

Environmental DNA assays available for species detection via qPCR analysis at the U.S.D.A Forest Service National Genomics Center for Wildlife and Fish Conservation (NGC). Asterisks indicate the assay was designed at the NGC. This list was last updated in June 2021 and is subject to change. Please contact ngc@usda.gov with questions.

Family	Species	Common name	Ready for use?
Mustelidae	<i>Martes americana, Martes caurina</i>	American and Pacific marten*	Y
Castoridae	<i>Castor canadensis</i>	American beaver	Y
Ranidae	<i>Lithobates catesbeianus</i>	American bullfrog	Y
Cinclidae	<i>Cinclus mexicanus</i>	American dipper*	N
Anguillidae	<i>Anguilla rostrata</i>	American eel	Y
Soricidae	<i>Sorex palustris</i>	American water shrew*	N
Salmonidae	<i>Oncorhynchus clarkii ssp</i>	Any cutthroat trout*	N
Petromyzontidae	<i>Lampetra spp.</i>	Any Lampetra*	Y
Salmonidae	Salmonidae	Any salmonid*	Y
Cottidae	Cottidae	Any sculpin*	Y
Salmonidae	<i>Thymallus arcticus</i>	Arctic grayling*	Y
Cyrenidae	<i>Corbicula fluminea</i>	Asian clam*	N
Salmonidae	<i>Salmo salar</i>	Atlantic Salmon	Y
Lymnaeidae	<i>Radix auricularia</i>	Big-eared radix*	N
Cyprinidae	<i>Mylopharyngodon piceus</i>	Black carp	N
Ictaluridae	<i>Ameiurus melas</i>	Black Bullhead*	N
Catostomidae	<i>Cycleptus elongatus</i>	Blue Sucker*	N
Cichlidae	<i>Oreochromis aureus</i>	Blue tilapia*	N
Catostomidae	<i>Catostomus discobolus</i>	Bluehead sucker*	N
Catostomidae	<i>Catostomus virescens</i>	Bluehead sucker*	Y
Felidae	<i>Lynx rufus</i>	Bobcat*	Y
Hylidae	<i>Pseudocris maculata</i>	Boreal chorus frog	N
Hydrocharitaceae	<i>Egeria densa</i>	Brazilian elodea	N
Salmonidae	<i>Salvelinus fontinalis</i>	Brook trout*	Y
Colubridae	<i>Boiga irregularis</i>	Brown tree snake*	N
Salmonidae	<i>Salmo trutta</i>	Brown trout*	Y
Salmonidae	<i>Salvelinus confluentus</i>	Bull trout*	Y
Lotidae	<i>Lota lota</i>	Burbot*	Y
Pythonidae	<i>Python bivittatus</i>	Burmese python	N
Felidae	<i>Lynx canadensis</i>	Canada lynx*	Y
Percidae	<i>Etheostoma osburni</i>	Candy darter*	N
Bufonidae	<i>Rhinella marina</i>	Cane toad	N
Hylidae	<i>Hyla arenicolor</i>	Canyon tree frog*	N
Ranidae	<i>Rana cascadae</i>	Cascade frog	N
Cottidae	<i>Cottus schitsuumsh</i>	Cedar sculpin*	Y
Ictaluridae	<i>Ictalurus punctatus</i>	Channel catfish*	Y
Cyprinidae	<i>Gila nigrescens</i>	Chihuahua chub*	N
Varunidae	<i>Eriocheir sinensis</i>	Chinese mitten crab	N
Viviparidae	<i>Cipangopaludina chinensis</i>	Chinese mystery snail	N
Salmonidae	<i>Oncorhynchus tshawytscha</i>	Chinook salmon*	Y
Ranidae	<i>Lithobates chiricahuensis</i>	Chiricahua leopard frog	N
Salmonidae	<i>Oncorhynchus keta</i>	Chum salmon*	Y
	<i>Batrachochytrium dendrobatidis</i>	Chytrid fungus	Y
Salmonidae	<i>Oncorhynchus clarkii clarkii</i>	Coastal cutthroat trout*	Y
Ranidae	<i>Ascaphus truei</i>	Coastal tailed frog*	Y

