

## APPENDIX H. RIVER BASIN MATRIX (Aquatic Species)

**Table H1.** Priority fish distributions by river basin (H = Historical distribution, N = Nonnative in basin, ? = Uncertain distribution). See page H4 for a key to the river basin names.

	Scientific Name	Common Name	River Basins																	
			H	LT	FB	W	New	S	B	C	Y-P	R	CF	N	T-P	L	WO	CH	P	
1	<i>Acipenser brevirostrum</i>	Shortnose Sturgeon										X		X					X	
2	<i>Acipenser oxyrinchus</i>	Atlantic Sturgeon										X	X	X	X	X		X	X	X
3	<i>Ambloplites cavifrons</i>	Roanoke Bass												X	X	X				
4	<i>Ameiurus brunneus</i>	Snail Bullhead						X	X	X	X	X	X	X		X				
5	<i>Carpiodes carpio</i>	River Carpsucker			X															
6	<i>Carpiodes cyprinus</i>	Quillback			X				X	X	X	X		X						
7	<i>Carpiodes velifer</i>	Highfin Carpsucker								X	X		X							
8	<i>Clinostomus funduloides</i> sp.	Little Tennessee Rosyside Dace	X	X																
9	<i>Cottus caeruleomentum</i>	Blue Ridge Sculpin										X								
10	<i>Cyprinella monacha</i>	Spotfin Chub		X																
11	<i>Cyprinella</i> sp. (cf. <i>zanema</i> )	Thinlip Chub									X		X			X				
12	<i>Elassoma boehlkei</i>	Carolina Pygmy Sunfish														X				
13	<i>Elassoma evergladei</i>	Everglades Pygmy Sunfish											X			X				
14	<i>Elassoma zonatum</i>	Banded Pygmy Sunfish									X	X	X	X	X	X				
15	<i>Enneacanthus chaetodon</i>	Blackbanded Sunfish										X	X	X	X	X	X	X	X	X
16	<i>Enneacanthus obesus</i>	Banded Sunfish										X	X	X	X	X	X	X	X	X
17	<i>Erimystax insignis</i>	Blotched Chub	X		X															
18	<i>Erimyzon sucetta</i>	Lake Chubsucker											X	X	X	X	X	X	X	X
19	<i>Etheostoma acuticeps</i>	Sharphead Darter			X															
20	<i>Etheostoma collis</i>	Carolina Darter								X	X	X	X	X	X					
21	<i>Etheostoma inscriptum</i>	Turquoise Darter						X												
22	<i>Etheostoma jessiae</i>	Blueside Darter			X?															
23	<i>Etheostoma kanawhae</i>	Kanawha Darter					X													
24	<i>Etheostoma mariae</i>	Pinewoods Darter														X				
25	<i>Etheostoma nigrum</i>	Johnny Darter										X		X	X					
26	<i>Etheostoma perlongum</i>	Waccamaw Darter														X				
27	<i>Etheostoma podostemone</i>	Riverweed Darter										X								
28	<i>Etheostoma vitreum</i>	Glassy Darter										X		X	X				X	
29	<i>Etheostoma vulneratum</i>	Wounded Darter		X	X															
30	<i>Exoglossum laurae</i>	Tonguetied Minnow					X													
31	<i>Exoglossum maxillangua</i>	Cutlips Minnow										X								
32	<i>Fundulus diaphanus</i>	Banded Killifish										X	X	X	X				X	
33	<i>Fundulus</i> cf. <i>diaphanus</i>	Lake Phelps Killifish																		X
34	<i>Fundulus lineolatus</i>	Lined Topminnow									X	X	X	X	X	X	X	X	X	
35	<i>Fundulus waccamensis</i>	Waccamaw Killifish														X				
36	<i>Heterandria formosa</i>	Least Killifish											X							
37	<i>Hybopsis rubifrons</i>	Rosyface Chub						X												
38	<i>Hypentelium roanokense</i>	Roanoke Hog Sucker										X								
39	<i>Ichthyomyzon greeleyi</i>	Mountain Brook Lamprey	X	X	X															
40	<i>Ictiobus bubalus</i>	Smallmouth Buffalo			X					N	N				N					
41	<i>Labidesthes sicculus</i>	Brook Silverside		X							N					N				
42	<i>Lampetra aepyptera</i>	Least Brook Lamprey												X	X					
43	<i>Lampetra appendix</i>	American Brook Lamprey			X															
44	<i>Lepomis marginatus</i>	Dollar Sunfish								X	X		X	X	X	X				
45	<i>Lepomis punctatus</i>	Spotted Sunfish											X			X				
46	<i>Lucania goodei</i>	Bluefin Killifish												X						

