

Threatened Freshwater Fishes of the United States

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ABSTRACT

Threatened, native freshwater fishes are listed for 49 of the 50 U. S. States, the first such compilation. Over 300 kinds are included in a formal classification, cross-indexed to states (Table 1), followed by state lists and the status of each fish, whether rare, endangered, depleted, or undetermined. The concern for native fishes and the important factors responsible for threats to their existence are briefly outlined. Although the lists vary from those based on extensive recent state surveys to others in which current information is sparse, publication is expected to enhance the chances for survival through protective legislation (already enacted by a number of states) and stronger concern for such natural resources.

INTRODUCTION

It is only within the past decade, principally since 1963, that serious threats to the survival of many of our unique native fishes have become widely recognized. Committees concerned with vanishing U. S. wildlife have been established within scientific societies as well as by the states and the federal government. On a global basis, action has been taken by the Survival Service Commission of the International Union for Conservation of Nature and Natural Resources, based in Morges, Switzerland. This has resulted in the preparation of lists of fishes that are or may be in trouble. The Endangered Species Preservation Act of 1966 marked the first concerted effort to protect our native fauna.

The present effort is the result of the activities of both the Conservation Committee of the American Society of Ichthyologists and Herpetologists (ASIH) and the Endangered Species Committee of the American Fisheries Society (AFS), whose members have worked for several years to compile lists of threatened native fishes of the United States. We have also utilized the *Red Book of Rare and Endangered Fish and Wildlife of the United States* (1968, revised edition in preparation), published by the U. S. Department of the Interior, and the *IUCN Red Data Book* (Vol. 4, Pisces, 1969). Coordination of this project was made easier because the writer has served as chairman of the AFS, ASIH, and IUCN

committees during the period that the information presented below was being prepared.

Since the late 1960's, particularly in the West but also in the East, states have been enacting legislation and enforcing protection of endangered species and subspecies as well as maintaining natural habitats and creating refugia for some of the more critically threatened fishes (see, for example, Miller and Pister, 1971). This type of effort must be extended into every state. In June, 1971, a bill was introduced into Congress to establish a Desert Pupfish National Monument to save the threatened pupfishes living east of Death Valley (Deacon and Bunnell, 1970). Such activities have evolved through efforts at private, state and federal levels, including the news media, and are increasing as we advance through the "environmental decade."

This is the first attempt to list the native threatened fishes for each of the 50 U. S. States; all presented lists except Rhode Island, which has no threatened fishes (John M. Cronan, pers. com., June, 1971). A total of 305 kinds are threatened in the United States (Table 1). Rare and endangered fishes of Canada have been treated by McAllister (1970), with a revision now in preparation.

Recognition that species or subspecies of fishes are threatened locally or nationally constitutes a primary step that can lead to the perpetuation of many of them. Without up-to-date lists of those being threatened, however, appropriate action cannot be taken. Although the status of many fishes here treated is not clear and the completeness of

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the state listings varies greatly, the present account is believed to be a reasonable current assessment (as of July, 1971). For a few states, the lists are complete; for many there is urgent need for ongoing surveys; for some, current information is almost nil. Despite these shortcomings, it is felt that publication of these lists will be of value in stimulating protective legislation for forms known to be under threat as well as initiating greater concern for all native wildlife. The states have the direct responsibility for managing and regulating the taking of fishes within their borders, and they must provide the required legal protection and enforcement for threatened species.

Some of the factors responsible for diminution of our fish faunas have been pollution (industrial, agricultural, and domestic, including toxic chemicals and pesticides), excessive damming of rivers (producing lentic versus lotic habitats), deforestation and overgrazing, channelization, excessive removal of ground water, and introduction of exotic species (especially predators or those with broader ecological tolerances than native forms). Exotics may also transmit parasites and diseases. The role of such factors in depleting, decimating, or exterminating fishes has been treated by Deacon and Bunnell (1970), Hubbs (1963), Lachner *et al.* (1970), Larimore and Smith (1963), McDowall (1968), Miller (1961), Mills *et al.* (1966), Minckly and Deacon (1968), Myers (1965), Scott (1963), Smith (1971), Trautman (1957), and others.

There is an urgent need to maintain diversity of life so as to provide for the variety of wildlife needed for recreation, commerce, and scientific study. It will take money and the efforts of dedicated and skilled people, combining their talents and working through legal channels, to produce effective programs for halting the depletion of fish resources.

The following served as members of the Endangered Species Committee, 1969–1971, and participated actively in this endeavor: Donald Andriano, James G. Armstrong, III, Howard M. Bassett, Carl E. Bond, Robert L. Borovicka, Alex Calhoun, Leonard Fisk, James R. Gammon, Richard H. Goodyear, George D.

Holton, Clark Hubbs, Robert A. Kuehne, A. C. Lopinot, John S. Ramsey, and William B. Smith.

The arrangement of families and the usage of common and scientific names, with only a few exceptions, are those recommended by the Committee on Names of Fishes of the American Fisheries Society (Bailey *et al.*, 1970). A reference is provided for species described subsequent to that contribution. All lists were submitted for approval by the states prior to publication.

The definitions employed for determining the status of each fish are those developed by the IUCN, as given below. One category, "peripheral" fishes, that might have been used in assessing status, concerns those fishes common elsewhere but rare in a state. Such species have been listed as rare for some states but not for all. These populations, often disjunct, merit inclusion because isolated gene pools may have practical and scientific value.

Endangered: Actively threatened with extinction. Continued survival unlikely without the implementation of special protective measures.

Rare: Not under immediate threat of extinction, but occurring in such small numbers and/or in such a restricted or specialized habitat that it could quickly disappear. Requires careful watching.

Depleted: Although still occurring in numbers adequate for survival, the species has been heavily depleted and continues to decline at a rate substantially greater than can be sustained.

Indeterminate: Apparently threatened but insufficient data currently available on which to base a reliable assessment of status.

The factor common to *all* threatened species is not deterioration of status, but vulnerability to extinction in the foreseeable future. Thus populations of many "rare" species are relatively stable, and a "depleted" species may be retained in the lists for a period, after its populations have started to increase as a result of better management. Numerous factors, both genetic and environmental, affect the

probability of a species' survival if it is rare or subjected to pressure. Although the status of many species leaves little doubt as to

whether or not they are threatened, decisions on borderline cases must, of necessity, be made on their individual merits.