Plethodontidae	<i>Plethodon idahoensis</i>	Coeur d'Alene salamander*	N
Salmonidae	<i>Oncorhynchus kisutch</i>	Coho salmon*	Y
Salmonidae	<i>Oncorhynchus clarkii pleuriticus</i>	Colorado cutthroat trout*	N
Cottidae	<i>Cottus cf. cognatus</i>	Columbia slimy sculpin*	Y
Ranidae	<i>Rana luteiventris</i>	Columbia spotted frog	Y
Rhyacotritonidae	<i>Rhyacotriton kezeri</i>	Columbia torrent salamander*	N
Cyprinidae	<i>Cyprinus carpio</i>	Common carp	Y
Ambystomatidae	<i>Dicamptodon copei</i>	Cope's giant salamander*	N
Canidae	<i>Canis latrans</i>	Coyote*	Y
Cyprinidae	<i>Carassius carassius</i>	Crucian carp	N
Catostomidae	<i>Catostomus clarkii</i>	Desert sucker*	N
Dreissenidae	<i>Dreissena spp.</i>	Dreissenid mussels	Y
Cymbellaceae	<i>Didymosphenia geminata</i>	Didymo	N
Cryptobranchidae	<i>Cryptobranchus alleganiensis</i>	Eastern Hellbender	Y
Colubridae	<i>Drymarchon couperi</i>	Eastern indigo snake*	N
Felidae	<i>Lynx lynx</i>	Eurasian lynx*	N
Leuciscidae	<i>Phoxinus phoxinus</i>	Eurasian minnow	Y
Haloragaceae	<i>Myriophyllum spicatum</i>	Eurasian watermilfoil*	N
Mustelidae	<i>Pekania pennanti</i>	Fisher*	Y
Catostomidae	<i>Catostomus latipinnis</i>	Flannelmouth sucker*	N
Ictaluridae	<i>Pylodictis olivaris</i>	Flathead catfish*	N
Ranidae	<i>Rana boylei</i>	Foothills yellow-legged frog	Y
Salviniaceae	<i>Salvinia molesta</i>	Giant salvinia*	N
Poeciliidae	<i>Poeciliopsis occidentalis</i>	Gila topminnow*	N
Mytilidae	<i>Limnoperna fortunei</i>	Golden mussel	N
Cyprinidae	<i>Carassius auratus</i>	Goldfish	N
Cyprinidae	<i>Ctenopharyngodon idella</i>	Grass carp	N
Catostomidae	<i>Moxostoma congestum</i>	Gray redbhorse*	N
Centrarchidae	<i>Lepomis cyanellus</i>	Green sunfish*	Y
Ursidae	<i>Ursus arctos</i>	Grizzly bear*	Y
Anatidae	<i>Histrionicus histrionicus</i>	Harlequin duck*	Y
Leuciscidae	<i>Gila cypha</i>	Humpback chub*	N
Hydrocharitaceae	<i>Hydrilla verticillata</i>	Hydrilla	N
Ambystomatidae	<i>Dicamptodon aterrimus</i>	Idaho giant salamander	Y
Cottidae	<i>Cottus princeps</i>	Klamath lake sculpin*	N
Cottidae	<i>Cottus klamathensis</i>	Klamath marbled sculpin*	N
Felidae	<i>Panthera onca</i>	Jaguar*	Y
Salmonidae	<i>Oncorhynchus clarkii henshawi</i>	Lahontan cutthroat trout*	Y
Salmonidae	<i>Salvelinus namaycush</i>	Lake trout*	Y
Cyprinidae	<i>Rhinichthys cobitis</i>	Loach minnow*	Y
Cyprinidae	<i>Rhinichthys cataractae</i>	Longnose dace*	N
Ambystomatidae	<i>Ambystoma macrodactylum</i>	Long-toed salamander*	N
Ranidae	<i>Lithobates yavapaiensis</i>	Lowland leopard frog	N
Cambaridae	<i>Procambarus fallax</i>	Marbled crayfish*	N
Catostomidae	<i>Catostomus microps</i>	Modoc sucker*	N
Poeciliidae	<i>Gambusia affinis</i>	Mosquitofish*	N
Felidae	<i>Puma concolor</i>	Mountain lion*	Y
Catostomidae	<i>Catostomus platyrhynchus</i>	Mountain sucker*	Y
Salmonidae	<i>Prosopium williamsoni</i>	Mountain whitefish*	N
