

developed in any such formal hearing will be part of the basis of the Administrator's decisions on an application.

4. In § 970.302, paragraph (j) is amended by revising paragraph (j)(1)(i) introductory text, and paragraph (j)(1)(i)(A) to read as follows:

§ 970.302 Procedures and criteria for resolving conflicts.

(j) *Unresolved domestic conflict* (1) *Procedure.* (i) In the case of an original domestic conflict or a new domestic conflict, the applicants will be allowed until April 15, 1983, to resolve the conflict or agree in writing to submit the conflict to a specified binding conflict resolution procedure. If, by April 15, 1983, all applicants involved in an original or new domestic conflict have not resolved that conflict, or agreed in writing to submit the conflict to a specified binding conflict resolution procedure, the conflict will be resolved in a formal hearing held in accordance with Subpart I of 15 CFR Part 971, except that:

(A) The General Counsel of NOAA will not, as a matter of right, be a party to the hearing; however, the General Counsel may be admitted to the hearing by the administrative law judge as a party or as an interested person pursuant to 15 CFR 971.901 (f)(2) or (f)(3); and

§ 970.407 [Amended]

In § 970.407, paragraph (d) is revised to read as follows:

(d) If a timely request for administrative review of the proposed denial is made by the applicant under paragraph (c)(1) of this section, the Administrator will promptly begin a formal hearing in accordance with Subpart I of 15 CFR Part 971. If the proposed denial is the result of a correctable deficiency, the administrative review will proceed concurrently with any attempts to correct the deficiency, unless the parties agree otherwise or the administrative law judge orders differently.

6. In § 970.501, paragraphs (a) and (b)(2) are revised to read as follows:

§ 970.501 Proposal to issue or transfer and of terms, conditions and restrictions.

(a) *Notice and comment.* The Administrator will publish in the Federal Register notice of each proposal to issue or transfer, and of terms and conditions for, and restrictions on, an exploration license. Subject to 15 CFR 971.802, interested persons will be

permitted to examine the materials relevant to such proposals. Interested persons will have at least 60 days after publication of such notice to submit written comments to the Administrator.

(b) * * *

(2) If the Administrator determines there exists one or more specific and material factual issues which require resolution by formal processes, at least one formal hearing will be held in the District of Columbia metropolitan area in accordance with the provisions of Subpart I of 15 CFR Part 971. The record developed in any such formal hearing will be part of the basis for the Administrator's decisions on issuance or transfer of, and of terms, conditions and restrictions for the license.

§ 970.508 [Amended]

7. In § 970.508, paragraph (d) is revised to read as follows:

(d) If a timely request for administrative review of the proposed denial is made by the applicant under paragraph (c)(1) of this section, the Administrator will promptly begin a formal hearing in accordance with Subpart I of 15 CFR Part 971. If the proposed denial is the result of a correctable deficiency, the administrative review will proceed concurrently with any attempt to correct the deficiency, unless the parties agree otherwise or the administrative law judge orders differently.

§ 970.510 [Amended]

8. In § 970.510, paragraph (d) is revised to read as follows:

(d) If, after the Administrator takes final action on an objection, the licensee demonstrates that a dispute remains on a material issue of fact, the Administrator will provide for a formal hearing which will proceed in accordance with Subpart I of 15 CFR Part 971.

9. In § 970.511, paragraphs (a)(1), (b), (e) and (i)(2) are revised to read as follows:

§ 970.511 Suspension or modification of activities; suspension or revocation of licenses.

(a) The Administrator may:

(1) In addition to, or in lieu of, the imposition of any civil penalty under Subpart J of 15 CFR Part 971, or in addition to the imposition of any fine under Subpart J, suspend or revoke any license issued under this part, or suspend or modify any particular activities under such a license, if the licensee substantially fails to comply with any provision of the Act, this part,

or any term, condition or restriction of the license; and

(b) Any action taken by the Administrator in accordance with paragraph (a)(1) will proceed pursuant to the procedures in 15 CFR 971.1003. Any action taken in accordance with paragraph (a)(2) will proceed pursuant to paragraphs (c) through (i) of this section, other than paragraph (h)(2).

(e) If a timely request for administrative review of the proposed action is made by the licensee under paragraph (d)(1) of this section, the Administrator will promptly begin a formal hearing in accordance with Subpart I of 15 CFR Part 971. If the proposed action is the result of a correctable deficiency, the administrative review will proceed concurrently with any attempt to correct the deficiency, unless the parties agree otherwise or the administrative law judge orders differently.

(i) * * *

(2) The Administrator determines that immediate suspension of such a license, or immediate suspension or modification of particular activities under a license, is necessary to prevent a significant adverse effect on the environment or to preserve the safety of life or property at sea, and the Administrator issues an emergency order in accordance with § 971.1003(d)(4).