TABLE 1.—*Threatened fishes of the United States. An asterisk indicates forms nationally recognized as endangered; the states listing each fish are given.*

Lampreys, family Petromyzontidae	Mooneye, <i>Hiodon tergisus</i> Lesueur. Mich, Neb, Ohio, S Dak, Vt, W Va.
Ohio lamprey, <i>Ichthyomyzon bdellium</i> (Jordan). Md.	Trouts, family Salmonidae
Chestnut lamprey, <i>Ichthyomyzon castaneus</i> Girard. Kan, Neb.	*Longjaw cisco, <i>Coregonus alpenae</i> (Koelz). Mich, Wisc.
Southern brook lamprey, <i>Ichthyomyzon gagei</i> Hubbs and Trautman. Mo.	Cisco or lake herring, <i>Coregonus artedii</i> Lesueur. Ohio, Penn.
Allegheny brook lamprey, <i>Ichthyomyzon greeleyi</i> Hubbs and Trautman. Penn.	Lake whitefish, <i>Coregonus clupeaformis</i> (Mitchill). N Y, Ohio, Penn.
Silver lamprey, <i>Ichthyomyzon unicuspis</i> Hubbs and Trautman. Neb, S Dak, W Va.	Kiyi, <i>Coregonus kiyi</i> (Koelz). Mich, Wisc.
American brook lamprey, <i>Lampetra lamottei</i> (Lesueur). Conn, Mass, Mo.	Blackfin cisco, <i>Coregonus nigripinnis</i> (Gill). Wisc.
Pit-Klamath brook lamprey, <i>Lampetra lethophaga</i> Hubbs (1971). Ore.	Shortnose cisco, <i>Coregonus reighardi</i> (Koelz). Wisc.
Sturgeons, family Acipenseridae	Shortjaw cisco, <i>Coregonus zenithicus</i> (Jordan and Evermann). Mich, Wisc.
*Shortnose sturgeon, <i>Acipenser brevirostrum</i> Lesueur. Conn, Del, Md, Mass, N J, N Y, Penn.	Bear Lake whitefish, <i>Prosopium abyssicola</i> (Snyder). Ida, Utah.
Lake sturgeon, <i>Acipenser fulvescens</i> Rafinesque. Ala, Ga, Ia, Mich, Minn, Mo, Neb, N Y, Ohio, Penn, S Dak, Vt, W Va.	Round whitefish, <i>Prosopium cylindraceum</i> (Pallas). Conn, N Y.
Atlantic sturgeon, <i>Acipenser oxyrinchus</i> Mitchell. Ala, Conn, Del, Ga, Me, Md, Mass, Miss, N Hamp, N J, Penn, S Car.	Bonneville cisco, <i>Prosopium gemmiferum</i> (Snyder). Ida, Utah.
White sturgeon, <i>Acipenser transmontanus</i> Richardson. Ida, Mont.	Bonneville whitefish, <i>Prosopium spilonotus</i> (Snyder). Ida, Utah.
Pallid sturgeon, <i>Scaphirhynchus albus</i> (Forbes and Richardson). Ia, Kan, Ky, La, Mo, Mont, Neb, N Dak, S Dak.	Little Kern golden trout, <i>Salmo aguabonita whitei</i> Evermann. Calif.
Shovelnose sturgeon, <i>Scaphirhynchus platyrhynchus</i> (Rafinesque). Ala, Ky, Minn, Miss, Okla, S Dak, W Va, Wyo.	*Lahontan cutthroat trout, <i>Salmo clarki henshawi</i> Gill and Jordan. Calif.
Paddlefishes, family Polyodontidae	Colorado cutthroat trout, <i>Salmo clarki pleuriticus</i> Cope. Colo, Wyo.
Paddlefish, <i>Polyodon spathula</i> (Walbaum). Md, Minn, Penn, N Va, Wisc.	*Piute cutthroat trout, <i>Salmo clarki seleniris</i> Snyder. Calif.
Gars, family Lepisosteidae	*Greenback cutthroat trout, <i>Salmo clarki stomias</i> Cope. Colo.
Longnose gar, <i>Lepisosteus osseus</i> (Linnaeus). Del, S Dak.	Rio Grande cutthroat trout, <i>Salmo clarki virginialis</i> (Girard). Colo, N Mex.
Shortnose gar, <i>Lepisosteus platostomus</i> Rafinesque. Mont.	Alvord cutthroat trout, <i>Salmo clarki</i> subsp. Ore.
Alligator gar, <i>Lepisosteus spatula</i> Lacépède. Mo.	Westslope cutthroat trout, <i>Salmo clarki</i> subsp. Mont.
Bowfins, family Amiidae	Eastslope cutthroat trout, <i>Salmo clarki</i> subsp. Mont.
Bowfin, <i>Amia calva</i> Linnaeus. Md, Penn, S Dak.	Snake River cutthroat trout, <i>Salmo clarki</i> subsp. Wyo.
Freshwater eels, family Anguillidae	Snake Valley cutthroat trout, <i>Salmo clarki</i> subsp. Nev.
American eel, <i>Anguilla rostrata</i> (Lesueur). S Dak, Wisc.	*Gila trout, <i>Salmo gilae</i> Miller. N Mex.
Herrings, family Clupeidae	Atlantic salmon, <i>Salmo salar</i> Linnaeus. Conn, Me, Mass, N Hamp, N Y, Vt.
Alabama shad, <i>Alosa alabamae</i> Jordan and Evermann. Mo.	*Arizona trout, <i>Salmo</i> sp. Ariz. (see Miller, 1972).
Skipjack herring, <i>Alosa chrysochloris</i> (Rafinesque). S Dak.	Redband trout, <i>Salmo</i> sp. Calif, Ore.
American shad, <i>Alosa sapidissima</i> (Wilson). Del, N J, N Y.	Sunapee trout, <i>Salvelinus alpinus aureolus</i> Bean. Me, N Hamp.
Mooneyes, family Hiodontidae	Blueback trout, <i>Salvelinus alpinus oquassa</i> (Girard). Me.
Goldeye, <i>Hiodon alosoides</i> (Rafinesque). Wisc, Wyo.	Brook trout, <i>Salvelinus fontinalis</i> (Mitchill). Ohio.
	Dolly Varden, <i>Salvelinus malma</i> (Walbaum). Ore.
	Lake trout, <i>Salvelinus namaycush</i> (Walbaum). Ohio.
	Angayukaksurak char, <i>Salvelinus</i> sp. Alaska.
	Arctic grayling, <i>Thymallus arcticus</i> (Pallas). Mont.

TABLE 1 (continued)

