Name	Latin Name	Origin	When Arrived in Great Lakes	How Arrived in Great Lakes	
alewife	*Alosa pseudoharengus*	Atlantic coast	Before 1931	Canals and the St. Lawrence River	
bighead and silver carp	*Hypophthalmichthys nobilis and Hypophthalmichthys molitrix*	Originally from China, now in Mississippi River	Not yet arrived; currently in upper Illinois River less than 55 miles from Lake Michigan; a permanent electric fish barrier is being constructed to prevent their advance towards Lake Michigan	Escaped into the Mississippi River from aquaculture facilities in the early 1990s when the facilities were flooded	
Eurasian ruffe*	*Gymnocephalus cernuus*	Northern Europe- Black and Caspian Seas	1980s	Arrived in ballast water from a ship	
Eurasian water milfoil	*Myriophyllum spicatum*	Europe, Asia and North Africa	1940s	Introduced as an aquarium plant	
Hydrilla	*Hydrilla verticillata*	Africa	1960	Aquarium trade	
purple loosetrife*	*Lythrum salicaria*	Northern Europe	Early 1900s	Intentionally imported for its beautiful flowers	
quagga mussel	*Dreissena bugensis*	Eurasia	1989	Arrived in ballast water from a ship	
round goby	*Neogobius melanostomus*	Black Sea	1986-1988	Arrived in a ship's ballast water brought into St. Clair River or Lake St. Clair	
rusty crayfish	*Orconectes rusticus*	Ohio River Basin	1960s	Used as bait by fishermen and released by science classes who had them as pets	
sea lamprey	*Petromyzon marinus*	Atlantic Ocean, St. Lawrence and Hudson Rivers and possibly Lake Ontario	Arrived in 1830s, established by 1938	Through the Welland Canal	
spiny water flea	*Bythotrephes cedarstromi*	Northern Europe	Lake Huron 1984, in all Great Lakes by 1987	Arrived in ballast water from a ship	
white perch*	*Morone americana*	Atlantic coast	1930s-1950s	Canals	
zebra mussel	*Dreissena polymorpha*	Caspian Sea region of Poland, Bulgaria and Russia	About 1985	Arrived in ballast water from a ship	

*** = not a Creature Card**

	Habitat	Food Source	Impact on Food Web	Other Impact	Notes
	Lakes and oceans	Phytoplankton, zooplankton, and small crustaceans	Competes for food	Large numbers die off, can clog water intake pipes and contaminate beaches	Thrived when sea lamprey ate the fish that prey upon it
	Surface layers of open water	Plankton	Would likely compete for food with native fish; are large and consume large quantities of food	Have the potential of destroying the $1 billion commercial and recreational fishing industry on the Great Lakes	Silver carp species are bothered by boat motor noises and leap several feet out of the water, injuring boaters
	Fresh and brackish waters, usually near river mouths	Highly variable diet including mollusks, insect larvae, small fish, and crustaceans	Aggressive competitor for food	Reproduces quickly; its not eaten because of spiny fins; has a variable diet	Tolerates varying water conditions
	Full sunlight; lives in water to depths of 1-3m/ 3-9ft	Sunlight	Forms thick mats that choke out native vegetation	Disrupts water recreation	Thrives in warm water and spreads quickly
	Any partially sub-merged body of water with a salinity level of less than 7%	Oxygen and sunlight	Forms tall and thick stalks and shade or choke out all native vegetation	Disrupts water recreation and grows until the surface	Reproduces at an incredibly fast rate
	Moist to wet ground in prairies and streambanks	Sunlight	Destroys habitat for other wetland plants	Its roots choke waterways	
	Freshwater lakes up to 33m/98ft	Plankton	Competes for food	See "zebra mussel"	Reproduces quickly; lives at greater depth than zebra mussels
	Lake bottom; found in all Great Lakes and some nearby lakes	Small fish, zebra mussels, fish eggs	Compete with native sculpin for resources; reduces top predators by consuming their eggs		Reproduces quickly; is more likely to find prey than to become prey
	Lakes, ponds, and streams in areas where there is debris on the bottom	Aquatic plants and insects, fish eggs, small fish	Displaces native crayfish; reduce the number and types of aquatic vegetation in invertebrates.		
	Freshwater lakes and oceans	Lake trout	Upsets the ecosystem balance by removing top predators	Destroys fish by sucking blood and tissues	Had great impact on the commercial fishing industry of the 1950s
	Throughout Great Lakes and some inland lakes	Plankton	Competes with small fish for food, but its spiny tail prevents it from being eaten		
	Marine; spawn in coastal streams; now found in freshwater lakes	Eggs of walleye and white bass	Competes with yellow perch and other fish in shallow water; consumes eggs of other fish	Reduced number of walleye impacted fishing industry	
	Freshwater; native to the Caspian and Black Seas; now in all Great Lakes and some inland lakes; depths of 2-7m/ 6-23 ft	Plankton	Competes for food by filtering large amounts of plankton, which has reduced this population	Accumulates on objects, such as boat hulls, and clogs water pipes	Increases water clarity through filter feeding, which increases algae growth and decreases abundance of plankton