10. In Subpart I, § 970.900 is revised and §§ 970.901 through 970.906 are removed, to read as follows:

§ 970.900 Other applicable regulations.

The regulations in Subparts H, I and J of 15 CFR Part 971 are consolidated regulations and are applicable both to licenses under this part and to permits under 15 CFR Part 971. The regulations in Subparts H, I and J of Part 971 govern records to be maintained and information to be submitted by licensees and permittees, public disclosure of documents received by NOAA, relinquishment and surrender of licenses and permits, amendment of regulations, competition of time, uniform hearing procedures, and enforcement under the Act.

Subparts J and K—[Removed and Reserved]

11. Subparts J and K (§§ 970.1000–970.1107) are removed and reserved.

[FR Doc. 89–162 Filed 1–5–89; 8:45 am]

BILLING CODE 3610-12-M

Registered Federal Reporter

Friday
January 6, 1989

Part III

Department of Health and Human Services

Food and Drug Administration

21 CFR Parts 866 et al.
Medical Devices; Intent To Initiate
Proceedings To Establish the Effective
Date of the Requirement for Pre-market
Approval for 31 Class III Preamendments
Devices; Advance Notice of Proposed
Rulemaking

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Food and Drug Administration

21 CFR Parts 866, 868, 870, 872, 874, 876, 878, 880, 882, 884, 886, 888, and 890

[Docket No. 88N-0244]

Medical Devices; Intent To Initiate Proceedings To Establish the Effective Dates of the Requirement for Premarket Approval for 31 Class III Preamendments Devices

AGENCY: Food and Drug Administration.

ACTION: Advance notice of proposed rulemaking.

SUMMARY: The Food and Drug Administration (FDA) is announcing its intent to initiate proceedings to establish the effective dates of the requirement for premarket approval for 31 class III preamendments devices. The devices subject to this notice were distributed commercially before May 28, 1976, or are devices that FDA has determined to be substantially equivalent to such devices. This notice of intent identifies the 31 class III preamendments devices to which FDA has assigned a high priority for the application of premarket approval requirements. FDA is taking this action under the Medical Device Amendments of 1976.

DATE: Comments may be submitted at any time. FDA will consider any comments received during its implementation of the premarket approval requirements with respect to class III preamendments devices.

ADDRESS: Written comments to the Dockets Management Branch (HFA-305), Food and Drug Administration, Rm. 4-62, 5600 Fishers Lane, Rockville, MD 20857.

FOR FURTHER INFORMATION CONTACT: Charles H. Kyper, Center for Devices and Radiological Health (HFK-402), Food and Drug Administration, 8757 Georgia Ave., Silver Spring, MD 20910, 301-427-7445.

SUPPLEMENTARY INFORMATION: On May 28, 1976, the Medical Device Amendments of 1976 (the amendments) (Pub. L. 94-295) to the Federal Food, Drug, and Cosmetic Act (the act) (21 U.S.C. 301 *et seq.*) became law. Section 513 of the act (21 U.S.C. 360c) requires the classification of medical devices into one of three classes of devices depending upon the level of regulatory control needed to provide reasonable assurance of the device's safety and effectiveness. A class I device is a

device for which the general controls authorized by or under various sections of the act are sufficient to provide reasonable assurance of the safety and effectiveness of the device. A class II device is a device for which general controls by themselves are insufficient to provide reasonable assurance of the safety and effectiveness of the device and for which there is sufficient information to establish a performance standard to provide such assurance. A class III device is a device that cannot be classified into class I or class II and that is purported or represented to be for a use in supporting or sustaining human life or for a use which is of substantial importance in preventing impairment of human health or that presents a potential unreasonable risk of illness or injury. For a device in class III, premarket approval is required in accordance with section 515 of the act (21 U.S.C. 360e) and 21 CFR Part 814 to provide reasonable assurance of the safety and effectiveness of the device.

This notice refers to both devices that were marketed before May 28, 1976, and devices that were not marketed before then, but that are substantially equivalent to devices marketed before then, as preamendments devices. A preamendments device that has been classified into class III requires premarket approval only after FDA requires such approval under a final regulation promulgated under section 515(b) of the act. Under procedures in section 513 of the act (21 U.S.C. 360c), FDA has classified about 1,550 preamendments devices into class I, class II, or class III. These classifications are codified in 21 CFR Parts 862 through 892. FDA's classifications of preamendments devices are based on recommendations of advisory committees (panels) (see 21 CFR Part 14). A listing of the device panels is in 21 CFR 14.100.