**Table H1.** Priority fish distributions by river basin (H = Historical distribution, N = Nonnative in basin, ? = Uncertain distribution) (Continued). See page H4 for a key to the river basin names.

	Scientific Name	Common Name	River Basins																
			H	LT	FB	W	New	S	B	C	Y-P	R	CF	N	T-P	L	WO	CH	P
47	<i>Luxilus chrysocephalus</i>	Striped Shiner			X														
48	<i>Lythrurus matutinus</i>	Pinewoods Shiner										X	X	X					
49	<i>Menidia extensa</i>	Waccamaw Silverside													X				
50	<i>Moxostoma collapsum</i>	Notchlip Redhorse							X	X	X	X	X	X					
51	<i>Moxostoma macrolepidotum</i>	Shorthead Redhorse								X	X	X	X	X				X	
52	<i>Moxostoma pappillosum</i>	V-lip Redhorse							X	X	X	X	X	X				X	
53	<i>Moxostoma robustum</i>	Robust Redhorse									X								
54	<i>Moxostoma</i> sp 1	Sicklefin Redhorse	X	X															
55	<i>Moxostoma</i> sp 2	Carolina Redhorse									X		X						
56	<i>Notropis amoenus</i>	Comely Shiner									N	X	X	X	X			X	
57	<i>Notropis bifrenatus</i>	Bridle Shiner												X					
58	<i>Notropis chalybaeus</i>	Ironcolor Shiner									X	X	X	X	X	X	X	X	X
59	<i>Notropis lutipinnis</i>	Yellowfin Shiner		N				X											
60	<i>Notropis maculatus</i>	Taillight Shiner									X		X			X			
61	<i>Notropis mekistocholas</i>	Cape Fear Shiner											X						
62	<i>Notropis photogenis</i>	Silver Shiner	X	X	X	X	X												
63	<i>Notropis rubellus</i>	Rosyface Shiner					X												
64	<i>Notropis volucellus</i>	Mimic Shiner		X	X		X							X	X				
65	<i>Noturus eleutherus</i>	Mountain Madtom			H														
66	<i>Noturus flavus</i>	Stonecat		X	X														
67	<i>Noturus furiosus</i>	Carolina Madtom												X	X				
68	<i>Noturus gilberti</i>	Orangefin Madtom									X								
69	<i>Noturus</i> n. sp.	Broadtail Madtom										X				X			
70	<i>Percina aurantiaca</i>	Tangerine Darter	X	X	X	X													
71	<i>Percina burtoni</i>	Blotchside Darter		X	X														
72	<i>Percina caprodes</i>	Logperch			X		X												
73	<i>Percina macrocephala</i>	Longhead Darter			X?														
74	<i>Percina nigrofasciata</i>	Blackbanded Darter						X											
75	<i>Percina oxyrhynchus</i>	Sharpnose Darter					X												
76	<i>Percina squamata</i>	Olive Darter	X	X	X														
77	<i>Petromyzon marinus</i>	Sea Lamprey										X	X					X	X
78	<i>Phenacobius teretulus</i>	Kanawha Minnow					X												
79	<i>Pimephales notatus</i>	Bluntnose Minnow	X		X	X	X												
80	<i>Poecilia latipinna</i>	Sailfin Molly											X		X				
81	<i>Scartomyzon ariommus</i>	Bigeye Jumprock									X								
82	<i>Semotilus lumbee</i>	Sandhills Chub									X		X		X				
83	<i>Thoburnia hamiltoni</i>	Rustyside Sucker										X							

**Table H2.** Priority mussel distributions by river basin (H = Historical distribution, N = Nonnative in basin, ? = Uncertain distribution). See page H4 for a key to the river basin names.