Smelts, family Osmeridae	Gravel chub, <i>Hybopsis x-punctata</i> Hubbs and Crowe. Wisc.
Rainbow smelt, <i>Osmerus mordax</i> (Mitchill). N.J.	Least chub, <i>Iotichthys phlegethontis</i> (Cope). Utah.
Mudminnows, family Umbridae	White River spinedace, <i>Lepidomeda albivallis</i> Miller and Hubbs. Nev.
Olympic mudminnow, <i>Novumbra hubbsi</i> Schultz. Wash.	Little Colorado spinedace, <i>Lepidomeda vittata</i> Cope. Ariz.
Central mudminnow, <i>Umbrina limi</i> (Kirtland). S Dak, Vt.	Spikedace, <i>Meda fulgida</i> Girard. Ariz.
Pikes, family Esocidae	*Moapa dace, <i>Moapa coriacea</i> Hubbs and Miller. Nev.
Northern muskellunge, <i>Esox masquinongy masquinongy</i> Mitchill. Vt.	Hornyhead chub, <i>Nocomis biguttatus</i> (Kirtland). Neb, S Dak, Wyo.
Ohio muskellunge, <i>Esox masquinongy ohioensis</i> Kirtland. Ind, Ky, Ohio.	Pallid shiner, <i>Notropis amnis</i> Hubbs and Greene. Mo.
Minnnows, family Cyprinidae	Comely shiner, <i>Notropis amoenus</i> (Abbott). Md, N Y.
Stoneroller, <i>Campostoma anomalum</i> (Rafinesque). La.	Pugnose shiner, <i>Notropis anogenus</i> Forbes. Wisc.
Mexican stoneroller, <i>Campostoma ornatum</i> Girard. Ariz, Tex.	Popeye shiner, <i>Notropis ariommus</i> (Cope). W Va.
Redside dace, <i>Clinostomus elongatus</i> (Kirtland). Mich.	Emerald shiner, <i>Notropis atherinoides</i> Rafinesque. Mass.
Rosyside dace, <i>Clinostomus funduloides</i> Girard. Del, Md.	Blackspot shiner, <i>Notropis atrocaudalis</i> Evermann. La.
Lake chub, <i>Couesius plumbeus</i> (Agassiz). Mass.	Bridle shiner, <i>Notropis bifrenatus</i> (Cope). Md, Penn.
Devils River minnow, <i>Dionda diaboli</i> Hubbs and Brown. Tex.	River shiner, <i>Notropis blennius</i> (Girard). S Dak, W Va.
Ozark minnow, <i>Dionda nubila</i> (Forbes). Wisc.	Bigeye shiner, <i>Notropis boops</i> Gilbert. La.
Desert dace, <i>Eremichthys acros</i> Hubbs and Miller. Nev.	Ghost shiner, <i>Notropis buchanani</i> Meek. W Va.
Western tongue-tied minnow, <i>Exoglossum laurae hubbsi</i> (Trautman). Ohio.	Bluntface shiner, <i>Notropis camurus</i> (Jordan and Meek). La.
Eastern tongue-tied minnow, <i>Exoglossum laurae laurae</i> (Hubbs). W Va.	Ironcolor shiner, <i>Notropis chalybaeus</i> (Cope). Del, Md, Mich, Wisc.
Cutlips minnow, <i>Exoglossum maxillingua</i> (Lesueur). Del, Md, Vt, W Va.	Chihuahua shiner, <i>Notropis chihuahua</i> Woolman. Tex.
Leatherside chub, <i>Gila copei</i> (Jordan and Gilbert). Wyo.	Pugnose minnow, <i>Notropis emiliae</i> (Hay). Mo.
Thicktail chub, <i>Gila crassicauda</i> (Baird and Girard). Calif.	Blackchin shiner, <i>Notropis heterodon</i> (Cope). N Dak, Penn, S Dak.
*Humpback chub, <i>Gila cypha</i> Miller. Ariz, Colo, Utah, Wyo.	Blacknose shiner, <i>Notropis helerolepis</i> Eigenmann and Eigenmann. Mo, Neb, Penn, S Dak.
Bonytail, <i>Gila elegans</i> Baird and Girard. Calif, Nev, Utah.	Red shiner, <i>Notropis lutrensis</i> (Baird and Girard). Wisc.
*Mohave chub, <i>Gila mohavensis</i> (Snyder). Calif.	Cape Fear shiner, <i>Notropis mekistocholas</i> Snelson (1971). N Car.
Roundtail chub, <i>Gila robusta</i> Baird and Girard. N Mex.	Colorless shiner, <i>Notropis perpallidus</i> Hubbs and Black. La.
*Pahrnanagat chub, <i>Gila robusta jordani</i> Tanner. Nev.	Silver shiner, <i>Notropis photogenis</i> (Cope). Mich.
Flame chub, <i>Hemitremia flammea</i> (Jordan and Gilbert). Tenn.	Proserpine shiner, <i>Notropis proserpinus</i> (Girard). Tex.
California roach, <i>Hesperoleucus symmetricus</i> (Baird and Girard). Ore.	Rosyface shiner, <i>Notropis rubellus</i> (Agassiz). S Dak.
Brassy minnow, <i>Hybognathus hankinsoni</i> Hubbs. Mo.	Sabine shiner, <i>Notropis sabiniae</i> Jordan and Gilbert. Mo.
Cypress minnow, <i>Hybognathus hayi</i> Jordan. Mo.	New River shiner, <i>Notropis scabriceps</i> (Cope). W Va.
Bigeye chub, <i>Hybopsis amblops</i> (Rafinesque). Mich.	Roughhead shiner, <i>Notropis semperasper</i> Gilbert. Va.
Slender chub, <i>Hybopsis cahni</i> Hubbs and Crowe. Tenn.	Silverband shiner, <i>Notropis shumardi</i> (Girard). S Dak.
Sturgeon chub, <i>Hybopsis gelida</i> (Girard). Mo, Mont, Neb, S Dak, Wyo.	Topeka shiner, <i>Notropis topeka</i> Gilbert. Neb, S Dak.
Flathead chub, <i>Hybopsis gracilis</i> (Richardson). S Dak.	Redfin shiner, <i>Notropis umbratilis</i> (Girard). Wisc.
Sicklefin chub, <i>Hybopsis meeki</i> Jordan and Evermann. Mo, S Dak.	Skygazer shiner, <i>Notropis uranoscopus</i> Suttkus. Ala.
Spotfin chub, <i>Hybopsis monacha</i> (Cope). Tenn.	Mimic shiner, <i>Notropis volucellus</i> (Cope). Wisc.
Silver chub, <i>Hybopsis storeriana</i> (Kirtland). Mich, S Dak.	Bluenose shiner, <i>Notropis welaka</i> Evermann and Kendall. Fla, La.
	Steelcolor shiner, <i>Notropis whipplei</i> (Girard). La.
	Cahaba shiner, <i>Notropis</i> sp. Ala.

TABLE 1 (continued)

Minnows, family Cyprinidae (continued)