Muridae	<i>Ondatra zibethicus</i>	Muskrat*	N
Colubridae	<i>Thamnophis rufipunctatus</i>	Narrow-headed gartersnake	Y
Scaphiopodidae	<i>Spea multiplicata</i>	New Mexican spadefoot toad*	N

Tateidae	<i>Potamopyrgus antipodarum</i>	New Zealand mud snail	Y
Latidae	<i>Lates niloticus</i>	Nile perch*	N
Mustelidae	<i>Lontra canadensis</i>	North American river otter*	Y
Cyprinidae	<i>Lepidomeda copei</i>	Northern leatherside chub*	Y
Ranidae	<i>Lithobates pipiens</i>	Northern leopard frog	N
Colubridae	<i>Thamnophis eques megalops</i>	Northern Mexican gartersnake	N
Esocidae	<i>Esox lucius</i>	Northern pike*	Y
Fundulidae	<i>Fundulus kansae</i>	Northern plains killifish*	Y
Geomyidae	<i>Thomomys talpoides</i>	Northern pocket gopher*	N
Ranidae	<i>Rana aurora</i>	Northern red-legged frog	N
Channidae	<i>Channa argus/maculata</i>	Northern/blotched snakehead	N
Ambystomatidae	<i>Ambystoma gracile</i>	Northwestern salamander*	N
Echimyidae	<i>Myocastor coypus</i>	Nutria	N
Felidae	<i>Leopardus pardalis</i>	Ocelot*	N
Umbridae	<i>Novumbra hubbsi</i>	Olympic mudminnow*	Y
Mysidae	<i>Mysis diluviana</i>	Opossum shrimp*	Y
Cyprinidae	<i>Oregonichthys crameri</i>	Oregon chub*	Y
Unionidae	<i>Anodonta oregonensis</i>	Oregon floater*	Y
Ranidae	<i>Rana pretiosa</i>	Oregon spotted frog	N
Cobitidae	<i>Misgurnus anguillicaudatus</i>	Oriental weatherloach	N
Hylidae	<i>Pseudacris regilla</i>	Pacific chorus frog*	N
Petromyzontidae	<i>Entosphenus tridentatus</i>	Pacific lamprey*	Y
Salmonidae	<i>Oncorhynchus clarkii seleniris</i>	Paiute cutthroat trout*	N
Felidae	<i>Otocolobus manul</i>	Pallas's cat*	N
Salmonidae	<i>Oncorhynchus gorbuscha</i>	Pink salmon*	Y
Fundulidae	<i>Fundulus sciadicus</i>	Plains topminnow*	Y
Emydidae	<i>Trachemys scripta</i>	Pond slider	N
Salmonidae	<i>Prosopium coulterii</i>	Pygmy whitefish*	N
Salmonidae	<i>Oncorhynchus mykiss</i>	Rainbow trout*	Y
Iridoviridae	<i>Ranavirus spp.</i>	Ranavirus	Y
Catostomidae	<i>Xyrauchen texanus</i>	Razorback sucker*	N
Canidae	<i>Vulpes vulpes</i>	Red fox*	Y
Cyprinidae	<i>Cyprinella lutrensis</i>	Red shiner*	N
Bufo	<i>Bufo punctatus</i>	Red-spotted toad*	N
Pinaceae	<i>Picea rubens</i>	Red spruce*	N
Cambaridae	<i>Procambarus clarkii</i>	Red swamp crayfish*	N
Cambaridae	<i>Faxonius neglectus</i>	Ringed crayfish*	N
Cyprinidae	<i>Gila pandora</i>	Rio Grande chub*	Y
Catostomidae	<i>Catostomus plebeius</i>	Rio Grande sucker*	Y
Cottidae	<i>Cottus cf. bairdii</i>	Rocky Mountain sculpin*	Y
Ascaphidae	<i>Ascaphus montanus</i>	Rocky Mountain tailed frog*	Y
Salamandridae	<i>Taricha granulosa</i>	Rough-skinned newt	N
Gobiidae	<i>Neogobius melanostomus</i>	Round goby	N
Cyprinidae	<i>Gila robusta</i>	Roundtail chub*	Y
Cambaridae	<i>Orconectes rusticus</i>	Rusty Crayfish*	N
Cyprinidae	<i>Ptychocheilus grandis</i>	Sacramento pikeminnow	Y
Catostomidae	<i>Catostomus occidentalis</i>	Sacramento sucker*	N
