populations of endangered and threatened mussels are downstream of the lock and dam and excellent-outstanding habitat in certain reaches.			
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values		IBI Values		ICI Values		
----- MOONEYE - Years: 1988 - Number Collected: 7 ROSYFACE SHINER - Years: 1986, 1987 - Number Collected: 76 MIMIC SHINER - Years: 1984, 1986, 1987, 1988 - Number Collected: 99 MOUNTAIN MADTOM - Years: 1984, 1986, 1987 - Number Collected: 66 NORTHERN MADTOM - Years: 1987 - Number Collected: 10 BRINDLED MADTOM - Years: 1984, 1987, 1988 - Number Collected: 8 EASTERN SAND DARTER - Years: 1984, 1986, 1987, 1988 - Number Collected: 27 VARIEGATE DARTER - Years: 1984, 1986, 1987 - Number Collected: 43	----- MOUNTAIN MADTOM - Years: 1984, 1986, 1987 - Number Collected: 66 NORTHERN MADTOM - Years: 1987 - Number Collected: 10 Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- 0 1 0 0 Ohio pigtoe - Pleurobema cordatum (Rafinesque, 1820) - Years: 19	----- None Special Concern Fish ----- EASTERN SAND DARTER - Years: 1984, 1986, 1987, 1988 - Number Collected: 27	----- --RM--QHEI--Gradient--Narrative ----- --Year:1988----- 67.40 82.5 - 2.27 - Excellent Habitat 69.00 54.0 - 0.10 - 73.00 56.5 - 0.10 - 73.80 52.0 - 0.10 - 75.70 72.5 - 1.11 -		----- --RM--IBI--Narrative ----- --Year:1988----- 75.70 37 - 73.80 26 - 73.00 27 - 69.00 31 - 67.40 45 - --Year:1987----- 76.00 34 - 67.60 52 - Exceptional IBI --Year:1986----- 67.60 49 - Exceptional IBI --Year:1984----- 76.00 48 - Exceptional IBI 67.60 38 - 67.60 30 - --Year:1983----- 67.60 32 -		----- --RM--ICI--Rating ----- --Year:1988----- 76.00 46 - Exceptional ICI 74.00 16 - 70.30 16 - 67.40 38 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description											
OH24 17 17-001	<i>Recommended Tier</i> SHQW URM: 24.90 LRM: 18.77 Miles 6.13	MUSKINGUM RIVER (BEVERLY DAM TO CUSSING RUN) This upper portion of segment downstream of lock and dam # 4 has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good populations of many declining fish species including slenderhead darter and mooneye, special concern fish species (sand darter) and populations of endangered or threatened mussels (butterfly, Ohio pigtoe, monkeyface) downstream from the lock and dam.										
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values				IBI Values			ICI Values		
-----	-----	-----	--RM--	--QHEI--	--Gradient--	--Narrative	--RM--	--IBI--	--Narrative	--RM--	--ICI--	--Rating
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
MOONEYE - Years: 1988, 1990 - Number Collected: 5	None	None										
ROSYFACE SHINER - Years: 1983 - Number Collected: 1	Endangered Unionids	Special Concern Fish										
MIMIC SHINER - Years: 1989, 1990 - Number Collected: 7	--Living--Dead--Weathered--Subfossil--Name-- --	EASTERN SAND DARTER - Years: 1987 - Number Collected: 5	18.50	58.0	0.10	-	29.00	47	- Exceptional IBI	28.30	22	-
SLENDERHEAD DARTER - Years: 1984, 1987, 1988, 1989, 1990, - Number Collected: 30	0 1 0 0 Ohio pigtoe -		24.80	74.0	1.30	-	28.10	40	-	25.60	16	-
EASTERN SAND DARTER - Years: 1987 - Number Collected: 5	Pleurobema cordatum (Rafinesque, 1820) - Years: 86		26.10	63.5	0.10	-	28.00	40	-	24.80	28	-
			28.10	48.5	0.10	-	28.00	34	-	18.20	14	-
							26.10	38	-			
							28.00	35	-			
							26.10	33	-			
							28.00	34	-			
							26.10	29	-			
							28.10	25	-			
							28.00	16	-			
							28.00	34	-			
							26.10	16	-			
							26.10	22	-			
							24.80	32	-			
							24.80	30	-			
							18.50	31	-			
							26.10	38	-			
							24.80	30	-			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH24 92 17-001	<i>Recommended Tier</i> SHQW URM: 49.00 LRM: 34.40 Miles 14.60	MUSKINGUM RIVER (McCONNELSVILLE DAM TO MADISON RUN)	This upper portion of segment downstream of locks and dams # 6 and 7 has sufficient ecological attributes to warrant a SHQW antidegradation tier. This area has good populations of many sensitive declining fish species including sand darter, mooneye, and slenderhead darter, endangered fish species (mountain madtoms) and populations of endangered or threatened mussels (Ohio pigtoe, pyramid pigtoe, long-solid, sheepsnose and butterfly) downstream of the locks and dams and excellent-outstanding habitat in certain reaches.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating	
MOONEYE - Years: 1988, 1990 - Number Collected: 28	MOUNTAIN MADTOM - Years: 1987 - Number Collected: 31	None Special Concern Fish	--Year:1988----- 30.30 55.0 - 0.10 -	--Year:1991----- 30.30 38 -	--Year:1990----- 48.90 50 - Exceptional ICI	
MIMIC SHINER - Years: 1983, 1984, 1987, 1988, 1989, - Number Collected: 34	Endangered Unionids	EASTERN SAND DARTER - Years: 1984, 1987, 1988 - Number Collected: 68	33.60 79.5 - 3.77 - Excellent	30.30 42 -	--Year:1988-----	
MOUNTAIN MADTOM - Years: 1987 - Number Collected: 31	--Living--Dead--Weathered--Subfossil--Name-- --		Habitat 36.80 61.0 - 0.10 -	--Year:1989----- 30.30 38 -	49.10 10 -	
BRINDLED MADTOM - Years: 1984, 1987 - Number Collected: 5	0 1 0 0 Ohio pigtoe - Pleurobema cordatum (Rafinesque, 1820) -		39.50 72.0 - 2.52 -	--Year:1988----- 48.90 44 -	48.90 30 -	
SLENDERHEAD DARTER - Years: 1984, 1987, 1988, 1991 - Number Collected: 77	Years: 86		48.80 82.5 - 0.54 - Excellent	48.80 43 -	34.30 12 -	
EASTERN SAND DARTER - Years: 1984, 1987, 1988 - Number Collected: 68			Habitat 49.40 65.0 - 0.10 -	43.70 35 -	33.50 32 -	
				39.50 37 -	31.50 22 -	
				36.80 35 -	--Year:1985-----	
				33.60 37 -	48.70 34 -	
				30.30 22 -		
				30.30 38 -		
				--Year:1987-----		
				39.50 46 - Exceptional IBI		
				33.50 40 -		
				33.50 44 -		
				--Year:1984-----		
				33.50 42 -		
				--Year:1983-----		
				39.50 16 -		
				33.50 33 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH24106 17-001	<i>Recommended Tier</i> SHQW URM: 67.03 LRM: 52.58 Miles 14.45	MUSKINGUM RIVER (SALT RUN TO BRANCH RUN)				This segment downstream of locks and dams # 8 and 9 has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has populations of endangered and threatened mussels downstream of the locks and dams.			
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values		IBI Values		ICI Values		
-----	-----	-----	--RM--QHEI--Gradient--Narrative		--RM--IBI--Narrative		--RM--ICI--Rating		
MIMIC SHINER - Years: 1983, 1987, 1988 - Number Collected: 28	None	None	-----		-----		-----		
BRINDLED MADTOM - Years: 1988 - Number Collected: 7	Endangered Unionids	Special Concern Fish	--Year:1988-----		--Year:1988-----		--Year:1988-----		
SLENDERHEAD DARTER - Years: 1986, 1987, 1988 - Number Collected: 78	--Living--Dead--Weathered--Subfossil--Name-- 0 1 0 0 Ohio pigtoe - Pleurobema cordatum (Rafinesque, 1820) - Years: 86	RIVER REDHORSE - Years: 1988 - Number Collected: 2	51.60	47.5 - 0.10 -	63.00	32 -	62.80	26 -	
			52.50	53.5 - 0.10 -	56.50	36 -	56.40	20 -	
			56.40	76.5 - 0.60 - Excellent	56.40	34 -	52.30	6 -	
			Habitat		52.50	28 -	51.60	10 -	
			63.00	60.5 - 0.10 -	51.60	24 -			
					--Year:1986-----				
					52.80	20 -			
					51.50	24 -			
					50.90	38 -			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description												
OH20 22 17-001	<i>Recommended Tier</i> SHQW URM: 111.13 LRM: 99.30 Miles 11.83	MUSKINGUM RIVER (TUSC./MALHOND. R. TO WILLS CR) This segment has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good populations of many sensitive declining fish species including sand darter, variegate darter, streamline chub, river chub and rosyface shiner, EWH ICI scores and excellent-outstanding habitat. Also, endangered mussels are present (Ohio pigtoe, sharp-ridge pocketbook, rabbitsfoot).											
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values				IBI Values			ICI Values			
-----	-----	-----	--RM--	QHEI	--Gradient--	--Narrative	--RM--	IBI	--Narrative	--RM--	ICI	--Rating	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
RIVER CHUB - Years: 1987, 1988, 1989, 1990, 1994 - Number Collected: 70	None	None	--Year:1994--	-----	-----	-----	--Year:1994--	-----	-----	--Year:1994--	-----	-----	
STREAMLINE CHUB - Years: 1983, 1987, 1988, 1994 - Number Collected: 30	--Living--Dead--Weathered--Subfossil--Name--	Special Concern Fish	101.60	80.0	1.96	Excellent	110.00	41	-	109.90	46	Exceptional ICI	
ROSYFACE SHINER - Years: 1984, 1988 - Number Collected: 31	0 1 0 0 Ohio pigtoe -	RIVER REDHORSE - Years: 1988, 1989, 1990, 1994 - Number Collected: 23	Habitat	104.80	80.0	1.73	Excellent	107.00	41	-	108.00	47	Exceptional IBI
MIMIC SHINER - Years: 1989, 1994 - Number Collected: 23	Pleurobema cordatum (Rafinesque, 1820) - Years: 19	EASTERN SAND DARTER - Years: 1984, 1987, 1989 - Number Collected: 23	Habitat	105.70	79.5	1.73	Excellent	105.80	27	-	106.60	48	Exceptional ICI
BRINDLED MADTOM - Years: 1987 - Number Collected: 1			Habitat	105.70	79.5	1.73	Excellent	105.70	42	-	105.80	46	Exceptional ICI
EASTERN SAND DARTER - Years: 1984, 1987, 1989 - Number Collected: 23			Habitat	107.00	90.5	1.73	Outstanding	104.80	36	-	101.90	48	Exceptional ICI
VARIEGATE DARTER - Years: 1994 - Number Collected: 26			Habitat	107.00	90.5	1.73	Outstanding	101.60	43	-	--Year:1990--	-----	-----
			Habitat	108.00	80.5	1.73	Excellent	--Year:1991--	-----	-----	108.00	44	Exceptional ICI
			Habitat	108.00	80.5	1.73	Excellent	103.50	33	-	--Year:1989--	-----	-----
			Habitat	110.00	60.0	1.73	-	102.60	32	-	108.00	48	Exceptional ICI
			--Year:1988--	-----	-----	-----	--Year:1990--	-----	-----	--Year:1988--	-----	-----	
			101.70	78.0	1.96	Excellent	101.60	29	-	109.70	36	-	
			Habitat	101.70	78.0	1.96	Excellent	103.50	32	-	108.40	38	-
			Habitat	102.50	71.0	1.96	-	102.60	31	-	106.40	50	Exceptional ICI
			Habitat	102.50	71.0	1.96	-	101.60	33	-	105.70	52	Exceptional ICI
			Habitat	104.90	77.0	1.73	Excellent	--Year:1989--	-----	-----	105.00	52	Exceptional ICI
			Habitat	104.90	77.0	1.73	Excellent	103.50	40	-	102.80	46	Exceptional ICI
			Habitat	105.80	76.0	1.73	Excellent	102.60	34	-	101.80	36	-
			Habitat	105.80	76.0	1.73	Excellent	101.60	32	-	--Year:1987--	-----	-----
			Habitat	106.60	74.0	1.73	-	--Year:1988--	-----	-----	--Year:1986--	-----	-----
			Habitat	106.60	74.0	1.73	-	106.60	34	-	108.00	44	Exceptional ICI
			Habitat	108.50	61.5	1.73	-	105.80	38	-	--Year:1977--	-----	-----
			Habitat	110.00	65.0	1.73	-	104.90	43	-	108.00	16	-
								104.00	31	-			
								103.50	35	-			
								102.60	26	-			
								102.50	31	-			
								101.70	33	-			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

101.60 22 -
---Year:1987-----
109.30 28 -
105.20 36 -
---Year:1983-----
111.10 42 -
107.80 40 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description						
OH20 1 17-001	<i>Recommended Tier</i> SHQW	MUSKINGUM RIVER (WILLS CREEK TO SYMMES CREEK)					
	URM: 99.30 LRM: 92.00 Miles 7.30	This upper portion of this segment has sufficient ecological attributes to be assigned to the SHQW tier. It has good populations of declining fish species including variegate darter, river redhorse and river chub, and endangered fish species (mountain madtoms), and populations of endangered mussels (Ohio pigtoe, sharp-ridge pocketbook, rabbitsfoot).					
		Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
		-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
		RIVER CHUB - Years: 1984 - Number Collected: 17	MOUNTAIN MADTOM - Years: 1984, 1987, 1994 - Number Collected: 201	None Special Concern Fish	--Year:1994-----	--Year:1994-----	--Year:1994-----
		MIMIC SHINER - Years: 1994 - Number Collected: 8	Endangered Unionids	RIVER REDHORSE - Years: 1994 - Number Collected: 1	92.20 62.5 - 1.40 -	98.30 36 -	97.10 40 -
		MOUNTAIN MADTOM - Years: 1984, 1987, 1994 - Number Collected: 201	--Living--Dead--Weathered--Subfossil--Name--	Habitat	98.30 78.5 - 1.96 - Excellent	92.20 35 -	92.10 46 - Exceptional ICI
		VARIEGATE DARTER - Years: 1983, 1984, 1987 - Number Collected: 36	--	Collected: 1	--Year:1988-----	--Year:1988-----	--Year:1988-----
			0 1 0 0 Ohio pigtoe -		92.00 62.0 - 1.40 -	92.00 39 -	97.20 44 - Exceptional ICI
			Pleurobema cordatum (Rafinesque, 1820) - Years: 19		98.20 83.0 - 1.96 - Excellent	97.10 38 -	92.10 50 - Exceptional ICI
					Habitat	--Year:1983-----	
						97.10 34 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH 5 48 06-915	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><i>Recommended Tier</i> SHQW</td> </tr> <tr> <td style="padding: 2px;">URM:</td> <td style="padding: 2px;">5.30</td> </tr> <tr> <td style="padding: 2px;">LRM:</td> <td style="padding: 2px;">0.00</td> </tr> <tr> <td style="padding: 2px;">Miles</td> <td style="padding: 2px;">5.30</td> </tr> </table> <p style="margin-top: 10px;">NANCY RUN</p> <p style="margin-top: 10px;">Nancy Run is a high quality small coldwater stream with good populations of three sensitive declining species: redbelly dace, southern redbelly dace, and least brook lamprey. Based on this data and an exceptional narrative macroinvertebrate rating, the stream warrants a SHQW tier.</p>	<i>Recommended Tier</i> SHQW		URM:	5.30	LRM:	0.00	Miles	5.30
<i>Recommended Tier</i> SHQW									
URM:	5.30								
LRM:	0.00								
Miles	5.30								

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
LEAST BROOK LAMPREY - Years: 1991 - Number Collected: 2	None	None	-----	-----	-----
SOUTH. REDBELLY DACE - Years: 1991 - Number Collected: 22	Endangered Unionids	Special Concern Fish	--Year:1991----- 1.00 58.5 - 42.55 -	--Year:1991----- 1.00 45 -	--Year:1983----- 1.00 E - Exceptional ICI
REDSIDE DACE - Years: 1991 - Number Collected: 92	--Living--Dead--Weathered--Subfossil--Name-- --	None	--Year:1983----- 1.00 66.0 - 42.55 -	--Year:1983----- 1.00 44 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description									
OH18 27 17-674	<i>Recommended Tier</i> SRW <hr/> URM: 18.30 LRM: 0.00 <hr/> Miles 18.30	NORTH BRANCH KOKOSING RIVER	<p>The North Branch Kokosing River clearly has sufficient ecological attributes to deserve a State Resource Water (SRW) antidegradation tier. It has large populations of sensitive declining species, including bigeye and river chubs and redbside dace. These species make this river vulnerable to chemical and habitat changes in the watershed. It has exceptional IBI and ICI scores and excellent to outstanding habitat. It is also a State Scenic River.</p>							
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative		IBI Values --RM--IBI--Narrative		ICI Values --RM--ICI--Rating			
LEAST BROOK LAMPREY - Years: 1984, 1987 - None Number Collected: 9	None	None	-----		-----		-----			
HORNYHEAD CHUB - Years: 1987, 1998 - Number Collected: 36	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----	-----		--Year:1998-----		--Year:1998-----		--Year:1987-----	
RIVER CHUB - Years: 1987, 1998 - Number Collected: 397	None	None	-----		0.10 82.0 - 3.83 - Excellent Habitat		16.80 52 - Exceptional IBI 14.10 55 - Superior IBI Scores		11.60 46 - Exceptional ICI 6.20 52 - Exceptional ICI 4.80 52 - Exceptional ICI 2.10 46 - Exceptional ICI	
BIGEYE CHUB - Years: 1998 - Number Collected: 36			-----		5.40 64.5 - 3.67 - 6.20 88.0 - 5.56 - Excellent Habitat		11.80 39 - 11.80 39 -			
SOUTH. REDBELLY DACE - Years: 1995, 1998 - Number Collected: 71			-----		11.80 66.0 - 5.41 - 14.10 50.0 - 14.93 -		6.20 49 - Exceptional IBI 5.40 45 -			
REDSIDE DACE - Years: 1995, 1998 - Number Collected: 112			-----		14.80 71.0 - 12.50 - 15.10 39.5 - 12.50 -		0.10 52 - Exceptional IBI -----			
ROSYFACE SHINER - Years: 1987, 1998 - Number Collected: 166			-----		15.40 68.5 - 12.50 - 16.80 84.0 - 25.64 - Excellent Habitat		11.80 43 - 6.30 47 - Exceptional IBI 5.50 49 - Exceptional IBI			
MIMIC SHINER - Years: 1987, 1998 - Number Collected: 16			-----		--Year:1987----- 2.20 81.0 - 5.63 - Excellent Habitat		2.20 46 - Exceptional IBI			
			-----		5.50 73.0 - 3.67 - 6.30 87.5 - 5.56 - Excellent Habitat					
			-----		11.80 57.0 - 5.41 -					

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description																																																								
OH 4 3 08-100	<i>Recommended Tier SRW</i> URM: 6.07 LRM: 0.00 Miles 6.07	NORTH FORK (BULL CREEK TO LITTLE BEAVER CREEK) This stream has good populations of declining fish species, high IBI scores, excellent habitat, and harbors a population of hellbender, an endangered aquatic amphibian. In addition, the natural and aesthetic quality of this river have been recognized by its designation as an Ohio Wild and Scenic River. The presence of the Hellbender, only found in very high quality river systems indicates this reach would be vulnerable to significant changes in water quality or habitat conditions.	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Declining Fish</th> <th style="text-align: left;">Endangered Fish</th> <th style="text-align: left;">Threatened Fish</th> <th style="text-align: left;">QHEI Values</th> <th style="text-align: left;">IBI Values</th> <th style="text-align: left;">ICI Values</th> </tr> <tr> <th style="text-align: left;">-----</th> <th style="text-align: left;">-----</th> <th style="text-align: left;">-----</th> <th style="text-align: left;">--RM--QHEI--Gradient--Narrative</th> <th style="text-align: left;">--RM--IBI--Narrative</th> <th style="text-align: left;">--RM--ICI--Rating</th> </tr> </thead> <tbody> <tr> <td>RIVER CHUB - Years: 1985, 1999 - Number Collected: 235</td> <td>None</td> <td>None</td> <td>-----</td> <td>-----</td> <td>-----</td> </tr> <tr> <td>ROSYFACE SHINER - Years: 1999 - Number Collected: 266</td> <td>Endangered Unionids</td> <td>Special Concern Fish</td> <td>--Year:1999-----</td> <td>--Year:1999-----</td> <td>--Year:1999-----</td> </tr> <tr> <td>VARIEGATE DARTER - Years: 1985 - Number Collected: 3</td> <td>--Living--Dead--Weathered--Subfossil--Name--</td> <td>None</td> <td>0.10 75.5 - 12.50 - Excellent Habitat</td> <td>5.60 51 - Exceptional IBI</td> <td>5.60 36 -</td> </tr> <tr> <td></td> <td>None</td> <td></td> <td>5.60 68.0 - 13.42 - --Year:1985-----</td> <td>5.60 50 - Exceptional IBI</td> <td>0.60 46 - Exceptional ICI</td> </tr> <tr> <td></td> <td></td> <td></td> <td>0.40 82.0 - 13.79 - Excellent Habitat</td> <td>0.10 44 - --Year:1985-----</td> <td>5.60 34 -</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>0.10 44 -</td> <td>0.10 44 - Exceptional ICI</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>0.40 37 -</td> <td></td> </tr> </tbody> </table>	Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values	-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	RIVER CHUB - Years: 1985, 1999 - Number Collected: 235	None	None	-----	-----	-----	ROSYFACE SHINER - Years: 1999 - Number Collected: 266	Endangered Unionids	Special Concern Fish	--Year:1999-----	--Year:1999-----	--Year:1999-----	VARIEGATE DARTER - Years: 1985 - Number Collected: 3	--Living--Dead--Weathered--Subfossil--Name--	None	0.10 75.5 - 12.50 - Excellent Habitat	5.60 51 - Exceptional IBI	5.60 36 -		None		5.60 68.0 - 13.42 - --Year:1985-----	5.60 50 - Exceptional IBI	0.60 46 - Exceptional ICI				0.40 82.0 - 13.79 - Excellent Habitat	0.10 44 - --Year:1985-----	5.60 34 -					0.10 44 -	0.10 44 - Exceptional ICI					0.40 37 -	
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values																																																				
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating																																																				
RIVER CHUB - Years: 1985, 1999 - Number Collected: 235	None	None	-----	-----	-----																																																				
ROSYFACE SHINER - Years: 1999 - Number Collected: 266	Endangered Unionids	Special Concern Fish	--Year:1999-----	--Year:1999-----	--Year:1999-----																																																				
VARIEGATE DARTER - Years: 1985 - Number Collected: 3	--Living--Dead--Weathered--Subfossil--Name--	None	0.10 75.5 - 12.50 - Excellent Habitat	5.60 51 - Exceptional IBI	5.60 36 -																																																				
	None		5.60 68.0 - 13.42 - --Year:1985-----	5.60 50 - Exceptional IBI	0.60 46 - Exceptional ICI																																																				
			0.40 82.0 - 13.79 - Excellent Habitat	0.10 44 - --Year:1985-----	5.60 34 -																																																				
				0.10 44 -	0.10 44 - Exceptional ICI																																																				
				0.40 37 -																																																					

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH 4 10 08-100	<i>Recommended Tier</i> SHQW URM: 7.75 LRM: 6.07 Miles 1.68	NORTH FORK (PA. TO BULL CREEK)	This stream has good populations of declining fish species, high IBI scores, superior habitat, and harbors a population of hellbender, an endangered aquatic amphibian. In addition, the natural and aesthetic quality of this river have been recognized by its designation as an Ohio scenic river in this reach (and a Wild and Scenic river in its lower reaches)			
Declining Fish ----- RIVER CHUB - Years: 1985, 1999 - Number Collected: 114 ROSYFACE SHINER - Years: 1999 - Number Collected: 374	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1999----- 7.40 92.0 - 8.40 - Outstanding Habitat 7.60 83.0 - 8.40 - Excellent Habitat --Year:1985----- 7.30 94.5 - 8.40 - Outstanding Habitat 7.60 82.0 - 8.40 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1999----- 7.60 55 - Superior IBI Scores 7.40 46 - Exceptional ICI 7.60 55 - Superior IBI Scores --Year:1985----- 7.60 55 - Superior IBI Scores 7.40 38 - 7.40 53 - Exceptional IBI 7.00 53 - Exceptional IBI 7.00 53 - Exceptional IBI --Year:1985----- 7.30 43 -	ICI Values --RM--ICI--Rating ----- --Year:1999----- 7.60 46 - Exceptional ICI 7.40 46 - Exceptional ICI 7.60 40 - 7.40 38 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH 7 36 06-123	<i>Recommended Tier</i> SHQW URM: 4.00 LRM: 0.00 Miles 4.00	NORTH FORK CAPTINA CREEK	The North Fork of Captina Creek should be a SHQW in its lower 4 miles. It has EWH IBI and ICI scores, large numbers of declining species, most with large populations (rosyface shiner, variegate darter, hornyhead chub,) and QHEI scores in the 80s. In addition it flows into Captina Creek, a SRW stream. In 2000 it was impacted by a mining operation, but that does not preclude it assignment of an SHQW tier.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
RIVER CHUB - Years: 1982, 1983, 1984, 1987, 1991 - Number Collected: 1635	None	None	--Year:2000----- 0.50 58.5 - 14.93 -	--Year:2000----- 0.50 20 -	--Year:1991----- 0.50 54 - Superior ICI Score	
ROSYFACE SHINER - Years: 1982, 1983, 1984, 1987, 1991 - Number Collected: 1101	Endangered Unionids	Special Concern Fish	--Year:1991----- 0.50 67.0 - 14.93 -	--Year:1991----- 10.10 12 -	--Year:1983----- 9.00 F -	
VARIEGATE DARTER - Years: 1983, 1991 - Number Collected: 34	None	None	4.00 72.5 - 25.84 - 6.60 75.0 - 21.74 - Excellent Habitat 10.10 58.0 - 60.61 - --Year:1983-----	6.60 42 - 4.00 52 - Exceptional IBI 0.50 48 - Exceptional IBI --Year:1983----- 6.60 43 -	5.30 G - 0.10 E - Exceptional ICI	
			0.50 80.5 - 14.93 - Excellent Habitat 4.00 62.5 - 25.84 - 6.60 66.0 - 21.74 - 9.00 51.5 - 21.51 -	4.00 47 - Exceptional IBI 0.50 47 - Exceptional IBI		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH50 21 11-041	<table border="1" style="border-collapse: collapse; width: 150px;"> <tr> <td style="text-align: center; padding: 5px;"><i>Recommended Tier</i> SRW</td> </tr> <tr> <td style="padding: 5px;">URM: 13.20</td> </tr> <tr> <td style="padding: 5px;">LRM: 0.00</td> </tr> <tr> <td style="padding: 5px;">Miles 13.20</td> </tr> </table> <p style="margin-top: 10px;">NORTH FORK LITTLE MIAMI RIVER</p> <p>The North Fork of the Little Miami River has a Scenic River designation. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs. Consequently, the North Fork is given a State Resource Water antidegradation tier.</p>	<i>Recommended Tier</i> SRW	URM: 13.20	LRM: 0.00	Miles 13.20
<i>Recommended Tier</i> SRW					
URM: 13.20					
LRM: 0.00					
Miles 13.20					