- Suckermouth minnow, *Phenacobius mirabilis* (Girard). La, S Dak, W Va, Wyo.
 Kanawha minnow, *Phenacobius teretulus* Cope. W Va.
 Northern redbelly dace, *Phoxinus eos* (Cope). Mass, Neb, S Dak.
 Southern redbelly dace, *Phoxinus erythrogaster* (Rafinesque). Penn, W Va.
 Finescale dace, *Phoxinus neogaeus* Cope. Mont, Neb, S Dak, Wyo.
 Mountain redbelly dace, *Phoxinus oreas* (Cope). W Va.
 Bluntnose minnow, *Pimephales notatus* (Rafinesque). Conn, La, Neb.
 Eastern slim minnow, *Pimephales tenellus parviceps* (Hubbs and Black). Mo.
 *Woundfin, *Plagopterus argentissimus* Cope. Ariz, Nev, Utah.
 *Colorado squawfish, *Ptychocheilus lucius* Girard. Ariz, Calif, Colo, Nev, Utah.
 Blacknose dace, *Rhinichthys atratulus* (Hermann). Neb, S Dak.
 Longnose dace, *Rhinichthys cataractae* (Valenciennes). Del, Ia.
 *Kendall Warm Springs dace, *Rhinichthys osculus thermalis* Hubbs and Kuehne. Wyo.
 Owens speckled dace, *Rhinichthys osculus* subsp. Calif.
 Millicoma dace, *Rhinichthys* sp. Ore.
 Pearl dace, *Semotilus margarita* (Cope). Conn, Md, Neb, S Dak, W Va, Wyo.
 Loach minnow, *Tiaroga cobitis* Girard. Ariz.
- Suckers, family Catostomidae
 Quillback, *Carpiodes cyprinus* (Lesueur). Md, Vt.
 Highfin carpsucker, *Carpiodes velifer* (Rafinesque). Neb.
 Longnose sucker, *Catostomus catostomus* (Forster). Md, Mass, Penn, S Dak, W Va.
 Modoc sucker, *Catostomus microps* Rutter. Calif.
 Warner sucker, *Catostomus warnerensis* Snyder. Ore.
 Shortnose sucker, *Chasmistes brevirostris* Cope. Calif, Ore.
 *Cui-ui, *Chasmistes cujus* Cope. Nev.
 Blue sucker, *Cycleptus elongatus* (Lesueur). Ind, Mont, N Dak, S Dak, W Va, Wisc.
 Lost River sucker, *Deltistes luxatus* (Cope). Calif.
 Creek chubsucker, *Erimyzon oblongus* (Mitchill). Md, Wisc.
 Lake chubsucker, *Erimyzon sucetta* (Lacépède). Wisc.
 Northern hog sucker, *Hypentelium nigricans* (Lesueur). S Dak.
 Black buffalo, *Ictiobus niger* (Rafinesque). Mich, Neb.
 Spotted sucker, *Minytrema melanops* (Rafinesque). Md.
 Bigeye jumprock, *Moxostoma ariommum* Robins and Raney. Va.
 River redhorse, *Moxostoma carinatum* (Cope). Fla, Kan, La, Mich, W Va.
 Black redhorse, *Moxostoma duquesnei* (Lesueur). W Va.
 Golden redhorse, *Moxostoma erythrurum* (Rafinesque). Neb, S Dak.
- Rustyside sucker, *Moxostoma hamiltoni* (Raney and Lachner). Va.
 Greater redhorse, *Moxostoma valenciennesi* Jordan. Wisc.
 Humpback sucker, *Xyrauchen texanus* (Abbott). Calif, Utah.
- Freshwater catfishes, family Ictaluridae
 Blue catfish, *Ictalurus furcatus* (Lesueur). Neb, S Dak.
 Black bullhead, *Ictalurus melas* (Rafinesque). Vt.
 Yellow bullhead, *Ictalurus natalis* (Lesueur). S Dak.
 Brown bullhead, *Ictalurus nebulosus* (Lesueur). La, Mo, S Dak.
 Smoky madtom, *Noturus baileyi* Taylor. Tenn.
 Mountain madtom, *Noturus eleutherus* Jordan. Penn.
 Slender madtom, *Noturus exilis* Nelson. Wisc.
 Yellowfin madtom, *Noturus flavipinnis* Taylor. Ga, Tenn, Va.
 Orangefin madtom, *Noturus gilberti* Jordan and Evermann. Va.
 Tadpole madtom, *Noturus gyrinus* (Mitchill). Md.
 Margined madtom, *Noturus insignis* (Richardson). Del.
 Frecklebelly madtom, *Noturus munitus* Suttkus and Taylor. Ala, Miss.
 Neosho madtom, *Noturus placidus* Taylor. Kan, Mo.
 Northern madtom, *Noturus stigmosus* Taylor. Mich.
 Flathead catfish, *Pylodictis olivaris* (Rafinesque). Mich, N Dak.
 Widemouth blindcat, *Satan eurystomus* Hubbs and Bailey. Tex.
 Toothless blindcat, *Trogloglanis pattersoni* Eigenmann. Tex.
- Cavefishes, family Amblyopsidae
 Ozark cavefish, *Amblyopsis rosae* (Eigenmann). Ark, Mo.
 Northern cavefish, *Amblyopsis spelaea* DeKay. Ind.
 Spring cavefish, *Chologaster agassizi* Putnam. Ill.
 Southern cavefish, *Typhlichthys subterraneus* Girard. Ind.
- Pirate perches, family Aphredoderidae
 Pirate perch, *Aphredoderus sayanus* (Gilliams). NY, Penn.
- Trout-perches, family Percopsidae
 Trout-perch, *Percopsis omiscomaycus* (Walbaum). Conn, Ky, Mass, Mont, N Dak, S Dak.
- Codfishes, family Gadidae
 Burbot, *Lota lota* (Linnaeus). Conn, Mass, Mo, Ohio.
 Atlantic tomcod, *Microgadus tomcod* (Walbaum). NJ.
- Killifishes, family Cyprinodontidae
 White River springfish, *Crenichthys baileyi* (Gilbert). Nev.
 Railroad Valley springfish, *Crenichthys nevadae* Hubbs. Nev.
 *Devils Hole pupfish, *Cyprinodon diabolis* Wales. Nev.
 *Comanche Springs pupfish, *Cyprinodon elegans* Baird and Girard. Tex.

TABLE 1 (continued)

