

AQUATIC INVASIVE SPECIES IN THE MID-ATLANTIC REGION • VECTOR MANAGEMENT: A PREVENTION SOLUTION

Mid-Atlantic Panel on Aquatic Nuisance Species Invasive Species "Of Interest" List

To help foster communication, coordination, and collaboration across the region, the Mid-Atlantic Panel on Aquatic Nuisance Species assembled a list of species they determined to be "of interest." This list is intended to help researchers and managers alike analyze the occurrence, movement, prevention, and management of species tracked outside their known range. The Mid-Atlantic Panel identified these species after successive reductions of an original list compiled from existing invasive species databases that contained over 1600 citations for more than 700 species.

The original list went through three iterations to reduce it to a manageable size. The Panel removed species from the list based on findings in the literature and after preliminary discussions among experts. Many of the original 700 species were deemed relatively harmless natives, recorded occasionally or perhaps only once outside their native range. Others were either certainly, probably, or arguably non-aquatic, and some were considered harmless or inconsequential, irrespective of their origin.

Following initial discussions, a semi-final list was presented to the full Panel membership in September 2006. A working session at the Panel's 2006 Fall Meeting produced the list below of 49 species "Of Interest," with consensus among the working group and the Panel membership as a whole.

Focus Species List for Mid-Atlantic Panel on Aquatic Invasive Species (MAPAIS):

	Scientific Name	Common Name	MARP State(s) or Region(s) in Which Found According to Available Databases	Database(s)
1	Anguillicola crassus	Eel swimbladder nematode	Chesapeake Bay	NEME
2	Branta canadensis	Canada goose (non-migratory)	MD, Delaware Estuary, Chesapeake Bay	MISC, PSG, NEME
3	Bythotrephes cederstroemi	Spiny water flea	MD, NY	MISC, NYSDEC
4	Carassius auratus	Goldfish	DE, Delaware Estuary, MD, Chesapeake Bay, NC, NJ, NY, PA, VA, WV	NAS, PSG, NEME
5	Carcinus maenas	Green crab	DE, Delaware Estuary, MD, Chesapeake Bay, NJ, NY	DIST, NAS, PSG, MISC, NEME
6	Carex kobomugi	Asiatic sand sedge	NC to MA	Not yet in any of source databases
7	Caulerpa taxifolia	Marine macroalgae	MD	MISC
8	Cercopagis pengoi	Fishhook water flea	NY, PA	NYSDEC, GISD, NAS
9	Channa argus	Northern snakehead	Delaware Estuary, MD, NC, Chesapeake Bay, NC, NY, PA, VA	PSG, GISD, MISC, NAS, NEME, NYSDEC
10	Codium fragile spp tomentosoides	Codium; deadman's fingers; sputnik- weed; japweed; oyster thief; spaghetti-grass	Chesapeake Bay, DE, MD, NC, NJ, NY, VA	GISD, NEME





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11	Corbicula fluminea	Asian clam	DE, Delaware Estuary, MD, NC, PA, Chesapeake Bay, NJ, NY, VA, WV	DIST, GISD, NAS, PSG, MISC, NEME, NYSDEC
12	Ctenopharyngodon idella	Diploid grass carp	DE, Delaware Estuary, MD, Chesapeake Bay, NC, NJ, PA, VA, WV	MISC
13	Cygnus olor	Mute swan	Delaware Estuary, MD, NJ, NY, PA, VA, Chesapeake Bay, DE, NC	PSG, MISC, GISD, NEME, DIST
14	Daphnia lumholtzi	Daphnia	Chesapeake Bay, MD, NC	MISC, NEME, NAS
15	Diadumene lineata	Striped sea anemone	Chesapeake Bay, MD	NEME, NAS
16	Dreissena bugensis	Quagga mussel	NY, PA	NYSDEC, GISD
17	Dreissena polymorpha	Zebra mussel	Delaware Estuary, MD, NY, PA, Chesapeake Bay, DE, VA, WV	PSG, MISC, NYSDEC, JC, NEME, DIST, NAS
18	Egeria densa (formerly Elodea densa)	Brazilian elodea	DE, Chesapeake Bay, MD, NJ, NY, PA, VA, NC	GISD, NEME, DIST, MISC
19	Eichhornia crassipes	Water hyacinth	DE, MD, NC, NJ, NY, VA	DIST, GISD, MISC
20	Eriocheir sinensis	Chinese mitten crab	Chesapeake Bay, MD	NEME, NAS, MISC
21	Gambusia affinis	Eastern mosquitofish (non-tidal)	MD, NJ, NC, NY, PA, WV	MISC, NAS
22	Gracilaria vermiculophylla	Red alga	Chesapeake Bay	NEME
23	Hemigrapsus sanguineus	Japanese shore crab	DE, Delaware Estuary, MD, NC, Chesapeake Bay, NJ, NY, VA	DIST, PSG, MISC, NAS, GISD, NEME
24	Heracleum mantegazzianum	Giant hogweed	NC, NY, PA	GISD, JC
25	Hydrilla verticillata	Hydrilla	Delaware Estuary, MD, NC, PA, VA, Chesapeake Bay, DE, NY	PSG, MISC, GISD, JC, NEME, DIST, NYSDEC
26	Hypophthalmichthys spp.	Asian carps	Delaware Estuary, NY, VA, WV	PSG, NAS, NYSDEC
27	Ictalurus furcatus	Blue catfish	Chesapeake Bay, MD, NC, NJ, VA, WV	NAS, NEME
28	Ludwigia peruviana	Peruvian primrose	NC	GISD
29	Lythrum salicaria	Purple loosestrife	Delaware Estuary, DE, MD, Chesapeake Bay, NJ, NC, NY, PA, VA, WV	PSG, DIST, GISD, MISC, NEME, NYSDEC, JC,
30	Microstegium vimineum	Asian stilt grass	DE, Chesapeake Bay, MD, NC, NJ, NY, PA, VA, WV	DIST, GISD, NEME, JC
31	Myocastor coypus	Nutria	DE, Delaware Estuary, MD, Chesapeake Bay, NC, NY, VA	DIST, PSG, MISC, NEME, NAS
32	Myriophyllum aquaticum (formerly brasiliense)	Parrot feather	DE, NC, NJ, NY, VA, WV, Chesapeake Bay, MD	DIST, GISD, NEME, MISC