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative
-----	-----	-----	-----	-----
CREEK CHUBSUCKER - Years: 1987, 2000 -	None	None	-----	-----
Number Collected: 76	Endangered Unionids	Special Concern Fish	--Year:1998-----	--Year:2000-----
ROSYFACE SHINER - Years: 1987 - Number	--Living--Dead--Weathered--Subfossil--Name--	-----	7.10 54.0 - 6.45 -	9.10 44 -
Collected: 3	--	None	2.60 43.0 - 6.41 -	9.10 44 -
-----	None	-----	-----	7.90 30 -
-----	-----	-----	-----	7.90 34 -
-----	-----	-----	-----	7.90 34 -
-----	-----	-----	-----	7.10 22 -
-----	-----	-----	-----	7.10 22 -
-----	-----	-----	-----	5.70 41 -
-----	-----	-----	-----	5.70 40 -
-----	-----	-----	-----	2.60 28 -
-----	-----	-----	-----	2.60 28 -
-----	-----	-----	-----	0.40 24 -
-----	-----	-----	-----	0.40 38 -
-----	-----	-----	-----	0.40 24 -
-----	-----	-----	-----	--Year:1999-----
-----	-----	-----	-----	2.60 24 -
-----	-----	-----	-----	0.40 24 -
-----	-----	-----	-----	--Year:1998-----
-----	-----	-----	-----	2.60 42 -
-----	-----	-----	-----	--Year:1987-----
-----	-----	-----	-----	5.80 42 -
-----	-----	-----	-----	4.40 36 -
-----	-----	-----	-----	2.50 38 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH43 8 02-510	<i>Recommended Tier</i> SHQW URM: 24.57 LRM: 11.95 Miles 12.62	NORTH FORK PAINT CREEK (COMPTON CR. TO LITTLE CR.) This reach of the north Fork should be assigned the SHQW tier because of :1) good populations of declining species (including rosyface shiner, streamline chub, mimic shiner, and variegate darter), excellent habitat with QHEIs into the 80s, and EWH IBI and ICI scores.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
ROSYFACE SHINER - Years: 1983, 1985, 1997 - Number Collected: 13 ROSEFIN SHINER - Years: 1985 - Number Collected: 97 MIMIC SHINER - Years: 1997 - Number Collected: 40 VARIEGATE DARTER - Years: 1985, 1997 - Number Collected: 8	None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	None Special Concern Fish ----- None	--Year:1997----- 17.50 74.5 - 6.76 - 23.20 72.0 - 4.88 - --Year:1983----- 17.60 77.0 - 6.76 - Excellent Habitat	--Year:1997----- 23.20 46 - Exceptional IBI 17.50 47 - Exceptional IBI --Year:1983----- 17.60 54 - Superior IBI Scores	--Year:1997----- 23.20 E - Exceptional ICI 17.50 48 - Exceptional ICI --Year:1983----- 17.50 46 - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH43 2 02-510	<i>Recommended Tier</i> SHQW URM: 11.95 LRM: 0.00 Miles 11.95	NORTH FORK PAINT CREEK (LITTLE CREEK TO PAINT CR.)	This reach of the north Fork should be assigned the SHQW tier because of :1) good populations of declining species (including rosyface shiner, streamline chub, mimic shiner, and variegate darter), excellent habitat with QHEIs into the 80s, and EWH IBI and ICI scores.			
Declining Fish ----- STREAMLINE CHUB - Years: 1997 - Number Collected: 14 ROSYFACE SHINER - Years: 1997 - Number Collected: 116 MIMIC SHINER - Years: 1997 - Number Collected: 8 VARIEGATE DARTER - Years: 1997 - Number Collected: 32	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 3.80 76.5 - 8.62 - Excellent Habitat 10.50 86.5 - 6.83 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1997----- 10.50 50 - Exceptional IBI 3.80 50 - Exceptional IBI ICI	ICI Values --RM--ICI--Rating ----- --Year:1997----- 10.50 E - Exceptional ICI 3.90 E - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH89 26 19-022	<i>Recommended Tier</i> SHQW URM: 6.40 LRM: 0.00 Miles 6.40	NORTH FORK YELLOW CREEK	The North Fork Yellow Creek has sufficient ecological attributes, including three declining fish species (reidside dace, hornyhead shiner, river chub) and excellent habitat to warrant a SHQW antidegradation tier.		
Declining Fish ----- HORNYHEAD CHUB - Years: 1995 - Number Collected: 6 RIVER CHUB - Years: 2000 - Number Collected: 10 REDSIDE DACE - Years: 2000 - Number Collected: 7	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:2000----- 0.10 73.0 - 27.78 - --Year:1991----- 0.30 71.5 - 40.00 -	IBI Values --RM--IBI--Narrative ----- --Year:2000----- 0.10 50 - Exceptional IBI --Year:1991----- 0.30 42 -	ICI Values --RM--ICI--Rating ----- --Year:1991----- 0.30 VG -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH48 31 10-200	<i>Recommended Tier</i> SHQW URM: 41.20 LRM: 28.70 Miles 12.50	OHIO BRUSH CREEK (BAKER FORK TO WEST FORK)				Good numbers of declining species (mimic shiner, slenderhead darter brindled madtom), high IBI scores, downstream populations of endangered mussels, downstream SHQW reaches, and excellent-outstanding habitat warrant a SHQW antidegradation tier.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----				
ROSEFIN SHINER - Years: 1986, 1987, 1994, 1997 - Number Collected: 377	None Endangered Unionids	None Special Concern Fish	--Year:1997----- 39.40 93.0 - 4.96 - Outstanding Habitat	--Year:1997----- 39.40 52 - Exceptional IBI --Year:1994----- 37.40 54 - Superior IBI Scores	--Year:1987----- 39.00 38 - 30.50 40 -				
MIMIC SHINER - Years: 1997 - Number Collected: 379	--Living--Dead--Weathered--Subfossil--Name-- --	None	--Year:1994----- 37.40 83.5 - 4.98 - Excellent Habitat	--Year:1987----- 37.40 36 - Habitat	--Year:1987----- 30.50 53 - Exceptional IBI --Year:1986----- 37.40 48 - Exceptional IBI 31.60 52 - Exceptional IBI 28.90 40 -				
BRINDLED MADTOM - Years: 1987, 1994, 1997 - Number Collected: 66	0 1 0 0 washboard - Megalonaias nervosa (Rafinesque, 1820) - Years: 29		39.70 89.5 - 9.17 - Excellent Habitat	30.50 77.5 - 11.49 - Excellent Habitat					
SLENDERHEAD DARTER - Years: 1987 - Number Collected: 43	0 2 0 0 pocketbook - Lampsilis ovata (Say, 1817) - Years: 29		39.40 72.0 - 4.96 - Habitat						

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description									
OH48 44 10-200	<i>Recommended Tier</i> SHQW URM: 57.10 LRM: 41.20 Miles 15.90	OHIO BRUSH CREEK (HEADWATERS TO BAKER FORK)	Good numbers of declining species (mimic shiner, rosyface shiner, brindled madtom), high IBI scores, downstream populations of endangered mussels, downstream SHQW reaches, and excellent-outstanding habitat warrant a SHQW antidegradation tier.							
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----					
ROSYFACE SHINER - Years: 1997 - Number Collected: 33	None	None	--Year:1997----- 44.70 76.5 - 11.70 - Excellent	--Year:1997----- 44.70 48 - Exceptional IBI	--Year:1994----- 41.50 38 -					
ROSEFIN SHINER - Years: 1986, 1987, 1997 - Number Collected: 305	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----	Habitat 44.70 93.5 - 11.70 - Outstanding	--Year:1986----- 54.70 50 - Exceptional IBI	41.50 E - Exceptional					
MIMIC SHINER - Years: 1997 - Number Collected: 63	0 1 0 0 washboard - Megalonaias nervosa (Rafinesque, 1820) -	None	Habitat 44.70 93.5 - 11.70 - Outstanding	50.60 44 -	ICI					
BRINDLED MADTOM - Years: 1986, 1987, 1997 - Number Collected: 19	Years: 29 0 2 0 0 pocketbook - Lampsilis ovata (Say, 1817) - Years: 29	None	--Year:1987----- 44.70 65.5 - 11.70 -	--Year:1987----- 45.10 44 -	--Year:1987----- 45.10 G -					

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH48 1 10-200	<i>Recommended Tier</i> SHQW <hr/> URM: 14.10 LRM: 6.30 Miles 7.80	OHIO BRUSH CREEK (SEMPLE CREEK TO OHIO RIVER)	Good numbers of declining species (slenderhead darter, rosyface shiner), high IBI scores, populations of endangered mussels, and good habitat warrant a SHQW antidegradation tier in the reach of this river not effected by the Ohio River backwater.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating	
SILVER LAMPREY - Years: 1987 - Number Collected: 2	None	None	-----	-----	-----	
MOONEYE - Years: 1977 - Number Collected: 3	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--	Special Concern Fish -----	--Year:1987----- 5.00 53.0 - 0.10 - 6.10 73.5 - 4.05 -	--Year:1987----- 6.10 45 - 5.00 40 -	--Year:1987----- 6.00 G -	
ROSYFACE SHINER - Years: 1986, 1987 - Number Collected: 24	0 1 0 0 washboard - Megalonaias nervosa (Rafinesque, 1820) -	None	-----	--Year:1986----- 8.80 42 - 6.10 44 -	-----	
MIMIC SHINER - Years: 1984, 1986 - Number Collected: 23	Years: 29 0 2 0 0 pocketbook - Lampsilis	None	-----	-----	-----	
BRINDLED MADTOM - Years: 1986 - Number Collected: 18	ovata (Say, 1817) - Years: 29	None	-----	-----	-----	
SLENDERHEAD DARTER - Years: 1984, 1986, 1987 - Number Collected: 27	None	None	-----	-----	-----	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH48 11 10-200	<i>Recommended Tier</i> SHQW URM: 28.70 LRM: 14.10 Miles 14.60	OHIO BRUSH CREEK (WEST FORK TO SEMPLE CREEK)				Good numbers of declining species (slenderhead darter, rosyface shiner), high IBI scores, populations of endangered mussels in this stream, and good habitat warrant a SHQW antidegradation tier.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----				
ROSYFACE SHINER - Years: 1987, 1997 - Number Collected: 55	None	None	--Year:1997-----	--Year:1997-----	--Year:1994-----				
ROSEFIN SHINER - Years: 1987, 1997 - Number Collected: 33	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----	15.20 77.5 - 3.91 - Excellent	25.10 56 - Superior IBI	15.20 42 -				
MIMIC SHINER - Years: 1987, 1997 - Number Collected: 244	0 1 0 0 washboard - Megalonaias nervosa (Rafinesque, 1820) -	RIVER REDHORSE - Years: 1997 - Number Collected: 1	Habitat 25.10 84.5 - 5.14 - Excellent	Scores 25.10 48 - Exceptional IBI	15.20 38 -				
BRINDLED MADTOM - Years: 1986, 1987, 1997 - Number Collected: 53	Years: 29 0 2 0 0 pocketbook - Lampsilis		--Year:1987----- 25.10 76.5 - 5.14 - Excellent	15.20 50 - Exceptional IBI	15.20 50 - Exceptional ICI				
SLENDERHEAD DARTER - Years: 1986, 1987, 1997 - Number Collected: 45	ovata (Say, 1817) - Years: 29		Habitat --Year:1984----- 15.20 86.5 - 3.91 - Excellent	20.90 36 - 16.40 30 -	15.20 48 - Exceptional ICI				
			Habitat --Year:1986----- 15.20 49 - Exceptional IBI	20.90 50 - Exceptional IBI 16.40 46 - Exceptional IBI	24.90 32 - 15.20 32 -				
					--Year:1984----- 15.20 40 -				

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description							
OH37 9 02-400	<p style="text-align: center;"><i>Recommended Tier</i> SRW</p> <p>URM: 14.48 LRM: 11.45 Miles 3.03</p>	<p>OLENTANGY RIVER (BARTHOLOMEW RUN TO OLD WILSON BRIDGE RD)</p> <p>The Olentangy River is a State Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs that justify a State Resource Water antidegradation tier.</p>						
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values		IBI Values		ICI Values	
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating			
-----	-----	-----	-----	-----	-----			
RIVER CHUB - Years: 1987, 1988, 1991, 1996, 1999 - Number Collected: 76	None	BLUEBREAST DARTER - Years: 1985, 1989, 1999 - Number Collected: 8	--Year:1999-----	--Year:1999-----	--Year:1999-----			
ROSYFACE SHINER - Years: 1999 - Number Collected: 4	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish	0.30 54.5 - 0.10 -	13.40 26 -	12.80 44 - Exceptional ICI			
BLUEBREAST DARTER - Years: 1985, 1989, 1999 - Number Collected: 8	0 0 2 8 rabbitsfoot - Quadrula cylindrica cylindrica (Say, 1817) - Years: 89	RIVER REDHORSE - Years: 1987, 1991, 1996, 1999 - Number Collected: 14	0.70 61.5 - 0.10 -	13.40 26 -	7.70 42 -			
			1.80 65.5 - 3.30 -	13.40 26 -	6.90 44 - Exceptional ICI			
			2.00 29.0 - 0.10 -	13.40 26 -	5.50 22 -			
			3.90 56.5 - 0.10 -	12.40 50 - Exceptional IBI	4.00 26 -			
			5.50 44.0 - 0.10 -	12.40 50 - Exceptional IBI	2.00 12 -			
			6.80 60.0 - 2.59 -	12.40 46 - Exceptional IBI	1.90 20 -			
			7.80 54.5 - 2.59 -	12.40 46 - Exceptional IBI	0.60 28 -			
			12.40 63.5 - 2.98 -	7.80 48 - Exceptional IBI	0.20 12 -			
			--Year:1996-----	7.80 48 - Exceptional IBI	--Year:1996-----			
			0.60 66.0 - 2.00 -	7.80 48 - Exceptional IBI	0.60 30 -			
			5.50 43.5 - 0.10 -	7.80 48 - Exceptional IBI	--Year:1991-----			
			13.60 68.5 - 5.99 -	6.80 50 - Exceptional IBI	3.90 MG -			
			--Year:1991-----	6.80 50 - Exceptional IBI	1.70 20 -			
			0.40 54.0 - 0.10 -	6.80 50 - Exceptional IBI	0.60 12 -			
			1.40 73.0 - 2.00 -	6.80 50 - Exceptional IBI	--Year:1989-----			
			3.90 63.0 - 0.10 -	5.50 40 -	13.40 50 - Exceptional ICI			
			7.60 84.0 - 2.59 - Excellent	5.50 40 -	12.40 54 - Superior ICI Score			
			Habitat	5.50 40 -				
			--Year:1989-----	5.50 40 -	--Year:1988-----			
			12.80 84.5 - 5.99 - Excellent	3.90 49 - Exceptional IBI	6.90 48 - Exceptional ICI			
			Habitat	3.90 49 - Exceptional IBI	5.70 12 -			
			13.60 89.5 - 5.99 - Excellent	3.90 49 - Exceptional IBI	3.90 10 -			
			Habitat	3.90 49 - Exceptional IBI	2.20 4 -			
			--Year:1988-----	2.00 39 -	1.70 10 -			
			1.70 78.5 - 3.30 - Excellent	2.00 39 -	0.60 P -			
			Habitat	2.00 39 -	--Year:1987-----			
			5.50 58.0 - 0.10 -	2.00 39 -	3.90 36 -			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

1.80	42 -		1.80	32 -
1.80	42 -		1.30	30 -
1.80	42 -		1.20	28 -
1.80	42 -		0.60	28 -
0.70	35 -			
0.70	35 -			
0.70	35 -			
0.70	35 -			
0.30	38 -			
0.30	38 -			
0.30	38 -			
---Year:1996-----				
5.50	35 -			
0.60	43 -			
0.60	12 -			
---Year:1991-----				
3.90	43 -			
1.40	28 -			
0.40	33 -			
---Year:1989-----				
13.10	50 - Exceptional IBI			
13.10	40 -			
12.80	43 -			
---Year:1988-----				
5.00	33 -			
4.30	31 -			
3.90	37 -			
2.10	31 -			
1.70	38 -			
0.30	29 -			
---Year:1987-----				
3.70	40 -			
2.70	30 -			
1.60	36 -			
0.70	36 -			
---Year:1981-----				
0.50	28 -			
---Year:1979-----				
0.30	29 -			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description											
OH37 13 02-400	<i>Recommended Tier SRW</i> URM: 25.71 LRM: 14.49 Miles 11.22	OLENTANGY RIVER (DELAWARE RUN TO BARTHOLOMEW RUN)										
		The Olentangy River is a State Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs that justify a State Resource Water antidegradation tier.										
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values			IBI Values			ICI Values			
-----	-----	-----	--RM--	--QHEI--	--Gradient--	--Narrative	--RM--	--IBI--	--Narrative	--RM--	--ICI--	--Rating
None	None	None	-----			-----			-----			
	Endangered Unionids	Special Concern Fish	--Year:1999-----			--Year:1999-----			--Year:1999-----			
	--Living--Dead--Weathered--Subfossil--Name--	-----	-----			-----			-----			
	--	RIVER REDHORSE - Years: 1989, 1999 -	-----			-----			-----			
	0 0 2 8 rabbitsfoot - Quadrula	Number Collected: 21	-----			-----			-----			
	cylindrica cylindrica (Say, 1817) - Years: 89		15.00	65.0	3.97	-	25.40	43	-	24.50	40	-
			19.40	75.0	7.58	- Excellent	25.40	43	-	22.50	50 - Exceptional ICI	
			Habitat	-----			25.30	39	-	19.60	52 - Exceptional ICI	
			22.30	74.0	9.43	-	25.30	39	-	14.90	50 - Exceptional ICI	
			24.50	68.5	6.58	-	24.90	43	-	-----		
			25.40	66.5	6.58	-	24.90	43	-	19.60	54 - Superior ICI Score	
			-----			-----			-----			
			14.50	80.5	3.97	- Excellent	24.80	39	-	-----		
			Habitat	-----			24.80	39	-	-----		
			19.80	84.5	7.69	- Excellent	24.50	42	-	19.60	56 - Superior ICI Score	
			Habitat	-----			24.50	42	-	-----		
			-----			-----			-----			
			19.80	88.5	7.69	- Excellent	24.50	42	-	-----		
			Habitat	-----			22.30	40	-	25.10	48 - Exceptional ICI	
			22.00	75.0	3.00	- Excellent	22.30	40	-	24.50	54 - Superior ICI Score	
			Habitat	-----			22.30	40	-	-----		
			23.50	76.5	11.11	- Excellent	22.30	40	-	23.50	40 -	
			Habitat	-----			19.40	44	-	22.30	40 -	
			24.50	78.5	6.58	- Excellent	19.40	44	-	19.60	48 - Exceptional ICI	
			Habitat	-----			19.40	44	-	-----		
			25.00	83.0	6.58	- Excellent	15.00	53 - Exceptional IBI		19.40	50 - Exceptional ICI	
			Habitat	-----			15.00	53 - Exceptional IBI		-----		
			25.40	67.5	6.58	-	15.00	53 - Exceptional IBI		-----		
			-----			-----			-----			
			14.70	94.0	3.97	- Outstanding	-----		-----			
			Habitat	-----			15.00	53 - Exceptional IBI		20.30	48 - Exceptional ICI	
							15.00	53 - Exceptional IBI		-----		
							-----		-----			
							25.40	36	-	19.60	52 - Exceptional ICI	
							25.20	44	-	20.30	46 - Exceptional ICI	
							25.10	44	-	19.60	46 - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

25.00	41 -	---Year:1983-----
24.50	34 -	20.30 44 - Exceptional ICI
23.50	34 -	19.60 46 - Exceptional ICI
23.40	32 -	
22.00	29 -	
19.80	40 -	
19.80	48 - Exceptional IBI	
17.80	48 - Exceptional IBI	
15.40	46 - Exceptional IBI	
---Year:1987-----		
20.50	36 -	
19.80	44 -	
17.80	52 - Exceptional IBI	
15.40	48 - Exceptional IBI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH36 1 02-400	<i>Recommended Tier SRW</i> URM: 36.07 LRM: 25.72 Miles 10.35	OLENTANGY RIVER (WHETSTONE CREEK TO DELAWARE RUN)			
		The Olentangy River is a State Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs that justify a State Resource Water antidegradation tier.			
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
None	None	None	-----	-----	-----
	Endangered Unionids	Special Concern Fish	--Year:1999-----	--Year:1999-----	--Year:1999-----
	--Living--Dead--Weathered--Subfossil--Name--	-----	27.90 82.5 - 5.68 - Excellent	32.00 42 -	32.00 34 -
	--	RIVER REDHORSE - Years: 1996 - Number	Habitat	32.00 42 -	27.50 48 - Exceptional ICI
	0 0 2 8 rabbitsfoot - Quadrula	Collected: 1	32.00 69.0 - 3.82 -	32.00 43 -	--Year:1989-----
	cylindrica cylindrica (Say, 1817) - Years: 89		--Year:1996-----	32.00 43 -	32.00 34 -
			27.90 68.5 - 5.68 -	27.90 42 -	--Year:1988-----
			--Year:1989-----	27.90 42 -	27.90 36 -
			31.20 83.0 - 3.82 - Excellent	27.90 42 -	
			Habitat	27.90 42 -	
			--Year:1988-----	--Year:1996-----	
			28.10 52.0 - 0.10 -	27.90 37 -	
				--Year:1989-----	
				30.50 38 -	
				27.80 42 -	
				--Year:1988-----	
				26.50 30 -	
				--Year:1987-----	
				27.80 42 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH 8101 06-033	<i>Recommended Tier</i> SHQW URM: 12.30 LRM: 0.00 Miles 12.30	OPOSSUM CREEK	Although data is somewhat sparse, this reach should be assigned the SHQW tier because of :1) good populations of a declining species (river chub), excellent habitat with a QHEI in the 80s, and an EWH IBI score. Collection of more data in the future may refine the extent of this designation which is made on relatively little data.		
Declining Fish ----- RIVER CHUB - Years: 1997 - Number Collected: 35	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 2.20 82.0 - 40.82 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1997----- 2.20 52 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH43 20 02-500	<i>Recommended Tier SRW</i> URM: 19.57 LRM: 8.12 Miles 11.45	PAINT CREEK (LOWER TWIN CR. TO N. FK. PAINT CR.)	The EWH reach of Paint Creek should be assigned a SRW tier. It has frequent IBI and ICI scores in the 50s, large numbers of important declining species (rosyface shiner, streamline chub, variegate darter, state threatened, and special concern fish (e.g., bluebreast darter, river redhorse), and QHEI scores into the 80s.		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating
LEAST BROOK LAMPREY - Years: 1997 - Number Collected: 2	None	BLUEBREAST DARTER - Years: 1997 - Number Collected: 5	----- --Year:1997----- 8.90 82.5 - 3.82 - Excellent	----- --Year:1997----- 16.30 53 - Exceptional IBI	----- --Year:1997----- 16.70 56 - Superior ICI Score
STREAMLINE CHUB - Years: 1997 - Number Collected: 4	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----	Habitat 16.30 80.0 - 3.88 - Excellent	8.90 51 - Exceptional IBI	
ROSYFACE SHINER - Years: 1997 - Number Collected: 63	None	RIVER REDHORSE - Years: 1979, 1992, 1997 - Number Collected: 13	Habitat --Year:1992----- 8.90 81.5 - 3.82 - Excellent	--Year:1984----- 16.30 40 -	8.90 50 - Exceptional ICI --Year:1992-----
BRINDLED MADTOM - Years: 1984, 1997 - Number Collected: 2			Habitat 8.80 36 -		8.90 58 - Superior ICI Score
VARIEGATE DARTER - Years: 1984 - Number Collected: 3					
BLUEBREAST DARTER - Years: 1997 - Number Collected: 5					

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description									
OH43 1 02-500	<i>Recommended Tier SRW</i> URM: 8.12 LRM: 3.80 Miles 8.12	PAINT CREEK (N. FK. PAINT CREEK TO SCIOTO RIVER)	The EWH reach of Paint Creek should be assigned a SRW tier. It has frequent IBI and ICI scores in the 50s, large numbers of declining species, state endangered, threatened, and special concern fish (e.g., tippecanoe darter, sand darter, river redhorse, northern madtom), and QHEI scores into the 80s.							
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values		IBI Values		ICI Values			
-----	-----	-----	--RM--QHEI--Gradient--Narrative		--RM--IBI--Narrative		--RM--ICI--Rating			
SILVER LAMPREY - Years: 1982, 1997 - Number Collected: 6	NORTHERN MADTOM - Years: 1985 - Number Collected: 1	TIPPECANOE DARTER - Years: 1997 - Number Collected: 1	--Year:1997----- 0.20 75.0 - 3.36 - Excellent		--Year:1997----- 7.80 51 - Exceptional IBI		--Year:1997----- 7.80 52 - Exceptional ICI			
MOONEYE - Years: 1992 - Number Collected: 2	Endangered Unionids	Special Concern Fish	Habitat		4.60 48 - Exceptional IBI		4.40 56 - Superior ICI Score			
STREAMLINE CHUB - Years: 1997 - Number Collected: 5	--Living--Dead--Weathered--Subfossil--Name-- --	RIVER REDHORSE - Years: 1985, 1992, 1997 - Number Collected: 19	1.30 68.0 - 3.36 - 2.30 68.5 - 3.36 -		2.40 34 - 2.30 38 -		2.40 30 - 1.90 42 -			
REDSIDE DACE - Years: 1983 - Number Collected: 2	None	EASTERN SAND DARTER - Years: 1997 - Number Collected: 2	4.60 73.0 - 3.82 - 7.80 83.5 - 3.82 - Excellent		1.30 44 - 0.20 43 -		1.30 46 - Exceptional ICI 0.20 44 - Exceptional ICI			
ROSYFACE SHINER - Years: 1985, 1997 - Number Collected: 86			Habitat --Year:1992----- 0.20 81.5 - 3.36 - Excellent		--Year:1992----- 2.40 23 -		--Year:1992----- 7.80 56 - Superior ICI Score			
NORTHERN MADTOM - Years: 1985 - Number Collected: 1			Habitat 1.30 81.0 - 3.36 - Excellent		1.30 35 - 0.20 35 -		5.20 56 - Superior ICI Score			
BRINDLED MADTOM - Years: 1985 - Number Collected: 7			Habitat 2.30 82.0 - 3.36 - Excellent		--Year:1985----- 5.00 41 -		2.40 18 -			
SLENDERHEAD DARTER - Years: 1997 - Number Collected: 18			Habitat 2.40 73.0 - 3.36 -		2.10 16 - 1.50 33 -		1.90 28 - 0.10 32 -			
EASTERN SAND DARTER - Years: 1997 - Number Collected: 2			4.60 81.0 - 3.82 - Excellent		0.40 31 -		--Year:1985----- 5.10 56 - Superior ICI Score			
VARIEGATE DARTER - Years: 1985, 1997 - Number Collected: 15			Habitat --Year:1985----- 5.00 93.5 - 3.82 - Outstanding		--Year:1984----- 6.70 32 -		1.80 12 -			
TIPPECANOE DARTER - Years: 1997 - Number Collected: 1			Habitat		--Year:1979----- 0.20 30 - 1.00 30 -		0.10 32 -			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH43 27 02-500	<i>Recommended Tier SRW</i> URM: 37.12 LRM: 19.57 Miles 17.55	PAINT CREEK (ROCKY FORK TO LOWER TWIN CREEK) The EWH reach of Paint Creek should be assigned a SRW tier. It has frequent IBI and ICI scores in the 50s, large numbers of important declining species (mimic shiner, sand darter), state special concern fish (e.g., sand darter, river redhorse), and QHEI scores into the 80s.				
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values	
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	
SILVER LAMPREY - Years: 1997 - Number Collected: 2	None	None	-----	-----	-----	
MIMIC SHINER - Years: 1997 - Number Collected: 15	Endangered Unionids	Special Concern Fish	--Year:1997-----	--Year:1997-----	--Year:1997-----	
EASTERN SAND DARTER - Years: 1997 - Number Collected: 3	--Living--Dead--Weathered--Subfossil--Name--	RIVER REDHORSE - Years: 1989, 1997 - Number Collected: 7	21.60 73.0 - 3.41 -	32.50 49 - Exceptional IBI	32.90 E - Exceptional	
	None	EASTERN SAND DARTER - Years: 1997 - Number Collected: 3	27.50 80.5 - 4.01 - Excellent	27.50 52 - Exceptional IBI	ICI	
			Habitat	21.60 52 - Exceptional IBI	27.10 56 - Superior ICI Score	
			32.50 65.5 - 6.94 -			
			--Year:1989-----		21.40 56 - Superior ICI Score	
			32.50 67.0 - 6.94 -			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH22 14 17-214	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><i>Recommended Tier</i> SHQW</td> </tr> <tr> <td style="padding: 2px;">URM:</td> <td style="padding: 2px; text-align: right;">5.70</td> </tr> <tr> <td style="padding: 2px;">LRM:</td> <td style="padding: 2px; text-align: right;">0.00</td> </tr> <tr> <td style="padding: 2px;">Miles</td> <td style="padding: 2px; text-align: right;">5.70</td> </tr> </table> <p style="margin-top: 10px;">PAINTER RUN</p> <p style="margin-top: 10px;">Painter Run has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good populations of three sensitive headwater declining species (southern redbelly dace, redbelly dace, and least brook lamprey) and a high IBI score. It also has good -excellent habitat.</p>	<i>Recommended Tier</i> SHQW		URM:	5.70	LRM:	0.00	Miles	5.70
<i>Recommended Tier</i> SHQW									
URM:	5.70								
LRM:	0.00								
Miles	5.70								