Of these 1,550 codified classifications, FDA placed 135 devices into class III. In each of the codified regulations for devices classified into class III, FDA: (1) Declares the effective date of the requirement for premarket approval of the device, if any, and (2) provides a cross-reference to a regulation in Subpart A of that part that provides a summary description of FDA's procedures for establishing the effective date of the requirement for premarket approval for a device. For convenience of readers of this notice, FDA is providing the procedures codified at 21 CFR 888.3 as an example.

§ 888.3 Effective dates of requirement for premarket approval.

A device included in this part that is classified into class III (premarket approval) shall not be commercially distributed after the date shown in the regulation classifying the device unless the manufacturer has an approval under section 515 of the act (unless an exemption has been granted under section 520(g)(2) of the act). An approval under section 515 of the act consists of FDA's issuance of an order approving an application for premarket approval (PMA) for the device or declaring completed a product development protocol (PDP) for the device.

(a) Before FDA requires that a device commercially distributed before the enactment date of the amendments, or a device that has been found substantially equivalent to such a device, has an approval under section 515 of the act, FDA must promulgate a regulation under section 515(b) of the act requiring such approval, except as provided in paragraphs (b) and (c) of this section. Such a regulation under section 515(b) of the act shall not be effective during the grace period ending on the 90th day after its promulgation or on the last day of the 30th full calendar month after the regulation that classifies the device into class III is effective, whichever is later. See section 501(f)(2)(B) of the act. Accordingly, unless an effective date of the requirement for premarket approval is shown in the regulation for a device classified into class III in this part, the device may be commercially distributed without FDA's issuance of an order approving a PMA or declaring completed a PDP for the device. If FDA promulgates a regulation under section 515(b) of the act requiring premarket approval for a device, section 501(f)(1)(A) of the act applies to the device.

(b) Any new, not substantially equivalent, device introduced into commercial distribution on or after May 28, 1976, including a device formerly marketed that has been substantially altered, is classified by statute (section 513(f) of the act) into class III without any grace period and FDA must have issued an order approving a PMA or declaring completed a PDP for the device before the device is commercially distributed unless it is reclassified. If FDA knows that a device being commercially distributed may be a "new" device as defined in this section because of any new intended use or other reasons, FDA may codify the statutory classification of the device into class III for such new use. Accordingly, the regulation for such a class III device states that as of the enactment date of the amendments, May 28, 1976, the device must have an approval under section 515 of the act before commercial distribution.

(c) A device identified in a regulation in this part that is classified into class III and that is subject to the transitional provisions of section 520(l) of the act is automatically classified by statute into class III and must have an approval under section 515 of the act before being commercially distributed. Accordingly, the regulation for such a class III transitional device states that as of the enactment date of the amendments, May 28, 1976, the device must have an approval under

section 515 of the act before commercial distribution.

As noted in paragraph (c) of § 888.3 above, a preamendments device subject to the transitional provisions of section 520(l) of the act (21 U.S.C. 360j(l)) is classified into class III without any grace period by action of the statute, and it is unnecessary for FDA to promulgate a rule under section 515(b) of the act for preamendments class III transitional devices.

Priorities for Requiring Premarket Approval of Class III Devices

FDA has classified 135 preamendments devices into class III under section 513(d) of the act (21 U.S.C. 360c(d)). The issuance of regulations under section 515(b) of the act for all of these devices will take many years, given the existing agency resources available for this activity. Recognizing that FDA could not issue regulations under section 515(b) of the act for all preamendments class III devices simultaneously, Congress, in section 513(d)(3) of the act, expressly authorized FDA to establish priorities which, in its discretion, are to be used in applying section 515 of the act to such devices. Furthermore, in section 513(c)(2)(A) of the act, Congress directed that where a panel has recommended classification of a device into class III, the panel shall, to the extent practicable, recommend the assignment of a priority for applying the requirements of section 515 of the act to the device. The panels recommended that a high priority be assigned to 63 of the 135 devices classified into class III.

In exercising its statutory authority to establish priorities for the issuance of regulations under section 515(b), FDA takes into account the following factors:

1. The recommendations on priority of the agency's advisory panels.
2. The present and projected use of the device.
3. The significance of the device to the public health.
4. The demonstrated, potential, or foreseeable risks of illness or injury associated with use of the device.
5. The seriousness of questions concerning the effectiveness of the device.
6. The extent to which valid scientific evidence developed since classification of the device and submitted to or otherwise brought to the agency's attention tends to support or undermine the basis for the classification.
7. The existence of a petition for reclassification of the device provided the agency tentatively concludes that the device should be reclassified.

