

List of the Freshwater Bivalve species of North Carolina - compiled 2017-11-03

This is a listing of the bivalve mollusk species that have been documented or reported to occur in the freshwater systems of the state. Because bivalves can be very difficult to identify to genus and to species, and because there are a number of historical (often over 100 years ago) and poorly documented reports of many species, it is impossible to state the number of freshwater bivalve species that have been documented in the state.

The scientific and common names used in this list are from Williams et al. (2017) for the taxa in the family Unionidae, and from NatureServe Explorer for the taxa in Corbiculidae and Sphaeriidae. The list also includes the State Rank, Global Rank, State Status, and U.S. Status (if it has such statuses) for each species. The ranks are those of the Biotics database of the N. C. Natural Heritage Program and NatureServe, October 2016. Ranks in parentheses are provided by the N.C. Biodiversity Project, based on data in Williams et al. (2017). Status information is given on Page 3.

Unionidae: Freshwater Mussels [48]		[Rank: State Global]	[Status: State US]	Range (by river basins)
1	<i>Alasmidonta heterodon</i> Dwarf Wedgemussel	[S1 G1G2]	[E E]	NS, TP
2	<i>Alasmidonta raveneliana</i> Appalachian Elktoe	[S1 G1]	[E E]	FB, LT
3	<i>Alasmidonta undulata</i> Triangle Floater	[S3 G4]	[T FSC]	CF, CH, NS, RO, TP, YP
4	<i>Alasmidonta varicosa</i> Brook Floater	[S2 G3]	[E FSC]	CA, CF, NS, YP
5	<i>Alasmidonta viridis</i> Slippershell Mussel	[S1 G4G5]	[E FSC]	FB, LT
6	<i>Cyclonaias tuberculata</i> Purple Wartyback	[S1 G5]	[E]	NW
7	<i>Elliptio angustata</i> Carolina Lance	[S4 G4]	[FSC]	BR, CA, CF, LU (WC), RO, YP
8	<i>Elliptio cistellaeformis</i> Box Spike	[SU G4]	[W]	CA, CF, LU, NS, RO, TP, YP
9	<i>Elliptio complanata</i> Eastern Elliptio	[S4S5 G5]		BR, CH, CF, LU, NS, RO, TP, YP
10	<i>Elliptio congaraea</i> Carolina Slabshell	[S3 G3]	[W]	CF, NS, WO, YP
11	<i>Elliptio fisheriana</i> Northern Lance	[S3 G4]	[SR]	CH, LU, NS, RO, TP
12	<i>Elliptio folliculata</i> Pod Lance	[S2 G2G3Q]	[SC]	CF, LU (WC), YP
13	<i>Elliptio icterina</i> Variable Spike	[S4 G5Q]		BR, CA, CF, NS, RO, TP, YP
14	<i>Elliptio lanceolata</i> Yellow Lance	[S2 G2G3]	[E FSC]	NS, TP
15	<i>Elliptio marsupiobesa</i> Cape Fear Spike	[S2 G3Q]	[SC]	CF, NS
16	<i>Elliptio producta</i> Atlantic Spike	[SU G3Q]	[W FSC]	CA, CF, CH, LU, NS, RO, TP, YP
17	<i>Elliptio roanokensis</i> Roanoke Slabshell	[S3 G3]	[T FSC]	CF, LU, NS, RO, TP, WO, YP; includes <i>E. judithae</i>
18	<i>Euryنيا dilatata</i> Spike	[S2 G5]	[SC FSC]	FB, HI, LT, NW; formerly <i>Elliptio dilatata</i>