Killifishes, family Cyprinodontidae (continued)	
Desert pupfish, <i>Cyprinodon macularius</i> Baird and Girard. Ariz, Calif.	Sacramento perch, <i>Archoplites interruptus</i> (Girard). Calif.
*Tecopa pupfish, <i>Cyprinodon nevadensis calidae</i> Miller. Calif.	Banded pygmy sunfish, <i>Elassoma zonatum</i> Jordan. Ill.
Ash Meadows pupfish, <i>Cyprinodon nevadensis mionectes</i> Miller. Nev.	Blackbanded sunfish, <i>Enneacanthus chaetodon</i> (Baird). Del, Md.
*Warm spring pupfish, <i>Cyprinodon nevadensis pectoralis</i> Miller. Nev.	Bluespotted sunfish, <i>Enneacanthus gloriosus</i> (Holbrook). Del, N Y.
Shoshone pupfish, <i>Cyprinodon nevadensis shoshone</i> Miller. Calif.	Banded sunfish, <i>Enneacanthus obesus</i> (Girard). Del, N. Y.
*Owens pupfish, <i>Cyprinodon radiosus</i> Miller. Calif.	Pumpkinseed, <i>Lepomis gibbosus</i> (Linnaeus). Mo.
*Pahrump killifish, <i>Empetrichthys latos</i> Miller. Nev.	Warmouth, <i>Lepomis gulosus</i> (Cuvier). Md, Penn.
Golden topminnow, <i>Fundulus chrysotus</i> (Günther). Mo.	Bantam sunfish, <i>Lepomis symmetricus</i> Forbes. Ill, Mo.
Western banded killifish, <i>Fundulus diaphanus menona</i> Jordan and Copeland. Penn, S Dak.	Suwannee bass, <i>Micropterus notius</i> Bailey and Hubbs. Fla.
Plains killifish, <i>Fundulus kansae</i> Garman. Mo, Mont.	Perches, family Percidae
Spotfin killifish, <i>Fundulus luciae</i> (Baird). Del.	Crystal darter, <i>Ammocrypta asprella</i> (Jordan). Ala, Miss, Wisc.
Starhead topminnow, <i>Fundulus notti</i> (Agassiz). Mich, Mo, Wisc.	Western sand darter, <i>Ammocrypta clara</i> Jordan and Meek. Ia, Mo.
Plains topminnow, <i>Fundulus sciadicus</i> Cope. Kan, S Dak.	Eastern sand darter, <i>Ammocrypta pellucida</i> (Putnam). Mich, Ohio, Penn.
Waccamaw killifish, <i>Fundulus waccamensis</i> Hubbs and Raney. N Car.	Scaly sand darter, <i>Ammocrypta vivax</i> Hay. Ky, Mo.
Barrens topminnow, <i>Fundulus</i> sp. Tenn.	Sharphead darter, <i>Etheostoma acuticeps</i> Bailey. Tenn.
Livebearers, family Poeciliidae	Mud darter, <i>Etheostoma asprigene</i> (Forbes). Ky, Wisc.
*Big Bend gambusia, <i>Gambusia gaigei</i> Hubbs. Tex.	Rainbow darter, <i>Etheostoma caeruleum</i> Storer. La.
San Marcos gambusia, <i>Gambusia georgei</i> Hubbs and Peden. Tex.	Bluebreast darter, <i>Etheostoma camurum</i> (Cope). Ill.
*Clear Creek gambusia, <i>Gambusia heterochir</i> Hubbs. Tex.	Bluntnose darter, <i>Etheostoma chlorosomum</i> (Hay). Wisc.
*Pecos gambusia, <i>Gambusia nobilis</i> (Baird and Girard). N Mex, Tex.	Ashy darter, <i>Etheostoma cinereum</i> Storer. Ky.
Blotched gambusia, <i>Gambusia senilis</i> Girard. Tex.	Arkansas darter, <i>Etheostoma cragini</i> Gilbert. Kan, Mo, Okla.
Amazon molly, <i>Poecilia formosa</i> (Girard). Tex.	Coldwater darter, <i>Etheostoma ditrema</i> Ramsey and Suttkus. Ala, Ga, Tenn.
*Gila topminnow, <i>Poeciliopsis occidentalis</i> (Baird and Girard). Ariz.	*Fountain darter, <i>Etheostoma fonticola</i> (Jordan and Gilbert). Tex.
Silversides, family Atherinidae	Swamp darter, <i>Etheostoma fusiforme</i> (Girard). Conn, Mass, Penn.
Brook silverside, <i>Labidesthes sicculus</i> (Cope). Md, Penn.	Rio Grande darter, <i>Etheostoma grahami</i> (Girard). Tex.
Mississippi silverside, <i>Menidia audens</i> Hay. Mo.	Harlequin darter, <i>Etheostoma histrio</i> Jordan and Gilbert. Ill, Ky, Mo.
Key silverside, <i>Menidia conchorum</i> Hildebrand and Ginsburg. Fla.	Least darter, <i>Etheostoma microperca</i> Jordan and Gilbert. Kan, Penn.
Waccamaw silverside, <i>Menidia extensa</i> Hubbs and Raney. N Car.	Yellowcheek darter, <i>Etheostoma moorei</i> Raney and Suttkus. Ark.
Sticklebacks, family Gasterosteidae	Niangua darter, <i>Etheostoma nianguae</i> Gilbert and Meek. Mo.
Fourspine stickleback, <i>Apeltes quadracus</i> (Mitchill). Mass, Penn.	*Watercress darter, <i>Etheostoma nuchale</i> Howell and Caldwell. Ala.
Brook stickleback, <i>Culaea inconstans</i> (Kirtland). Mass, N Mex, Penn, Vt.	Okaloosa darter, <i>Etheostoma okaloosae</i> (Fowler). Fla.
Threespine stickleback, <i>Gasterosteus aculeatus</i> Linnaeus. Mass.	Waccamaw darter, <i>Etheostoma perlongum</i> (Hubbs and Raney). N Car.
*Unarmored threespine stickleback, <i>Gasterosteus aculeatus williamsoni</i> Girard. Calif.	Stippled darter, <i>Etheostoma punctulatum</i> (Agassiz). Kan.
Blackspotted stickleback, <i>Gasterosteus wheatlandi</i> Putnam. N Y.	Bayou darter, <i>Etheostoma rubrum</i> Raney and Suttkus. Miss.
Black stickleback, <i>Gasterosteus</i> sp. Wash.	*Maryland darter, <i>Etheostoma sellare</i> (Radcliffe and Welsh). Md.
Ninespine stickleback, <i>Pungitius pungitius</i> (Linnaeus). Mass.	Speckled darter, <i>Etheostoma stigmaeum</i> (Jordan). Kan.
Sunfishes, family Centrarchidae	
Mud sunfish, <i>Acantharchus pomotis</i> (Baird). Del, Md.	

TABLE 1 (continued)

Perches, family Percidae (continued)

- Tippecanoe darter, *Etheostoma tippecanoe* Jordan and Evermann. Ky, Penn, Tenn, W Va.
 Trispot darter, *Etheostoma trisella* Bailey and Richards. Ala, Ga, Tenn.
 Tuscombiana darter, *Etheostoma tuscombiana* Gilbert and Swain. Ala, Tenn.
 Glassy darter, *Etheostoma vitreum* (Cope). Md.
 Redfin darter, *Etheostoma whipplei* (Girard). Mo.
 Unnamed darter, *Etheostoma* sp. Ala.
 Duck River darter, *Etheostoma* sp. Tenn.
 Goldline darter, *Percina aurolineata* Suttkus and Ramsey. Ala, Ga.
 Blotchside logperch, *Percina burtoni* Fowler. Tenn, Va.
 Channel darter, *Percina copelandi* (Jordan). Ky, W Va.
 Bluestripe darter, *Percina cymatotaenia* (Gilbert and Meek). Mo.
 Gilt darter, *Percina evides* (Jordan and Copeland). Ky.
 Freckled darter, *Percina lenticula* Richards and Knapp. Ala, Ga, La, Miss.
 Longhead darter, *Percina macrocephala* (Cope). Ky, Penn.
 Blackside darter, *Percina maculata* (Girard). Kan, S Dak.
 Longnose darter, *Percina nasuta* (Bailey). Mo.
 Leopard darter, *Percina pantherina* (Moore and Reeves). Okla.
 Slenderhead darter, *Percina phoxocephala* (Nelson). Ky, Penn, S Dak.
 Roanoke logperch, *Percina rex* (Jordan and Evermann). Va.

- River darter, *Percina shumardi* (Girard). Ky, Mich.
 Olive darter, *Percina squamata* (Gilbert and Swain). Ky.
 Stargazing darter, *Percina uranidia* (Jordan and Gilbert). Ky.
 Narrowsaddle darter, *Percina* sp. Ga, Tenn.
 Sanger, *Stizostedion canadense* (Smith). Ky, Ohio, W Va.
 *Blue pike, *Stizostedion vitreum glaucum* Hubbs. N Y, Ohio, Penn.
 Walleye, *Stizostedion vitreum vitreum* (Mitchill). Ky.

Gobies, family Gobiidae

- O'opu nakea, *Awaous stamineus* (Eydoux and Souleyet). Hawaii.
 ———, *Lentipes concolor* (Gill). Hawaii.
 ———, *Lentipes seminudus* Günther. Hawaii.
 O'opu nopili, *Sicydium stimpsoni* Gill. Hawaii.

Sculpins, family Cottidae

- Rough sculpin, *Cottus asperimus* Rutter. Calif.
 Slimy sculpin, *Cottus cognatus* Richardson. N J.
 Shorthead sculpin, *Cottus confusus* Bailey and Bond. Mont.
 Bear Lake sculpin, *Cottus extensus* Bailey and Bond. Ida, Utah.
 Shoshone sculpin, *Cottus greenei* (Gilbert and Culver). Ida.
 Pit sculpin, *Cottus pitensis* Bailey and Bond. Calif, Ore.
 Pygmy sculpin, *Cottus pygmaeus* Williams. Ala.
 Spoonhead sculpin, *Cottus ricei* (Nelson). Mich, Mont, Ohio.

STATE LISTS

In this section is a list of the fishes for each state, by common name only, that are regarded as threatened, followed by their status as defined previously.