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
LEAST BROOK LAMPREY - Years: 1982, 1986, 1999 - Number Collected: 55	None	None	-----	-----	-----
SOUTH. REDBELLY DACE - Years: 1986, 1999 - Number Collected: 226	Endangered Unionids	Special Concern Fish	--Year:1999-----	--Year:1999-----	--Year:1986-----
REDSIDE DACE - Years: 1986, 1999 - Number Collected: 30	--Living--Dead--Weathered--Subfossil--Name--	-----	0.30 80.0 - 20.62 - Excellent	1.40 42 -	0.30 40 -
	--	None	Habitat	0.30 54 - Superior IBI Scores	
	None		1.40 65.0 - 25.64 -		
			--Year:1986-----		
			0.30 61.0 - 20.62 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH44 35 02-630	<i>Recommended Tier</i> SHQW URM: 13.00 LRM: 0.00 Miles 13.00	PINE CREEK	Pince Creek has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good populations of three sensitive declining fish species including redbside dace, EWH IBI scores and good-excellent habitat.		
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1992, 1997 - Number Collected: 4 REDSIDE DACE - Years: 1997 - Number Collected: 81 ROSEFIN SHINER - Years: 1997 - Number Collected: 30	Endangered Fish ----- Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 12.60 71.0 - 26.67 - 12.50 71.5 - 26.67 - --Year:1991----- 12.50 79.5 - 26.67 - Excellent Habitat	IBI Values --RM---IBI---Narrative ----- --Year:1997----- 12.60 56 - Superior IBI Scores 12.50 52 - Exceptional IBI	ICI Values --RM---ICI---Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH33 61 09-400	<table border="1" style="border-collapse: collapse; width: 150px;"> <tr> <td colspan="2" style="text-align: center;"><i>Recommended Tier</i> SHQW</td> </tr> <tr> <td style="padding: 2px;">URM:</td> <td style="padding: 2px;">38.15</td> </tr> <tr> <td style="padding: 2px;">LRM:</td> <td style="padding: 2px;">19.53</td> </tr> <tr> <td style="padding: 2px;">Miles</td> <td style="padding: 2px;">18.62</td> </tr> </table> <p style="margin-top: 10px;">PINE CREEK (HALES CREEK TO LITTLE PINE CREEK)</p> <p style="margin-top: 10px;">This reach should be assigned the SHQW tier because of: good populations of declining species (including rosefin shiner, least brook lamprey and brindled madtom), good habitat, populations of endangered mussel species, and an EWH IBI score. Collection of more data in the future may refine the extent of this designation which is made on relatively little data.</p>	<i>Recommended Tier</i> SHQW		URM:	38.15	LRM:	19.53	Miles	18.62
<i>Recommended Tier</i> SHQW									
URM:	38.15								
LRM:	19.53								
Miles	18.62								

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
LEAST BROOK LAMPREY - Years: 1983, 1985, 1997 - Number Collected: 28 ROSEFIN SHINER - Years: 1983 - Number Collected: 41 BRINDLED MADTOM - Years: 1990, 1997 - Number Collected: 22	None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 4 0 0 0 little spectaclecase - Villosa lienosa (Conrad, 1834) - Years: 87	None Special Concern Fish ----- None	--Year:1997----- 36.40 69.5 - 2.82 - --Year:1990----- 20.50 74.0 - 2.95 - --Year:1983----- 20.50 72.5 - 2.95 -	--Year:1997----- 36.40 46 - Exceptional IBI --Year:1983----- 20.50 41 -	--Year:1990----- 20.40 40 - --Year:1983----- 20.40 28 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH33 49 09-400	<i>Recommended Tier</i> SHQW URM: 19.53 LRM: 0.00 Miles 19.53	PINE CREEK (LITTLE PINE CREEK TO OHIO RIVER) This reach should be assigned the SHQW tier because of good populations of declining species (including river chub and brindled madtom), excellent habitat with QHEIs into the 80s, populations of endangered mussel species, and an EWH IBI score. Collection of more data in the future may refine the extent of this designation which is made on relatively little data.				
Declining Fish ----- RIVER CHUB - Years: 1986, 1997 - Number Collected: 48 BRINDLED MADTOM - Years: 1997 - Number Collected: 3	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 4 0 0 0 little spectaclecase - Villosa lienosa (Conrad, 1834) - Years: 87	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 5.10 85.5 - 4.10 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1997----- 5.10 50 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- No Data	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH 7 6 06-704	<i>Recommended Tier</i> SHQW URM: 6.80 LRM: 0.00 Miles 6.80	PINEY FORK	Piney Fork has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has a good population of two sensitive declining species (river chub and rosyface shiner), good habitat, and is a tributary to Sunfish Creek, another SHQW.		
Declining Fish ----- RIVER CHUB - Years: 1983, 1991 - Number Collected: 188 ROSYFACE SHINER - Years: 1991 - Number Collected: 33	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1991----- 0.30 66.5 - 27.03 - --Year:1983----- 0.30 69.0 - 27.03 -	IBI Values --RM--IBI--Narrative ----- --Year:1991----- 0.30 54 - Superior IBI Scores --Year:1983-----	ICI Values --RM--ICI--Rating ----- --Year:1991----- 0.30 20 - --Year:1983----- 0.10 G -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH39 30 02-221	<i>Recommended Tier</i> SRW <hr/> URM: 8.00 LRM: 0.00 Miles 8.00	PLEASANT RUN	Pleasant Run merits a SRW designation because of: 1.) near pristine IBI scores (56-58) and exceptional narrative macroinvertebrate scores, 2.) large populations of declining fish species (including hornyhead chub, and rosefin shiner), 3.) excellent habitat, and 4.) its importance and proximity to Big Darby Creek.		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
LEAST BROOK LAMPREY - Years: 1988 - Number Collected: 1	None	None	--Year:1997----- 0.50 83.0 - 14.30 - Excellent	--Year:1997----- 0.50 56 - Superior IBI Scores	--Year:1988----- 0.40 E - Exceptional ICI
HORNYHEAD CHUB - Years: 1989 - Number Collected: 30	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish ----- None	Habitat --Year:1988----- 0.50 67.5 - 14.30 -	--Year:1988----- 0.50 57 - Superior IBI Scores	
ROSEFIN SHINER - Years: 1988, 1989, 1997 - Number Collected: 15	None				

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH44 27 02-608	<i>Recommended Tier</i> SHQW URM: 6.80 LRM: 0.00 Miles 6.80	PRETTY RUN	This stream should be assigned the SHQW tier because of :1) populations of declining species (including variegate darter and least brook lamprey), good habitat with QHEIs into the 70s, and an EWH IBI score. Although data is somewhat sparse, variegate darter are an important indicator species tightly linked to SHQW conditions.		
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1992 - Number Collected: 2 VARIEGATE DARTER - Years: 1992 - Number Collected: 3	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1992----- 0.70 75.0 - 16.22 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1992----- 0.70 54 - Superior IBI Scores	ICI Values --RM--ICI--Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH39 13 02-214	<i>Recommended Tier</i> SHQW URM: 6.00 LRM: 0.00 Miles 6.00	PROCTOR RUN	Proctor Run merits a SHQW designation because of: 1.) populations of declining fish species (including variegate darter and hornyhead chub), 2.) high IBI and narrative macroinvertebrate scores, 3.) good habitat, and 4.) its importance and proximity to Big Darby Creek.		
Declining Fish ----- HORNYHEAD CHUB - Years: 1992 - Number Collected: 16 VARIEGATE DARTER - Years: 1992 - Number Collected: 6	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1992----- 1.70 71.5 - 12.35 -	IBI Values --RM--IBI--Narrative ----- --Year:1992----- 1.70 53 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1992----- 1.60 E - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH44 30 02-625	<i>Recommended Tier</i> SHQW <hr/> URM: 9.60 LRM: 0.00 Miles 9.60	QUEER CREEK	This stream should be assigned the SHQW tier because of :1) populations of declining species (including variegate darter, southern redbelly and redbelly dace, least brook lamprey), good habitat with QHEIs into the 70s, and EWH IBI scores.		
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1992, 1999 - Number Collected: 15 SOUTH. REDBELLY DACE - Years: 1999 - Number Collected: 82 REDSIDE DACE - Years: 1999 - Number Collected: 50 ROSEFIN SHINER - Years: 1984, 1992 - Number Collected: 24 VARIEGATE DARTER - Years: 1984, 1992 - Number Collected: 6	Endangered Fish ----- Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1999----- 4.40 73.0 - 14.81 - --Year:1992----- 0.80 73.5 - 7.75 -	IBI Values --RM--IBI--Narrative ----- --Year:1992----- 0.80 56 - Superior IBI Scores --Year:1984----- 0.70 48 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH46 43 02-729	<i>Recommended Tier</i> SHQW URM: 2.00 LRM: 0.00 Miles 2.00	RANDALL RUN	The population of rosyside dace, a state threatened species and the downstream SRW Scioto Brush Creek warrant a SHQW antidegradation tier		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating
SOUTH. REDBELLY DACE - Years: 1988 - Number Collected: 11	None	ROSYSIDE DACE - Years: 1990 - Number Collected: 41	No Data	--Year:1988----- 1.20 36 -	No Data
ROSYSIDE DACE - Years: 1990 - Number Collected: 41	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----		0.40 44 -	
ROSEFIN SHINER - Years: 1990 - Number Collected: 59	None	None			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description
OH46 79 02-769	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;"> <i>Recommended Tier</i> SHQW </div> RARDEN CREEK The large population of rosyside dace, an Ohio threatened species, warrants a SHQW antidegradation tier.
URM: 6.60 LRM: 0.00 Miles 6.60	

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
SILVER LAMPREY - Years: 1987 - Number Collected: 1	None	ROSYSIDE DACE - Years: 1987, 1988, 1990 - Number Collected: 382	No Data	---Year:1988----- 4.00 26 -	No Data
SOUTH. REDBELLY DACE - Years: 1988 - Number Collected: 9	--Living--Dead--Weathered--Subfossil--Name--	Special Concern Fish		---Year:1985----- 3.40 36 -	
ROSYSIDE DACE - Years: 1987, 1988, 1990 - Number Collected: 382	None	None		0.30 48 - Exceptional IBI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH22 10 17-210	<i>Recommended Tier</i> SHQW URM: 20.20 LRM: 0.00 Miles 20.20	ROCKY FORK	Rocky Fork has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good populations of five sensitive headwater declining species (southern redbelly dace, rosyface shiner, rosefin shiner, river chub, and least brook lamprey) and consistently high IBI and ICI scores. It also has good -excellent habitat.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
LEAST BROOK LAMPREY - Years: 1983, 1986, 1999 - Number Collected: 19	None	None	--Year:1999-----	--Year:1999-----	--Year:1986-----	
RIVER CHUB - Years: 1986, 1999 - Number Collected: 99	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -----	Special Concern Fish -----	2.00 73.0 - 8.77 - 16.00 82.5 - 12.50 - Excellent Habitat	16.00 48 - Exceptional IBI 2.00 53 - Exceptional IBI --Year:1986-----	16.00 48 - Exceptional ICI 2.80 52 - Exceptional ICI --Year:1983-----	
SOUTH. REDBELLY DACE - Years: 1986, 1999 - Number Collected: 10	None	None	--Year:1986-----	10.40 47 - Exceptional IBI	3.00 44 - Exceptional ICI	
ROSYFACE SHINER - Years: 1983, 1986, 1999 - Number Collected: 325			2.00 83.5 - 8.77 - Excellent Habitat	2.00 53 - Exceptional IBI		
ROSEFIN SHINER - Years: 1986 - Number Collected: 13			2.10 75.0 - 8.77 - Excellent Habitat 16.00 78.0 - 12.50 - Excellent Habitat			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description			Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
OH38 21 02-123	ROCKY FORK of BIG WALNUT	<i>Recommended Tier</i> SHQW	This reach between US 62 and the confluence with Big Walnut should be assigned the SHQW tier because of :1) good populations of declining species (including rosyface shiner and hornyhead chubs), excellent habitat with QHEIs into the 80s, and EWH IBI and ICI scores.	-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
		URM: 5.09 LRM: 0.00 Miles 5.09		HORNYHEAD CHUB - Years: 1991, 1992, 1993, 1994, 1996, - Number Collected: 309	None	None	1.10 81.0 - 24.39 - Excellent	10.20 32 -	10.00 F -
				SOUTH. REDBELLY DACE - Years: 1991, 1994, 2000 - Number Collected: 4	Endangered Unionids	Special Concern Fish	Habitat	7.10 38 -	8.80 24 -
				ROSYFACE SHINER - Years: 1992, 1996, 2000 - Number Collected: 33	None	None	3.30 66.0 - 45.45 -	5.90 28 -	7.30 38 -
				ROSEFIN SHINER - Years: 1992, 1993, 1994, 1995, 1996, - Number Collected: 314			5.90 73.5 - 10.75 -	3.30 36 -	6.50 48 - Exceptional ICI
							7.10 60.0 - 7.87 -	1.10 46 - Exceptional IBI	6.00 52 - Exceptional ICI
							10.20 60.0 - 10.99 -	--Year:1996-----	5.00 36 -
							--Year:1996-----	8.80 36 -	3.00 F -
							1.00 76.5 - 24.39 - Excellent	7.00 48 - Exceptional IBI	1.00 38 -
							Habitat	6.50 54 - Superior IBI Scores	--Year:1995-----
							7.00 55.0 - 7.87 -		10.00 46 - Exceptional ICI
							8.80 54.0 - 10.00 -	6.00 36 -	8.80 40 -
							10.10 56.5 - 10.99 -	5.10 42 -	7.30 48 - Exceptional ICI
							--Year:1993-----	3.10 30 -	6.00 48 - Exceptional ICI
							6.00 61.5 - 10.75 -	1.00 44 -	3.00 48 - Exceptional ICI
							7.50 59.0 - 8.85 -	--Year:1995-----	1.00 48 - Exceptional ICI
							8.80 59.5 - 10.00 -	3.10 34 -	--Year:1994-----
							10.10 61.0 - 10.99 -	1.10 48 - Exceptional IBI	10.00 44 - Exceptional ICI
							--Year:1991-----	--Year:1994-----	8.80 34 -
							1.10 90.5 - 24.39 - Outstanding	7.50 46 - Exceptional IBI	7.30 46 - Exceptional ICI
							Habitat	6.00 40 -	6.00 40 -
							3.10 58.0 - 45.45 -	3.10 38 -	3.00 34 -
							5.20 67.0 - 8.13 -	1.10 48 - Exceptional IBI	1.00 44 - Exceptional ICI
							6.00 58.5 - 10.75 -	--Year:1993-----	--Year:1993-----
							6.50 57.5 - 7.87 -	8.80 38 -	10.00 26 -
							7.20 49.5 - 7.87 -	7.50 52 - Exceptional IBI	8.80 34 -
							8.80 55.0 - 10.00 -	6.00 38 -	7.30 40 -
								3.10 42 -	6.00 36 -
								1.10 52 - Exceptional IBI	3.00 42 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

---Year:1992-----		1.00	48 - Exceptional ICI
6.10	38 -	---	---
6.00	26 -	7.30	52 - Exceptional ICI
5.90	34 -	6.00	48 - Exceptional ICI
3.10	44 -	3.00	50 - Exceptional ICI
1.10	52 - Exceptional IBI	1.00	50 - Exceptional ICI
---	---	---	---
---Year:1991-----			---
7.20	47 - Exceptional IBI	10.00	20 -
7.20	36 -	7.10	14 -
6.50	39 -	7.10	32 -
6.00	25 -	7.10	MG -
6.00	26 -	6.50	28 -
5.20	45 -	6.00	18 -
3.10	47 - Exceptional IBI	6.00	24 -
3.10	36 -	6.00	MG -
1.10	53 - Exceptional IBI	5.00	18 -
		3.00	36 -
		3.00	MG -
		1.10	40 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description									
OH43 51 02-530	<i>Recommended Tier</i> SHQW URM: 27.50 LRM: 16.88 Miles 10.62	ROCKY FORK (HEADWATERS TO ROCKY FORK LAKE)	This reach should be assigned the SHQW tier because of :1) good populations of declining species (including least brook lamprey, rosefin shiner, brindled madtom), good habitat, and EWH IBI and ICI scores.							
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values					
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating					
LEAST BROOK LAMPREY - Years: 1985, 1997 -	None	None	-----	-----	-----					
Number Collected: 4	Endangered Unionids	Special Concern Fish	--Year:1997-----	--Year:1997-----	--Year:1997-----					
ROSEFIN SHINER - Years: 1985, 1997 -	--Living--Dead--Weathered--Subfossil--Name--	-----	23.30 65.5 - 22.99 -	23.30 50 - Exceptional IBI	23.10 E - Exceptional					
Number Collected: 63	--	None	--Year:1985-----	23.30 59 - Superior IBI	ICI					
BRINDLED MADTOM - Years: 1985, 1997 -	None		17.10 48.0 - 0.10 -	Scores	18.10 50 - Exceptional ICI					
Number Collected: 9			17.50 47.0 - 0.10 -	18.10 46 - Exceptional IBI	--Year:1985-----					
			18.10 67.5 - 8.33 -	--Year:1985-----	23.30 50 - Exceptional ICI					
			23.30 64.5 - 22.99 -	18.10 38 -	18.10 26 -					
				17.50 32 -						
				17.10 32 -						

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH46 23 02-710	<i>Recommended Tier</i> SRW URM: 8.30 LRM: 0.00 Miles 8.30	S FK SCIOTO BRUSH (SHAWNEE CR. TO SCIOTO BRUSH CR) Large populations of state endangered species (popeye shiner) and declining fish species, downstream and nearby SRW and SHQW reaches, high biological index scores and diversity warrant a SRW antidegradation tier. The popeye shiner and the large number of declining species are vulnerable to changes in habitat and water quality.			
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1984, 1997 - Number Collected: 10 RIVER CHUB - Years: 1997 - Number Collected: 123 ROSYFACE SHINER - Years: 1997 - Number Collected: 55 ROSEFIN SHINER - Years: 1985, 1987, 1988, 1997 - Number Collected: 347 POPEYE SHINER - Years: 1997 - Number Collected: 8 BRINDLED MADTOM - Years: 1997 - Number Collected: 4 VARIEGATE DARTER - Years: 1984 - Number Collected: 4	Endangered Fish ----- POPEYE SHINER - Years: 1997 - Number Collected: 8 Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 0.60 77.5 - 3.96 - Excellent Habitat --Year:1984----- 0.60 87.0 - 3.96 - Excellent Habitat	IBI Values --RM---IBI---Narrative ----- --Year:1997----- 0.60 54 - Superior IBI Scores 0.60 46 - Exceptional IBI --Year:1987----- 8.30 42 - --Year:1985----- 2.80 28 -	ICI Values --RM---ICI---Rating ----- --Year:1984----- 0.60 36 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH44 51 02-600	<i>Recommended Tier</i> SHQW <hr/> URM: 45.40 LRM: 33.10 Miles 12.30	SALT CREEK (HEADWATERS TO LAUREL CREEK)	This reach should be assigned the SHQW tier because of :1) populations of declining species (including rosyface shiner, and mimic shiner), excellent habitat with QHEIs into the 80s, and consistent EWH IBI and ICI scores.			
Declining Fish ----- ROSYFACE SHINER - Years: 1992 - Number Collected: 15 MIMIC SHINER - Years: 1992 - Number Collected: 26	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- ----- 0 2 0 0 yellow sandshell - Lampsilis teres anodontooides (Lea, 1831) - Years: 64	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1992----- 33.40 85.5 - 10.15 - Excellent Habitat 38.20 74.5 - 18.18 - 41.20 74.0 - 30.30 -	IBI Values --RM--IBI--Narrative ----- --Year:1992----- 41.20 50 - Exceptional IBI 41.20 52 - Exceptional IBI 38.20 55 - Superior IBI Scores 33.40 54 - Superior IBI Scores	ICI Values --RM--ICI--Rating ----- --Year:1992----- 41.20 G - 38.40 VG - 33.70 52 - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH44 33 02-600	<i>Recommended Tier</i> SHQW URM: 33.10 LRM: 25.40 Miles 7.70	SALT CREEK (LAUREL RUN TO QUEER CREEK)	This reach should be assigned the SHQW tier because of :1) populations of declining species (including variegate darter, rosyface shiner, mimic shiner), good habitat with QHEIs into the 70s, and consistent EWH IBI and ICI scores.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
LEAST BROOK LAMPREY - Years: 1983, 1992 - Number Collected: 4	None	None	---Year:1992----- 25.90 75.5 - 7.63 - Excellent	---Year:1992----- 29.90 46 - Exceptional IBI	---Year:1992----- 29.90 46 - Exceptional ICI	
ROSYFACE SHINER - Years: 1983, 1992 - Number Collected: 211	--Living--Dead--Weathered--Subfossil--Name-- -----	Special Concern Fish -----	Habitat 29.90 64.5 - 8.58 -	25.90 54 - Superior IBI Scores	26.00 54 - Superior ICI Score	
ROSEFIN SHINER - Years: 1992 - Number Collected: 3	0 2 0 0 yellow sandshell - Lampsilis teres anodontoides (Lea, 1831) -	None	---Year:1983----- 25.90 70.5 - 7.63 -		---Year:1983----- 25.70 44 - Exceptional ICI	
MIMIC SHINER - Years: 1992 - Number Collected: 100	Years: 64					
BRINDLED MADTOM - Years: 1992 - Number Collected: 9						
VARIEGATE DARTER - Years: 1983, 1992 - Number Collected: 87						

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH44 19 02-600	<i>Recommended Tier</i> SHQW URM: 14.09 LRM: 4.50 Miles 9.59	SALT CREEK (PIKE RUN TO SALT LICK CREEK)	This reach should be assigned the SHQW tier because of :1) populations of declining species (including rosyface shiner, sand darters, variegated darters and mimic shiner), excellent habitat with QHEIs into the 80s, and consistent EWH IBI and ICI scores.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
LEAST BROOK LAMPREY - Years: 1992 - Number Collected: 2	None Endangered Unionids	None Special Concern Fish	--Year:1992----- 6.00 75.5 - 2.03 - Excellent Habitat	--Year:1992----- 11.00 56 - Superior IBI Scores	--Year:1992----- 13.40 46 - Exceptional ICI 5.90 44 - Exceptional ICI	
ROSYFACE SHINER - Years: 1984, 1992 - Number Collected: 29	--Living--Dead--Weathered--Subfossil--Name-- --	EASTERN SAND DARTER - Years: 1984, 1992 - Number Collected: 22	9.90 84.0 - 4.21 - Excellent Habitat	11.00 50 - Exceptional IBI	--Year:1984----- 5.90 44 - Exceptional ICI	
MIMIC SHINER - Years: 1984, 1992 - Number Collected: 52	0 2 0 0 yellow sandshell - Lampsilis teres anodontoides (Lea, 1831) - Years: 64		11.00 80.0 - 4.21 - Excellent Habitat	6.00 54 - Superior IBI Scores		
EASTERN SAND DARTER - Years: 1984, 1992 - Number Collected: 22			--Year:1984----- 9.90 79.5 - 4.21 - Excellent Habitat	5.90 46 - Exceptional IBI		
VARIEGATE DARTER - Years: 1992 - Number Collected: 7						

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH44 24 02-600	<i>Recommended Tier</i> SHQW <hr/> URM: 25.40 LRM: 14.09 <hr/> Miles 11.31	SALT CREEK (QUEER CREEK TO PIKE RUN)	This reach should be assigned the SHQW tier because of :1) populations of declining species (including rosyface shiner, sand darters, variegate darters and mimic shiner), excellent habitat with QHEIs into the 80s, and consistent EWH IBI and ICI scores.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating	
LEAST BROOK LAMPREY - Years: 1992 - Number Collected: 5	None	None	-----	-----	-----	
ROSYFACE SHINER - Years: 1992 - Number Collected: 41	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----	--Year:1992----- 17.30 73.0 - 4.46 -	--Year:1992----- 22.60 42 -	--Year:1992----- 23.00 56 - Superior ICI Score	
MIMIC SHINER - Years: 1992 - Number Collected: 42	0 2 0 0 yellow sandshell - Lampsilis teres anodontoides (Lea, 1831) -	EASTERN SAND DARTER - Years: 1992 - Number Collected: 5	22.60 83.0 - 6.31 - Excellent Habitat	22.60 48 - Exceptional IBI 17.30 52 - Exceptional IBI	17.40 46 - Exceptional ICI	
EASTERN SAND DARTER - Years: 1992 - Number Collected: 5	Years: 64		--Year:1990----- 22.60 87.5 - 6.31 - Excellent Habitat	17.30 50 - Exceptional IBI		
VARIEGATE DARTER - Years: 1992 - Number Collected: 77						