In the Federal Register of September 6, 1983 (48 FR 40272), FDA issued a

notice of intent to require premarket approval for 13 preamendments class III devices. FDA has published final rules requiring premarket approval of 7 of these devices and published a proposed rule for 1 more device. Three of these devices are the subject of reclassification petitions and FDA is considering reclassifying these devices. FDA has not yet taken any action on 2 of the 13 devices, the pacemaker programmer and the implantable pacemaker pulse generator, because it does not have the resources necessary to review PMA's for these devices. FDA, however, has taken other steps to assure the safety and effectiveness of pacemakers such as issuance of the pacemaker registry regulation (52 FR 27756; July 23, 1987).

Final classification regulations for preamendments class III devices in 16 medical specialties have been issued. Using the factors set out above, FDA has reviewed the class III preamendments devices in each of the 16 specialties to determine which of those devices warrant immediate consideration for development of proposed regulations under section 515(b) of the act to require premarket approval. The devices that FDA has determined to have a high priority for regulations under section 515(b) of the act are listed below under the medical specialty in which they are classified.

Section or FR cite	Classification name of device
Part 866—Immunology and Microbiology Devices	
1. § 866.3305	Herpes simplex virus serological reagents.
2. § 866.3510	Rubella virus serological reagents.
Part 868—Anesthesiology Devices	
3. § 868.5400	Electroanesthesia apparatus.
4. § 868.5610	Membrane lung for long-term pulmonary support.
Part 870—Cardiovascular Devices	
5. § 870.3450	Vascular graft prosthesis of less than 6 millimeters diameter.
6. § 870.3535	Intra-aortic balloon and control system.
Part 872—Dental Devices	
7. § 872.3640	Endosseous implant.
8. § 872.6730	Endodontic dry heat sterilizer.
Part 874—Ear, Nose, and Throat Devices	
9. § 874.3850	Endolymphatic shunt tube with valve.
Part 876—Gastroenterology-Urology Devices	
10. § 876.3750	Testicular prosthesis.
11. § 876.4480	Electrohydraulic lithotripter.
Part 878—General and Plastic Surgery Devices	
12. § 878.3530	Silicone inflatable breast prosthesis.
13. § 878.3540	Silicone gel-filled breast prosthesis.
Part 880—General Hospital and Personal Use Devices	

Section or FR cite	Classification name of device
14. § 880.5760	Chemical cold pack snakebite kit.
Part 882—Neurological Devices	
15. § 882.5800	Cranial electrotherapy stimulator.
Part 884—Obstetrical and Gynecological Devices	
16. § 884.1185	Endometrial washer.
17. § 884.4100	Endoscopic electrocautery and accessories.
18. § 884.5940	Powered vaginal muscle stimulator for therapeutic use.
Part 886—Ophthalmic Devices	
19. § 886.3400	Keratoprosthesis.
20. § 886.3920	Eye valve implant.
Part 888—Orthopedic Devices	
21. § 888.3480	Knee joint femorotibial metallic constrained cemented prosthesis.
22. § 888.3540	Knee joint patellofemoral polymer/metal semi-constrained cemented prosthesis.
23. § 888.3550	Knee joint patellofemoral polymer/metal/metal constrained cemented prosthesis.
24. § 888.3570	Knee joint femoral (hemi-knee) metallic uncemented prosthesis.
25. § 888.3580	Knee joint patellar (hemi-knee) metallic resurfacing uncemented prosthesis when intended for uses other than treatment of degenerative and posttraumatic patellar arthritis.
26. § 888.3640	Shoulder joint metal/metal or metal/polymer constrained cemented prosthesis.
27. § 888.3650	Shoulder joint metal/polymer, non-constrained cemented prosthesis.
28. § 888.3660	Shoulder joint metal/polymer, semi-constrained cemented prosthesis.
29. § 888.3680	Shoulder joint glenoid (hemi-shoulder), metallic cemented prosthesis.
Part 890—Physical Medicine Devices	
30. § 890.3610	Rigid pneumatic structure orthosis.
31. § 890.3890	Stair-climbing wheelchair.

As soon as practicable, FDA intends to publish proposed and final regulations under section 515(b) of the act for each of these 31 devices. FDA has examined the economic impact of these regulations. The analysis has been placed on file in the Dockets Management Branch (address above) under the docket number found in brackets in the heading of this document and may be seen in that office between 9 a.m. and 4 p.m., Monday through Friday.

Ramifications for Manufacturers and Importers

The act does not include a provision for an extension of the 90-day period after promulgation of a final regulation under section 515(d) within which a PMA or a notice of completion of a PDP is

required to be filed. The House report on the amendments stated that "the thirty month grace period afforded after classification of a device into class III * * * is sufficient time for manufacturers and importers to develop the data and conduct the investigations necessary to support an application for premarket approval." H. Rept. No. 94-853, 94th Cong. 2d Sess. 42 (1976). Thus, "(i)f manufacturers and importers of class III devices initiate investigations only upon promulgation of the regulation requiring premarket approval, they risk having inadequate time to submit an

approvable application of PDP. In such cases, there devices would be required to be removed from the market." Id. In addition, section 515(d)(1)(B)(i) of the act provides that FDA may not enter into an agreement to extend the 180-day period in which to take action with respect to a PMA submitted for a device subject to a final regulation under section 515(b) unless the agency finds that "the continued availability of the device is necessary for the public health."