Alabama

- Lake sturgeon, depleted (possibly extinct).
 Atlantic sturgeon, depleted.
 Shovelnose sturgeon, depleted.

- Skygazer shiner, rare.
 Cahaba shiner, rare (possibly endangered).

Frecklebelly madtom, depleted.

- Crystal darter, depleted.
 Coldwater darter, depleted.
 Watercress darter, rare and endangered.
 Trispot darter, rare (possibly extinct).
 Tuscombiana darter, depleted.
 Unnamed darter (Cypress Cr.), rare (possibly endangered).

- Goldline darter, rare (possibly endangered).
 Freckled darter, depleted.

Pygmy sculpin, rare and endangered.

Alaska

- Angayukaksurak char (N. slope, Brooks Range), rare.

Arizona

- Arizona trout (White Mts.), rare (protected).
 Mexican stoneroller, rare.
 Humpback chub, rare and endangered.
 Little Colorado spinedace, rare.
 Spikedace, rare (possibly endangered).
 Woundfin, rare and endangered.
 Loach minnow, rare and endangered.

Desert pupfish, rare.

- Gila topminnow, rare and endangered (under propagation).

Arkansas

Ozark cavefish, rare.

Yellowcheek darter, rare.

California

Those species marked by an asterisk are fully protected by provisions of the State Fish and Game Code enacted in 1970.

- Lahontan cutthroat trout, depleted.
 *Piute cutthroat trout, depleted.
 Little Kern golden trout, depleted.
 Redband trout (a few streams of McCloud R. basin), rare.
 *Thicktail chub, indeterminate (possibly extinct).
 Bonytail, rare.
 *Mohave chub, endangered.

*Colorado squawfish, endangered.
Owens speckled dace, indeterminate.

*Modoc sucker, indeterminate.
*Shortnose sucker, rare.
*Lost River sucker, rare.
*Humpback sucker, rare.

Tecopa pupfish, endangered (possibly extinct).
Shoshone pupfish, endangered (possibly extinct).
*Owens pupfish, endangered (Miller and Pister, 1971).
Desert pupfish, depleted.

*Unarmored threespine stickleback, endangered.
Sacramento perch, depleted.
Rough sculpin, indeterminate.
Pit sculpin, indeterminate.

Colorado

Colorado River cutthroat trout, rare and endangered.
Greenback cutthroat trout, rare and endangered.
Rio Grande cutthroat trout, rare and endangered.
Humpback chub, rare and endangered.
Colorado squawfish, rare.

Connecticut

American brook lamprey, rare.
Shortnose sturgeon, endangered.
Atlantic sturgeon, endangered.
Round whitefish (East Twin L., possibly introduced), endangered.
Atlantic salmon, endangered.
Bluntnose minnow, rare.
Pearl dace, rare.
Trout-perch, rare.
Burbot, endangered.
Swamp darter, rare.

Delaware

Shortnose sturgeon, endangered.
Atlantic sturgeon, depleted.
Longnose gar, endangered (possibly extinct).
American shad, depleted.
Rosyside dace, rare.
Cutlips minnow, rare.
Ironcolor shiner, endangered (possibly extinct).
Longnose dace, rare.
Margined madtom, rare.
Spotfin killifish, rare.
Mud sunfish, endangered.
Blackbanded sunfish, indeterminate.
Bluespotted sunfish, rare.
Banded sunfish, indeterminate.

Florida

Bluenose shiner, rare.
River redbhorse, endangered.
Key silverside, rare and endangered.
Suwannee bass, rare.
Okaloosa darter, rare (possibly endangered).

Georgia

Lake sturgeon, depleted.
Atlantic sturgeon, depleted.
Yellowfin madtom, rare (possibly extinct).
Coldwater darter, depleted.
Trispot darter, rare.
Goldline darter, rare (possibly endangered).
Freckled darter, depleted.
Narrowsaddle darter (Conasauga R. of Coosa R. drainage), rare.

Hawaii

O'opu nakea, depleted (on Oahu).
Lentipes concolor, rare and endangered.
Lentipes seminudus, rare (extinct on Oahu).
O'opu nopili, rare (on Oahu).

Idaho

Fishing is permitted for sturgeon, but all must be released.

White sturgeon, rare and endangered.
Bear Lake whitefish, rare.
Bonneville cisco, rare.
Bonneville whitefish, rare.
Bear Lake sculpin, rare.
Shoshone sculpin, rare.

Illinois

All of the fishes listed are protected in the Illinois Game and Fish Codes.

Spring cavefish, rare.
Banded pygmy sunfish, rare.
Bantam sunfish, rare.
Bluebreast darter, rare.
Harlequin darter, rare.

Indiana

All of these fishes are protected from harvest of any kind.

Ohio River muskellunge, endangered.
Blue sucker, rare.
Northern cavefish, endangered.
Southern cavefish, endangered.

Iowa

Both sturgeons are protected by State or Federal regulations.

Lake sturgeon, rare and endangered.
Pallid sturgeon, rare and endangered.
Blacknose shiner, rare.
Longnose dace, rare.
Western sand darter, rare.

Kansas

Present evidence indicates that neither the bigeye chub nor the blacknose shiner still exist in Kansas.

Chestnut lamprey, rare.

Pallid sturgeon, rare.
 River redhorse, depleted.
 Neosho madtom, endangered.
 Plains topminnow, rare.
 Arkansas darter, depleted.
 Least darter, rare.
 Stippled darter, rare.
 Speckled darter, rare.
 Blackside darter, rare.

Kentucky

Pallid sturgeon, endangered.
 Shovelnose sturgeon, endangered.
 Ohio muskellunge, rare.
 Trout-perch, endangered.
 Scaly sand darter, rare.
 Mud darter, rare and endangered.
 Ashy darter, rare.
 Harlequin darter, rare and endangered.
 Tippecanoe darter, endangered.
 Channel darter, rare.
 Gilt darter, rare.
 Longhead darter, endangered.
 Slenderhead darter, rare.
 River darter, rare.
 Olive darter, rare.
 Stargazing darter, rare.
 Sauger, depleted.
 Walleye, depleted.

Louisiana

Pallid sturgeon, rare.
 Stoneroller, rare.
 Blackspot shiner, rare.
 Bigeye shiner, rare.
 Bluntnose shiner, rare.
 Colorless shiner, rare.
 Bluenose shiner, rare.
 Steelcolor shiner, rare.
 Suckermouth minnow, rare.
 Bluntnose minnow, rare.
 River redhorse, rare.
 Rainbow darter (undescribed form from tributaries on E. side Miss. R.), rare.
 Freckled darter, rare and endangered.

Maine

Atlantic sturgeon, rare (possibly extinct).
 Atlantic salmon, rare and endangered (sea-run form).
 Sunapee trout, rare and endangered.
 Blueback trout, rare.

Maryland

Ohio lamprey, rare and depleted.
 Shortnose sturgeon, rare.
 Atlantic sturgeon, depleted.
 Paddlefish, rare and depleted.
 Bowfin, rare and endangered.