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH44 1 02-600	<i>Recommended Tier</i> SHQW URM: 4.50 LRM: 0.00 Miles 4.50	SALT CREEK (SALT LICK CREEK TO SCIOTO RIVER) This stream should be assigned the SHQW tier because of :1) populations of declining species (including sand darter, rosyface shiner, brindled madtom), good habitat with QHEIs into the 70s, and EWH IBI and ICI scores.			
Declining Fish ----- ROSYFACE SHINER - Years: 1992 - Number Collected: 6 BRINDLED MADTOM - Years: 1979 - Number Collected: 1 EASTERN SAND DARTER - Years: 1992 - Number Collected: 2	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- 0 2 0 0 yellow sandshell - Lampsilis teres anodontoides (Lea, 1831) - Years: 64	Threatened Fish ----- None Special Concern Fish ----- EASTERN SAND DARTER - Years: 1992 - Number Collected: 2	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1992----- 0.30 51.5 - 2.03 - 1.50 72.0 - 2.03 -	IBI Values --RM---IBI---Narrative ----- --Year:1992----- 1.50 48 - Exceptional IBI 1.50 50 - Exceptional IBI 0.30 44 -	ICI Values --RM---ICI---Rating ----- --Year:1992----- 1.50 44 - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH81 1 05-001	<i>Recommended Tier</i> SRW	SANDUSKY RIVER (BELLS RUN TO ROGER YOUNG PARK IN FREEMONT)			
	URM: 42.98 LRM: 16.60 Miles 26.38	This segment should be assigned a SRW tier based on: (1) the strong population center of greater redhorse, which is an Ohio threatened species and a species who's status is being monitored by the USFWS for Federally Endangered status, 2) the river redhorse, a declining and special interest species also has a strong population in this reach, 3) its current designation as a State Scenic River. The reach also has some exceptional IBI and ICI scores and good habitat.			
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	---RM---QHEI---Gradient---Narrative	---RM---IBI---Narrative	---RM---ICI---Rating
MUSKELLUNGE - Years: 1981 - Number Collected: 1	None	GREATER REDHORSE - Years: 1988, 1990, 1999, 2001 - Number Collected: 109	---Year:2001-----	---Year:2001-----	---Year:1999-----
MIMIC SHINER - Years: 1990 - Number Collected: 21	--Living--Dead--Weathered--Subfossil--Name---	Special Concern Fish	41.80 76.0 - 2.16 - Excellent	41.80 57 - Superior IBI	41.80 36 -
	None	-----	Habitat	Scores	---Year:1990-----
		MUSKELLUNGE - Years: 1981 - Number Collected: 1	38.90 87.0 - 12.50 - Excellent	38.90 54 - Superior IBI	41.80 38 -
		RIVER REDHORSE - Years: 1988, 1990, 1999, 2001 - Number Collected: 125	Habitat	Scores	38.80 36 -
			36.40 84.5 - 12.50 - Excellent	36.40 50 - Exceptional IBI	38.70 16 -
			---Year:1990-----	---Year:1990-----	38.50 38 -
			41.60 80.0 - 2.16 - Excellent	41.60 44 -	36.50 30 -
			Habitat	38.90 43 -	31.90 50 - Exceptional ICI
			38.90 66.0 - 12.50 -	38.70 35 -	---Year:1981-----
			38.70 55.0 - 12.50 -	38.50 43 -	41.80 42 -
			38.50 55.0 - 12.50 -	36.30 48 - Exceptional IBI	38.90 40 -
			36.30 54.0 - 12.50 -	32.00 44 -	38.10 32 -
			32.00 74.0 - 2.99 -	---Year:1988-----	36.50 32 -
			---Year:1988-----	27.10 40 -	31.90 44 - Exceptional ICI
			23.00 58.0 - 0.54 -	23.00 38 -	23.90 44 - Exceptional ICI
			---Year:1981-----	---Year:1981-----	
			26.60 60.0 - 0.54 -	39.40 35 -	
				38.10 39 -	
				30.20 33 -	
				26.60 25 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description																																								
OH80 9 05-001	<i>Recommended Tier</i> SRW URM: 82.10 LRM: 77.40 Miles 4.70	SANDUSKY RIVER (BROKEN SWORD CREEK TO ROCK RUN) This segment of the Sandusky River is a State Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs that further justify a State Resource Water antidegradation tier.																																							
Declining Fish ----- None	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- ----- -- None	Threatened Fish ----- None Special Concern Fish ----- None																																							
		<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">QHEI Values</th> <th style="text-align: left;">IBI Values</th> <th style="text-align: left;">ICI Values</th> </tr> <tr> <th style="text-align: left;">--RM--QHEI--Gradient--Narrative</th> <th style="text-align: left;">--RM--IBI--Narrative</th> <th style="text-align: left;">--RM--ICI--Rating</th> </tr> </thead> <tbody> <tr> <td>-----</td> <td>-----</td> <td>-----</td> </tr> <tr> <td>---Year: 91-----</td> <td>---Year:1990-----</td> <td>---Year:1990-----</td> </tr> <tr> <td>92.10 67.5 - 3.01 -</td> <td>90.30 27 -</td> <td>92.20 46 - Exceptional ICI</td> </tr> <tr> <td>86.50 76.0 - 7.10 - Excellent</td> <td>81.80 28 -</td> <td>80.10 44 - Exceptional ICI</td> </tr> <tr> <td>Habitat</td> <td>80.00 27 -</td> <td>80.00 28 -</td> </tr> <tr> <td>81.30 78.0 - 2.18 - Excellent</td> <td>79.80 27 -</td> <td>79.90 26 -</td> </tr> <tr> <td>Habitat</td> <td>77.90 29 -</td> <td>78.00 46 - Exceptional ICI</td> </tr> <tr> <td>---Year: 90-----</td> <td>---Year:1979-----</td> <td>---Year:1979-----</td> </tr> <tr> <td>81.80 55.5 - 2.18 -</td> <td>86.50 38 -</td> <td>80.10 G -</td> </tr> <tr> <td>79.80 51.5 - 2.18 -</td> <td>81.30 42 -</td> <td>78.00 G -</td> </tr> <tr> <td>77.90 71.0 - 2.18 -</td> <td>78.10 26 -</td> <td></td> </tr> </tbody> </table>	QHEI Values	IBI Values	ICI Values	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	-----	-----	-----	---Year: 91-----	---Year:1990-----	---Year:1990-----	92.10 67.5 - 3.01 -	90.30 27 -	92.20 46 - Exceptional ICI	86.50 76.0 - 7.10 - Excellent	81.80 28 -	80.10 44 - Exceptional ICI	Habitat	80.00 27 -	80.00 28 -	81.30 78.0 - 2.18 - Excellent	79.80 27 -	79.90 26 -	Habitat	77.90 29 -	78.00 46 - Exceptional ICI	---Year: 90-----	---Year:1979-----	---Year:1979-----	81.80 55.5 - 2.18 -	86.50 38 -	80.10 G -	79.80 51.5 - 2.18 -	81.30 42 -	78.00 G -	77.90 71.0 - 2.18 -	78.10 26 -	
QHEI Values	IBI Values	ICI Values																																							
--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating																																							
-----	-----	-----																																							
---Year: 91-----	---Year:1990-----	---Year:1990-----																																							
92.10 67.5 - 3.01 -	90.30 27 -	92.20 46 - Exceptional ICI																																							
86.50 76.0 - 7.10 - Excellent	81.80 28 -	80.10 44 - Exceptional ICI																																							
Habitat	80.00 27 -	80.00 28 -																																							
81.30 78.0 - 2.18 - Excellent	79.80 27 -	79.90 26 -																																							
Habitat	77.90 29 -	78.00 46 - Exceptional ICI																																							
---Year: 90-----	---Year:1979-----	---Year:1979-----																																							
81.80 55.5 - 2.18 -	86.50 38 -	80.10 G -																																							
79.80 51.5 - 2.18 -	81.30 42 -	78.00 G -																																							
77.90 71.0 - 2.18 -	78.10 26 -																																								

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH80 1 05-001	<i>Recommended Tier</i> SRW <hr/> URM: 77.40 LRM: 65.73 Miles 11.67	SANDUSKY RIVER (ROCK RUN TO TYMOCHTEE CREEK) This segment of the Sandusky River is a State Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs that further justify a State Resource Water antidegradation tier.				
Declining Fish ----- None	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- GREATER REDHORSE - Years: 1990 - Number Collected: 3 Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1990----- 66.70 56.5 - 2.43 - 72.20 65.5 - 5.68 -	IBI Values --RM--IBI--Narrative ----- --Year:1990----- 72.20 40 - 66.70 37 - --Year:1979----- 66.80 30 -	ICI Values --RM--ICI--Rating ----- --Year:1990----- 72.20 48 - Exceptional ICI --Year:1979----- 72.00 G - 69.30 G -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description										
OH81 23 05-001	<i>Recommended Tier</i> SRW URM: 57.71 LRM: 42.98 Miles 14.73	SANDUSKY RIVER (SYCAMORE CREEK TO BELLS RUN) This segment should be assigned a SRW tier based on: (1) the strong population center of greater redhorse, which is an Ohio threatened species and a species who's status is being monitored by the USFWS for Federally Endangered status, 2) the river redhorse, a declining and special interest species also has a strong population in this reach, 3) its current designation as a State Scenic River. The reach also has some exceptional IBI and ICI scores and good habitat.									
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values			IBI Values			ICI Values		
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating						
None	None	GREATER REDHORSE - Years: 1990, 1999, 2000 - Number Collected: 71	--Year:1999-----	--Year:1999-----	--Year:1999-----						
	Endangered Unionids	RIVER REDHORSE - Years: 1990, 1999, 2000 - Number Collected: 110	43.00 52.5 - 0.10 -	56.70 48 - Exceptional IBI	57.30 18 -						
	--Living--Dead--Weathered--Subfossil--Name--	Special Concern Fish	47.60 66.0 - 1.72 -	56.70 46 - Exceptional IBI	47.80 38 -						
	--	-----	52.20 56.5 - 0.10 -	56.70 46 - Exceptional IBI	43.00 4 -						
	None	RIVER REDHORSE - Years: 1990, 1999, 2000 - Number Collected: 110	56.70 63.0 - 0.10 -	52.20 38 -	--Year:1990-----						
			--Year:1990-----	52.20 30 -	57.30 48 - Exceptional ICI						
			47.60 76.0 - 1.72 - Excellent	52.20 30 -	47.70 48 - Exceptional ICI						
			Habitat	47.60 55 - Superior IBI	--Year:1981-----						
			56.70 63.0 - 0.93 -	Scores	47.80 42 -						
			--Year:1981-----	47.60 54 - Superior IBI							
			43.00 62.0 - 0.10 -	Scores							
			46.90 81.0 - 1.60 - Excellent	47.60 52 - Exceptional IBI							
			Habitat	43.00 44 -							
				43.00 42 -							
				43.00 38 -							
				--Year:1990-----							
				47.60 44 -							
				--Year:1981-----							
				43.00 32 -							

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH81 28 05-001	<i>Recommended Tier</i> SRW <hr/> URM: 65.73 LRM: 57.71 Miles 8.02	SANDUSKY RIVER (TYMOCHTEE CREEK TO SYCAMORE CREEK) This segment should be assigned a SRW tier based on: (1) the strong population center of greater redhorse, which is an Ohio threatened species and a species who's status is being monitored by the USFWS for Federally Endangered status, 2) the river redhorse, a declining and special interest species also has a strong population in this reach, 3) its current designation as a State Scenic River. The reach also has some exceptional IBI and ICI scores and good habitat.			
Declining Fish ----- None	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- GREATER REDHORSE - Years: 1999 - Number Collected: 1 Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1999----- 57.90 72.0 - 0.93 -	IBI Values --RM--IBI--Narrative ----- --Year:1999----- 57.90 44 - 57.90 40 - 57.90 40 -	ICI Values --RM--ICI--Rating ----- --Year:1999----- 61.10 40 - --Year:1990----- 65.10 48 - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH18 14 17-662	<i>Recommended Tier</i> SHQW <hr/> URM: 12.10 LRM: 0.00 <hr/> Miles 12.10	SCHENCK CREEK Schenck Creek has sufficient ecological attributes to deserve a SHQW antidegradation tier. It has large populations of sensitive declining species, including bigeye and hornyhead chubs and variegate darter. It is important to protect high quality tributaries like Schenck trib to ensure the quality of the SRW Kokosing River. It also has exceptional IBI and ICI scores and excellent habitat..				
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1998 - Number Collected: 1 HORNYHEAD CHUB - Years: 1998 - Number Collected: 23 RIVER CHUB - Years: 1998 - Number Collected: None 52 BIGEYE CHUB - Years: 1998 - Number Collected: 10 REDSIDE DACE - Years: 1987 - Number Collected: 45 ROSYFACE SHINER - Years: 1998 - Number Collected: 94 VARIEGATE DARTER - Years: 1998 - Number Collected: 30	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- ----- -- -----	Threatened Fish ----- None Special Concern Fish ----- None -----	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1998----- 2.70 83.0 - 16.53 - Excellent Habitat --Year:1987----- 2.80 86.0 - 16.67 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1998----- 2.70 45 - -----	ICI Values --RM--ICI--Rating ----- --Year:1998----- 2.80 46 - Exceptional ICI -----	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH46 81 02-700	<i>Recommended Tier</i> SHQW URM: 37.90 LRM: 24.03 Miles 13.87	SCIOTO BRUSH CREEK (HEADWATERS TO RARDEN CREEK) The population of rosyzide dace (an Ohio threatened species), high IBI scores at some locations, and the nearby and downstream SRWs and SHQWs warrant a SHQW antidegradation tier.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
SOUTH. REDBELLY DACE - Years: 1988, 1997 - Number Collected: 2	None Endangered Unionids	ROSYSIDE DACE - Years: 1997 - Number Collected: 8	--Year:1997----- 37.10 66.0 - 22.22 -	--Year:1997----- 37.10 20 - 36.00 37 -	No Data
ROSYSIDE DACE - Years: 1997 - Number Collected: 8	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----		--Year:1988----- 34.10 42 - --Year:1987-----	
ROSEFIN SHINER - Years: 1988, 1997 - Number Collected: 293	0 2 5 0 rayed bean - Villosa fabalis (Lea, 1831) - Years: 87	None		34.20 48 - Exceptional IBI 28.70 44 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH46 7 02-700	<i>Recommended Tier SRW</i> URM: 10.20 LRM: 0.00 Miles 10.20	SCIOTO BRUSH CREEK (MCCULLOUGH CREEK TO SCIOTO R.) Large populations of state endangered species (popeye shiner, rayed bean) and declining fish species and high biological index scores and diversity warrant a SRW antidegradation tier. The popeye shiner and rayed bean are vulnerable to changes in habitat and water quality.				
Declining Fish ----- RIVER CHUB - Years: 1985, 1994 - Number Collected: 13 ROSEFIN SHINER - Years: 1985 - Number Collected: 13 MIMIC SHINER - Years: 1985, 1994 - Number Collected: 7 POPEYE SHINER - Years: 1994 - Number Collected: 165 BRINDLED MADTOM - Years: 1987 - Number Collected: 5	Endangered Fish ----- POPEYE SHINER - Years: 1994 - Number Collected: 165 Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- 0 2 5 0 rayed bean - Villosa fabalis (Lea, 1831) - Years: 87	Threatened Fish ----- None Special Concern Fish ----- RIVER REDHORSE - Years: 1987 - Number Collected: 1	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1994----- 1.80 78.0 - 3.04 - Excellent Habitat	IBI Values --RM---IBI---Narrative ----- --Year:1994----- 2.60 48 - Exceptional IBI 1.80 54 - Superior IBI Scores 0.70 44 - 0.40 50 - Exceptional IBI --Year:1987----- 9.60 42 - 5.80 37 - 5.80 40 - 4.10 36 - 4.10 38 - 1.30 37 - 1.30 28 - --Year:1985----- 5.80 42 - 4.00 36 - 2.40 42 - 0.30 48 - Exceptional IBI --Year:1979----- 0.40 38 -	ICI Values --RM---ICI---Rating ----- No Data	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH46 63 02-700	<i>Recommended Tier</i> SHQW URM: 24.03 LRM: 16.98 Miles 7.05	SCIOTO BRUSH CREEK (RARDEN CREEK TO SOUTH FORK) Populations of declining fish species, downstream and nearby SRW and SHQW reaches, and high biological index scores and diversity warrant a SHQW antidegradation tier.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
RIVER CHUB - Years: 1985 - Number Collected: 25	None	None	No Data	--Year:1987----- 20.20 48 - Exceptional IBI	No Data
ROSEFIN SHINER - Years: 1985, 1987 - Number Collected: 77	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----		--Year:1985----- 20.20 44 -	
BRINDLED MADTOM - Years: 1985 - Number Collected: 5	0 2 5 0 rayed bean - Villosa fabalis (Lea, 1831) - Years: 87	None		17.00 46 - Exceptional IBI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH46 12 02-700	<i>Recommended Tier</i> SHQW URM: 16.98 LRM: 10.20 Miles 6.78	SCIOTO BRUSH CREEK (SOUTH FORK TO MCCULLOUGH CR.) Large populations of state endangered species (popeye shiner, rayed bean), nearby SHQW streams, and the downstream SRW reach warrant a SRW antidegradation tier. The popeye shiner and rayed bean are vulnerable to changes in habitat and water quality.			
Declining Fish ----- ROSEFIN SHINER - Years: 1985 - Number Collected: 1 POPEYE SHINER - Years: 1985 - Number Collected: 10	Endangered Fish ----- POPEYE SHINER - Years: 1985 - Number Collected: 10 Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- 0 2 5 0 rayed bean - Villosa fabalis (Lea, 1831) - Years: 87	Threatened Fish ----- AMERICAN EEL - Years: 1987 - Number Collected: 1 Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- No Data	IBI Values --RM---IBI---Narrative ----- --Year:1985----- 13.40 32 -	ICI Values --RM---ICI---Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description													
OH41 33 02-001	<i>Recommended Tier</i> SHQW URM: 100.80 LRM: 89.61 Miles 11.19	SCIOTO RIVER (BIG DARBY CREEK TO SCIPPO CREEK) This reach should be assigned the SHQW tier because of :1) large populations of many declining species (including variegate darter, streamline chub, bluebreast darter, rosyface shiner, tippecanoe darter), threatened fish and excellent habitat with QHEIs into the 80s-90s, and EWH IBI and ICI scores. In addition it is a vital part of an aquatic corridor that connects the many high quality waters in central Ohio (Big Darby Creek, Big Walnut Creek). ODNR has re-introduced the shovelnose sturgeon, an endangered species extirpated from Ohio since 1957, into this reach of the Scioto River.												
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values			IBI Values			ICI Values					
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--Year:1999-----	--Year:2000-----	--RM--IBI--Narrative	--Year:1997-----	--RM--ICI--Rating						
SILVER LAMPREY - Years: 1992, 1993, 1994, 1995, 1996, - Number Collected: 12	None	BLUEBREAST DARTER - Years: 1984, 1985, 1991, 1994, 1996, - Number Collected: 27	99.70	85.5	2.40	Excellent	97.90	48	Exceptional IBI	100.10	56	Superior ICI		
MOONEYE - Years: 1984, 1986, 1991, 1992, 1993, - Number Collected: 28	--Living--Dead--Weathered--Subfossil--Name--	TIPPECANOE DARTER - Years: 1985, 1992, 1994, 1995, 1996, - Number Collected: 71	Habitat	100.00	79.5	1.43	Excellent	97.90	48	Exceptional IBI	Score			
MUSKELLUNGE - Years: 1992, 1996 - Number Collected: 6	None	Special Concern Fish	---Year:1998-----	100.00	79.5	1.43	Excellent	100.00	46	Exceptional IBI	99.50	F	-	
STREAMLINE CHUB - Years: 1985, 1992, 1996, 1998 - Number Collected: 6			97.90	87.5	2.40	Excellent	100.00	46	Exceptional IBI	99.40	56	Superior ICI Score		
ROSYFACE SHINER - Years: 1985, 1992, 1996, 1997, 1998, - Number Collected: 22		MUSKELLUNGE - Years: 1992, 1996 - Number Collected: 6	Habitat	97.90	87.5	2.40	Excellent	100.00	52	Exceptional IBI	99.20	18	-	
MIMIC SHINER - Years: 1988, 1991, 1992, 1996, 1997, - Number Collected: 22		RIVER REDHORSE - Years: 1988, 1992, 1994, 1995, 1996, - Number Collected: 33	Habitat	98.90	94.0	2.40	Outstanding	100.00	52	Exceptional IBI	99.10	52	Exceptional ICI	
SLENDERHEAD DARTER - Years: 1996, 1997, 1999, 2000 - Number Collected: 21			Habitat	100.00	81.5	1.43	Excellent	100.00	50	Exceptional IBI	97.60	54	Superior ICI Score	
VARIEGATE DARTER - Years: 1985, 1986, 1988, 1990, 1991, - Number Collected: 953			Habitat	99.70	88.5	1.43	Excellent	Scores	97.90	56	Superior IBI	96.20	48	Exceptional ICI
BLUEBREAST DARTER - Years: 1984, 1985, 1991, 1994, 1996, - Number Collected: 27			---Year:1997-----	100.00	81.5	1.43	Excellent	Scores	97.90	56	Superior IBI	95.90	10	-
TIPPECANOE DARTER - Years: 1985, 1992, 1994, 1995, 1996, - Number Collected: 71			91.20	74.0	1.04	-	---Year:1998-----	Scores	97.90	56	Superior IBI	94.20	50	Exceptional ICI
			94.20	75.0	1.58	Excellent	---Year:1996-----	99.70	52	Exceptional IBI	100.00	56	Superior ICI	
			Habitat	95.70	82.0	1.58	Excellent	98.90	48	Exceptional IBI	Score			
			Habitat	96.30	77.5	1.58	Excellent	97.90	50	Exceptional IBI	---Year:1994-----			
			Habitat	97.90	80.5	2.40	Excellent	---Year:1997-----	100.00	52	Exceptional IBI	100.00	52	Exceptional ICI
			Habitat	99.60	30	-	-	---Year:1992-----	99.60	30	-	100.00	52	Exceptional ICI
			Habitat	97.90	80.5	2.40	Excellent	99.40	42	-	99.60	40	-	
			Habitat	99.20	22	-	-	99.50	44	Exceptional ICI	99.40	54	Superior ICI Score	
			Habitat	98.90	86.5	2.40	Excellent	98.90	39	-	99.40	54	Superior ICI Score	
			Habitat	97.90	47	Exceptional IBI		99.20	44	Exceptional ICI				
			99.40	85.5	1.43	Excellent	---Year:1997-----	97.90	47	Exceptional IBI	99.20	F	-	
			Habitat	96.30	43	-	-	97.90	47	Exceptional IBI	99.20	F	-	
			100.00	78.0	1.43	Excellent	---Year:1992-----	96.30	43	-	97.90	54	Superior ICI Score	
								95.90	24	-				

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Habitat		95.70	36 -		96.40	54 - Superior ICI Score
--Year:1996-----		94.20	41 -			
97.90	85.5 - 2.40 - Excellent	91.20	42 -		95.90	18 -
Habitat		--Year:1996-----			95.80	38 -
98.90	92.0 - 2.40 - Outstanding	99.70	47 - Exceptional IBI	--Year:1991-----		
Habitat		98.90	47 - Exceptional IBI	100.00	VG	-
99.70	85.5 - 1.43 - Excellent	97.90	51 - Exceptional IBI	--Year:1989-----		
Habitat		--Year:1995-----		100.00	46 - Exceptional ICI	
100.00	87.5 - 1.43 - Excellent	100.10	46 - Exceptional IBI	--Year:1988-----		
Habitat		100.00	44 -	100.00	VG	-
--Year:1995-----		99.70	38 -	99.50	26 -	
97.90	85.0 - 2.40 - Excellent	98.90	42 -	97.90	48 - Exceptional ICI	
Habitat		97.90	50 - Exceptional IBI	95.80	46 - Exceptional ICI	
98.90	92.5 - 2.40 - Outstanding	--Year:1994-----		95.20	52 - Exceptional ICI	
Habitat		100.10	40 -	--Year:1986-----		
99.70	90.0 - 1.43 - Outstanding	100.10	50 - Exceptional IBI	100.00	46 - Exceptional ICI	
Habitat		100.00	51 - Exceptional IBI	--Year:1985-----		
100.00	88.0 - 1.43 - Excellent	99.40	38 -	100.00	50 - Exceptional ICI	
Habitat		99.40	50 - Exceptional IBI	--Year:1981-----		
--Year:1994-----		98.90	44 -	98.40	38 -	
97.90	85.5 - 2.40 - Excellent	98.90	48 - Exceptional IBI	98.40	42 -	
Habitat		97.90	50 - Exceptional IBI	--Year:1980-----		
98.90	90.5 - 2.40 - Outstanding	97.90	52 - Exceptional IBI			
Habitat		--Year:1992-----				
99.70	88.5 - 1.43 - Excellent	100.20	41 -			
Habitat		100.10	44 -			
100.00	85.5 - 1.43 - Excellent	100.00	40 -			
Habitat		100.00	44 -			
--Year:1993-----		99.70	37 -			
100.00	89.0 - 1.43 - Excellent	99.60	27 -			
Habitat		99.40	40 -			
--Year:1992-----		99.20	31 -			
91.30	82.5 - 1.04 - Excellent	98.90	41 -			
Habitat		97.90	49 - Exceptional IBI			
94.20	81.0 - 1.58 - Excellent	96.30	31 -			
Habitat		95.90	25 -			
95.70	70.5 - 1.58 -	95.70	37 -			
95.90	67.5 - 1.58 -	94.20	36 -			
96.30	68.0 - 1.58 -	91.30	39 -			
97.90	84.0 - 2.40 - Excellent	--Year:1991-----				
Habitat		100.10	51 - Exceptional IBI			
98.90	92.5 - 2.40 - Outstanding	--Year:1990-----				
Habitat		100.10	41 -			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

99.20	48.0 - 2.40 -	100.00	41 -
99.40	87.5 - 1.43 - Excellent	---Year:1989-----	
Habitat		100.00	34 -
99.70	64.5 - 1.43 -	---Year:1988-----	
100.00	86.0 - 1.43 - Excellent	99.50	40 -
Habitat		97.80	45 -
100.20	70.5 - 1.43 -	95.80	41 -
---Year:1991-----		91.30	42 -
100.00	86.5 - 1.43 - Excellent	---Year:1986-----	
Habitat		100.20	38 -
100.20	68.5 - 1.43 -	---Year:1985-----	
---Year:1990-----		100.00	44 -
100.00	82.5 - 1.43 - Excellent	---Year:1984-----	
Habitat		100.00	40 -
100.20	65.0 - 1.43 -	---Year:1981-----	
---Year:1989-----		98.30	27 -
100.00	83.5 - 1.43 - Excellent	94.60	23 -
Habitat		---Year:1980-----	
100.20	68.5 - 1.43 -	98.30	14 -
---Year:1988-----		94.60	19 -
91.30	86.0 - 1.04 - Excellent	90.00	20 -
Habitat		---Year:1979-----	
95.80	72.5 - 1.58 -	100.20	28 -
97.80	83.5 - 2.40 - Excellent	98.30	18 -
Habitat		98.30	22 -
99.50	83.5 - 1.43 - Excellent	93.00	30 -
Habitat		93.00	14 -
100.20	63.5 - 1.43 -	90.00	22 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description						
OH40 23 02-001	<i>Recommended Tier</i> SHQW URM: 117.15 LRM: 106.10 Miles 11.05	SCIOTO RIVER (BIG WALNUT CREEK TO WALNUT CREEK) This reach should be assigned the SHQW tier because of :1) good populations of many declining species (including silver lamprey, streamline chub, river chub, rosyface shiner, mimic shiner), threatened fish and excellent habitat with QHEIs into the 80s, and EWH IBI and ICI scores. In addition it is a vital part of an aquatic corridor that connects the many high quality waters in central Ohio (Big Darby Creek, Big Walnut Creek).					
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating		
SILVER LAMPREY - Years: 1987, 1989, 1992, 1994, 1995, - Number Collected: 11	None	TIPPECANOE DARTER - Years: 1994 - Number Collected: 4	---Year:1999----- 109.20 81.5 - 0.98 - Excellent	---Year:2000----- 109.20 44 -	---Year:1996----- 116.30 40 -		
MOONEYE - Years: 1993, 1994, 1996 - Number Collected: 5	--Living--Dead--Weathered--Subfossil--Name--	Special Concern Fish -----	Habitat ---Year:1998----- 109.20 83.5 - 0.98 - Excellent	109.20 44 -	114.00 44 - Exceptional ICI		
RIVER CHUB - Years: 1990, 1991, 1992, 1993, 1994, - Number Collected: 20	None	RIVER REDHORSE - Years: 1988, 1989, 1990, 1992, 1993, - Number Collected: 22	Habitat ---Year:1996----- 107.40 72.0 - 0.98 -	109.20 48 - Exceptional IBI	109.40 54 - Superior ICI		
STREAMLINE CHUB - Years: 1992, 1994, 1996, 1997, 1998 - Number Collected: 9			109.20 81.5 - 0.98 - Excellent	109.20 50 - Exceptional IBI	Score		
ROSYFACE SHINER - Years: 1995, 1996 - Number Collected: 5			Habitat ---Year:1997----- 113.80 80.5 - 1.40 - Excellent	109.20 48 - Exceptional IBI	---Year:1991----- 114.00 44 - Exceptional ICI		
MIMIC SHINER - Years: 1986, 1991, 1996, 1997, 1998, - Number Collected: 12			Habitat ---Year:1995----- 107.40 72.0 - 0.98 -	109.20 48 - Exceptional IBI	---Year:1998----- 109.40 44 - Exceptional ICI		
SLENDERHEAD DARTER - Years: 1993, 1994, 1996, 1997, 1998, - Number Collected: 16			Habitat ---Year:1996----- 109.20 81.5 - 0.98 - Excellent	109.20 48 - Exceptional IBI	---Year:1988----- 114.00 16 -		
TIPPECANOE DARTER - Years: 1994 - Number Collected: 4			Habitat ---Year:1997----- 113.80 80.5 - 1.40 - Excellent	109.20 46 - Exceptional IBI	109.40 32 -		
			Habitat ---Year:1995----- 116.30 87.5 - 1.40 - Excellent	109.20 46 - Exceptional IBI	---Year:1986----- 114.00 26 -		
			Habitat ---Year:1996----- 107.40 80.0 - 1.40 - Excellent	109.20 48 - Exceptional IBI	109.30 38 -		
			Habitat ---Year:1995----- 117.10 80.0 - 1.40 - Excellent	107.40 38 -	---Year:1981----- 116.30 28 -		
			Habitat ---Year:1995----- 116.30 82.5 - 1.40 - Excellent	116.30 48 - Exceptional IBI	116.30 30 -		
			Habitat ---Year:1995----- 107.40 72.0 - 0.98 -	113.80 44 -	---Year:1980-----		
			Habitat ---Year:1995----- 109.20 83.5 - 0.98 - Excellent	109.20 43 -			
			Habitat ---Year:1995----- 113.80 82.5 - 1.40 - Excellent	107.40 43 -			
			Habitat ---Year:1995----- 116.30 86.5 - 1.40 - Excellent	---Year:1995----- 117.00 42 -			
			Habitat ---Year:1995----- 116.30 86.5 - 1.40 - Excellent	116.90 40 -			
			Habitat ---Year:1995----- 117.00 86.5 - 1.40 - Excellent	116.30 44 -			
			Habitat ---Year:1994----- 107.40 76.5 - 1.40 - Excellent	113.80 46 - Exceptional IBI			
				109.20 40 -			
				107.40 48 - Exceptional IBI			
				---Year:1994-----			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Habitat		117.00	46 - Exceptional IBI
---Year:1994-----		116.90	41 -
107.40	73.5 - 0.98 -	116.30	46 - Exceptional IBI
109.20	81.5 - 0.98 - Excellent	113.80	45 -
Habitat		109.20	48 - Exceptional IBI
113.80	77.0 - 1.40 - Excellent	107.40	52 - Exceptional IBI
Habitat		---Year:1993-----	
116.30	89.0 - 1.40 - Excellent	116.30	45 -
Habitat		113.80	44 -
117.00	86.5 - 1.40 - Excellent	109.20	45 -
Habitat		108.80	38 -
117.10	71.5 - 1.40 -	107.40	46 - Exceptional IBI
---Year:1993-----		---Year:1992-----	
107.40	78.5 - 0.98 - Excellent	116.50	38 -
Habitat		116.30	47 - Exceptional IBI
108.80	59.0 - 0.98 -	113.80	47 - Exceptional IBI
109.20	81.5 - 0.98 - Excellent	109.20	48 - Exceptional IBI
Habitat		108.80	40 -
113.80	82.0 - 1.40 - Excellent	107.40	45 -
Habitat		---Year:1991-----	
116.30	83.5 - 1.40 - Excellent	116.30	44 -
Habitat		113.80	45 -
117.10	73.5 - 1.40 -	109.20	47 - Exceptional IBI
---Year:1992-----		108.80	43 -
107.40	75.5 - 0.98 - Excellent	107.40	51 - Exceptional IBI
Habitat		---Year:1990-----	
108.80	69.5 - 0.98 -	116.30	36 -
109.20	80.5 - 0.98 - Excellent	113.80	31 -
Habitat		109.20	34 -
113.80	80.0 - 1.40 - Excellent	108.80	34 -
Habitat		107.40	35 -
116.30	81.5 - 1.40 - Excellent	---Year:1989-----	
Habitat		116.30	35 -
116.50	70.0 - 1.40 -	113.80	27 -
117.10	74.5 - 1.40 -	109.20	41 -
---Year:1991-----		108.80	31 -
107.40	82.5 - 0.98 - Excellent	107.40	31 -
Habitat		---Year:1988-----	
108.80	65.0 - 0.98 -	116.30	37 -
109.20	90.0 - 0.98 - Outstanding	113.80	41 -
Habitat		109.20	39 -
113.80	83.0 - 1.40 - Excellent	108.80	35 -
Habitat		107.40	41 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