Interested persons may submit written comments regarding this notice to the

Document Management Branch (address above). Two copies of any comments are to be submitted, except that individuals may submit one copy. Comments are to be identified with the docket number found in brackets in the heading of this document. Received comments may be seen in that office between 9 a.m. and 4 p.m., Monday through Friday.

Dated: December 18, 1988.

Frank E. Young,

Commissioner of Food and Drugs.

[FR Doc. 89-116 Filed 1-5-89; 8:45 am]

BILLING CODE 4160-01-M

Federal Register

Friday
January 6, 1989

Part IV

Department of the Interior

Fish and Wildlife Service

50 CFR Part 17
Endangered and Threatened Wildlife and
Plants; Animal Notice of Review

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Animal Notice of Review

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of review.

SUMMARY: The Service issues a revised notice identifying vertebrate and invertebrate animal taxa, native to the U.S., being considered for possible addition to the List of Endangered and Threatened Wildlife. The Service emphasizes that this notice is not a proposal for such addition and that the involved taxa do not receive substantive or procedural protection pursuant to the Endangered Species Act of 1973, as amended, as a result of this action. The Service does, however, encourage Federal agencies and other appropriate parties to take these taxa into account in environmental planning. Also identified in this notice (in "category 3") are animal taxa that were previously under consideration for listing, but that are currently presumed either to be extinct, to not be valid species or subspecies, or to be more abundant and/or widespread than previously thought, and not subject to substantial threats to their continued existence.

DATES: Comments may be submitted until further notice.

ADDRESSES: Interested parties are requested to submit comments to the appropriate Regional Director(s) listed below or to: Director (AFWE), U.S. Fish and Wildlife Service, Washington, DC 20240. Comments and materials relating to this notice will be available for public inspection, by appointment, in the Regional Offices listed below and in the Division of Endangered Species and Habitat Conservation, 1000 North Glebe Road, Arlington, Virginia. Information relating to particular taxa may be obtained from the Endangered Species Coordinator(s) in the appropriate Regional Offices, as listed below:

Region 1. California, Hawaii, Idaho, Nevada, Oregon, Washington, American Samoa, Commonwealth of the Northern Mariana Islands, Guam, and Trust Territory of the Pacific Islands.

Regional Director (FWE-SE), U.S. Fish and Wildlife Service, Lloyd 500 Building, Suite 1692, 500 NE Multnomah Street, Portland, Oregon 97232 (503/231-6150 or FTS 429-6150).

Region 2. Arizona, New Mexico, Oklahoma, and Texas.

Regional Director (FWE/SE), U.S. Fish and Wildlife Service, P.O. Box 1306, Albuquerque, New Mexico 87103 (505/766-2321 or FTS 474-2321).

Region 3. Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin.

Regional Director (AE/SE), U.S. Fish and Wildlife Service, Federal Building, Fort Snelling, Twin Cities, Minnesota 55111 (612/725-3276 or FTS 725-3276).

Region 4. Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Puerto Rico, and the Virgin Islands.

Regional Director (FWE), U.S. Fish and Wildlife Service, The Richard B. Russell Federal Building, Suite 1276, 75 Spring Street SW., Atlanta, Georgia 30303 (404/221-3583 or FTS 242-3583).

Region 5. Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, and West Virginia.

Regional Director (FWE), U.S. Fish and Wildlife Service, Suite 700, One Gateway Center, Newton Corner, Massachusetts 02158 (617/965-5100 ext. 316 or FTS 829-9316).

Region 6. Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, and Wyoming.

Regional Director (FWE), U.S. Fish and Wildlife Service, P.O. Box 25486, Denver Federal Center, Denver, Colorado 80225 (303/236-7398 or FTS 776-7398).

Region 7. Alaska.

Regional Director (FWE), U.S. Fish and Wildlife Service, 1011 East Tudor Road, Anchorage, Alaska 99503 (907/786-3505 or FTS 786-3505).

FOR FURTHER INFORMATION CONTACT: Endangered Species Coordinator(s) in the appropriate Regional Office(s), or Mr. William Knapp, Chief, Division of Endangered Species and Habitat Conservation, U.S. Fish and Wildlife Service, Washington, DC 20240 (703/235-2771 or FTS 235-2771).