	Scientific Name	Common Name	River Basins																
			H	LT	FB	W	New	S	B	C	Y-P	R	CF	N	T-P	L	WO	CH	P
1	<i>Alasmidonta heterodon</i>	Dwarf Wedgemussel											X	X					
2	<i>Alasmidonta raveneliana</i>	Appalachian Elktoe		X	X														
3	<i>Alasmidonta robusta</i>	Carolina Elktoe								X?	X								
4	<i>Alasmidonta undulata</i>	Triangle Floater									X	X	X	X	X			X	
5	<i>Alasmidonta varicosa</i>	Brook Floater								X	X	X	X	X					
6	<i>Alasmidonta viridis</i>	Slippershell Mussel		X	X														
7	<i>Anodonta couperiana</i>	Barrel Floater											H						
8	<i>Anodonta implicata</i>	Alewife Floater									X	X						X	
9	<i>Cyclonaias tuberculata</i>	Purple Wartyback						X											
10	<i>Elliptio cistellaeformis</i>	Box spike								X	X		X	X	X	X			
11	<i>Elliptio congaraea</i>	Carolina Slabshell									X		X	X	X				
12	<i>Elliptio dilatata</i>	Spike	X	X				X											
13	<i>Elliptio folliculata</i>	Pod Lance									X		X			X			
14	<i>Elliptio icterina</i>	Variable Spike							X	X	X	X	X	X	X	X	X		
15	<i>Elliptio lanceolata</i>	Yellow Lance												X	X				
16	<i>Elliptio marsupiobesa</i>	Cape Fear Spike											X	X		X			
17	<i>Elliptio roanokensis</i>	Roanoke Slabshell									X	X	X	X	X				
18	<i>Elliptio steinstansana</i>	Tar River Spiny mussel												X	X				
19	<i>Elliptio waccamawensis</i>	Waccamaw Spike														X			
20	<i>Fusconaia barnesiana</i>	Tennessee Pigtoe	X	X															
21	<i>Fusconaia masoni</i>	Atlantic Pigtoe									X	X	X	X	X				
22	<i>Fusconaia subrotunda</i>	Longsolid	X?	X?	X?														
23	<i>Lampsilis cariosa</i>	Yellow Lampmussel											X	X	X	X			
24	<i>Lampsilis fasciola</i>	Wavyrayed Lampmussel	X	X	X														
25	<i>Lampsilis fullerkati</i>	Waccamaw Fatmucket														X			
26	<i>Lampsilis radiata conspicua</i>	Carolina Fatmucket									X			X					
27	<i>Lampsilis radiata radiata</i>	Eastern Lampmussel									X		X	X	X	X		X	
28	<i>Lasmigona decorata</i>	Carolina Heelsplitter								X	X								
29	<i>Lasmigona holstonia</i>	Tennessee Heelsplitter		X	X?														
30	<i>Lasmigona subviridis</i>	Green Floater				X	X					X		X	X				
31	<i>Leptodea ochracea</i>	Tidewater Mucket										X			H	X		X	
32	<i>Ligumia nasuta</i>	Eastern Pondmussel									X	X	X		H			X	
33	<i>Pegias fabula</i>	Littlewing Pearlymussel	X	X															
34	<i>Pleurobema collina</i>	James Spiny mussel										X							
35	<i>Pleurobema oviforme</i>	Tennessee Clubshell	X	X	X														
36	<i>Strophitus undulatus</i>	Creepers (Squawfoot)			X				X		X	X	X	X	X				
37	<i>Toxolasma pullus</i>	Savannah Lilliput									X		X						
38	<i>Villosa constricta</i>	Notched Rainbow								X	X	X	X	X	X			X	
39	<i>Villosa delumbris</i>	Eastern Creekshell								X	X		X			X			
40	<i>Villosa iris</i>	Rainbow	X	X															
41	<i>Villosa trabalis</i>	Cumberland Bean	X		X?														
42	<i>Villosa vanuxemensis</i>	Mountain Creekshell	X																
43	<i>Villosa vaughaniana</i>	Carolina Creekshell								X	X		X						