116.30	86.0 - 1.40 - Excellent	---Year:1987-----
Habitat		113.80 35 -
117.10	72.0 - 1.40 -	109.20 39 -
---Year:1990-----		108.80 30 -
107.40	73.0 - 0.98 -	107.40 38 -
108.80	67.5 - 0.98 -	---Year:1986-----
109.20	81.0 - 0.98 - Excellent	113.50 35 -
Habitat		109.20 37 -
113.80	80.5 - 1.40 - Excellent	108.80 32 -
Habitat		---Year:1985-----
116.30	84.0 - 1.40 - Excellent	113.50 35 -
Habitat		109.20 42 -
117.10	73.0 - 1.40 -	108.80 31 -
---Year:1989-----		---Year:1981-----
107.40	77.5 - 0.98 - Excellent	116.30 23 -
Habitat		114.00 16 -
108.80	69.5 - 0.98 -	114.00 17 -
109.20	84.0 - 0.98 - Excellent	108.80 25 -
Habitat		---Year:1980-----
113.80	74.0 - 1.40 -	116.30 24 -
116.30	86.0 - 1.40 - Excellent	114.00 14 -
Habitat		114.00 15 -
117.10	73.0 - 1.40 -	108.80 26 -
---Year:1988-----		108.80 21 -
107.40	78.5 - 0.98 - Excellent	---Year:1979-----
Habitat		117.10 18 -
108.80	66.5 - 0.98 -	116.30 26 -
109.20	85.5 - 0.98 - Excellent	116.30 16 -
Habitat		112.80 12 -
113.80	78.5 - 1.40 - Excellent	112.80 12 -
Habitat		108.80 18 -
116.30	86.5 - 1.40 - Excellent	108.80 14 -
Habitat		
117.10	72.5 - 1.40 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description			QHEI Values	IBI Values	ICI Values		
OH37 19 02-001	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> <i>Recommended Tier</i> SHQW </div>	SCIOTO RIVER (INDIAN RUN TO OLENTANGY RIVER)			--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	
		This reach should be assigned the SHQW tier outside of the impounded influence of Griggs Reservoir because of :1) good populations of declining species (including river chub, rosyface shiner and brindled madtom), a good population of the special concern species the river redhorse, excellent habitat with QHEIs into the 70s, and numerous EWH IBI scores. Given the location of this reach near Columbus it is also considered vulnerable to disturbance.						
		<div style="border: 1px solid black; padding: 2px; display: inline-block;"> <i>Recommended Tier</i> SHQW </div>						
		URM: 145.18						
		LRM: 132.33						
		Miles 12.85						
Declining Fish	Endangered Fish	Threatened Fish			QHEI Values	IBI Values	ICI Values	
-----	-----	-----			--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	
-----	-----	-----			-----	-----	-----	
RIVER CHUB - Years: 1986, 1988, 1989, 1990, 1991, - Number Collected: 492	None	None			--Year:2000-----	--Year:2000-----	--Year:1996-----	
ROSYFACE SHINER - Years: 1986, 1991, 1992, 1996, 1997, - Number Collected: 98	Endangered Unionids	Special Concern Fish			133.00 69.0 - 0.10 -	136.20 46 - Exceptional IBI	144.80 G -	
BRINDLED MADTOM - Years: 1986, 1989, 1991, 1992, 1993, - Number Collected: 18	None	RIVER REDHORSE - Years: 1980, 1981, 1988, 1989, 1990, - Number Collected: 92			133.30 63.0 - 1.50 -	136.20 44 -	144.54 F -	
					--Year:1999-----	133.30 46 - Exceptional IBI	144.52 F -	
					133.00 62.5 - 0.10 -	133.30 46 - Exceptional IBI	136.30 48 - Exceptional ICI	
					133.30 64.0 - 1.50 -	133.00 44 -	133.40 E - Exceptional	
					136.20 80.5 - 1.50 - Excellent	133.00 44 -	ICI	
					Habitat	--Year:1999-----	--Year:1991-----	
					--Year:1998-----	136.20 46 - Exceptional IBI	136.30 42 -	
					133.00 70.5 - 0.10 -	136.20 46 - Exceptional IBI	133.40 22 -	
					133.30 62.5 - 1.50 -	133.30 46 - Exceptional IBI	--Year:1988-----	
					136.20 79.5 - 1.50 - Excellent	133.30 46 - Exceptional IBI	133.00 14 -	
					Habitat	133.30 46 - Exceptional IBI	--Year:1981-----	
					--Year:1997-----	133.00 42 -	136.70 46 - Exceptional ICI	
					136.20 78.0 - 1.50 - Excellent	133.00 42 -	133.00 30 -	
					Habitat	133.00 40 -	--Year:1980-----	
					--Year:1996-----	--Year:1998-----		
					133.00 68.0 - 0.10 -	133.30 40 -		
					133.30 69.0 - 1.50 -	133.00 46 - Exceptional IBI		
					136.20 77.0 - 1.50 - Excellent	--Year:1997-----		
					Habitat	133.30 50 - Exceptional IBI		
					--Year:1996-----	--Year:1996-----		
					138.60 70.5 - 1.50 -			
					140.00 59.5 - 0.10 -	144.50 35 -		
					142.80 62.0 - 0.10 -	142.80 35 -		
					144.50 69.0 - 0.10 -	140.00 35 -		
					145.00 83.0 - 4.33 - Excellent	138.60 42 -		
					Habitat	136.20 50 - Exceptional IBI		
					--Year:1995-----	133.30 48 - Exceptional IBI		
					133.30 75.0 - 0.10 - Excellent	133.00 41 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Habitat			---Year:1995-----
136.20	83.5 - 1.50 - Excellent	133.30	48 - Exceptional IBI
Habitat			---Year:1994-----
---Year:1994-----		133.30	42 -
133.30	75.0 - 1.50 - Excellent		---Year:1993-----
Habitat		133.30	44 -
136.20	75.5 - 1.50 - Excellent		---Year:1992-----
Habitat		136.20	46 - Exceptional IBI
---Year:1993-----		133.30	44 -
133.30	71.5 - 1.50 -	133.30	44 -
136.20	77.0 - 1.50 - Excellent	133.00	44 -
Habitat			---Year:1991-----
---Year:1992-----		133.30	46 - Exceptional IBI
133.00	66.5 - 0.10 -	133.00	43 -
133.30	69.0 - 1.50 -		---Year:1990-----
136.20	80.0 - 1.50 - Excellent	133.30	44 -
Habitat			---Year:1988-----
---Year:1991-----		138.60	44 -
133.00	69.5 - 0.10 -	133.00	39 -
133.30	74.0 - 1.50 -		---Year:1986-----
136.20	73.5 - 1.50 -	133.00	37 -
---Year:1990-----			---Year:1981-----
133.30	80.0 - 1.50 - Excellent	138.60	41 -
Habitat		134.80	42 -
---Year:1989-----		133.00	35 -
133.30	79.0 - 1.50 - Excellent		---Year:1980-----
Habitat		140.00	29 -
---Year:1988-----		138.60	43 -
133.00	71.5 - 0.10 -	133.00	29 -
138.60	78.0 - 1.50 - Excellent		---Year:1979-----
Habitat		140.00	33 -
---Year:1979-----		138.60	42 -
140.00	56.0 - 0.10 -	133.00	25 -
142.80	51.0 - 0.10 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH45 56 02-001	<i>Recommended Tier</i> SHQW URM: 63.50 LRM: 51.18 Miles 12.32	SCIOTO RIVER (PAINT CREEK TO SALT CREEK) This reach of the Scioto River should be assigned the SHQW tier because of :1) populations of declining species (including mooneye, river darter, slenderhead darter, variegate darter and mimic shiner), threatened and special concern species (river darter and river redhorse) and excellent habitat with QHEIs into the 80s. Although IBI scores have been relatively low in the past, they approached EWH ranges in 1997 and several sites had ICIs into the 50s.				
Declining Fish ----- SILVER LAMPREY - Years: 1979, 1985, 1992, 1997 - Number Collected: 6 MOONEYE - Years: 1992, 1997 - Number Collected: 5 STREAMLINE CHUB - Years: 1985 - Number Collected: 2 MIMIC SHINER - Years: 1985, 1992, 1997 - Number Collected: 15 SLENDERHEAD DARTER - Years: 1987, 1992, 1997 - Number Collected: 15 RIVER DARTER - Years: 1997 - Number Collected: 2 VARIEGATE DARTER - Years: 1997 - Number Collected: 5	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- RIVER DARTER - Years: 1997 - Number Collected: 2 Special Concern Fish ----- RIVER REDHORSE - Years: 1992, 1997 - Number Collected: 6	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 56.00 82.0 - 1.64 - Excellent Habitat 60.00 75.5 - 1.64 - Excellent Habitat 63.00 79.0 - 1.71 - Excellent Habitat --Year:1992----- 56.00 86.5 - 1.64 - Excellent Habitat 60.40 82.0 - 1.64 - Excellent Habitat 63.00 84.5 - 1.71 - Excellent Habitat --Year:1985----- 56.00 72.5 - 1.64 -	IBI Values --RM--IBI--Narrative ----- --Year:1997----- 63.00 38 - 60.00 47 - Exceptional IBI 56.00 43 - --Year:1992----- 60.40 38 - 56.00 37 - --Year:1985----- 63.00 41 - 61.00 23 - 56.00 36 - 56.00 42 - --Year:1979----- 63.10 26 - 57.10 34 - 57.10 34 -	ICI Values --RM--ICI--Rating ----- --Year:1997----- 63.00 40 - 60.40 52 - Exceptional ICI 56.10 58 - Superior ICI Score --Year:1994----- 56.20 54 - Superior ICI Score --Year:1992----- 62.90 40 - 56.20 54 - Superior ICI Score --Year:1991----- 56.20 48 - Exceptional ICI --Year:1988----- 56.20 52 - Exceptional ICI --Year:1985----- 63.30 48 - Exceptional ICI 58.20 E - Exceptional ICI 56.20 46 - Exceptional ICI --Year:1980-----	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH37 1 02-001	<p style="text-align: center;"><i>Recommended Tier</i> SHQW</p> <p>URM: 124.40 LRM: 117.15 Miles 7.25</p>	<p>SCIOTO RIVER (SCIOTO BIG RUN TO BIG WALNUT CREEK)</p> <p>This reach should be assigned the SHQW tier because of :1) good populations of declining species (including river chub, streamline chub, mimic shiner), excellent habitat with QHEIs into the 80s, and an EWH IBI score. This stream has shown dramatic recovery from a decade ago because of WWTP controls and thus is considered less vulnerable to existing effluent levels than a more "pristine" water.</p>				
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values	
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	
MOONEYE - Years: 1995, 1996 - Number Collected: 3	SHORTNOSE GAR - Years: 1981 - Number Collected: 1	None	-----	-----	-----	
MUSKELLUNGE - Years: 1993, 1994 - Number Collected: 3	Endangered Unionids	Special Concern Fish	---Year:1999-----	---Year:2000-----	---Year:1996-----	
RIVER CHUB - Years: 1988, 1990, 1991, 1992, 1993, - Number Collected: 20	--Living--Dead--Weathered--Subfossil--Name--	MUSKELLUNGE - Years: 1993, 1994 - Number Collected: 3	118.10 74.5 - 1.40 -	119.90 46 - Exceptional IBI	123.20 32 -	
STREAMLINE CHUB - Years: 1998, 1999, 2000 - Number Collected: 7	None	RIVER REDHORSE - Years: 1994, 1998 - Number Collected: 12	Habitat	119.90 46 - Exceptional IBI	119.30 36 -	
ROSYFACE SHINER - Years: 1982, 1993, 1996, 1998, 1999, - Number Collected: 8			---Year:1998-----	118.10 52 - Exceptional IBI	118.30 P -	
MIMIC SHINER - Years: 1989, 1990, 1991, 1992, 1993, - Number Collected: 25			Habitat	118.10 52 - Exceptional IBI	118.30 VP -	
SLENDERHEAD DARTER - Years: 1997, 1998, 1999, 2000 - Number Collected: 15			118.10 76.0 - 1.40 - Excellent	---Year:1999-----	117.30 46 - Exceptional ICI	
			Habitat	119.90 50 - Exceptional IBI	---Year:1991-----	
			119.90 81.5 - 1.40 - Excellent	119.90 50 - Exceptional IBI	119.30 42 -	
			Habitat	118.10 52 - Exceptional IBI	118.30 10 -	
			123.50 74.0 - 2.50 -	118.10 52 - Exceptional IBI	117.30 36 -	
			---Year:1996-----	118.10 52 - Exceptional IBI	---Year:1988-----	
			118.10 78.0 - 1.40 - Excellent	---Year:1998-----	119.30 14 -	
			Habitat	119.90 48 - Exceptional IBI	118.30 6 -	
			119.90 85.5 - 1.40 - Excellent	118.10 50 - Exceptional IBI	117.30 10 -	
			Habitat	---Year:1997-----	---Year:1986-----	
			123.50 70.5 - 2.50 -	118.10 40 -	119.10 12 -	
			---Year:1995-----	---Year:1996-----	117.30 16 -	
			118.10 75.5 - 1.40 - Excellent	119.90 45 -	---Year:1981-----	
			Habitat	118.30 35 -	117.30 10 -	
			119.90 82.0 - 1.40 - Excellent	118.10 47 - Exceptional IBI	---Year:1980-----	
			Habitat	---Year:1995-----		
			124.00 78.0 - 2.50 - Excellent	119.90 48 - Exceptional IBI		
			Habitat	118.10 44 -		
			---Year:1994-----	---Year:1994-----		
			118.10 75.5 - 1.40 - Excellent	119.90 43 -		
			Habitat	118.10 47 - Exceptional IBI		
			119.90 84.0 - 1.40 - Excellent	---Year:1993-----		
			Habitat	119.90 47 - Exceptional IBI		
			123.50 71.5 - 2.50 -	118.40 32 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

---Year:1993-----	118.20	36 -
118.10 77.0- 1.40 - Excellent	118.10	49 - Exceptional IBI
Habitat	---	---Year:1992-----
118.30 70.0- 1.40 -	119.90	43 -
119.90 83.0- 1.40 - Excellent	118.40	32 -
Habitat	118.20	39 -
123.50 68.5- 2.50 -	118.10	43 -
---	---	---Year:1991-----
118.10 74.0- 1.40 -	119.90	41 -
118.30 75.0- 1.40 - Excellent	118.40	35 -
Habitat	118.20	45 -
119.90 81.0- 1.40 - Excellent	118.10	49 - Exceptional IBI
Habitat	---	---Year:1990-----
123.50 69.0- 2.50 -	119.90	32 -
---	118.40	25 -
118.10 72.5- 1.40 -	118.30	33 -
118.20 71.5- 1.40 -	118.20	32 -
118.40 69.5- 1.40 -	118.10	33 -
119.90 77.0- 1.40 - Excellent	---	---Year:1989-----
Habitat	119.90	30 -
123.50 73.5- 2.50 -	118.40	29 -
---	118.30	31 -
118.10 79.0- 1.40 - Excellent	118.20	24 -
Habitat	118.10	32 -
118.20 67.0- 1.40 -	---	---Year:1988-----
118.40 70.5- 1.40 -	119.90	35 -
---	118.30	33 -
118.10 75.0- 1.40 - Excellent	118.10	35 -
Habitat	---	---Year:1987-----
118.10 78.5- 1.40 - Excellent	119.90	31 -
Habitat	118.10	39 -
118.20 65.0- 1.40 -	---	---Year:1986-----
118.40 74.0- 1.40 -	119.90	30 -
119.90 80.0- 1.40 - Excellent	119.00	28 -
Habitat	118.10	41 -
123.50 80.5- 2.50 - Excellent	---	---Year:1985-----
Habitat	119.90	29 -
---	118.10	37 -
118.10 76.5- 1.40 - Excellent	---	---Year:1981-----
Habitat	119.90	21 -
118.20 71.0- 1.40 -	118.80	21 -
118.30 70.0- 1.40 -	118.10	25 -
119.90 85.5- 1.40 - Excellent	---	---Year:1980-----

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Habitat		119.90	17 -
123.50	78.0 - 2.50 - Excellent	118.80	20 -
Habitat		118.80	16 -
		118.10	22 -
		---Year:1979-----	
		122.90	14 -
		119.90	19 -
		119.90	24 -
		118.10	24 -
		118.10	30 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description						
OH46 1 02-001	<i>Recommended Tier</i> SHQW <hr/> URM: 9.20 LRM: 0.00 <hr/> Miles 9.20	SCIOTO RIVER (SCIOTO BRUSH CREEK TO OHIO RIVER) This reach of the Scioto River should be assigned the SHQW tier because of :1) populations of declining species (including mimic shiner, slenderhead darter, and mooneye), and excellent habitat with QHEIs into the 80s. Although IBI scores are still low, the presence of the endangered blue sucker supports a SHQW tier.					
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values		
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating		
SILVER LAMPREY - Years: 1979, 1985, 1997 - Number Collected: 9	BLUE SUCKER - Years: 1985, 1997 - Number Collected: 9	AMERICAN EEL - Years: 1976, 1985 - Number Collected: 5	-----	-----	-----		
MOONEYE - Years: 1979, 1985, 1997 - Number Collected: 20	Endangered Unionids	Special Concern Fish	--Year:1997-----	--Year:1997-----	--Year:1997-----		
BLUE SUCKER - Years: 1985, 1997 - Number Collected: 9	--Living--Dead--Weathered--Subfossil--Name-- --	RIVER REDHORSE - Years: 1997 - Number Collected: 2	1.00 51.0 - 2.45 - 5.40 70.0 - 2.45 - 9.00 80.0 - 1.47 - Excellent	9.00 43 - 5.40 39 - 1.00 34 -	9.00 56 - Superior ICI Score 4.70 46 - Exceptional ICI		
MIMIC SHINER - Years: 1985 - Number Collected: 102	None		Habitat --Year:1985-----	--Year:1985-----			
SLENDERHEAD DARTER - Years: 1997 - Number Collected: 5			9.00 82.0 - 1.47 - Excellent Habitat	5.40 38 - 1.00 30 -			
				--Year:1979-----			
				8.00 28 - 8.00 30 - 5.00 16 - 5.00 20 - 1.00 26 - 1.00 21 -			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description						
OH40 1 02-001	<i>Recommended Tier</i> SHQW	SCIOTO RIVER (WALNUT CREEK TO BIG DARBY CREEK)					
	URM: 106.10 LRM: 100.80 Miles 5.30	This reach should be assigned the SHQW tier because of :1) good populations of many declining species (including variegate darter, streamline chub, river chub, rosyface shiner, slenderhead darter), threatened fish and excellent habitat with QHEIs into the 80s, and EWH IBI and ICI scores. In addition it is a vital part of an aquatic corridor that connects the many high quality waters in central Ohio (Big Darby Creek, Big Walnut Creek).					
		Declining Fish ----- SILVER LAMPREY - Years: 1994, 1995 - Number Collected: 4 MOONEYE - Years: 1986, 1987, 1989, 1993, 1994, - Number Collected: 9 RIVER CHUB - Years: 1992, 1993 - Number Collected: 2 STREAMLINE CHUB - Years: 1985, 1988, 1991, 1993, 1996, - Number Collected: 32 ROSYFACE SHINER - Years: 1992, 1996, 1998 - Number Collected: 7 MIMIC SHINER - Years: 1991, 1998 - Number Collected: 3 SLENDERHEAD DARTER - Years: 1993, 1994, 1996, 1997, 1998 - Number Collected: 37 VARIEGATE DARTER - Years: 1991, 1992, 1993, 1994, 1996, - Number Collected: 33 BLUEBREAST DARTER - Years: 1994, 1996, 1997, 1998 - Number Collected: 10 TIPPECANOE DARTER - Years: 1995, 1998 - Number Collected: 6	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- --	Threatened Fish ----- BLUEBREAST DARTER - Years: 1994, 1996, 1997, 1998 - Number Collected: 10 TIPPECANOE DARTER - Years: 1995, 1998 - Number Collected: 6 Special Concern Fish ----- RIVER REDHORSE - Years: 1979, 1981, 1985, 1986, 1987, - Number Collected: 39	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1998----- 102.00 78.0 - 1.43 - Excellent Habitat 105.90 86.5 - 0.98 - Excellent Habitat --Year:1996----- 102.00 76.0 - 1.43 - Excellent Habitat 105.20 73.0 - 0.98 - 105.90 86.0 - 0.98 - Excellent Habitat --Year:1995----- 102.00 77.5 - 1.43 - Excellent Habitat 105.20 77.5 - 0.98 - Excellent Habitat 105.90 86.0 - 0.98 - Excellent Habitat --Year:1994----- 102.00 78.0 - 1.43 - Excellent Habitat 105.20 74.5 - 0.98 - 105.90 87.5 - 0.98 - Excellent Habitat --Year:1993----- 102.00 79.5 - 1.43 - Excellent Habitat 105.20 78.0 - 0.98 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:2000----- 105.90 50 - Exceptional IBI 105.90 50 - Exceptional IBI --Year:1998----- 102.00 48 - Exceptional IBI --Year:1996----- 105.90 48 - Exceptional IBI 105.20 41 - 102.00 49 - Exceptional IBI --Year:1995----- 105.20 46 - Exceptional IBI 102.00 44 - --Year:1994----- 105.20 50 - Exceptional IBI 102.00 48 - Exceptional IBI 102.00 49 - Exceptional IBI --Year:1993----- 102.00 51 - Exceptional IBI --Year:1992----- 102.00 44 - 102.00 40 - --Year:1991----- 102.00 55 - Superior IBI Scores --Year:1990----- 102.00 38 - --Year:1989----- 102.00 41 - --Year:1988-----	ICI Values --RM--ICI--Rating ----- --Year:1996----- 106.00 48 - Exceptional ICI 102.00 54 - Superior ICI Score --Year:1991----- 106.00 VG - 106.00 44 - Exceptional ICI 102.00 44 - Exceptional ICI --Year:1988----- 102.00 46 - Exceptional ICI --Year:1986----- 102.00 46 - Exceptional ICI --Year:1981----- 101.40 46 - Exceptional ICI 101.40 42 - --Year:1980-----

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

--Year:1992-----	102.00	47 - Exceptional IBI	
102.00 81.0 - 1.43 - Excellent			--Year:1987-----
Habitat			102.00 47 - Exceptional IBI
105.20 72.0 - 0.98 -			--Year:1986-----
--Year:1991-----	102.00	43 -	
102.00 78.5 - 1.43 - Excellent			--Year:1985-----
Habitat			102.00 44 -
105.20 73.5 - 0.98 -			--Year:1981-----
--Year:1990-----	104.80	25 -	
102.00 80.5 - 1.43 - Excellent			102.00 28 -
Habitat			--Year:1980-----
105.20 75.5 - 0.98 - Excellent	102.00	35 -	
Habitat			--Year:1979-----
--Year:1989-----	104.80	20 -	
102.00 78.0 - 1.43 - Excellent			102.00 38 -
Habitat			102.00 28 -
105.20 78.0 - 0.98 - Excellent			
Habitat			
--Year:1988-----			
102.00 79.0 - 1.43 - Excellent			
Habitat			
105.20 77.5 - 0.98 - Excellent			
Habitat			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH41 34 02-069	<i>Recommended Tier</i> SHQW <hr/> URM: 14.81 LRM: 0.00 Miles 14.81	SCIPPO CREEK	This lower reach of Scippo Creek should be assigned the SHQW tier because of :1) good populations of declining species (including bigeye chub, rosyface shiner and creek chubsucker), excellent habitat with QHEIs into the 70s, and EWH IBI and ICI scores.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating	
CREEK CHUBSUCKER - Years: 1993 - Number Collected: 2	None	None	--Year:1997-----	--Year:1997-----	--Year:1993-----	
BIGEYE CHUB - Years: 1993, 1994, 1997 - Number Collected: 25	--Living--Dead--Weathered--Subfossil--Name--	Special Concern Fish	1.50 67.5 - 14.29 - 5.40 72.5 - 10.64 -	11.20 54 - Superior IBI Scores	5.30 42 - 4.20 48 - Exceptional ICI	
ROSYFACE SHINER - Years: 1984, 1997 - Number Collected: 28	None	None	11.20 77.5 - 12.50 - Excellent Habitat	5.40 56 - Superior IBI Scores	1.70 50 - Exceptional ICI 1.10 48 - Exceptional ICI	
ROSEFIN SHINER - Years: 1992, 1993, 1997 - Number Collected: 80			--Year:1993----- 1.10 78.0 - 10.42 - Excellent Habitat	1.50 52 - Exceptional IBI --Year:1994----- 11.17 45 -	--Year:1992----- 8.00 VG - 5.60 VG -	
			1.70 70.5 - 14.29 - 4.00 73.0 - 14.71 - 5.30 68.0 - 10.64 - 8.00 69.5 - 15.15 - 11.10 73.5 - 12.50 - 14.80 62.0 - 35.71 - 16.30 53.5 - 43.48 -	11.16 46 - Exceptional IBI 11.15 53 - Exceptional IBI 11.14 47 - Exceptional IBI 11.13 45 - 11.12 41 - 11.11 38 -	--Year:1988-----	
			--Year:1992----- 5.40 82.5 - 10.64 - Excellent Habitat	--Year:1993----- 14.80 51 - Exceptional IBI 11.10 55 - Superior IBI Scores		
			8.10 76.0 - 15.15 - Excellent Habitat	8.00 49 - Exceptional IBI 5.30 49 - Exceptional IBI		
			8.30 83.5 - 15.15 - Excellent Habitat	4.00 45 - 1.70 53 - Exceptional IBI 1.10 53 - Exceptional IBI		
				--Year:1992----- 8.10 50 - Exceptional IBI 5.40 53 - Exceptional IBI		
				--Year:1984----- 4.30 38 - 3.50 44 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