SUPPLEMENTARY INFORMATION:**Background**

The Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) requires determination of whether species of wildlife and plants are endangered or threatened based on the best available scientific and commercial data. For many years, the U.S. Fish and Wildlife Service has been gathering data on taxa of animals (fishes, amphibians, reptiles, birds, mammals, sponges, crustaceans, arachnids, insects, snails, and bivalve mollusks), native to the United States, that have appeared, at

least at times, to merit consideration for addition to the List of Endangered and Threatened Wildlife. The accompanying table identifies many of these taxa (including, by definition, biological subspecies and certain populations of vertebrate animals) and assigns each to one of the three categories described below. Unless it is the subject of a current published proposed or final rule determining endangered or threatened status, none of these taxa receives substantive or procedural protection pursuant to the Act (those species that are the subject of a proposed or final rule are removed from this list at each periodic updating).

Category 1 in this list comprises taxa for which the Service currently has substantial information on hand to support the biological appropriateness of proposing to list as endangered or threatened. Proposed rules have not yet been issued because they have been precluded at present by other listing activity. Development and publication of proposed rules on these taxa are anticipated, however, and the Service encourages Federal agencies and other appropriate parties to give consideration to such taxa in environmental planning.

Category 2 comprises taxa for which information now in possession of the Service indicates that proposing to list as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat are not currently available to support proposed rules. The Service emphasizes that these taxa are not being proposed for listing by this notice, and that there are not specific plans for such proposals unless additional information becomes available. Further biological research and field study may be needed to ascertain the status of taxa in this category, and it is likely that many will be found not to warrant listing. The Service hopes that this notice will encourage investigation of the status and vulnerability of these taxa, and consideration of them in the course of environmental planning.

Category 3 comprises taxa that were once being considered for listing as endangered or threatened, but are not currently receiving such consideration. These taxa are included in one of the following three subcategories.

Subcategory 3A comprises taxa for which the Service has persuasive evidence of extinction. If rediscovered, however, such taxa might warrant high priority for addition to the List of Endangered and Threatened Wildlife.

Subcategory 3B comprises names that, on the basis of current taxonomic understanding, usually as represented in

published revisions and monographs, do not represent taxa meeting the Endangered Species Act's legal definition of species; it also includes vertebrate populations that do not meet this definition. Future investigation could lead to reevaluation of the listing qualifications of such entities.

Subcategory 3C comprises taxa that are now considered to be more abundant and/or widespread than previously thought. Should new information suggest that any such taxon is experiencing a numerical or distributional decline, or is under a substantial threat, it may be considered for transfer to category 1 or 2.

Many of the taxa in the accompanying table were also covered by the Service's previous reviews: For vertebrates the preceding review was published in the *Federal Register* of September 18, 1985 (50 FR 37958-37967), and for invertebrates the preceding review was published May 22, 1984 (49 FR 21664-21675). Certain of the taxa covered by the previous notices, however, have already had emergency, proposed, and/or final determinations of endangered or threatened status, and therefore these taxa are not included in this notice of review (for the complete U.S. Lists of Endangered and Threatened Wildlife and Plants contact any of the offices in the above "ADDRESSES" section).

The Service hereby solicits data concerning the taxa in the accompanying table. Especially sought is information:

- (1) Indicating that a taxon would more properly be assigned to a category other than the one in which it appears;
- (2) Nominating a taxon not included in the table;
- (3) Recommending critical habitat for a taxon, or indicating why critical habitat may not be prudent or determinable for a taxon;
- (4) Documenting threats to any included taxon;
- (5) Pointing out taxonomic changes for any taxon;
- (6) Suggesting new or more appropriate names; or
- (7) Noting errors, such as in the indicated distributions.

The Service intends to consider all data received in response to this notice, to make appropriate amendments to the accompanying table, and to indicate intentions with regard to future listing actions. Substantive changes in status may be announced by periodic notices in the *Federal Register*.

Vertebrates are listed first in the accompanying table, followed by invertebrates. Each of these is arranged in a general systematic order, from fishes to mammals in the vertebrates and from sponges to mollusks in the invertebrates. Classes of vertebrates have separate headings, invertebrates headings reflect recognizable or convenient groups at the level of Order or above. For each taxon, the assigned category appears on the left, followed by the common (or vernacular) name, the scientific name, the family name, and the known historic range. Range is indicated by abbreviations of State names (also AS-American Samoa, CM-Commonwealth of the Northern Mariana Islands, GU-Guam, PR-Puerto Rico, TT-Trust Territory of the Pacific Islands, and VI-Virgin Islands) and by the full names of foreign regions and Navassa Island (a U.S. possession in the Caribbean). The species may no longer occur in some of the areas shown. The authority and date for the scientific name of mollusks is also given, because of unusual instability in systematics of the group. Some animals have been included that have not yet been formally described in the scientific literature. Such entities are indicated by the abbreviation "sp." after the generic name, or "ssp." after the generic and specific names. In the sections on birds, the abbreviation "N" indicates the nesting range of the species, and the abbreviation "V" indicates additional areas in which the species is a regular visitor. In the sections on insects, an asterisk on the category number or State signifies a lack of reports, to the Service's knowledge, since 1963 for the taxon or for the State, respectively.