19	<i>Fusconaia masoni</i> Atlantic Pigtoe	[S3 G2]	[E FSC]	CA, CF, NS, TP, RO, YP
20	<i>Fusconaia subrotunda</i> Longsolid	[S1 G3]	[SR FSC]	FB, HI, LT
21	<i>Lampsilis cariosa</i> Yellow Lampmussel	[S3 G3G4]	[E FSC]	CF, CH, LU (WC), NS, TP, YP
22	<i>Lampsilis fasciola</i> Wavyrayed Lampmussel	[S2 G5]	[SC]	FB, HI, LT
23	<i>Lampsilis radiata</i> Eastern Lampmussel	[S3 G5]	[T]	CF, CH, NS, RO, TP, YP
24	<i>Lampsilis splendida</i> Rayed Pink Fatmucket	[S1 G3]	[SR FSC]	LU (WC), YP
25	<i>Lasmigona decorata</i> Carolina Heelsplitter	[S1 G1]	[E E]	CA, YP
26	<i>Lasmigona subviridis</i> Green Floater	[S2 G3]	[E FSC]	NS, NW, RO, TP, WA, YP
27	<i>Leptodea ochracea</i> Tidewater Mucket	[S2 G3G4]	[T]	CH, LU (WC), RO, TP
28	<i>Ligumia nasuta</i> Eastern Pondmussel	[S2 G4]	[T]	CF, CH, NS, RO, TP, YP
29	<i>Parvaspina collina</i> James Spiny mussel	[S1 G1]	[E E]	RO; formerly <i>Pleurobema collina</i>
30	<i>Parvaspina steinstansana</i> Tar River Spiny mussel	[S1 G1]	[E E]	NS, TP; formerly <i>Elliptio steinstansana</i>
31	<i>Pegias fabula</i> Littlewing Pearly mussel	[S1 G1]	[E E]	HI, LT
32	<i>Pleurobema oviforme</i> Tennessee Clubshell	[S1 G2G3]	[E FSC]	FB, HI, LT
33	<i>Pleurobema barnesiana</i> Tennessee Pigtoe	[S1 G2G3]	[E FSC]	HI, LT; formerly <i>Fusconaia barnesiana</i>
34	<i>Potamilus alatus</i> Pink Heelsplitter	[S1 G5]	[SR]	FB
35	<i>Pyganodon cataracta</i> Eastern Floater	[S5 G5]		BR, CA, CF, CH, NS, PA, RO, TP, YP
36	<i>Pyganodon grandis</i> Giant Floater	[SE G5]		FB; not native
37	<i>Strophitus undulatus</i> Creeper	[S3 G5]	[T]	BR, CA, CF, FB, NS, TP, RO, YP
38	<i>Toxolasma pullus</i> Savannah Lilliput	[S2 G2]	[E FSC]	CF, LU (WC), YP
39	<i>Unio merus carolinianus</i> Eastern Pondhorn	[SU G4]		CA, CF, LU, NS, RO, TP, YP
40	<i>Utterbackia imbecillis</i> Paper Pondshell	[S5 G5]		BR, CA, CF, CH, NS, PA, RO, TP, YP
41	<i>Utterbackiana couperiana</i> Barrel Floater	[S1 G4]	[E]	CF; formerly <i>Anodonta couperiana</i>
42	<i>Utterbackiana implicata</i> Alewife Floater	[S2 G5]	[T]	CF, CH, RO, YP; formerly <i>Anodonta implicata</i>
43	<i>Venustaconcha trabalis</i> Cumberland Bean	[SH G1]	[SR, EX E]	HI; last seen in 2003; formerly <i>Villosa trabalis</i>
44	<i>Villosa constricta</i> Notched Rainbow	[S3 G3]	[SC FSC]	CA, CF, CH, NS, RO, TP, YP
45	<i>Villosa delumbis</i> Eastern Creekshell	[S4 G4]	[E]	CA, CF, LU (WC), YP
46	<i>Villosa iris</i> Rainbow	[S2 G5Q]	[SC]	FB, HI, LT
47	<i>Villosa vanuxemensis</i> Mountain Creekshell	[S1? G4]	[T]	HI
48	<i>Villosa vaughaniana</i> Carolina Creekshell	[S3 G2]	[E FSC]	CA, CF, YP
Corbiculidae: Basket Clams [1]				
49	<i>Corbicula fluminea</i> Asiatic Clam	[SE G5]		All drainages; not native

Sphaeriidae: Fingernail Clams [15]