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33	Myriophyllum spicatum	Eurasian milfoil	DE, Delaware Estuary, MD, NC, NJ, PA, VA, WV, Chesapeake Bay, NY	DIST, GISD, PSG, MISC, NEME, NYSDEC, JC
34	Myxobolus cerebralis	Whirling disease	Chesapeake Bay, MD, NJ, NY, PA, VA, WV	NEME, GISD
35	Neogobis melanostomus	Round goby	NY	NYSDEC
36	Orconectes rusticus	Rusty crayfish	Delaware Estuary, MD, NY, PA, WV, Chesapeake Bay, NC, NJ	PSG, MISC, NAS, GISD, NEME, NYSDEC
37	Orconectes virilis	Virile crayfish	DE, MD, NJ, NY, Chesapeake Bay, NC, PA, VA, WV	GISD, MISC, NAS, NEME
38	Phragmites australis	Phragmites	Delaware Estuary, DE, MD, NC, NJ, NY, PA, VA, WV, Chesapeake Bay	JC, PSG, MISC, GISD, NEME, DIST, NYSDEC
39	Polygonum cuspidatum	Japanese knotweed	Delaware Estuary, MD, PA, Chesapeake Bay	PSG, MISC, JC, NEME
40	Polygonum perfoliatum	Asiatic tearthumb	DE, Chesapeake Bay, MD, NJ, NY, PA, VA, WV	DIST, GISD, NEME, JC
41	Potamogeton crispus	Curly-leaved pondweed	DE, Delaware Estuary, MD, NC, NJ, NY, PA, VA, WV, Chesapeake Bay	GISD, PSG, GISD, MISC, NEME, NYSDEC
42	Potamopyrgus antipodarum	New Zealand mudsnail	NY	NAS
43	Procambarus clarkii	Louisiana crayfish/red swamp crayfish	Chesapeake Bay, DE, MD, NC, NY, VA	GISD, NAS, NEME
44	Pterois volitans	Red lionfish	NC, NJ, NY	NAS
45	Pylodictis olivaris	Flathead catfish	Chesapeake Bay, Delaware Estuary, MD, NC, NJ, NY, PA, VA, WV	NEME, PSG, GISD, NAS
46	Rapana venosa	Rapa whelk	Delaware Estuary, MD, Chesapeake Bay, VA	PSG, MISC, NEME, NAS
47	Salvinia molesta	Giant salvinia	MD, NC	MISC, GISD
48	Trapa natans	Water chestnut	Delaware Estuary, DE, MD, NY, PA, VA, Chesapeake Bay	PSG, MISC, GISD, NEME, DIST, NYSDEC
49	Vitex rotundifolia	Beach vitex	NC	Not yet in any of source databases

Source databases:

 $\textbf{DIST}- Delaware\ Invasive\ Species\ Tracking\ system:\ \underline{http://www.lsc.usgs.gov/gis/dists/intro.asp}$

GISD - Global Invasive Species Database: http://www.invasivespecies.net/database/welcome/

JC – Juniata College Invasive Species Field Guide: http://projects.juniata.edu/ess300/Invasives/fieldguide.html

MISC – Invasive Species of Concern in Maryland: www.mdinvasivesp.org

NAS – USGS Non-Indigenous Aquatic Species Database: http://nas.er.usgs.gov/queries/default.asp

NEME - Chesapeake Bay Introduced Species Database: http://invasions.si.edu/nemesis/chesapeake.html

NYSDEC - Preliminary list put out on NYSDEC website (New York State Dept. of Environmental Conservation):

http://www.dec.state.ny.us/website/dfwmr/habitat/erad.html#Invasive

PSG – Pennsylvania Sea Grant 2002 survey: not online?