2.20 44 -

1.50 40 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description																																														
OH61 19 14-410	<i>Recommended Tier</i> SHQW URM: 37.00 LRM: 15.18 Miles 21.80	SEVENMILE CREEK (HEADWATERS TO PAINT CREEK) Sevenmile Creek has the habitat, high biological index scores, and good populations of declining fish species that warrant a SHQW tier; good quality habitat and the presence viable populations of a headwater declining species (southern redbelly dace) warrant that the tier should extend to the headwaters in this reach.																																													
Declining Fish ----- SOUTH. REDBELLY DACE - Years: 1991 - Number Collected: 66 ROSEFIN SHINER - Years: 1991 - Number Collected: 106	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- None Special Concern Fish ----- None																																													
		<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">QHEI Values</th> <th style="text-align: left;">IBI Values</th> <th style="text-align: left;">ICI Values</th> </tr> <tr> <th style="text-align: left;">--RM--QHEI--Gradient--Narrative</th> <th style="text-align: left;">--RM--IBI--Narrative</th> <th style="text-align: left;">--RM--ICI--Rating</th> </tr> <tr> <th style="text-align: left;">-----</th> <th style="text-align: left;">-----</th> <th style="text-align: left;">-----</th> </tr> <tr> <th style="text-align: left;">--Year:1991-----</th> <th style="text-align: left;">--Year:1991-----</th> <th style="text-align: left;">--Year:1991-----</th> </tr> </thead> <tbody> <tr> <td>18.80 74.0 - 20.00 -</td> <td>28.60 46 - Exceptional IBI</td> <td>28.60 42 -</td> </tr> <tr> <td>24.10 81.0 - 9.71 - Excellent</td> <td>28.50 45 -</td> <td>28.50 38 -</td> </tr> <tr> <td>Habitat</td> <td>28.20 46 - Exceptional IBI</td> <td>26.70 VG -</td> </tr> <tr> <td>25.50 76.5 - 24.39 - Excellent</td> <td>26.50 39 -</td> <td>25.10 28 -</td> </tr> <tr> <td>Habitat</td> <td>25.50 45 -</td> <td>24.20 46 - Exceptional ICI</td> </tr> <tr> <td>26.50 68.0 - 18.18 -</td> <td>24.10 44 -</td> <td>20.20 48 - Exceptional ICI</td> </tr> <tr> <td>28.20 80.5 - 8.13 - Excellent</td> <td>18.80 43 -</td> <td></td> </tr> <tr> <td>Habitat</td> <td></td> <td></td> </tr> <tr> <td>28.50 57.0 - 8.13 -</td> <td></td> <td></td> </tr> <tr> <td>28.60 85.5 - 8.13 - Excellent</td> <td></td> <td></td> </tr> <tr> <td>Habitat</td> <td></td> <td></td> </tr> </tbody> </table>	QHEI Values	IBI Values	ICI Values	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	-----	-----	-----	--Year:1991-----	--Year:1991-----	--Year:1991-----	18.80 74.0 - 20.00 -	28.60 46 - Exceptional IBI	28.60 42 -	24.10 81.0 - 9.71 - Excellent	28.50 45 -	28.50 38 -	Habitat	28.20 46 - Exceptional IBI	26.70 VG -	25.50 76.5 - 24.39 - Excellent	26.50 39 -	25.10 28 -	Habitat	25.50 45 -	24.20 46 - Exceptional ICI	26.50 68.0 - 18.18 -	24.10 44 -	20.20 48 - Exceptional ICI	28.20 80.5 - 8.13 - Excellent	18.80 43 -		Habitat			28.50 57.0 - 8.13 -			28.60 85.5 - 8.13 - Excellent			Habitat		
QHEI Values	IBI Values	ICI Values																																													
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18.80 74.0 - 20.00 -	28.60 46 - Exceptional IBI	28.60 42 -																																													
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25.50 76.5 - 24.39 - Excellent	26.50 39 -	25.10 28 -																																													
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Habitat																																															

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH61 12 14-410	<i>Recommended Tier</i> SHQW URM: 15.20 LRM: 0.00 Miles 15.20	SEVENMILE CREEK (PAINT CREEK TO FOURMILE CREEK)				Sevenmile Creek has the habitat, high biological index scores, and good populations of declining fish species that warrant a SHQW tier.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----				
HORNYHEAD CHUB - Years: 1991 - Number Collected: 10	None	None	--Year:1991-----	--Year:1991-----	--Year:1991-----				
RIVER CHUB - Years: 1991 - Number Collected: 359	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----	1.20 80.0 - 4.83 - Excellent Habitat	14.40 50 - Exceptional IBI 9.20 55 - Superior IBI Scores	14.30 34 - 9.20 52 - Exceptional ICI				
ROSYFACE SHINER - Years: 1991 - Number Collected: 96	None	None	9.20 85.0 - 12.50 - Excellent Habitat	1.20 52 - Exceptional IBI	1.20 46 - Exceptional ICI				
ROSEFIN SHINER - Years: 1991 - Number Collected: 51			14.40 81.0 - 11.76 - Excellent Habitat --Year:1981----- 1.30 78.5 - 4.83 - Excellent Habitat						

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH 7 39 06-117	<i>Recommended Tier</i> SHQW URM: 14.00 LRM: 0.00 Miles 14.00	SOUTH FORK CAPTINA CREEK	The South Fork of Captina Creek should be a SHQW It has an EWH IBI score, large numbers of declining species, most with large populations (rosyface shiner, variegate darter, hornyhead chub, and brindled madtom) and QHEI scores in the 70s. In addition it flows into Captina Creek, a SRW stream.		
Declining Fish ----- HORNYHEAD CHUB - Years: 1996 - Number Collected: 2 ROSYFACE SHINER - Years: 1983, 1996 - Number Collected: 409 BRINDLED MADTOM - Years: 1996 - Number Collected: 6 VARIEGATE DARTER - Years: 1996 - Number Collected: 78	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1996----- 0.20 70.0 - 9.90 - --Year:1983----- 0.20 80.0 - 9.90 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1996----- 0.20 48 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1983----- 0.10 G -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH 1 6 18-043	<i>Recommended Tier</i> SHQW URM: 9.00 LRM: 0.00 Miles 9.00	SOUTH FORK EAGLE CREEK	This high quality small stream with excellent habitat warrants a SHQW tier largely because of its population of endangered mountain brook lamprey, one of the few in Ohio. This species is vulnerable to changes in water quality and habitat.		
Declining Fish ----- None	Endangered Fish ----- MNT. BROOK LAMPREY - Years: 1987, 1999 - Number Collected: 9 Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1999----- 3.90 78.5 - 14.29 - Excellent Habitat --Year:1987----- 3.90 61.5 - 14.29 -	IBI Values --RM---IBI---Narrative ----- --Year:1999----- 3.90 40 - --Year:1987----- 2.30 36 - 0.80 32 -	ICI Values --RM---ICI---Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH39 31.1 02-222	<i>Recommended Tier</i> SHQW URM: 7.30 LRM: 0.00 Miles 7.30	SPAIN CREEK	Spain Creek merits a SHQW designation because of: 1.) populations of declining fish species (including rosefin and rosyface shiner, and hornyhead chub), 2.) high IBI scores, 3.) good habitat, and 4.) its importance and proximity to Big Darby Creek.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
LEAST BROOK LAMPREY - Years: 1988 - Number Collected: 2	None Endangered Unionids	None Special Concern Fish	--Year:1993----- 0.20 74.0 - 11.36 - --Year:1988----- 0.50 74.5 - 26.32 - 3.60 82.5 - 21.74 - Excellent Habitat --Year:1981----- 0.40 77.0 - 26.32 - Excellent Habitat	--Year:1993----- 3.70 50 - Exceptional IBI 0.20 48 - Exceptional IBI --Year:1988----- 3.60 49 - Exceptional IBI 0.50 54 - Superior IBI Scores	--Year:1988----- 2.60 G - 0.10 G -	
HORNYHEAD CHUB - Years: 1985, 1988, 1989, 1993 - Number Collected: 153	--Living--Dead--Weathered--Subfossil--Name-- --	----- None				
ROSYFACE SHINER - Years: 1981, 1985, 1988 - Number Collected: 24	None					
ROSEFIN SHINER - Years: 1988, 1989, 1993 - Number Collected: 59						

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH39 9 02-211	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"><i>Recommended Tier</i> SHQW</td> </tr> <tr> <td style="padding: 5px;">URM: 16.00</td> </tr> <tr> <td style="padding: 5px;">LRM: 0.00</td> </tr> <tr> <td style="padding: 5px;">Miles 16.00</td> </tr> </table> <div style="margin-left: 20px;"> <p>SPRING FORK</p> <p>Spring Fork merits a SHQW designation because of: 1.) large populations of declining fish species (including variegate darter, least darter, and rosyface shiner), 2.) high IBI and ICI scores, 3.) excellent habitat, especially in its lower reach (QHEI > 90), and 4.) its importance and proximity to Big Darby Creek.</p> </div>	<i>Recommended Tier</i> SHQW	URM: 16.00	LRM: 0.00	Miles 16.00
<i>Recommended Tier</i> SHQW					
URM: 16.00					
LRM: 0.00					
Miles 16.00					

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
HORNYHEAD CHUB - Years: 1986, 1992, 1994 - Number Collected: 187	None	None			
ROSYFACE SHINER - Years: 1992 - Number Collected: 37	Endangered Unionids	Special Concern Fish	--Year:1992-----	--Year:1994-----	--Year:1992-----
ROSEFIN SHINER - Years: 1992, 1994 - Number Collected: 307	--Living--Dead--Weathered--Subfossil--Name--	LEAST DARTER - Years: 1994 - Number Collected: 15	0.90 90.0 - 13.89 - Outstanding	7.88 36 -	15.90 F -
VARIEGATE DARTER - Years: 1986, 1992 - Number Collected: 11	None		Habitat	7.88 34 -	7.70 G -
LEAST DARTER - Years: 1994 - Number Collected: 15			7.80 48.0 - 3.33 -	7.87 42 -	0.70 54 - Superior ICI Score
			15.90 74.0 - 17.24 -	7.87 40 -	
				7.86 38 -	
				7.86 38 -	
				7.85 44 -	
				7.85 42 -	
				7.84 30 -	
				7.84 28 -	
				7.83 28 -	
				7.83 36 -	
				7.82 40 -	
				7.82 38 -	
				7.81 36 -	
				7.81 28 -	
				--Year:1992-----	
				7.80 50 - Exceptional IBI	
				0.90 58 - Superior IBI Scores	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH27 21 01-140	<i>Recommended Tier</i> SHQW URM: 2.20 LRM: 0.00 Miles 2.20	SPRUCE RUN	This stream and a number of other connected streams in this subwatershed have sufficient attributes to warrant SHQW antidegradation tiers. Most have very high IBI scores, good-excellent habitat, and good populations of declining species including redbelly dace, southern redbelly dace, and least brook lampreys. These species undoubtedly move between these small tributaries freely and they should be protected as a group.		
Declining Fish ----- SOUTH. REDBELLY DACE - Years: 1995 - Number Collected: 209	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1995----- 0.20 65.0 - 74.07 -	IBI Values --RM--IBI--Narrative ----- --Year:1995----- 0.20 54 - Superior IBI Scores	ICI Values --RM--ICI--Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description			Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
ID	Description	Recommended Tier	SHQW	---RM---QHEI---Gradient---Narrative	---RM---IBI---Narrative	---RM---ICI---Rating	---Year:1999-----	---Year:2000-----	---Year:1999-----
OH57 1 14-200	STILLWATER RIVER (ENGLEWOOD DAM TO GREAT MIAMI R.)	URM: 9.00 LRM: 0.00 Miles 9.00		RIVER CHUB - Years: 1990, 1994, 1999, 2000 - Number Collected: 67 ROSYFACE SHINER - Years: 1999, 2000 - Number Collected: 47	None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- 0 0 0 2 clubshell - Pleurobema clava (Lamarck, 1819) - Years: 19 0 1 0 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 19	None Special Concern Fish RIVER REDHORSE - Years: 1982, 1990, 1994, 1999 - Number Collected: 283	1.20 85.5 - 4.69 - Excellent Habitat 5.00 85.5 - 5.41 - Excellent Habitat 8.60 88.0 - 3.34 - Excellent Habitat 8.90 52.0 - 0.10 - 11.40 76.5 - 2.44 - Excellent Habitat --Year:1994----- 12.10 81.5 - 2.44 - Excellent Habitat --Year:1990----- 1.20 80.5 - 4.69 - Excellent Habitat 5.00 89.0 - 5.41 - Excellent Habitat 8.40 88.0 - 3.34 - Excellent Habitat 8.80 81.0 - 3.34 - Excellent Habitat 9.00 78.0 - 0.10 - Excellent Habitat 11.10 82.0 - 2.44 - Excellent Habitat --Year:1982----- 1.00 64.5 - 4.69 - 3.10 75.5 - 4.83 - Excellent	12.40 56 - Superior IBI Scores --Year:1999----- 8.90 28 - 8.60 53 - Exceptional IBI 5.00 59 - Superior IBI Scores 1.20 55 - Superior IBI Scores --Year:1990----- 11.10 48 - Exceptional IBI 9.00 41 - 8.80 41 - 8.40 49 - Exceptional IBI 5.00 47 - Exceptional IBI 1.20 50 - Exceptional IBI --Year:1982----- 11.10 44 - 8.40 51 - Exceptional IBI 6.90 51 - Exceptional IBI 5.00 51 - Exceptional IBI 3.10 48 - Exceptional IBI 1.00 46 - Exceptional IBI	11.30 48 - Exceptional ICI 8.90 40 - 8.85 G - 8.85 E - Exceptional ICI 8.30 24 - 5.00 46 - Exceptional ICI 1.60 46 - Exceptional ICI --Year:1994----- 12.30 44 - Exceptional ICI --Year:1990----- 12.20 46 - Exceptional ICI 11.40 48 - Exceptional ICI 9.10 50 - Exceptional ICI 8.85 46 - Exceptional ICI 8.60 44 - Exceptional ICI 4.80 50 - Exceptional ICI 1.50 48 - Exceptional ICI --Year:1989----- 1.40 48 - Exceptional ICI --Year:1982----- 11.40 42 - 9.00 40 - 7.90 46 - Exceptional ICI 4.70 46 - Exceptional ICI 0.80 48 - Exceptional ICI --Year:1980----- 4.70 34 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Habitat			0.50	40 -
5.00	77.0 -	5.41 - Excellent		
Habitat				
6.90	76.5 -	3.34 - Excellent		
Habitat				
8.40	68.0 -	3.34 -		
11.10	74.5 -	2.44 -		
12.10	63.0 -	2.44 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description															
OH57 14 14-200	<p style="text-align: center;"><i>Recommended Tier</i> SRW</p> <p>URM: 32.40 LRM: 21.00 Miles 11.40</p>	<p>STILLWATER RIVER (GREENVILLE CR. TO LUDLOW CR.)</p> <p>This reach of the Stillwater River should be assigned the SRW tier because of :1) populations of declining species (including river chub, rosyface shiner, and brindled madtom) and special concern species (river redhorse), consistently excellent habitat with QHEIs mostly in the 80s, and consistently high (EWH) IBI and ICI scores, and also because the Stillwater River is a State Scenic River.</p>														
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values			IBI Values			ICI Values							
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating											
RIVER CHUB - Years: 1990, 1999 - Number Collected: 57	None	None	--Year:1999-----			--Year:1999-----			--Year:1999-----							
ROSYFACE SHINER - Years: 1999, 2001 - Number Collected: 77	--Living--Dead--Weathered--Subfossil--Name--	Special Concern Fish	22.80	72.5	3.38	32.10	54	Superior IBI	32.10	52	Exceptional ICI					
BRINDLED MADTOM - Years: 1982 - Number Collected: 2	0 0 0 2 clubshell - Pleurobema clava (Lamarck, 1819) - Years: 19 0 1 0 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 19	RIVER REDHORSE - Years: 1982, 1990, 1999 - Number Collected: 31	25.10	85.5	5.26	Excellent	27.90	80.5	3.47	Excellent	27.90	58	Superior IBI	21.20	48	Exceptional ICI
			Habitat	32.10	81.0	3.65	Excellent	Habitat	27.90	57	Superior IBI	30.90	44	Exceptional ICI	--Year:1990-----	
			Habitat	25.30	86.5	5.26	Excellent	Habitat	25.10	59	Superior IBI	25.20	46	Exceptional ICI	--Year:1982-----	
			Habitat	28.10	74.0	3.47		Habitat	25.10	59	Superior IBI	31.10	50	Exceptional ICI		
			Habitat	30.60	81.0	3.33	Excellent	Habitat	22.80	58	Superior IBI	25.10	44	Exceptional ICI		
			Habitat	31.20	95.0	4.63	Outstanding	Habitat	22.80	58	Superior IBI					
			Habitat	--Year:1982-----			--Year:1990-----			--Year:1990-----						
			Habitat	21.20	73.5	9.10		Habitat	30.60	49	Exceptional IBI					
			Habitat	24.40	76.5	5.00	Excellent	Habitat	28.10	49	Exceptional IBI					
			Habitat	25.80	82.0	3.75	Excellent	Habitat	25.30	58	Superior IBI					
			Habitat	--Year:1982-----			--Year:1982-----			--Year:1982-----						
			Habitat	26.70	71.5	3.75		Habitat	30.10	45						
			Habitat	28.10	74.5	3.47		Habitat	28.10	49	Exceptional IBI					
			Habitat	30.10	60.5	0.10		Habitat	26.70	49	Exceptional IBI					
			Habitat	31.50	83.5	4.63	Excellent	Habitat	25.80	53	Exceptional IBI					
			Habitat							24.40	52	Exceptional IBI				
									21.20	55	Superior IBI					
									Scores							

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description						
OH57 5 14-200	<i>Recommended Tier</i> SRW <hr/> URM: 21.00 LRM: 9.00 Miles 12.00	STILLWATER RIVER (LUDLOW CREEK TO ENGLEWOOD DAM) This reach of the Stillwater River should be assigned the SRW tier because of :1) populations of declining species (including river chub, rosyface shiner) and special concern species (river redhorse), consistently excellent habitat with QHEIs mostly in the 80s, and consistently high (EWH) IBI and ICI scores, and also because the Stillwater River is a State Scenic River.					
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values		
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	-----	
RIVER CHUB - Years: 1994, 1999 - Number Collected: 43	None	None	-----	-----	-----	-----	
ROSYFACE SHINER - Years: 1994, 1999 - Number Collected: 33	--Living--Dead--Weathered--Subfossil--Name-- 0 0 0 2 clubshell - Pleurobema clava (Lamarck, 1819) - Years: 19 0 1 0 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 19	Special Concern Fish RIVER REDHORSE - Years: 1982, 1990, 1994, 1999, 2001 - Number Collected: 70	16.00 80.5 - 3.66 - Excellent Habitat 18.00 75.0 - 3.70 - Excellent Habitat 14.70 80.5 - 3.66 - Excellent Habitat 15.70 82.0 - 3.66 - Excellent Habitat 16.00 85.0 - 3.66 - Excellent Habitat 18.00 85.5 - 3.70 - Excellent Habitat 14.40 80.5 - 3.66 - Excellent Habitat 16.00 71.5 - 3.66 - 18.00 72.5 - 3.70 - 20.20 60.0 - 0.10 -	18.00 57 - Superior IBI Scores 18.00 56 - Superior IBI Scores 16.00 59 - Superior IBI Scores 16.00 59 - Superior IBI Scores 14.70 55 - Superior IBI Scores 16.00 51 - Exceptional IBI 18.00 49 - Exceptional IBI 16.00 52 - Exceptional IBI 14.40 40 -	18.00 38 - Exceptional ICI 16.00 44 - Exceptional ICI ----- 15.20 20 - 14.70 24 - ----- 18.30 48 - Exceptional ICI 16.40 46 - Exceptional ICI ----- 18.30 40 - 14.90 46 - Exceptional ICI -----	-----	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description			QHEI Values	IBI Values	ICI Values
OH57 43	14-200	Recommended Tier SRW	STILLWATER RIVER (NORTH FORK TO SWAMP CREEK)	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
		URM: 55.90	This reach of the Stillwater River in the EWH segment should be assigned the SRW tier because of: 1) populations of a declining species (including rosefin), excellent habitat with QHEIs mostly in the 70s, and for continuity with downstream SRW reaches, and because this segment is designated as a Scenic River. Scenic Rivers are highly valued for their aesthetic and recreational enjoyment, as well as the many ecological attributes they possess. Additionally, Scenic Rivers receive heavy local investment for the purchase of easements, and have well developed local watershed stewardship programs.			
		LRM: 45.88				
		Miles 12.09				
Declining Fish	Endangered Fish	Threatened Fish				
ROSEFIN SHINER - Years: 1982, 1983, 1990, 1999 - Number Collected: 237	None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- 0 0 0 2 clubshell - Pleurobema clava (Lamarck, 1819) - Years: 87 0 1 0 1 rayed bean - Villosa fabalis (Lea, 1831) - Years: 87	None Special Concern Fish None	47.80 73.5 - 3.76 - 52.00 73.0 - 2.27 - 54.40 44.0 - 1.98 - 57.90 48.0 - 3.07 - --Year:1990----- 47.80 79.5 - 3.76 - Excellent Habitat 52.40 74.5 - 2.27 - 57.00 61.5 - 2.00 - --Year:1983----- 51.20 67.0 - 2.27 - --Year:1982----- 47.80 81.0 - 3.76 - Excellent Habitat 53.70 64.5 - 1.98 - 54.40 57.5 - 1.98 - 55.90 51.0 - 2.00 -	57.90 37 - 57.90 37 - 54.40 43 - 54.40 43 - 52.00 46 - Exceptional IBI 52.00 46 - Exceptional IBI 47.80 48 - Exceptional IBI 47.80 48 - Exceptional IBI --Year:1990----- 51.20 36 - 47.80 39 - --Year:1982----- 55.90 37 - 54.40 35 - 53.70 29 - 47.80 43 -	57.90 24 - 57.00 34 - 54.40 28 - 51.20 44 - Exceptional ICI 47.80 38 - --Year:1990----- 57.00 50 - Exceptional ICI 51.20 46 - Exceptional ICI --Year:1983----- 50.20 30 - --Year:1982----- 57.00 40 - 55.40 38 - 52.40 38 - 46.10 G -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description										
OH57 37 14-200	<i>Recommended Tier</i> SRW	STILLWATER RIVER (SWAMP CREEK TO GREENVILLE CREEK) This reach of the Stillwater River should be assigned the SRW tier because of :1) populations of declining species (including rosefin shiner, and mimic shiner), consistently excellent habitat with QHEIs mostly in the 80s, and consistently high (EWH) IBI and ICI scores, and also because the Stillwater River is a State Scenic River.									
	URM: 45.88 LRM: 32.40 Miles 13.48										
		Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values				
		-----	-----	-----	---RM---QHEI---Gradient---Narrative	---RM---IBI---Narrative	---RM---ICI---Rating				
		ROSEFIN SHINER - Years: 1982, 1984, 1985, 1990, 1995, - Number Collected: 236	None	None	---Year:1999-----	---Year:1999-----	---Year:1999-----				
		MIMIC SHINER - Years: 1995 - Number Collected: 37	Endangered Unionids	Special Concern Fish	37.70 81.5 - 7.69 - Excellent	44.10 47 - Exceptional IBI	44.40 42 -				
			--Living--Dead--Weathered--Subfossil--Name---	-----	Habitat	44.10 48 - Exceptional IBI	41.40 36 -				
			0 0 0 2 clubshell - Pleurobema	RIVER REDHORSE - Years: 1982 - Number Collected: 2	41.40 75.0 - 4.76 - Excellent	41.40 50 - Exceptional IBI	37.70 44 - Exceptional ICI				
			clava (Lamarck, 1819) - Years: 87		Habitat	41.40 51 - Exceptional IBI	33.50 48 - Exceptional ICI				
			0 1 0 1 rayed bean - Villosa		44.10 73.0 - 2.39 -	37.70 51 - Exceptional IBI	---Year:1990-----				
			fabalis (Lea, 1831) - Years: 87		---Year:1995-----	37.70 51 - Exceptional IBI	44.20 46 - Exceptional ICI				
					43.70 80.5 - 2.54 - Excellent	---Year:1990-----	37.70 48 - Exceptional ICI				
					Habitat	43.70 44 -	---Year:1984-----				
					---Year:1990-----	37.80 49 - Exceptional IBI	44.20 22 -				
					37.80 83.5 - 7.69 - Excellent	---Year:1984-----	---Year:1982-----				
					Habitat	41.40 43 -	44.20 G -				
					43.70 78.5 - 2.54 - Excellent	---Year:1982-----	37.80 40 -				
					Habitat	43.40 32 -	33.50 46 - Exceptional ICI				
					---Year:1984-----	37.80 46 - Exceptional IBI					
					41.40 81.0 - 4.76 - Excellent	32.90 45 -					
					Habitat						
					---Year:1982-----						
					32.90 74.5 - 4.76 -						
					37.80 78.0 - 7.69 - Excellent						
					Habitat						
					43.40 63.0 - 2.54 -						
					44.20 80.0 - 2.39 - Excellent						
					Habitat						

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH 5 72 06-932	<i>Recommended Tier</i> SHQW URM: 4.80 LRM: 0.00 Miles 4.80	STRAWCAMP RUN	Strawcamp Run has significant populations of important declining species (southern redbelly dace and redbelly dace), high IBI and ICI scores, and good habitat and warrants a SHQW tier.		
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1996 - Number Collected: 6 SOUTH. REDBELLY DACE - Years: 1996 - Number Collected: 9 REDSIDE DACE - Years: 1996 - Number Collected: 70	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1996----- 0.40 66.0 - 46.51 - --Year:1983----- 0.40 77.5 - 46.51 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1996----- 0.40 54 - Superior IBI Scores --Year:1983-----	ICI Values --RM--ICI--Rating ----- --Year:1983----- 0.10 E - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH 7 5 06-700	<i>Recommended Tier</i> SHQW URM: 31.40 LRM: 14.68 Miles 16.72	SUNFISH CREEK (HEADWATERS TO PINEY FORK)	Upper Sunfish Creek has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good population of four declining species (river and hornhead chub, redbreast dace and rosyface shiner. It also has very good habitat.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
HORNYHEAD CHUB - Years: 1996 - Number Collected: 35	None Endangered Unionids	None Special Concern Fish	--Year:2000----- 23.90 71.5 - 14.93 - --Year:1996----- 17.30 65.5 - 14.18 - --Year:1991----- 23.80 70.5 - 14.93 - --Year:1983----- 17.30 70.0 - 14.18 - 18.50 47.5 - 20.20 - 23.90 78.5 - 14.93 - Excellent Habitat 27.50 75.5 - 24.24 - Excellent Habitat	--Year:2000----- 23.90 48 - Exceptional IBI --Year:1991----- 27.10 49 - Exceptional IBI --Year:1983----- 23.90 43 - 18.50 40 - 17.30 45 -	--Year:1991----- 23.70 34 - --Year:1983-----	
RIVER CHUB - Years: 1991, 1996 - Number Collected: 1269	--Living--Dead--Weathered--Subfossil--Name-- --	----- None				
REDSIDE DACE - Years: 1991 - Number Collected: 24	None					
ROSYFACE SHINER - Years: 1991, 1996, 2000 - Number Collected: 747						