50	<i>Eupera cubensis</i>	Mottled Fingernailclam	[S3? G5]		NS, TP
51	<i>Musculium lacustre</i>	Lake Fingernailclam	[SU G5]		CF
52	<i>Musculium partumeium</i>	Swamp Fingernailclam	[S5 G5]		CF, CH, LU, NS, PA, RO, TP, YP
53	<i>Musculium securis</i>	Pond Fingernailclam	[SU G5]		CF, LU, NS, PA, RO, TP, WO, YP
54	<i>Musculium transversum</i>	Long Fingernailclam	[S5 G5]		CF, NS, PA, TP, YP
55	<i>Pisidium adamsi</i>	Adam Peaclam	[S5 G5]		CF, CH, NS, PA, RO, TP, WO, YP
56	<i>Pisidium casertanum</i>	Ubiquitous Peaclam	[S5 G5]		CF, CH, NS, PA, RO, WA, WO
57	<i>Pisidium compressum</i>	Ridgedbeak Peaclam	[S5 G5]		CH, NS, PA, RO
58	<i>Pisidium dubium</i>	Greater Eastern Peaclam	[S5 G5]		CH, HI, LU (WC), NW, LT, YP
59	<i>Pisidium ferrugineum</i>	Rusty Peaclam	[SU G5]		LT
60	<i>Pisidium variabile</i>	Triangular Peaclam	[S3? G5]		CF, CH, NS, PA, RO
61	<i>Sphaerium fabale</i>	River Fingernailclam	[SU G5]		CF
62	<i>Sphaerium occidentale</i>	Herrington Fingernailclam	[S5 G5]		CF, TP, YP
63	<i>Sphaerium simile</i>	Grooved Fingernailclam	[SU G5]	[W]	CF, NS, TP, WO, YP
64	<i>Sphaerium striatinum</i>	Striated Fingernailclam	[S5 G5]		CA, CF, CH, LU (WC), NS, TP, YP

Species reported without documentation, reported falsely, or of uncertain or dubious taxonomy

<i>Actinonaias pectorosa</i>	Pheasantshell.....	[SX G4]	[EX]	WA
<i>Alasmidonta robusta</i>	Carolina Elktoe.....	[SX GHQ]	[FSC]	CA
<i>Alasmidonta sp. 1</i>	a bivalve (Upper Yadkin region)....	[SU GXQ]		YP
<i>Alasmidonta sp. 2</i>	a bivalve (Uwharries region).....	[S2 G1?]	[SR]	YP
<i>Cyclonaias pustulosa</i>	Pimpleback.....	[SX G5]	[EX]	Reported historically for the mountains, but no location known; formerly <i>Quadrula pustulosa</i>
<i>Elliptio judithae</i>	Plicate Spike.....	[SYN GNA]		Considered to be part of <i>E. roanokensis</i>
<i>Elliptio raveneli</i>	Carolina Spike.....	[SU (GNA)]	[W]	CF, LU, NS, TP, YP; now considered to be part of <i>E. icterina</i>
<i>Elliptio waccamawensis</i>	Waccamaw Spike.....	[S1 (GNA)]	[T FSC]	LU (WC); now considered to be part of <i>E. congaraea</i>
<i>Elliptio sp. 2</i>	File Spike.....	[SU GUQ]	[W]	LU (WC)
<i>Elliptio sp. 4</i>	a bivalve (Deep River system).....	[SU GUQ]		CF
<i>Epioblasma capsaeiformis</i>	Oyster Mussel.....	[SRF G1]	[EX]	Reported from the state by Ortmann (1918), but likely never known from the state. "The apparent species involved was <i>E. florentina walkeri</i> " (NC NHP).
<i>Epioblasma florentina</i>	Yellow Blossom.....	[(SRF) G1]		Not in NC; the former <i>E. florentina walkeri</i> was reported from NC, but that taxon has been elevated to full species
<i>Epioblasma walkeri</i>	Tan Riffleshell.....	[SX G1]	[E E]	FB; elevated to full species by Williams et al. (2017)
<i>Fusconaia flava</i>	Wabash Pigtoe.....	[SX G5]	[EX]	WA
<i>Lampsilis fullerkeri</i>	Waccamaw Fatmucket.....	[S1 (GNA)]	[T FSC]	LU (WC); now considered to be part of <i>L. radiata</i>
<i>[Lampsilis radiata conspicua]</i>	Carolina Fatmucket.....	[S1? (G5TNA)]	[T]	NS, YP; subspecies no longer recognized
<i>[Lampsilis radiata radiata]</i>	Eastern Lampmussel.....	[S1S2 (G5TNA)]	[T]	CF, CH, NS, RO, TP, YP; subspecies no longer recognized
<i>Lampsilis sp. 2</i>	Chameleon Lampmussel.....	[S2 G1]	[SR FSC]	CF, NS, TP, YP
<i>Lampsilis sp. 3</i>	a bivalve (Deep River system).....	[S1? GU]	[W]	CF
<i>Lasmigona holstonia</i>	Tennessee Heelsplitter.....	[SH G3]	[E FSC]	HI; last record listed as "1882-Pre" by NC NHP, and thus State Status should be SX
<i>Medionidus conradicus</i>	Cumberland Moccasinshell.....	[SX G3G4]	[EX FSC]	FB
<i>Pleuroanaia dolabelloides</i>	Slabside Pearlymussel.....	[SX G2]		FB?, HI?, LT?; formerly known as <i>Lexingtonia dolabelloides</i> (see Bogan 2002)
<i>Ptychobranthus fasciolaris</i>	Kidneyshell.....	[SX G4G5]	[EX FSC]	FB
<i>Toxolasma lividum</i>	Purple Lilliput.....	[SX G3Q]	[EX]	FB; <i>Toxolasma lividum</i> on WRC list
<i>Tritogonia verrucosa</i>	Pistolgrip.....	[SX G4G5]	[EX]	NW
<i>Villosa nebulosa</i>	Alabama Rainbow.....	[SRF G3]		Reported falsely from the state, due to taxonomic confusion with <i>V. iris</i>
<i>Villosa vibex</i>	Southern Rainbow.....	[SR G5Q]		Reported by Johnson (1970) from the Waccamaw and lower Cape Fear river drainages, but no surveys from these areas after this report have found or verified the species