Rosyside dace, rare.
 Cutlips minnow, depleted.
 Comely shiner, depleted.
 Bridle shiner, rare and depleted.
 Ironcolor shiner, rare and depleted.
 Pearl dace, rare and depleted.
 Quillback, depleted.
 Longnose sucker, rare and endangered.
 Creek chubsucker, depleted.
 Spotted sucker, rare and endangered.
 Tadpole madtom, rare and depleted.
 Brook silverside, rare.
 Mud sunfish, rare and endangered.
 Blackbanded sunfish, rare and endangered.
 Warmouth, depleted.
 Maryland darter, rare and endangered.
 Glassy darter, rare and endangered.

Massachusetts

American brook lamprey, rare.
 Shortnose sturgeon, rare and endangered.
 Atlantic sturgeon, rare and endangered.
 Atlantic salmon, rare and endangered.
 Lake chub, rare and depleted.
 Emerald shiner, rare and depleted.
 Northern redbelly dace, rare and depleted.
 Longnose sucker, rare.
 Trout-perch, rare and endangered.
 Burbot, rare and depleted.
 Fourspine stickleback, rare.
 Brook stickleback, rare.
 Threespine stickleback, rare.
 Ninespine stickleback, rare.
 Swamp darter, rare.

Michigan

Lake sturgeon, rare and endangered.
 Mooneye, rare.
 Longjaw cisco, almost extinct.
 Kiyi, rare and endangered.
 Shortjaw cisco, rare and endangered.
 Redside dace, rare.
 Bigeye chub, rare.
 Silver chub, rare.
 Ironcolor shiner, rare.
 Silver shiner, rare.
 Black buffalo, rare.
 River redhorse, rare.
 Northern madtom, rare.
 Flathead catfish, rare.
 Starhead topminnow, depleted.
 Eastern sand darter, rare.
 River darter, rare.
 Spoonhead sculpin, rare and depleted.

Minnesota

All of the following are legally protected by closed season or by size limit and/or bag limit.

Lake sturgeon, rare.
Shovelnose sturgeon, rare.
Paddlefish, rare.

Mississippi

Atlantic sturgeon, depleted.
Shovelnose sturgeon, depleted.
Frecklebelly madtom, depleted.
Crystal darter, depleted.
Bayou darter, rare (possibly endangered).
Freckled darter, depleted.

Missouri

Southern brook lamprey, rare.
American brook lamprey, rare.
Lake sturgeon, endangered or depleted.
Pallid sturgeon, endangered or depleted.
Alligator gar, rare.
Alabama shad, rare.
Brassy minnow, rare.
Cypress minnow, endangered or extinct.
Sturgeon chub, rare or endangered.
Sicklefin chub, rare or endangered.
Pallid shiner, endangered or extinct.
Pugnose minnow, rare (possibly endangered).
Blacknose shiner, depleted.
Sabine shiner, rare.
Eastern slim minnow, rare.
Brown bullhead, rare.
Neosho madtom, rare or endangered.
Ozark cavefish, rare.
Burbot, rare.
Golden topminnow, endangered or extinct.
Plains killifish, rare.
Starhead topminnow, depleted.
Mississippi silverside, rare.
Pumpkinseed, rare.
Bantam sunfish, rare.
Western sand darter, depleted.
Scaly sand darter, depleted.
Arkansas darter, rare.
Harlequin darter, rare (possibly endangered).
Niangua darter, rare.
Redfin darter, endangered or extinct.
Bluestripe darter, rare.
Longnose darter, rare (possibly endangered).

Montana

White sturgeon, rare.
Pallid sturgeon, rare.
Shortnose gar, rare.
Arctic grayling, rare.
Westslope cutthroat trout, endangered.
Eastslope cutthroat trout, endangered.
Sturgeon chub, rare.
Finescale dace, rare.
Blue sucker, rare.
Trout-perch, rare.
Plains killifish, rare.

Shorthead sculpin, rare.
Spoonhead sculpin, rare.

Nebraska

Chestnut lamprey, endangered.
Silver lamprey, endangered.
Lake sturgeon, endangered.
Pallid sturgeon, endangered.
Mooneye, endangered.
Sturgeon chub, endangered (possibly extinct).
Hornyhead chub, rare.
Blacknose shiner, rare.
Topeka shiner, endangered.
Northern redbelly dace, rare and endangered.
Finescale dace, endangered.
Bluntnose minnow, endangered (possibly extinct).
Blacknose dace, endangered.
Pearl dace, rare.
Highfin carpsucker, endangered (possibly extinct).
Black buffalo, indeterminate.
Golden redhorse, rare.
Blue catfish, indeterminate.

Nevada

All of the following except the trout and woundfin are legally protected although the Indians of Pyramid Lake utilize the cui-ui for food. Pure stocks of the Lahontan cutthroat trout are scarce, but it is propagated as a game fish; the White River springfish is in a protected refuge near Sunnyside.

Snake Valley cutthroat trout (Spring Valley), rare.
Desert dace, rare.
Bonytail, endangered.
Pahranagat roundtail chub, rare and endangered.
White River spinedace, rare.
Moapa dace, rare and endangered.
Woundfin, rare and endangered.
Colorado squawfish, rare and endangered.
Cui-ui, rare and endangered.
White River springfish, rare.
Railroad Valley springfish, rare.
Devils Hole pupfish, rare and endangered.
Ash Meadows pupfish, endangered.
Warm Spring pupfish, rare and endangered.
Pahrump killifish, rare and endangered.

New Hampshire

Atlantic sturgeon, rare.
Atlantic salmon, rare (sea-run form).
Sunapee trout, endangered.

New Jersey

Shortnose sturgeon, endangered.
Atlantic sturgeon, rare.
American shad, rare.
Rainbow smelt, endangered.
Atlantic tomcod, indeterminate.
Slimy sculpin, indeterminate.

New Mexico

Rio Grande cutthroat trout, rare and endangered.
 Gila trout, rare and endangered.
 Roundtail chub, endangered (perhaps extinct in Gila R. basin).
 Pecos gambusia, endangered.
 Brook stickleback, rare (relict).

New York

Shortnose sturgeon, endangered.
 Lake sturgeon, rare.
 American shad, indeterminate.
 Lake whitefish, indeterminate.
 Round whitefish, rare.
 Atlantic salmon, rare (landlocked form).
 Comely shiner, probably depleted in Hudson River drainage.
 Pirate perch, endangered.
 Blackspotted stickleback, endangered.
 Bluespotted sunfish, rare.
 Banded sunfish, rare.
 Blue pike, endangered.

North Carolina

Cape Fear shiner, rare.
 Waccamaw killifish, rare.
 Waccamaw silverside, rare.
 Waccamaw darter, rare.

North Dakota

Pallid sturgeon, rare.
 Blackchin shiner, rare.
 Blue sucker, endangered.
 Flathead catfish, rare.
 Trout-perch, rare.

Ohio

Lake sturgeon, endangered.
 Mooneye, rare.
 Cisco or lake herring, rare.
 Lake whitefish, rare.
 Brook trout, rare.
 Lake trout, endangered.
 Great Lakes muskellunge, rare.
 Western tongue-tied minnow, endangered.
 Burbot, rare.
 Eastern sand darter, depleted.
 Sauger, rare.
 Blue pike, endangered (commercially extinct).
 Spoonhead sculpin, depleted.

Oklahoma

Shovelnose sturgeon, rare and endangered.
 Arkansas darter, rare and endangered.
 Leopard darter, rare and endangered.