**Table H3.** Priority crayfish distributions by river basin. See below for a key to the river basin names.

	Scientific Name	Common Name	River Basins																
			H	LT	FB	W	New	S	B	C	Y-P	R	CF	N	T-P	L	WO	CH	P
1	<i>Cambarus acanthura</i>	Spinytail Crayfish	X																
2	<i>Cambarus catagius</i>	Greensboro Burrowing Crayfish									X	X							
3	<i>Cambarus chaugaensis</i>	Oconee Stream Crayfish						X											
4	<i>Cambarus davidi</i>	Carolina Ladle Crayfish										X	X						
5	<i>Cambarus georgiae</i>	Little Tennessee River Crayfish		X															
6	<i>Cambarus hiwaseensis</i>	Hiwassee Crayfish	X																
7	<i>Cambarus hystriocosus</i>	Sandhills Spiny Crayfish										X							
8	<i>Cambarus lenati</i>	Broad River Stream Crayfish							X										
9	<i>Cambarus nodosus</i>	Knotty Burrowing Crayfish	X																
10	<i>Cambarus parrishi</i>	Hiwassee Headwaters Crayfish	X																
11	<i>Cambarus reburrus</i>	French Broad River Crayfish		X	X			X											
12	<i>Cambarus spicatus</i>	Broad River Spiny Crayfish							X										
13	<i>Cambarus tuckasegee</i>	Tuckasegee Stream Crayfish		X															
14	<i>Orconectes carolinensis</i>	North Carolina Spiny Crayfish											X	X					
15	<i>Orconectes sp. cf. spinosus</i>	No common name until status finalized		X															
16	<i>Orconectes virginianensis</i>	Chowanoke Crayfish									X							X	
17	<i>Procambarus ancylus</i>	Edisto Crayfish										X			X				
18	<i>Procambarus blandingii</i>	Santee Crayfish													X				
19	<i>Procambarus braswelli</i>	Waccamaw Crayfish													X				
20	<i>Procambarus medialis</i>	Tar River Crayfish											X	X					
21	<i>Procambarus plumimanus</i>	Croatan Crayfish											X	X		X			

**Table H4.** Priority snail distributions by river basin. See below for a key to the river basin names.

	Scientific Name	Common Name	River Basins																	
			H	LT	FB	W	New	S	B	C	Y-P	R	CF	N	T-P	L	WO	CH	P	
1	<i>Amnicola sp.</i>	Waccamaw Snail													X					
2	<i>Cincinnati sp.</i>	Waccamaw Siltsnail													X					
3	<i>Elimia interrupta</i>	Knotty Elimia	X																	
4	<i>Ferrissia hendersoni</i>	Blackwater Ancyloid												Unknown distribution in eastern basins						
5	<i>Helisoma eucosmium</i>	Greenfield Rams-horn										X								
6	<i>Leptoxis dilatata</i>	Seep Mudalia					X													
7	<i>Leptoxis virigata</i>	Smooth Mudalia	X																	
8	<i>Planorbella magnifica</i>	Magnificent Rams-horn										X								
9	<i>Somatogyus virginicus</i>	Panhandle Pebblesnail											X							
10	<i>Viviparus intertextus</i>	Rotund Mysterysnail										X			X					

**Key to the River Basins**

- |                       |                               |
|-----------------------|-------------------------------|
| H – Hiwassee          | R – Roanoke                   |
| LT – Little Tennessee | CF – Cape Fear                |
| FB – French Broad     | N – Neuse                     |
| W – Watauga           | T-P – Tar-Pamlico             |
| New – New             | L – Lumber (and lower PeeDee) |
| S – Savannah          | WO – White Oak                |
| B – Broad             | CH – Chowan                   |
| C – Catawba           | P – Pasquotank                |
| YP – Yadkin-PeeDee    |                               |