State Rank:

S1 = Critically imperiled in the state
S2 = Imperiled in the state
S3 = Rare or uncommon in the state
S4 = Apparently secure in the state
S5 = Demonstrably secure in the state
SU = Unrankable due to lack of information about status and trends
SH = Of historical occurrence, with some expectation that it may be rediscovered
SX = Believed to be extirpated from the state
SE = Exotic/Introduced, presumed not native to the state
SR = Reported from the state, but without persuasive documentation
SRF = Reported falsely from the state
SYN = Synonym; considered to be another species/taxon

Global Rank: Global ranks are similar to state ranks except "in the state" is replaced by "globally". Additional global ranks are

T = global rank of the subspecies/taxon
Q = questionable taxonomic assignment
NA = Not applicable (such as not a valid species)

State Status: (E, T, SC, and EX are legal designations of the N.C. Wildlife Resources Commission; SR and W are non-legal designations by the N.C. Natural Heritage Program)

E = Endangered
T = Threatened
SC = Special Concern
EX = Extirpated
SR = Significantly Rare
W = Watch List

U.S. Status: (assigned by the U.S. Fish & Wildlife Service; E and T are legal designations)

E = Endangered
T = Threatened
FSC = Federal Species of Concern

References:

- Adams, W.F., J.M. Alderman, R.G. Biggins, A.G. Gerberich, E.P. Keferl, H.J. Porter, and A.S. Van Devender. 1990. A report on the conservation status of North Carolina's freshwater and terrestrial molluscan fauna. N.C. Wildlife Resources Commission. Raleigh.
- Bogan, A.E. 2002. Workbook and Key to the Freshwater Bivalves of North Carolina. North Carolina Freshwater Mussel Conservation Partnership, Raleigh, NC.
- Johnson, R.I. 1970. The systematics and zoogeography of the Unionidae (Mollusca: Bivalva) of the southern Atlantic Slope Region. *Bulletin of the Museum of Comparative Zoology* 140:263-449.
- Ortmann, A.E. 1918. The nayades (freshwater mussels) of the Upper Tennessee drainage, with notes on synonymy and distribution. *Proceedings of the American Philosophical Society* 57:521-626.
- Williams, J.D., A.E. Bogan, R.S. Butler, K.S. Cummings, J.T. Garner, J.L. Harris, N.A. Johnson, and G.T. Watters. 2017. A Revised List of the Freshwater Mussels (Mollusca: Bivalvia: Unionida) of the United States and Canada. *Freshwater Mollusk Biology and Conservation* 20:33-58.
- Williams, J.D., M.L. Warren, Jr., K.S. Cummings, J.L. Harris, and R.J. Neves. 1993. Conservation Status of Freshwater Mussels of the United States and Canada. *American Fisheries Society* 18(9): 1-22.