Catostomidae	<i>Catostomus sp.</i>	Salish sucker*	N
Percidae	<i>Sander canadensis</i>	Sauger*	Y
Petromyzontidae	<i>Petromyzon marinus</i>	Sea lamprey	N
Salmonidae	<i>Hucho taimen</i>	Siberian taimen*	Y
Astacidae	<i>Pacifastacus leniusculus</i>	Signal crayfish*	N

Cyprinidae	<i>Hypophthalmichthys molitrix/nobilis</i>	Silver/bighead carp	N
Cottidae	<i>Cottus tenuis</i>	Slender sculpin*	N
Centrarchidae	<i>Micropterus dolomieu</i>	Smallmouth bass*	Y
Onygenaceae	<i>Ophidiomyces ophiodiicola</i>	Snake fungal disease	N
Physidae	<i>Physa natricina</i>	Snake River physa snail*	Y
Chelydridae	<i>Chelydra serpentina</i>	Snapping turtle	Y
Felidae	<i>Panthera uncia</i>	Snow leopard*	N
Salmonidae	<i>Oncorhynchus nerka</i>	Sockeye salmon	Y
Catostomidae	<i>Catostomus insignis</i>	Sonora sucker*	N
Ambystomatidae	<i>Ambystoma tigrinum stebbinsi</i>	Sonoran tiger salamander*	N
Salmonidae	<i>Salvelinus malma lordii</i>	Southern Dolly Varden*	Y
Rhyacotritonidae	<i>Rhyacotriton Rhyacotriton</i>	Southern torrent salamander	Y
Leuciscidae	<i>Rhinichthys osculus</i>	Speckled dace*	N
Cyprinidae	<i>Meda fulgida</i>	Spikedace*	Y
Cyprinidae	<i>Macrhybopsis gelida</i>	Sturgeon chub*	Y
Suidae	<i>Sus scrofa</i>	Swine	N
Unionidae	<i>Popenaias popeii</i>	Texas hornshell*	N
Ambystomatidae	<i>Ambystoma tigrinum</i>	Tiger salamander	N
Cottidae	<i>Cottus rhotheus</i>	Torrent sculpin*	Y
Cyprinidae	<i>Oregonichthys kalawatseti</i>	Umpqua chub*	Y
Cyprinidae	<i>Ptychocheilus umpquae</i>	Umpqua pikeminnow*	N
Cambaridae	<i>Faxonius virilis</i>	Virile crayfish	N
Percidae	<i>Sander vitreus</i>	Walleye*	Y
Pontederiaceae	<i>Pontederia crassipes</i>	Water hyacinth*	N
Hydrocharitaceae	<i>Hydrilla verticillata</i>	Waterthyme*	N
Hylidae	<i>Pseudacris triseriata</i>	Western chorus frog*	N
Margaritiferidae	<i>Margaritifera falcata</i>	Western pearlshell mussel*	Y
Emydidae	<i>Actinemys marmorata</i>	Western pond turtle	Y
Unionidae	<i>Gonidea angulata</i>	Western ridged mussel*	Y
Scaphiopodidae	<i>Spea hammondii</i>	Western spadefoot toad*	Y
Bufonidae	<i>Anaxyrus boreas</i>	Western toad*	Y
Salmonidae	<i>Oncorhynchus clarkii lewisi</i>	Westslope cutthroat trout*	Y
Pseudeurotiaceae	<i>Pseudogymnoascus destructans</i>	White-nose syndrome	Y
Unionidae	<i>Anodonta californiensis/nuttalliana</i>	Winged/California floater*	Y
Mustelidae	<i>Gulo gulo</i>	Wolverine*	Y
Ranidae	<i>Lithobates sylvaticus</i>	Wood frog*	Y
Bufonidae	<i>Anaxyrus woodhousii</i>	Woodhouse's toad*	N
Geomyidae	<i>Thomomys clusius</i>	Wyoming pocket gopher*	N
Ictaluridae	<i>Ictalurus pricei</i>	Yaqui catfish*	Y
Ictaluridae	<i>Ameiurus natalis</i>	Yellow bullhead*	N
Percidae	<i>Perca flavescens</i>	Yellow perch	N
Salmonidae	<i>Oncorhynchus clarkii bouvieri</i>	Yellowstone cutthroat trout*	Y

[National Genomics Center for Wildlife and Fish Conservation \(NGC\)](#)