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH 7 1 06-700	<i>Recommended Tier</i> SHQW URM: 14.68 LRM: 1.70 Miles 12.98	SUNFISH CREEK (PINEY FORK TO NEGRO RUN)	This reach should be assigned the SHQW tier from mile 14.68 to 1.70 because of :1) good populations of declining species (including rosyface and mimic shiner and river and hornyhead chubs), excellent habitat with QHEIs into the 80s, and EWH IBI and ICI scores.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative	IBI Values --RM--IBI--Narrative	ICI Values --RM--ICI--Rating	
HORNYHEAD CHUB - Years: 1996 - Number Collected: 47	None	None	-----	-----	-----	
RIVER CHUB - Years: 1988, 1991, 1996, 2000 - Number Collected: 1214	Endangered Unionids	Special Concern Fish	--Year:2000----- 0.50 49.5 - 33.90 - 7.10 80.0 - 14.60 - Excellent	--Year:2000----- 9.30 50 - Exceptional IBI 7.10 50 - Exceptional IBI	--Year:1991----- 9.30 46 - Exceptional ICI --Year:1983-----	
ROSYFACE SHINER - Years: 1991, 1996, 2000 - Number Collected: 500	--Living--Dead--Weathered--Subfossil--Name-- --	None	Habitat --Year:1996----- 5.00 85.5 - 8.93 - Excellent	5.00 56 - Superior IBI Scores	9.30 46 - Exceptional ICI	
MIMIC SHINER - Years: 1991, 1996 - Number Collected: 12	None	None	Habitat 7.10 60.0 - 14.60 - 9.30 73.5 - 8.20 -	--Year:1996----- 7.10 44 -	--Year:1983----- 5.00 48 - Exceptional IBI	
BRINDLED MADTOM - Years: 2000 - Number Collected: 9	None	None	--Year:1991----- 7.10 62.5 - 14.60 - --Year:1988----- 0.10 40.0 - 0.10 - --Year:1983----- 0.60 39.0 - 0.10 - 5.00 70.0 - 8.93 - 7.10 87.0 - 14.60 - Excellent	7.10 51 - Exceptional IBI 5.00 51 - Exceptional IBI	0.60 36 -	
			Habitat			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description							
OH 5 74 06-934	<i>Recommended Tier</i> SHQW URM: 1.90 LRM: 0.00 Miles 1.90	TRAIL RUN Trail Run, coldwater stream, has significant populations of important declining species (least brook lamprey, and redbreast dace), exceptional IBI scores, and good habitat and warrants a SHQW tier.	Declining Fish ----- LEAST BROOK LAMPREY - Years: 1999 - Number Collected: 1 REDSIDE DACE - Years: 1999 - Number Collected: 31	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1999----- 0.30 63.0 - 46.51 -	IBI Values --RM--IBI--Narrative ----- --Year:1999----- 0.30 52 - Exceptional IBI --Year:1983----- 0.30 50 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1983----- 0.30 G -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH86 7.1 20-031	<i>Recommended Tier</i> SRW URM: 7.65 LRM: 0.00 Miles 7.65	TRIB. TO EAST BRANCH BLACK R. (RM 39.06) This unnamed tributary of the E. Br. of the Black River has sufficient ecological attributes to warrant a SRW antidegradation tier, including good populations of declining species (southern redbelly dace and redbelly dace), high IBI scores at some sites and good habitat. It has been one of the few places in Ohio where the blacknose shiner (<i>Notropis heterolepis</i>), an endangered species, has been collected, although recent efforts have failed to capture this rare species. Because of the potential that this species is still a resident of this stream we consider it highly vulnerable to any negative changes in water quality or habitat and deserving a SRW tier.				
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values	
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating	
SOUTH. REDBELLY DACE - Years: 1977, 1994, 1996, 1997, 2001 - Number Collected: 73	None	None	-----	-----	-----	
REDSIDE DACE - Years: 1994, 1996, 1997, 2001 - Number Collected: 332	Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish ----- None	--Year:1996----- 2.20 69.5 - 41.67 - 3.60 82.0 - 52.63 - Excellent	--Year:1997----- 3.60 42 - 3.60 40 - 3.60 40 - 3.60 40 -	--Year:1996----- 3.60 G - 2.20 G - ----- 4.70 24 - 4.70 MG - ----- 0.80 20 - 2.20 46 - Exceptional IBI ----- 0.80 36 - 0.80 36 - ----- 4.70 46 - Exceptional IBI 3.70 52 - Exceptional IBI 2.20 50 - Exceptional IBI	
	None		Habitat --Year:1994----- 0.80 70.0 - 13.89 - 4.70 58.0 - 33.33 -			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description							
OH86 7.2 20-019	<i>Recommended Tier</i> SHQW URM: 2.93 LRM: 0.00 Miles 2.93	TRIB. TO EAST BRANCH BLACK R. (RM 41.41) This unnamed tributary of the E. Br. of the Black River has sufficient ecological attributes to warrant a SHQW antidegradation tier, including good populations of declining species (southern redbelly dace), a high IBI scores and good habitat. It is also nearby the tributary where the blacknose shiner (<i>Notropis heterolepis</i>), an endangered species, was collected, and such a high quality small stream could be important in the viability of this species, if it still exists in this area.	Declining Fish ----- SOUTH. REDBELLY DACE - Years: 1996 - Number Collected: 168	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1996----- 1.00 70.0 - 40.00 -	IBI Values --RM--IBI--Narrative ----- --Year:1996----- 1.00 50 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1996----- 1.00 G -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description							
OH47115 10-508	<i>Recommended Tier</i> SHQW URM: 13.40 LRM: 0.00 Miles 13.40	TURKEY CREEK A large population of bigeye shiner, a state threatened species, high IBI and ICI scores, and excellent habitat quality warrant a SHQW antidegradation tier.	Declining Fish ----- SOUTH. REDBELLY DACE - Years: 1990, 1997, 2000 - Number Collected: 19 ROSEFIN SHINER - Years: 1990, 1997, 1999 - Number Collected: 201 BIGEYE SHINER - Years: 1990, 1999 - Number Collected: 86	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- BIGEYE SHINER - Years: 1990, 1999 - Number Collected: 86 AMERICAN EEL - Years: 1976 - Number Collected: 1 Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1999----- 4.30 43.0 - 13.33 - 4.50 79.5 - 13.33 - Excellent Habitat --Year:1997----- 8.00 76.0 - 25.32 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1999----- 4.50 46 - Exceptional IBI 4.30 32 - --Year:1997----- 6.70 46 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1997----- 6.70 46 - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH21 24 17-825	<i>Recommended Tier</i> SHQW URM: 2.30 LRM: 0.00 Miles 2.30	TURKEY RUN	Turkey Run has sufficient ecological attributes to warrant a SHQW tier because of large populations of several sensitive declining species, high IBI and ICI scores, and excellent-outstanding habitat.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
LEAST BROOK LAMPREY - Years: 1998 - Number Collected: 7	None Endangered Unionids	None Special Concern Fish	--Year:1998----- 0.40 34.5 - 27.03 - 0.60 91.5 - 27.03 - Outstanding Habitat	--Year:1998----- 0.60 46 - Exceptional IBI 0.40 40 - --Year:1993----- 0.60 44 - 0.40 40 -	--Year:1994----- 0.90 F - --Year:1992----- 0.90 60 - Superior ICI Score 0.40 54 - Superior ICI Score	
SOUTH. REDBELLY DACE - Years: 1993, 1994, 1998 - Number Collected: 408	--Living--Dead--Weathered--Subfossil--Name-- ----- --	None	--Year:1992----- 0.40 21.5 - 27.03 - 0.60 71.0 - 27.03 - 1.10 76.0 - 32.79 - Excellent Habitat	--Year:1992----- 0.60 38 - 0.20 34 - 0.20 38 -	0.40 50 - Exceptional ICI	
REDSIDE DACE - Years: 1993, 1994, 1998 - Number Collected: 116	None					

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description			QHEI Values	IBI Values	ICI Values	
OH59 3 14-500	TWIN CREEK (BANTAS FORK TO LITTLE TWIN CREEK)	Declining Fish	Endangered Fish	Threatened Fish	---RM---QHEI---Gradient---Narrative	---RM---IBI---Narrative	---RM---ICI---Rating
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <i>Recommended Tier SRW</i> URM: 24.30 LRM: 6.70 Miles 17.60 </div>				Twin Creek has perhaps some of the most intact aquatic communities for its size in Ohio illustrated by consistently high IBI scores. It has large and vibrant populations of declining species such as river chub, rosyface shiner, and rosefin shiner. It also has very large populations of sensitive redhorse species and smallmouth bass. Habitat conditions as measured by the QHEI are also among the best in the state. The extent and consistency of biological performance are vulnerable to changes in the watershed supporting a SRW tier.			
		-----	-----	-----	-----	-----	-----
		RIVER CHUB - Years: 1986, 1995 - Number Collected: 546	None	None	8.20 80.5 - 4.93 - Excellent	23.90 45 -	19.20 50 - Exceptional ICI
		ROSYFACE SHINER - Years: 1995 - Number Collected: 757	Endangered Unionids	Special Concern Fish	Habitat	19.20 48 - Exceptional IBI	19.00 48 - Exceptional ICI
		ROSEFIN SHINER - Years: 1995 - Number Collected: 216	--Living--Dead--Weathered--Subfossil--Name--	None	9.80 89.5 - 4.93 - Excellent	18.30 50 - Exceptional IBI	16.90 48 - Exceptional ICI
		BRINDLED MADTOM - Years: 1995 - Number Collected: 12	None		Habitat	16.90 39 -	13.40 54 - Superior ICI Score
					13.40 83.5 - 6.54 - Excellent	9.80 51 - Exceptional IBI	
					Habitat		9.80 E - Exceptional ICI
					16.50 79.5 - 5.24 - Excellent		
					Habitat		---Year:1986-----
					19.00 87.5 - 8.00 - Excellent		23.90 50 - Exceptional ICI
					Habitat		19.10 46 - Exceptional ICI
					19.20 84.5 - 8.00 - Excellent		18.20 40 -
					Habitat		16.60 50 - Exceptional ICI
					23.90 91.5 - 13.70 - Outstanding		12.20 52 - Exceptional ICI
					Habitat		6.90 52 - Exceptional ICI
					---Year:1992-----		
					9.80 88.5 - 4.93 - Excellent		
					Habitat		
					---Year:1986-----		
					9.80 90.5 - 4.93 - Outstanding		
					Habitat		
					16.90 73.0 - 5.21 -		
					18.30 89.5 - 8.00 - Excellent		
					Habitat		
					19.20 90.5 - 8.00 - Outstanding		
					Habitat		
					23.90 88.5 - 13.70 - Excellent		
					Habitat		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description			QHEI Values	IBI Values	ICI Values
OH59 15	TWIN CREEK (HEADWATERS TO PRICE CREEK)	Recommended Tier	SRW	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
14-500		URM:	47.03	--Year:1995-----	--Year:1995-----	--Year:1995-----
		LRM:	29.74	31.70 64.0 - 5.56 -	45.90 46 - Exceptional IBI	42.20 54 - Superior ICI Score
		Miles	17.29	34.00 75.0 - 4.88 - Excellent	42.20 48 - Exceptional IBI	42.20 50 - Exceptional ICI
				Habitat	37.90 53 - Exceptional IBI	42.20 50 - Exceptional ICI
				35.00 84.0 - 9.26 - Excellent	35.40 51 - Exceptional IBI	38.10 46 - Exceptional ICI
				Habitat	35.00 56 - Superior IBI	35.50 54 - Superior ICI Score
				35.40 90.5 - 9.26 - Outstanding	Scores	Scores
				Habitat	34.00 55 - Superior IBI	35.00 34 - Exceptional ICI
				37.90 81.0 - 21.28 - Excellent	Scores	34.00 50 - Exceptional ICI
				Habitat	31.70 54 - Superior IBI	31.70 48 - Exceptional ICI
				42.20 78.0 - 5.81 - Excellent	Scores	--Year:1986-----
				Habitat	31.70 54 - Superior IBI	35.80 46 - Exceptional ICI
				45.90 44.0 - 2.70 -	Scores	35.00 34 -
				--Year:1986-----	--Year:1986-----	31.70 44 - Exceptional ICI
				31.70 71.0 - 5.56 -	35.00 52 - Exceptional IBI	--Year:1984-----
				35.00 92.0 - 9.26 - Outstanding	31.70 38 -	41.30 30 -
				Habitat	--Year:1983-----	--Year:1983-----
				35.50 84.5 - 9.26 - Excellent	37.90 45 -	38.00 42 -
				Habitat	34.90 53 - Exceptional IBI	38.00 G -
				--Year:1983-----	31.60 47 - Exceptional IBI	35.80 G -
				37.90 64.5 - 21.28 -	35.00 G -	35.00 G -
				42.20 53.0 - 5.81 -	31.70 G -	31.70 G -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH59 1 14-500	<i>Recommended Tier SRW</i> URM: 6.70 LRM: 0.00 Miles 6.70	TWIN CREEK (LITTLE TWIN CREEK TO GREAT MIAMI R.)	Twin Creek has perhaps some of the most intact aquatic communities for its size in Ohio illustrated by consistently high IBI scores. It has large and vibrant populations of declining species such as river chub, rosyface shiner, and rosefin shiner. It also has very large populations of sensitive redhorse species and smallmouth bass. Habitat conditions as measured by the QHEI are also among the best in the state. The extent and consistency of biological performance are vulnerable to changes in the watershed supporting a SRW tier.			
Declining Fish ----- ROSYFACE SHINER - Years: 1988, 1995 - Number Collected: 29 ROSEFIN SHINER - Years: 1988, 1995 - Number Collected: 24 BRINDLED MADTOM - Years: 1988 - Number Collected: 3	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1995----- 0.20 77.0 - 12.29 - Excellent Habitat 0.60 80.5 - 12.29 - Excellent Habitat 3.40 74.5 - 16.00 - --Year:1986----- 0.20 73.5 - 13.16 -	IBI Values --RM--IBI--Narrative ----- --Year:1995----- 0.20 48 - Exceptional IBI --Year:1986----- 0.30 24 - 0.20 49 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1995----- 3.40 48 - Exceptional ICI 1.00 E - Exceptional ICI --Year:1986----- 1.00 48 - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH59 10 14-500	<i>Recommended Tier</i> SRW URM: 29.70 LRM: 24.30 Miles 5.40	TWIN CREEK (PRICE CREEK TO BANTAS FORK)	Twin Creek has perhaps some of the most intact aquatic communities for its size in Ohio illustrated by consistently high IBI scores. It has large and vibrant populations of declining species such as river chub, rosyface shiner, and rosefin shiner. It also has very large populations of sensitive redhorse species and smallmouth bass. Habitat conditions as measured by the QHEI are also among the best in the state (in this segment ALL sites in 80s and 90s). The extent and consistency of biological performance are vulnerable to changes in the watershed supporting a SRW tier.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
RIVER CHUB - Years: 1983, 1986, 1995 - Number Collected: 194	None Endangered Unionids	None Special Concern Fish	--Year:1995----- 25.20 88.0 - 11.63 - Excellent Habitat	--Year:1995----- 29.70 44 - 27.50 50 - Exceptional IBI	--Year:1995----- 27.50 50 - Exceptional ICI 26.70 52 - Exceptional ICI	
ROSYFACE SHINER - Years: 1983, 1986, 1995 - Number Collected: 589	--Living--Dead--Weathered--Subfossil--Name-- ----- --	----- None	26.50 95.0 - 8.55 - Outstanding Habitat	26.50 56 - Superior IBI Scores	25.20 48 - Exceptional ICI --Year:1986-----	
ROSEFIN SHINER - Years: 1986, 1995 - Number Collected: 295	None		27.50 91.5 - 9.62 - Outstanding Habitat	25.20 56 - Superior IBI Scores	28.50 50 - Exceptional ICI 25.80 48 - Exceptional ICI	
			29.70 81.0 - 9.09 - Excellent Habitat	--Year:1986----- 26.70 41 -	--Year:1983----- 27.50 G -	
			--Year:1986----- 26.70 80.0 - 8.55 - Excellent Habitat	25.20 49 - Exceptional IBI		
			27.00 88.0 - 9.62 - Excellent Habitat			
			--Year:1983----- 25.80 92.5 - 8.55 - Outstanding Habitat			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH47 92 10-085	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <i>Recommended Tier</i> SHQW </div> UPPER TWIN CREEK A large population of rosyside dace, a state threatened species and the downstream Lower Twin Creek SHQW tier, warrant a SHQW antidegradation tier.				
	URM: 8.80 LRM: 0.00 Miles 8.80				
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
SOUTH. REDBELLY DACE - Years: 1988, 1990 - Number Collected: 149	None Endangered Unionids	ROSYSIDE DACE - Years: 1990, 1997 - Number Collected: 271	No Data	--Year:1997----- 2.60 46 - Exceptional IBI	No Data
ROSYSIDE DACE - Years: 1990, 1997 - Number Collected: 271	--Living--Dead--Weathered--Subfossil--Name-- -- None	Special Concern Fish ----- None			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH85 9 21-001	<i>Recommended Tier SRW</i> URM: 29.60 LRM: 15.90 Miles 13.70	VERMILION RIVER (EAST BRANCH TO EAST FORK) This lower portion of this reach of the Vermilion River has sufficient ecological attributes, including large populations of declining species (river chub, bigeye chub), relative abundances of pollution intolerant species exceeding two standard deviations compared to statewide collections from similar sized streams, and excellent habitat, to warrant a SHQW antidegradation.				
Declining Fish ----- RIVER CHUB - Years: 1997 - Number Collected: 2 BIGEYE CHUB - Years: 1997, 1999 - Number Collected: 246 ROSYFACE SHINER - Years: 1997, 1999 - Number Collected: 74 MIMIC SHINER - Years: 1988, 1997, 1999 - Number Collected: 402	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1999----- 29.20 60.5 - 5.10 - --Year:1997----- 23.50 78.5 - 10.75 - Excellent Habitat 23.90 44.5 - 0.10 -	IBI Values --RM--IBI--Narrative ----- --Year:1999----- 29.20 38 - --Year:1997----- 23.50 40 - --Year:1988----- 23.90 33 -	ICI Values --RM--ICI--Rating ----- --Year:1988----- 29.20 30 - 23.90 14 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH85 7 21-001	<i>Recommended Tier</i> SRW <hr/> URM: 15.90 LRM: 3.15 <hr/> Miles 12.75	VERMILION RIVER (EAST FORK TO STATE ROUTE 2)	This reach of the Vermilion River has sufficient ecological attributes including large populations of declining species (river chub, bigeye chub), high IBI scores, relative abundances of pollution intolerant fish exceeding two standard deviations compared to streams of similar size from statewide collections, and excellent habitat to warrant a SRW antidegradation tier in its free-flowing portions.			
Declining Fish ----- RIVER CHUB - Years: 1983, 1988, 1997, 1999 - Number Collected: 332 BIGEYE CHUB - Years: 1988, 1993, 1994, 1997, 1999 - Number Collected: 400 ROSYFACE SHINER - Years: 1988, 1997, 1999 - Number Collected: 352 MIMIC SHINER - Years: 1988, 1993, 1994, 1999 - Number Collected: 323	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 10.70 78.0 - 6.45 - Excellent Habitat --Year:1993----- 1.80 58.5 - 0.10 - --Year:1988----- 0.30 49.0 - 0.10 - 0.50 34.0 - 0.10 - 1.40 50.5 - 0.10 - 2.40 57.0 - 0.10 - 5.80 74.5 - 8.33 - --Year:1983----- 10.70 80.5 - 6.45 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1999----- 10.90 54 - Superior IBI Scores --Year:1997----- 3.10 0 - --Year:1994----- 1.80 0 - --Year:1993----- 2.40 0 - 2.40 36 - 1.80 0 - 1.80 0 - 1.80 34 - 0.10 0 - --Year:1988----- 10.70 52 - Exceptional IBI 5.80 46 - Exceptional IBI 2.40 0 - 1.40 0 - 0.50 0 - 0.30 0 -	ICI Values --RM--ICI--Rating ----- --Year:1996----- 2.60 0 - 2.10 0 - 1.50 0 - --Year:1993----- 1.60 0 - 1.60 0 - 1.60 0 - 0.90 0 - 0.90 0 - 0.90 0 - 0.10 0 - 0.10 0 - --Year:1988----- 14.50 38 - 10.90 32 - 1.90 0 - 0.90 0 - 0.20 0 - --Year:1984----- 10.90 40 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description							
OH85 12 21-001	<table border="1" style="border-collapse: collapse; width: 150px;"> <tr> <td style="text-align: center;"><i>Recommended Tier</i></td> <td rowspan="4" style="vertical-align: top; padding-left: 10px;"> VERMILION RIVER (SOUTHWEST BRANCH TO EAST BRANCH) This lower portion of this reach of the Vermilion River has sufficient ecological attributes, including large populations of declining species (rosyface shiner, mimic shiner, bigeye chub) , high IBI scores, relative abundances of pollution intolerant fish exceeding two standard deviations of statewide collections, and excellent habitat, to warrant a SRW antidegradation. </td> </tr> <tr> <td style="text-align: center;">SRW</td> </tr> <tr> <td>URM: 47.70</td> </tr> <tr> <td>LRM: 29.60</td> </tr> <tr> <td>Miles 18.10</td> <td></td> </tr> </table>	<i>Recommended Tier</i>	VERMILION RIVER (SOUTHWEST BRANCH TO EAST BRANCH) This lower portion of this reach of the Vermilion River has sufficient ecological attributes, including large populations of declining species (rosyface shiner, mimic shiner, bigeye chub) , high IBI scores, relative abundances of pollution intolerant fish exceeding two standard deviations of statewide collections, and excellent habitat, to warrant a SRW antidegradation.	SRW	URM: 47.70	LRM: 29.60	Miles 18.10	
<i>Recommended Tier</i>	VERMILION RIVER (SOUTHWEST BRANCH TO EAST BRANCH) This lower portion of this reach of the Vermilion River has sufficient ecological attributes, including large populations of declining species (rosyface shiner, mimic shiner, bigeye chub) , high IBI scores, relative abundances of pollution intolerant fish exceeding two standard deviations of statewide collections, and excellent habitat, to warrant a SRW antidegradation.							
SRW								
URM: 47.70								
LRM: 29.60								
Miles 18.10								

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
BIGEYE CHUB - Years: 1987, 1988 - Number Collected: 43	None	None	-----	-----	-----
ROSYFACE SHINER - Years: 1988, 1997 - Number Collected: 124	Endangered Unionids	Special Concern Fish	--Year:1997-----	--Year:1997-----	--Year:1987-----
MIMIC SHINER - Years: 1988, 1997 - Number Collected: 193	--Living--Dead--Weathered--Subfossil--Name--	-----	33.60 76.5 - 11.63 - Excellent	44.50 34 -	44.20 44 - Exceptional ICI
	--	None	Habitat	44.50 40 -	
	None		44.50 72.5 - 8.85 -	33.60 44 -	
			--Year:1987-----	33.60 44 -	
			44.50 92.5 - 8.85 - Outstanding	33.60 44 -	
			Habitat	33.60 44 -	
				33.60 44 -	
				--Year:1988-----	
				29.60 46 - Exceptional IBI	
				--Year:1987-----	
				44.50 47 - Exceptional IBI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH20 2 17-960	<i>Recommended Tier</i> SRW URM: 19.70 LRM: 0.00 Miles 19.70	WAKATOMIKA CREEK (BRUSHY FORK TO MUSKINGUM RIVER) Wakatomika Creek has sufficient ecological attributes to warrant a SRW antidegradation tier. It has large population of many declining species and a population of the the threatened bluebreast darter and special concern sand darter. It also has consistently high IBI scores and excellent habitat in most areas. Its large populations of declining species indicate it would be sensitive to any change in pollutant loading and is therefore vulnerable to change and deserving of the SRW tier.				
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1996 - Number Collected: 15 RIVER CHUB - Years: 1988, 1994, 1996 - Number Collected: 50 ROSYFACE SHINER - Years: 1988, 1994, 1996 - Number Collected: 265 MIMIC SHINER - Years: 1994, 1996 - Number Collected: 153 EASTERN SAND DARTER - Years: 1994, 1997 - Number Collected: 6 VARIEGATE DARTER - Years: 1988, 1994, 1996, 1997 - Number Collected: 279 BLUEBREAST DARTER - Years: 1997 - Number Collected: 2	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- BLUEBREAST DARTER - Years: 1997 - Number Collected: 2 Special Concern Fish ----- EASTERN SAND DARTER - Years: 1994, 1997 - Number Collected: 6	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1996----- 13.50 62.0 - 3.11 - 14.00 78.5 - 4.23 - Excellent Habitat --Year:1994----- 2.10 77.5 - 2.88 - Excellent Habitat 11.80 67.0 - 3.11 - 12.50 74.0 - 3.11 - 14.80 88.0 - 4.23 - Excellent Habitat --Year:1988----- 2.00 77.5 - 2.88 - Excellent Habitat 11.80 61.0 - 3.11 - 12.50 59.0 - 3.11 - 14.90 92.0 - 4.23 - Outstanding Habitat --Year:1984----- 2.00 59.0 - 2.88 -	IBI Values --RM--IBI--Narrative ----- --Year:1997----- 2.00 50 - Exceptional IBI --Year:1996----- 13.50 54 - Superior IBI Scores --Year:1994----- 12.50 52 - Exceptional IBI 11.80 54 - Superior IBI Scores --Year:1988----- 12.50 54 - Superior IBI Scores 11.80 50 - Exceptional IBI 2.00 53 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1988----- 12.40 46 - Exceptional ICI 11.70 26 - 2.00 48 - Exceptional ICI --Year:1984----- 2.00 46 - Exceptional ICI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description																																																																					
OH20 13 17-960	<i>Recommended Tier</i> SRW	WAKATOMIKA CREEK (HEADWATERS TO BRUSHY FORK) Wakatomika Creek has sufficient ecological attributes to warrant a SRW antidegradation tier. It has large population of many declining species and downstream has a population of the threatened bluebreast darter and special concern sand darter. It also has consistently high IBI scores and excellent habitat in most areas. Its large populations of declining species indicate it would be sensitive to any change in pollutant loading and is therefore vulnerable to change and deserving of the SRW tier.																																																																				
	URM: 42.60 LRM: 19.70 Miles 22.90																																																																					
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Declining Fish</th> <th style="width: 20%;">Endangered Fish</th> <th style="width: 20%;">Threatened Fish</th> <th style="width: 20%;">QHEI Values</th> <th style="width: 20%;">IBI Values</th> <th style="width: 20%;">ICI Values</th> </tr> <tr> <td>-----</td> <td>-----</td> <td>-----</td> <td>---RM---QHEI---Gradient---Narrative</td> <td>---RM---IBI---Narrative</td> <td>---RM---ICI---Rating</td> </tr> </thead> <tbody> <tr> <td>LEAST BROOK LAMPREY - Years: 1982, 1997 - Number Collected: 4</td> <td>None</td> <td>None</td> <td>-----</td> <td>-----</td> <td>-----</td> </tr> <tr> <td>RIVER CHUB - Years: 1994, 1998 - Number Collected: 171</td> <td>Endangered Unionids</td> <td>Special Concern Fish</td> <td>---Year:1998-----</td> <td>---Year:1998-----</td> <td>No Data</td> </tr> <tr> <td>BIGEYE CHUB - Years: 1994 - Number Collected: 9</td> <td>--Living--Dead--Weathered--Subfossil--Name--</td> <td>-----</td> <td>29.80 84.0 - 11.70 - Excellent</td> <td>29.80 50 - Exceptional IBI</td> <td></td> </tr> <tr> <td>REDSIDE DACE - Years: 1997 - Number Collected: 5</td> <td>None</td> <td>None</td> <td>Habitat</td> <td>29.80 50 - Exceptional IBI</td> <td></td> </tr> <tr> <td>ROSYFACE SHINER - Years: 1987, 1994, 1998 - Number Collected: 107</td> <td></td> <td></td> <td>---Year:1994-----</td> <td>---Year:1997-----</td> <td></td> </tr> <tr> <td>MIMIC SHINER - Years: 1998 - Number Collected: 38</td> <td></td> <td></td> <td>32.00 82.0 - 10.99 - Excellent</td> <td>42.00 48 - Exceptional IBI</td> <td></td> </tr> <tr> <td>VARIEGATE DARTER - Years: 1994, 1998 - Number Collected: 10</td> <td></td> <td></td> <td>Habitat</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>32.00 82.0 - 10.99 - Excellent</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>Habitat</td> <td></td> <td></td> </tr> </tbody> </table>		Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values	-----	-----	-----	---RM---QHEI---Gradient---Narrative	---RM---IBI---Narrative	---RM---ICI---Rating	LEAST BROOK LAMPREY - Years: 1982, 1997 - Number Collected: 4	None	None	-----	-----	-----	RIVER CHUB - Years: 1994, 1998 - Number Collected: 171	Endangered Unionids	Special Concern Fish	---Year:1998-----	---Year:1998-----	No Data	BIGEYE CHUB - Years: 1994 - Number Collected: 9	--Living--Dead--Weathered--Subfossil--Name--	-----	29.80 84.0 - 11.70 - Excellent	29.80 50 - Exceptional IBI		REDSIDE DACE - Years: 1997 - Number Collected: 5	None	None	Habitat	29.80 50 - Exceptional IBI		ROSYFACE SHINER - Years: 1987, 1994, 1998 - Number Collected: 107			---Year:1994-----	---Year:1997-----		MIMIC SHINER - Years: 1998 - Number Collected: 38			32.00 82.0 - 10.99 - Excellent	42.00 48 - Exceptional IBI		VARIEGATE DARTER - Years: 1994, 1998 - Number Collected: 10			Habitat						32.00 82.0 - 10.99 - Excellent						Habitat					
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values																																																																	
-----	-----	-----	---RM---QHEI---Gradient---Narrative	---RM---IBI---Narrative	---RM---ICI---Rating																																																																	
LEAST BROOK LAMPREY - Years: 1982, 1997 - Number Collected: 4	None	None	-----	-----	-----																																																																	
RIVER CHUB - Years: 1994, 1998 - Number Collected: 171	Endangered Unionids	Special Concern Fish	---Year:1998-----	---Year:1998-----	No Data																																																																	
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			Habitat																																																																			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description			QHEI Values	IBI Values	ICI Values	
OH20 31	WALHONDING R. (MOHICAN/KOKOSING R. TO KILLBUCK CR)	Recommended Tier SRW			---RM---QHEI---Gradient---Narrative	---RM---IBI---Narrative	---RM---ICI---Rating
17-600		URM: 23.20 LRM: 7.30 Miles 15.90	<p>The Walhonding has sufficient ecological attributes to warrant a SRW antidegradation tier. It has large populations of many declining species and a population of the endangered and threatened mussels and fish (bluebreast darter) and special concern fish species such as sand darter and river redhorse. It also has excellent-outstanding habitat. Its large populations of endangered, threatened and declining species indicate it would be sensitive to any change in pollutant loading and is therefore vulnerable to change and deserving of the SRW tier.</p>				
Declining Fish	Endangered Fish	Threatened Fish					
-----	-----	-----					
RIVER CHUB - Years: 1983, 1984, 1985, 1987, 1994 - Number Collected: 452	None	BLUEBREAST DARTER - Years: 1984, 1985, 1987, 1994 - Number Collected: 47					
BIGEYE CHUB - Years: 1984, 1985, 1987, 1994 - Number Collected: 66	--Living--Dead--Weathered--Subfossil--Name--	Special Concern Fish					
STREAMLINE CHUB - Years: 1983, 1984, 1985, 1987, 1994 - Number Collected: 101	18 0 31 0 rabbitsfoot - Quadrala cylindrica cylindrica (Say, 1817) - Years: 83, 91, 92, 93	RIVER REDHORSE - Years: 1983, 1987, 1988, 1994 - Number Collected: 58					
ROSYFACE SHINER - Years: 1984, 1985, 1987, 1994 - Number Collected: 314	0 0 17 0 long-solid - Fusconaia maculata maculata (Rafinesque, 1820) - Years: 92						
MIMIC SHINER - Years: 1994 - Number Collected: 14	3 0 5 0 sheepnose - Plethobasus cyphus (Rafinesque, 1820) - Years: 91, 93						
BRINDLED MADTOM - Years: 1987 - Number Collected: 8	0 1 8 0 clubshell - Pleurobema clava (Lamarck, 1819) - Years: 91						
VARIEGATE DARTER - Years: 1981, 1984, 1985, 1987, 1994 - Number Collected: 144	0 0 16 1 fanshell - Cyprogenia stegaria (Rafinesque, 1820) - Years: 93						
BLUEBREAST DARTER - Years: 1984, 1985, 1987, 1994 - Number Collected: 47	4 0 3 1 pocketbook - Lampsilis ovata (Say, 1817) - Years: 91, 92, 93						
	0 1 0 0 purple catspaw - Epioblasma obliquata obliquata (Rafinesque, 1820) - Years: 91						