A common or provisional vernacular name in English, Spanish, or Hawaiian is listed for most species. Some are vernacular names actually in common

use; some have been standardized by professional committees of specialists. In some groups whose systematics most need revision the vernacular names are about as informative as the current scientific name. Many taxa are obscure, which almost guarantees that no name has much history of use. Group names such as snail, amphipod, or dragonfly have been appended to common names to clarify distinctions from other invertebrates or plants with similar or confusing names; such extra qualifiers would probably be dropped from any name that came into truly common usage. Some changes or simplifications will be noted from names used in previous versions of these tables. Continuity in the scientific name should make such changes evident. The earlier common name may also be given in parentheses.

Author

This notice was compiled by the endangered species staff in the Regional and Field Offices of the Service and in the Division of Endangered Species and Habitat Conservation in Washington, DC. Dr. George Drewry served as editor.

Authority

The authority for this action is the Endangered Species Act of 1973, as amended:

Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411; Pub. L. 100-478, 102 Stat. 2306; Pub. L. 100-653, 102 Stat. 3825 (16 U.S.C. 1531 et seq.); Pub. L. 99-625, 100 Stat. 3500 (1986), unless otherwise noted.

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Dated: December 22, 1988.

Becky Norton Dunlop,

Assistant Secretary for Fish and Wildlife and Parks.