Oregon

Pit-Klamath brook lamprey, rare.
 Alvord cutthroat trout, rare.
 Redband trout, rare.
 Dolly Varden, rare (only in Klamath basin).
 California roach, rare.
 Millicoma dace (restricted to Coos R. system), rare.
 Warner sucker, rare.
 Shortnose sucker, rare.
 Pit sculpin, rare (possibly extinct).

Pennsylvania

Allegheny brook lamprey, rare.
 Shortnose sturgeon, endangered.
 Lake sturgeon, endangered.
 Atlantic sturgeon, endangered.
 Paddlefish, endangered.
 Bowfin, depleted.
 Cisco or lake herring, rare.
 Lake whitefish, rare.
 Bridle shiner, rare.
 Blackchin shiner, endangered.
 Blacknose shiner, endangered.
 Southern redbelly dace, depleted.
 Longnose sucker, endangered.
 Mountain madtom, endangered.
 Pirate perch, endangered (possibly extinct).
 Western banded killifish, depleted.
 Brook silverside, rare.
 Fourspine stickleback, endangered.
 Brook stickleback, rare.
 Warmouth, rare.
 Eastern sand darter, endangered.
 Swamp darter, endangered (possibly extinct).
 Least darter, endangered.
 Tippecanoe darter, endangered.
 Longhead darter, endangered.
 Slenderhead darter, endangered.
 Blue pike, endangered.

South Carolina

Atlantic sturgeon, depleted.

South Dakota

Silver lamprey, endangered.
 Lake sturgeon, endangered.
 Pallid sturgeon, rare.
 Shovelnose sturgeon, depleted.
 Longnose gar, rare.
 Bowfin, rare.
 American eel, endangered.
 Skipjack herring, rare.
 Mooneye, endangered.
 Central mudminnow, rare.
 Sturgeon chub, rare.
 Flathead chub, rare.

Sicklefin chub, rare.
 Silver chub, rare.
 Hornyhead chub, rare.
 River shiner, rare.
 Blackchin shiner, endangered.
 Blacknose shiner, endangered.
 Rosyface shiner, rare.
 Silverband shiner, rare.
 Topeka shiner, rare.
 Suckermouth minnow, endangered (possibly extinct).
 Northern redbelly dace, rare.
 Finescale dace, rare.
 Blacknose dace, rare.
 Pearl dace, endangered.

Longnose sucker, rare.
 Blue sucker, depleted.
 Northern hog sucker, rare.
 Golden redbhorse, rare.

Blue catfish, rare.
 Yellow bullhead, rare.
 Brown bullhead, rare.

Trout-perch, rare.

Banded killifish, rare.
 Plains topminnow, rare.

Blackside darter, rare.
 Slenderhead darter, rare.

Tennessee

Flame dace, depleted.
 Slender chub, rare and endangered.
 Spotfin chub, endangered.

Smoky madtom, rare (possibly extinct).
 Yellowfin madtom, rare and endangered (see Taylor *et al.*, 1971).

Barrens topminnow (Duck and Cumberland R. drainages), rare.

Sharphead darter, rare (possibly extinct).

Coldwater darter, rare.
 Tippecanoe darter, depleted.

Trispot darter, rare.

Tusculumbia darter, endangered (possibly extinct).

Duck River darter, rare.

Blotchside logperch, rare.

Narrowsaddle darter (Conasauga R. of Coosa R. drainage), rare.

Texas

Mexican stoneroller, rare.
 Devils River minnow, rare.
 Chihuahua shiner, rare.
 Proserpine shiner, rare.

Widemouth blindcat, rare.
 Toothless blindcat, rare.

Comanche Springs pupfish, rare and endangered.

Big Bend gambusia, rare.
 San Marcos gambusia, rare.
 Clear Creek gambusia, rare.
 Pecos gambusia, rare and endangered.
 Blotched gambusia, rare.
 Amazon molly, rare.

Fountain darter, rare.
 Rio Grande darter, rare.

Utah

Bear Lake whitefish, rare.
 Bonneville cisco, rare.
 Bonneville whitefish, rare.
 Humpback chub, rare and endangered.
 Bonytail, depleted.
 Least chub, rare.
 Woundfin, rare and endangered.
 Colorado squawfish, rare and endangered.
 Humpback sucker, rare.
 Bear Lake sculpin, rare.

Vermont

Since the Sunapee trout has not been reported in the state for over 30 years, it is presumed to be extinct.

Lake sturgeon, endangered.

Mooneye, rare.

Atlantic salmon, depleted (landlocked form).

Central mudminnow, rare.

Northern muskellunge, endangered.

Cutlips minnow, rare.

Quillback, rare.

Black bullhead, rare.

Brook stickleback, rare.

Virginia

Roughhead shiner, rare.

Bigeye jumprock, rare.

Rustyside sucker, rare.

Yellowfin madtom, rare.

Orangefin madtom, rare.

Blotchside logperch, rare.

Roanoke logperch, rare.

Washington

Olympic mudminnow, rare.

Black stickleback, rare.

West Virginia

Silver lamprey, rare.

Lake sturgeon, endangered (possibly extinct).
 Shovelnose sturgeon, rare, endangered, and depleted.

Paddlefish, rare, endangered, and depleted.

Mooneye, rare.

Eastern tongue-tied minnow, depleted.

Cutlips minnow, depleted.

Popeye shiner, rare, endangered, and depleted.

River shiner, depleted.

Ghost shiner, depleted.

New River shiner, depleted.

Suckermouth minnow, depleted.

Kanawha minnow, rare and depleted.

Southern redbelly dace, rare.

Mountain redbelly dace, depleted.

Pearl dace, rare and depleted.

Longnose sucker, rare (perhaps extinct).
 Blue sucker, rare, endangered, and depleted.
 River redbhorse, rare.
 Black redbhorse, depleted.
 Tippecanoe darter, rare.
 Channel darter, rare.
 Sauger, depleted.

Wisconsin

Paddlefish, rare.
 American eel, rare.
 Goldeye, rare.
 Longjaw cisco, endangered.
 Kiyi, rare (Lake Michigan).
 Blackfin cisco, rare (Lake Superior; probably extinct in Lake Michigan).
 Shortnose cisco, rare (Lake Superior) and endangered (Lake Michigan).
 Shortjaw cisco, rare (Lake Michigan).
 Ozark minnow, rare.
 Gravel chub, endangered.
 Pugnose shiner, endangered.
 Ironcolor shiner, indeterminate.
 Red shiner, rare.
 Redfin shiner, depleted.
 Mimic shiner, endangered.
 Blue sucker, rare.
 Creek chubsucker, indeterminate.
 Lake chubsucker, rare.
 Greater redbhorse, indeterminate.
 Slender madtom, endangered.
 Starhead topminnow, rare.
 Crystal darter, indeterminate.
 Mud darter, rare.
 Bluntnose darter, indeterminate.

Wyoming

Three species, the humpback chub, bonytail, and Colorado squawfish, are now believed to be extinct in the state.

Shovelnose sturgeon, rare and endangered.
 Goldeye, rare and endangered.
 Colorado River cutthroat trout, rare and endangered.
 Snake River cutthroat trout, rare.
 Leatherside chub, rare and endangered.
 Sturgeon chub, rare and endangered.
 Hornyhead chub, rare and endangered.
 Suckermouth minnow, rare and endangered.
 Finescale dace, rare and endangered.
 Kendall Warm Springs dace, rare.
 Pearl dace, rare and endangered.

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