River Basins of North Carolina

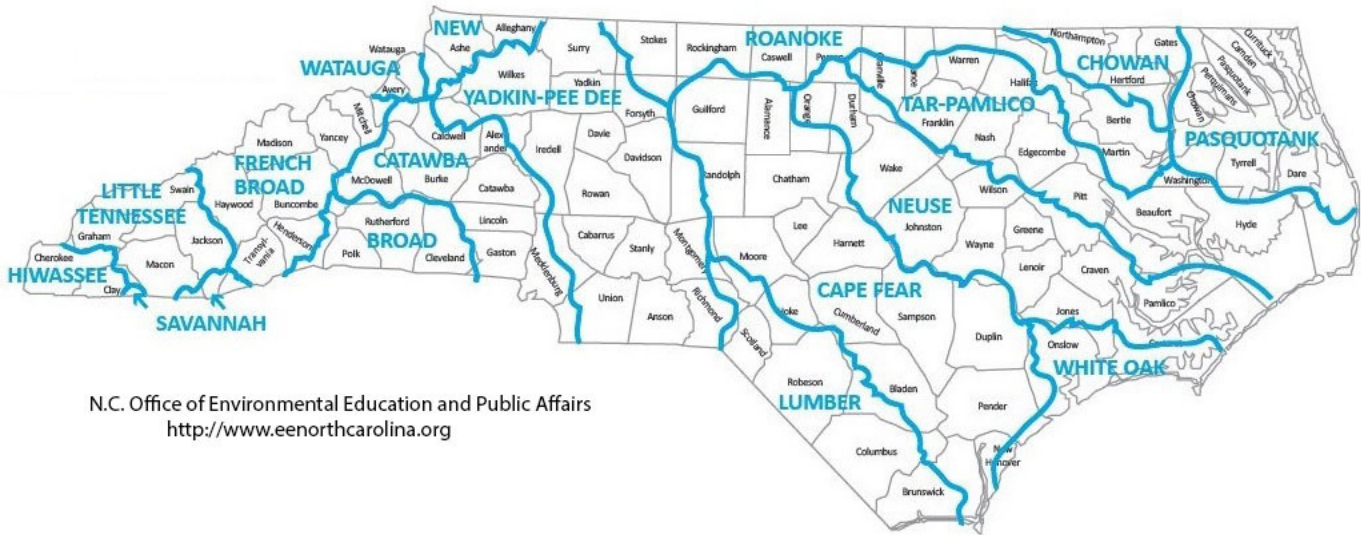
Tennessee basins/drainages: New, Watauga, French Broad, Little Tennessee, and Hiwassee

Atlantic basins/drainages: all other river basins.

The Waccamaw sub-basin of the Lumber Basin is the portion of the basin that includes Brunswick County, nearly all of Columbus County (except the western portion near Robeson County), and extreme southern Bladen County.

River Basin Codes:

- BR = Broad
- CA = Catawba
- CF = Cape Fear
- CH = Chowan
- FB = French Broad
- HI = Hiwassee
- LT = Little Tennessee
- LU = Lumber (includes Waccamaw sub-basin)
- LU (WC) = Waccamaw sub-basin only
- NS = Neuse
- NW = New
- PA = Pasquotank
- RO = Roanoke
- SA = Savannah
- TP = Tar--Pamlico
- WA = Watauga
- WO = White Oak
- YP = Yadkin--Pee Dee



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