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description			QHEI Values	IBI Values	ICI Values	
OH20 24	WALHONDING RIVER (KILLBUCK CREEK TO TUSCARAWAS R.)	Recommended Tier			--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
17-600		SRW			--Year:1994-----	--Year:1994-----	--Year:1994-----
		URM: 7.30			1.10 83.0 - 4.31 - Excellent	1.10 49 - Exceptional IBI	0.80 52 - Exceptional ICI
		LRM: 0.00			Habitat	--Year:1983-----	--Year:1988-----
		Miles 7.30			--Year:1988-----	3.80 44 -	0.80 54 - Superior ICI Score
					Habitat	1.20 41 -	--Year:1987-----
					--Year:1983-----	1.20 95.5 - 4.31 - Outstanding	
					Habitat	3.80 85.0 - 4.31 - Excellent	
					Habitat		

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
RIVER CHUB - Years: 1984, 1987, 1988, 1994 - Number Collected: 128	None	None			
STREAMLINE CHUB - Years: 1984, 1988, 1994 - Number Collected: 12	Endangered Unionids	Special Concern Fish			
ROSYFACE SHINER - Years: 1984, 1987, 1988 - Number Collected: 67	--Living--Dead--Weathered--Subfossil--Name-- 18 0 31 0 rabbitsfoot - Quadrula cylindrica cylindrica (Say, 1817) - Years: 83, 91, 92, 93	RIVER REDHORSE - Years: 1983, 1994 - Number Collected: 4	1.10 83.0 - 4.31 - Excellent	1.10 49 - Exceptional IBI	0.80 52 - Exceptional ICI
MIMIC SHINER - Years: 1994 - Number Collected: 37	0 0 17 0 long-solid - Fusconaia	EASTERN SAND DARTER - Years: 1984, 1987 - Number Collected: 10	Habitat		
BRINDLED MADTOM - Years: 1983, 1984, 1987 - Number Collected: 5	maculata maculata (Rafinesque, 1820) - Years: 92		1.20 97.0 - 4.31 - Outstanding	1.20 41 -	
EASTERN SAND DARTER - Years: 1984, 1987 - Number Collected: 10	3 0 5 0 sheepnose - Plethobasus cyphus (Rafinesque, 1820) - Years: 91, 93		Habitat		
VARIEGATE DARTER - Years: 1988, 1994 - Number Collected: 45	0 1 8 0 clubshell - Pleurobema clava (Lamarck, 1819) - Years: 91 0 0 16 1 fanshell - Cyprogenia stegaria (Rafinesque, 1820) - Years: 93 4 0 3 1 pocketbook - Lampsilis ovata (Say, 1817) - Years: 91, 92, 93 0 1 0 0 purple catspaw - Epioblasma obliquata obliquata (Rafinesque, 1820) - Years: 91		3.80 85.0 - 4.31 - Excellent		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH38 12 02-118	<i>Recommended Tier</i> SHQW URM: 5.09 LRM: 0.00 Miles 5.09	WEST BRANCH ALUM CREEK (ASHLEY WEST LIBERTY ROAD TO ALUM CREEK) This lower five miles of this stream reach should be assigned the SHQW tier because of :1) good populations of a key declining species (bigeye chub), excellent habitat with QHEIs into the 70s, and EWH IBI and ICI scores. It also flow into a reservoir with high recreation use and that is a water supply for Columbus.			
Declining Fish ----- BIGEYE CHUB - Years: 1996, 2000 - Number Collected: 16	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:2000----- 0.60 72.0 - 9.43 - 3.30 75.5 - 9.80 - Excellent Habitat 8.70 48.5 - 5.95 - 9.90 47.5 - 8.33 - --Year:1996----- 0.60 76.0 - 9.43 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:2000----- 9.90 30 - 8.70 40 - 3.30 54 - Superior IBI Scores 0.60 51 - Exceptional IBI --Year:1996----- 0.60 45 -	ICI Values --RM--ICI--Rating ----- --Year:1996----- 0.70 52 - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description					
OH84 8 12-200	<i>Recommended Tier</i> SHQW URM: 10.52 LRM: 0.00 Miles 10.52	WEST BRANCH HURON R. (SLATE RUN TO EAST BRANCH)	This reach of the West Branch Huron River has strong populations of sensitive declining species including the bigeye chub, rosyface shiner, and mimic shiner. It also has good exceptional IBI scores and good to excellent habitat. It is essentially contiguous to the Huron River and is important to the quality of downstream reaches.			
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----	
BIGEYE CHUB - Years: 1984, 1998 - Number Collected: 278	None	None	--Year:1998-----	--Year:1998-----	--Year:1998-----	
ROSYFACE SHINER - Years: 1987, 1998 - Number Collected: 146	--Living--Dead--Weathered--Subfossil--Name-- -----	Special Concern Fish -----	3.70 59.0 - 9.80 - 7.00 74.5 - 10.42 - 7.70 62.0 - 13.51 - 10.50 78.5 - 9.62 - Excellent	10.50 48 - Exceptional IBI 7.70 46 - Exceptional IBI 7.00 43 - 3.70 41 -	--Year:1984----- 3.70 VG -	
MIMIC SHINER - Years: 1998 - Number Collected: 41	None	None	Habitat --Year:1987----- 7.70 69.0 - 13.51 - --Year:1984----- 3.70 69.0 - 9.80 -	--Year:1987----- 6.40 40 -		

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH 4 27 08-300	<i>Recommended Tier</i> SRW	WEST FORK (BRUSH CREEK TO MIDDLE FORK)			
	URM: 15.99 LRM: 0.00 Miles 15.99				
<p>This stream is perhaps the most consistently performing high quality stream in the state. It has large populations of many declining fish species, consistently very high IBI and ICI scores, and superior habitat. In addition, the natural and aesthetic quality of this river have been recognized by its designation as an Ohio Wild and Scenic River. Because of the features it is very vulnerable to changes in water and habitat quality.</p>					
Declining Fish ----- HORNYHEAD CHUB - Years: 1996 - Number Collected: 8 RIVER CHUB - Years: 1985, 1987, 1989, 1990, 1996, - Number Collected: 1016 ROSYFACE SHINER - Years: 1985, 1987, 1989, 1990, 1996, - Number Collected: 854 MIMIC SHINER - Years: 1990, 1996, 1997, 1999 - Number Collected: 21 VARIEGATE DARTER - Years: 1985, 1987, 1989, 1990, 1996, - Number Collected: 766	Endangered Fish ----- None Endangered Unionids	Threatened Fish ----- None Special Concern Fish	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1999----- 0.80 81.5 - 12.27 - Excellent Habitat 9.20 86.0 - 10.10 - Excellent Habitat 12.90 60.0 - 8.70 - --Year:1997----- 0.80 81.0 - 12.27 - Excellent Habitat 4.10 81.0 - 10.81 - Excellent Habitat --Year:1996----- 9.20 88.5 - 10.10 - Excellent Habitat 11.40 69.5 - 8.70 - 12.90 70.0 - 8.70 - --Year:1985----- 0.80 91.0 - 12.27 - Outstanding Habitat 4.10 95.0 - 10.81 - Outstanding Habitat 9.20 90.0 - 10.10 - Outstanding Habitat 11.40 82.5 - 8.70 - Excellent Habitat 12.70 91.0 - 8.70 - Outstanding Habitat 12.90 85.5 - 8.70 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1999----- 12.90 50 - Exceptional IBI 12.90 50 - Exceptional IBI 12.90 47 - Exceptional IBI 9.20 54 - Superior IBI Scores --Year:1996----- 6.55 44 - Exceptional ICI 9.20 54 - Superior IBI Scores 6.45 38 - --Year:1987----- 9.20 53 - Exceptional IBI 12.90 44 - Exceptional ICI 0.80 50 - Exceptional IBI 12.70 46 - Exceptional ICI 0.80 50 - Exceptional IBI 11.40 46 - Exceptional ICI 9.20 48 - Exceptional ICI 0.80 44 - Exceptional ICI --Year:1985----- 12.90 48 - Exceptional ICI 11.40 50 - Exceptional IBI 12.70 52 - Exceptional ICI 9.20 54 - Superior IBI Scores 11.40 46 - Exceptional ICI 9.20 32 - --Year:1990----- 4.10 44 - Exceptional ICI 12.70 47 - Exceptional IBI 0.80 46 - Exceptional ICI 11.40 53 - Exceptional IBI --Year:1984----- 9.20 51 - Exceptional IBI 12.90 E - Exceptional ICI --Year:1989----- ICI 12.70 58 - Superior IBI Scores ICI 11.40 56 - Superior IBI Scores ICI 9.20 54 - Superior IBI Scores 9.20 E - Exceptional ICI	ICI Values --RM--ICI--Rating ----- --Year:1999----- 13.00 52 - Exceptional ICI 9.20 40 - 0.90 44 - Exceptional ICI --Year:1996----- 6.55 44 - Exceptional ICI 6.45 38 - --Year:1987----- 12.90 44 - Exceptional ICI 12.70 46 - Exceptional ICI 11.40 46 - Exceptional ICI 9.20 48 - Exceptional ICI 0.80 44 - Exceptional ICI --Year:1985----- 12.90 48 - Exceptional ICI 12.70 52 - Exceptional ICI 11.40 46 - Exceptional ICI 9.20 32 - --Year:1990----- 4.10 44 - Exceptional ICI 0.80 46 - Exceptional ICI --Year:1984----- 12.90 E - Exceptional ICI ICI 12.70 E - Exceptional ICI ICI 11.40 E - Exceptional ICI ICI 9.20 E - Exceptional ICI

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

0.80 48 - Exceptional IBI

---Year:1987-----

12.70 56 - Superior IBI

Scores

11.40 50 - Exceptional IBI

9.20 52 - Exceptional IBI

---Year:1985-----

12.90 57 - Superior IBI

Scores

12.70 54 - Superior IBI

Scores

11.40 55 - Superior IBI

Scores

11.40 37 -

9.20 56 - Superior IBI Scores

4.10 53 - Exceptional IBI

0.80 55 - Superior IBI Scores

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH48 18 10-220	<i>Recommended Tier</i> SHQW URM: 9.00 LRM: 0.00 Miles 9.00	WEST FORK (BUCK RUN TO OHIO BRUSH CREEK)	Good numbers of declining species (mimic shiner, rosyface shiner), high IBI scores, populations of endangered mussels in this stream, and excellent habitat warrant a SHQW antidegradation tier.		
Declining Fish ----- ROSYFACE SHINER - Years: 1997 - Number Collected: 33 ROSEFIN SHINER - Years: 1986, 1987, 1997 - Number Collected: 303 MIMIC SHINER - Years: 1987, 1997 - Number Collected: 48 BRINDLED MADTOM - Years: 1997 - Number Collected: 6	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1997----- 1.10 87.0 - 7.60 - Excellent Habitat --Year:1987----- 1.10 69.5 - 7.60 - 1.10 66.5 - 7.60 - 6.10 72.0 - 19.05 - --Year:1984----- 1.30 83.0 - 14.08 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:1997----- 1.10 49 - Exceptional IBI --Year:1987----- 1.10 48 - Exceptional IBI --Year:1984----- 1.30 39 -	ICI Values --RM--ICI--Rating ----- --Year:1987----- 6.20 14 - 1.20 28 - --Year:1984----- 1.20 40 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description
OH 4 34 08-300	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 5px;"> <i>Recommended Tier</i> SRW </div> WEST FORK (HEADWATERS TO BRUSH CREEK) see OH 4 27
	URM: 16.09 LRM: 6.00 Miles 10.09

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
HORNYHEAD CHUB - Years: 1985 - Number Collected: 27	None	None			
RIVER CHUB - Years: 1999 - Number Collected: 23	Endangered Unionids	Special Concern Fish	--Year:1999----- 18.20 71.0 - 11.63 - 22.80 69.0 - 14.81 -	--Year:1999----- 22.80 32 - 22.80 32 -	--Year:1999----- 18.70 42 -
ROSYFACE SHINER - Years: 1999 - Number Collected: 61	None			22.80 34 - 18.70 48 - Exceptional IBI	
VARIEGATE DARTER - Years: 1999 - Number Collected: 11				18.70 48 - Exceptional IBI 18.20 48 - Exceptional IBI	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description			QHEI Values	IBI Values	ICI Values
OH62 3	14-300	Recommended Tier SHQW	WHITEWATER RIVER (OHIO/INDIANA TO GREAT MIAMI R.)	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
		URM: 8.26	This stream has consistently excellent biological index scores, high quality habitat (most QHEI scores in 80s), good populations of declining species (including variegate darter and northern madtom) and a good population of the state endangered northern madtom, and thus a SHQW tier is warranted.			
		LRM: 0.00				
		Miles 8.26				
Declining Fish	Endangered Fish	Threatened Fish				
MOONEYE - Years: 1983, 1989, 1995, 1996 - Number Collected: 11	NORTHERN MADTOM - Years: 1995 - Number Collected: 8	None Special Concern Fish	1.50	79.5	5.40	Excellent
ROSYFACE SHINER - Years: 1995 - Number Collected: 4	Endangered Unionids	RIVER REDHORSE - Years: 1989, 1995, 1996 - Number Collected: 20	3.80	83.0	4.61	Excellent
NORTHERN MADTOM - Years: 1995 - Number Collected: 8	--Living--Dead--Weathered--Subfossil--Name-- --		7.20	84.0	3.45	Excellent
SLENDERHEAD DARTER - Years: 1996 - Number Collected: 2	None		7.70	84.5	3.45	Excellent
VARIEGATE DARTER - Years: 1989 - Number Collected: 1			0.80	77.5	5.32	Excellent
			4.70	85.0	4.78	Excellent
			7.20	82.0	3.45	Excellent
			7.70	83.0	3.45	Excellent
			2.00	76.5	5.40	Excellent
			5.40	78.5	3.45	Excellent
			7.20	90.0	3.45	Outstanding

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH27 20 01-133	<i>Recommended Tier</i> SHQW URM: 2.40 LRM: 0.00 Miles 2.40	WILDCAT RUN	This stream and a number of other connected streams in this subwatershed have sufficient attributes to warrant SHQW antidegradation tiers. Most have very high IBI scores, good-excellent habitat, and good populations of declining species including redbside dace, southern redbelly dace, and least brook lampreys. These species undoubtedly move between these small tributaries freely and they should be protected as a group.		
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1995 - Number Collected: 1	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1995----- 0.10 69.0 - 40.00 -	IBI Values --RM--IBI--Narrative ----- --Year:1995----- 0.10 48 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH20 16 17-973	<i>Recommended Tier</i> SHQW URM: 8.00 LRM: 0.00 Miles 8.00	WINDING FORK	Winding Fork has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good populations of sensitive declining species (reidside dace, least brook lamprey) . It also has a very high IBI score and excellent habitat.		
Declining Fish ----- LEAST BROOK LAMPREY - Years: 1994 - Number Collected: 5 REDSIDE DACE - Years: 1994 - Number Collected: 9 MIMIC SHINER - Years: 1994 - Number Collected: 1	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name-- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:1994----- 1.80 74.5 - 9.90 -	IBI Values --RM--IBI--Narrative ----- --Year:1994----- 1.80 58 - Superior IBI Scores	ICI Values --RM--ICI--Rating ----- No Data

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH46 41 02-727	<i>Recommended Tier</i> SHQW URM: 2.50 LRM: 0.00 Miles 2.50	WINTERSTEIN RUN	The population of rosyzide dace, a state threatened species, high IBI scores, and the downstream SRW Scioto Brush Creek warrant a SHQW antidegradation tier		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
SOUTH. REDBELLY DACE - Years: 1988, 1990 - Number Collected: 38	None Endangered Unionids	ROSYSIDE DACE - Years: 1990 - Number Collected: 20	No Data	--Year:1988----- 0.80 54 - Superior IBI Scores	No Data
ROSYSIDE DACE - Years: 1990 - Number Collected: 20	--Living--Dead--Weathered--Subfossil--Name-- --	Special Concern Fish -----		0.40 46 - Exceptional IBI	
ROSEFIN SHINER - Years: 1990 - Number Collected: 72	None	None			

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description								
OH 8 44 06-440	<i>Recommended Tier</i> SHQW URM: 11.20 LRM: 0.00 Miles 11.20	WITTEN FORK Witten Fork has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good population of four sensitive headwater declining species (southern redbelly dace, mimic shiner, rosyface shiner and brindled madtom) and consistently high IBI scores. It also has good to excellent habitat.	Declining Fish ----- SOUTH. REDBELLY DACE - Years: 2000 - Number Collected: 15 ROSYFACE SHINER - Years: 1987, 1991, 2000 - Number Collected: 101 MIMIC SHINER - Years: 1991 - Number Collected: 13 BRINDLED MADTOM - Years: 1991 - Number Collected: 14	Endangered Fish ----- None Endangered Unionids --Living--Dead--Weathered--Subfossil--Name--- -- None	Threatened Fish ----- None Special Concern Fish ----- None	QHEI Values --RM--QHEI--Gradient--Narrative ----- --Year:2000----- 1.10 65.0 - 13.42 - 6.20 53.5 - 13.42 - 7.20 68.5 - 13.42 - 9.40 62.5 - 20.83 - --Year:1991----- 1.10 75.0 - 13.51 - Excellent Habitat --Year:1984----- 1.10 83.0 - 13.51 - Excellent Habitat	IBI Values --RM--IBI--Narrative ----- --Year:2000----- 9.40 44 - 9.40 44 - 7.20 48 - Exceptional IBI 7.20 48 - Exceptional IBI 6.20 38 - 6.20 50 - Exceptional IBI 6.20 50 - Exceptional IBI 1.10 52 - Exceptional IBI 1.10 52 - Exceptional IBI --Year:1987----- 6.60 48 - Exceptional IBI	ICI Values --RM--ICI--Rating ----- --Year:1991----- 1.10 34 - --Year:1984----- 1.20 26 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH 8 30 06-431	<i>Recommended Tier</i> SHQW URM: 6.60 LRM: 0.00 Miles 6.60	WITTEN RUN	Witten Run has sufficient ecological attributes to warrant a SHQW antidegradation tier. It has good population of two sensitive headwater declining species (southern redbelly dace and redbelly dace) and consistently high IBI scores. It also has very good habitat.		
Declining Fish -----	Endangered Fish -----	Threatened Fish -----	QHEI Values --RM--QHEI--Gradient--Narrative -----	IBI Values --RM--IBI--Narrative -----	ICI Values --RM--ICI--Rating -----
SOUTH. REDBELLY DACE - Years: 1984, 1991, 2000 - Number Collected: 61	None	None	--Year:2000----- 2.40 66.0 - 30.77 -	--Year:2000----- 3.60 58 - Superior IBI Scores	--Year:1991----- 2.60 36 -
REDSIDE DACE - Years: 2000 - Number Collected: 3	--Living--Dead--Weathered--Subfossil--Name-- -- None	Special Concern Fish ----- None	3.60 73.5 - 26.32 - --Year:1991----- 2.70 60.5 - 33.33 - --Year:1984----- 2.40 65.5 - 30.77 -	3.60 58 - Superior IBI Scores 3.60 58 - Superior IBI Scores 2.40 53 - Exceptional IBI 2.40 53 - Exceptional IBI 2.40 53 - Exceptional IBI --Year:1991----- 2.70 52 - Exceptional IBI 2.50 52 - Exceptional IBI 2.50 52 - Exceptional IBI	--Year:1984----- 2.50 26 -

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description				
OH89 25 19-021	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"> <i>Recommended Tier</i> SHQW </td> <td style="padding: 5px;"> YELLOW CREEK </td> </tr> <tr> <td style="padding: 5px;"> URM: 10.30 LRM: 0.00 Miles 10.30 </td> <td style="padding: 5px;"> Yellow Creek has sufficient ecological attributes, including three declining fish species (reidside dace, hornyhead shiner, river shiner) and excellent habitat to warrant a SHQW antidegradation tier. </td> </tr> </table>	<i>Recommended Tier</i> SHQW	YELLOW CREEK	URM: 10.30 LRM: 0.00 Miles 10.30	Yellow Creek has sufficient ecological attributes, including three declining fish species (reidside dace, hornyhead shiner, river shiner) and excellent habitat to warrant a SHQW antidegradation tier.
<i>Recommended Tier</i> SHQW	YELLOW CREEK				
URM: 10.30 LRM: 0.00 Miles 10.30	Yellow Creek has sufficient ecological attributes, including three declining fish species (reidside dace, hornyhead shiner, river shiner) and excellent habitat to warrant a SHQW antidegradation tier.				

Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating
HORNYHEAD CHUB - Years: 1988 - Number Collected: 1	None	None	-----	-----	-----
RIVER CHUB - Years: 1988, 1991, 1996, 2000 - Number Collected: 296	Endangered Unionids	Special Concern Fish	--Year:2000-----	--Year:2000-----	--Year:1996-----
REDSIDE DACE - Years: 1988, 1996, 2000 - Number Collected: 24	None	None	0.10 84.0 - 32.26 - Excellent Habitat	5.30 36 - 5.30 36 -	0.10 VG - 4.10 VG -
			3.00 83.5 - 25.00 - Excellent Habitat	3.00 40 - 3.00 40 -	1.70 VG -
			5.30 62.0 - 35.71 - --Year:1996-----	0.10 40 - 0.10 40 -	--Year:1988-----
			1.50 71.0 - 58.82 - --Year:1991-----	0.10 40 - 0.10 40 -	0.10 VG -
			1.70 78.5 - 50.00 - Excellent Habitat	--Year:1991-----	
			4.10 66.5 - 66.67 -	4.10 36 - 1.70 40 -	
				--Year:1988-----	
				1.70 38 -	

Appendix 1. Ohio Streams & Rivers: Antidegradation Tier Justification, SRW, SHQW

Waterbody ID	Segment Description									
OH50 20 11-040	<i>Recommended Tier</i> SHQW URM: 2.50 LRM: 0.00 Miles 2.50	YELLOW SPRINGS CREEK Yellow Springs Creek has sufficient ecological attributes (good populations of declining fish species, [e.g., river chub], exceptional IBI and ICI scores, and good-excellent habitats) to warrant a SHQW antidegradation tier.								
Declining Fish	Endangered Fish	Threatened Fish	QHEI Values	IBI Values	ICI Values					
-----	-----	-----	--RM--QHEI--Gradient--Narrative	--RM--IBI--Narrative	--RM--ICI--Rating					
RIVER CHUB - Years: 1987, 1993, 1994 - Number Collected: 53	None	None	--Year:1998-----	--Year:1998-----	--Year:1998-----					
ROSEFIN SHINER - Years: 1993, 1994, 1998 - Number Collected: 11	--Living--Dead--Weathered--Subfossil--Name-- None	Special Concern Fish	0.10 70.5 - 35.71 -	0.10 52 - Exceptional IBI	0.10 50 - Exceptional ICI					
		None	--Year:1993-----	--Year:1994-----	--Year:1993-----					
			0.30 79.0 - 31.25 - Excellent	0.18 46 - Exceptional IBI	0.50 46 - Exceptional ICI					
			Habitat	0.17 44 -	0.44 36 -					
			0.43 73.5 - 31.25 -	0.17 50 - Exceptional IBI	0.30 46 - Exceptional ICI					
			0.50 80.0 - 31.25 - Excellent	0.16 48 - Exceptional IBI	--Year:1983-----					
			Habitat	0.16 50 - Exceptional IBI	1.00 VG -					
				0.15 44 -	0.10 G -					
				0.15 54 - Superior IBI Scores						
				0.14 42 -						
				0.14 48 - Exceptional IBI						
				0.13 42 -						
				0.13 42 -						
				0.12 36 -						
				0.12 50 - Exceptional IBI						
				0.11 48 - Exceptional IBI						
				0.11 56 - Superior IBI Scores						
				--Year:1993-----						
				0.43 51 - Exceptional IBI						
				0.30 50 - Exceptional IBI						
				--Year:1983-----						
				2.10 26 -						
				0.10 35 -						