BILLING CODE 4310-55-M

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
VERTEBRATES			
FISHES			
2 Kern Brook lamprey	<i>Lampetra hubbsi</i>	Petromyzontidae	CA.
3A Miller Lake lamprey	<i>Lampetra minima</i>	Petromyzontidae	OR.
2 Lake sturgeon	<i>Acipenser fulvescens</i>	Acipenseridae	AL, AR, GA, IA, IL, IN, KS, KY, LA, MI, MN, MO, MS, NE, NY, OH, PA, SD, TN, VT, WI, WV, Canada.
2 Gulf sturgeon	<i>Acipenser oxyrinchus desotoi</i>	Acipenseridae	AL, FL, GA, LA, MS.
1 Pallid sturgeon	<i>Scaphirhynchus albus</i>	Acipenseridae	AR, IA, IL, KS, KY, LA, MO, MS, MT, ND, NE, SD, TN, AL, MS.
1 Alabama shovelnose sturgeon	<i>Scaphirhynchus platyrhynchus</i> ssp.	Acipenseridae	AL, MS.
3C Paddlefish	<i>Polyodon spathula</i>	Polyodontidae	AL, AR, IA, IL, IN, KS, KY, LA, MN, MO, MS, MT, ND, NE, OH, OK, PA, SD, TN, TX, WI.
3A Longjaw cisco	<i>Coregonus alpenae</i>	Salmonidae	IL, IN, MI, NY, OH, PA, VT, Canada.
3A Deepwater cisco	<i>Coregonus johanna</i>	Salmonidae	IL, IN, MI, MN, WI, Canada.
2 Kiwi	<i>Coregonus kiwi</i>	Salmonidae	IL, IN, MI, MN, NY, VT, Canada.
3A Blackfin cisco	<i>Coregonus nigripinnis nigripinnis</i>	Salmonidae	IL, IN, MI, WI, Canada.
1 Shortnose cisco	<i>Coregonus reighardi</i>	Salmonidae	IL, IN, MI, NY, VT, Canada.
2 Shortjaw cisco	<i>Coregonus zenithicus</i>	Salmonidae	IL, IN, MI, MN, WI, Canada.
2 Colorado cutthroat trout	<i>Salmo clarki pleuriticus</i>	Salmonidae	CO, UT, WY.
2 Bonneville cutthroat trout	<i>Salmo clarki utah</i>	Salmonidae	ID, UT, WY, NV.
3C Rio Grande cutthroat trout	<i>Salmo clarki virginalis</i>	Salmonidae	CO, NM.
3A Alford cutthroat trout	<i>Salmo clarki</i> ssp.	Salmonidae	NV, OR.
2 Snake River fine-spotted cutthroat trout	<i>Salmo clarki</i> ssp.	Salmonidae	ID.
2 Willow/Whitehorse cutthroat trout	<i>Salmo clarki</i> ssp.	Salmonidae	OR.
2 Kern River rainbow trout	<i>Salmo gairdneri gilberti</i>	Salmonidae	CA.
2 Redband trout	<i>Salmo</i> sp.	Salmonidae	CA, OR, ID, NV.
2 Bull trout	<i>Salvelinus confluentus</i>	Salmonidae	CA, ID, MT, NV, OR, WA.
2 Montana Arctic grayling	<i>Thymallus arcticus montanus</i>	Salmonidae	MT.
1 Delta smelt	<i>Hypomesus transpacificus</i>	Osmeriidae	CA.
2 Pygmy smelt	<i>Osmerus spectrum</i>	Osmeriidae	ME.
2 Olympic mudminnow	<i>Novumbra hubbsi</i>	Umbriidae	WA.
2 Mexican stone roller	<i>Camptostoma ornatus</i>	Cyprinidae	AZ, TX, Mexico.
2 Devil's River minnow	<i>Dionda diaboli</i>	Cyprinidae	TX.
2 Alford chub	<i>Gila alvordensis</i>	Cyprinidae	NV, OR.
2 Sheldon tui chub	<i>Gila bicolor euryzona</i>	Cyprinidae	NV, OR.
3A Independence Valley tui chub	<i>Gila bicolor isolata</i>	Cyprinidae	NV.
2 Newark Valley tui chub	<i>Gila bicolor newarkensis</i>	Cyprinidae	NV.
2 Lahontan tui chub	<i>Gila bicolor obesa</i>	Cyprinidae	NV.
2 Oregon Lakes tui chub	<i>Gila bicolor oregonensis</i>	Cyprinidae	OR.
1 Cowhead Lake tui chub	<i>Gila bicolor vaccaepe</i>	Cyprinidae	CA.
2 Big Smoky Valley tui chub	<i>Gila bicolor</i> ssp.	Cyprinidae	NV.
2 Catlow tui chub	<i>Gila bicolor</i> ssp.	Cyprinidae	OR.
2 Dixie Valley tui chub	<i>Gila bicolor</i> ssp.	Cyprinidae	NV.
2 Fish Creek Springs tui chub	<i>Gila bicolor</i> ssp.	Cyprinidae	NV.
2 Fish Lake Valley tui chub	<i>Gila bicolor</i> ssp.	Cyprinidae	NV.
2 Hot Creek Valley tui chub	<i>Gila bicolor</i> ssp.	Cyprinidae	NV.
2 Pleasant Valley tui chub	<i>Gila bicolor</i> ssp.	Cyprinidae	NV.
2 Railroad Valley tui chub	<i>Gila bicolor</i> ssp.	Cyprinidae	NV.
1 Summer Basin tui chub	<i>Gila bicolor</i> ssp.	Cyprinidae	OR.
2 Leatherside chub	<i>Gila copei</i>	Cyprinidae	ID, UT, WY.
3A Thicktail chub	<i>Gila crassicauda</i>	Cyprinidae	CA.
2 Gila chub	<i>Gila intermedia</i>	Cyprinidae	AZ, NM.
2 Gila roundtail chub	<i>Gila robusta grahami</i>	Cyprinidae	AZ, NM.
2 Hoopa roundtail chub	<i>Gila robusta</i> ssp.	Cyprinidae	NV.
2 Oregon chub	<i>Oregonichthys (=Hybopsis) crameri</i>	Cyprinidae	OR.
2 Sturgeon chub	<i>Hybopsis gelida</i>	Cyprinidae	AR, IA, IL, KY, KS, LA, MO, MS, MT, NB, ND, SD, WY, TN.
2 Sicklefing chub	<i>Hybopsis meeki</i>	Cyprinidae	AR, IA, IL, KY, KS, LA, MO, MS, NB, ND, SD, TN, UT.
1 Least chub	<i>Iotichthys phlegenthonis</i>	Cyprinidae	UT.
2 Virgin spinedace	<i>Lepidomeda mollispinis mollispinis</i>	Cyprinidae	AZ, NV, UT.
2 Smalleye shiner	<i>Notropis buccula</i>	Cyprinidae	TX.
2 Blue shiner	<i>Notropis caeruleus</i>	Cyprinidae	AL, GA, TN.
2 Bluestripe shiner	<i>Notropis callitaenia</i>	Cyprinidae	AL, FL, GA.
2 Chihuahua shiner	<i>Notropis chihuahua</i>	Cyprinidae	TX.
2 Arkansas River shiner	<i>Notropis girardi</i>	Cyprinidae	AR, KS, NM, OK, TX.
2 Rio Grande shiner	<i>Notropis jemezianus</i>	Cyprinidae	NM.
3A Phantom shiner	<i>Notropis arca</i>	Cyprinidae	TX, Mexico.
2 Sharpnose shiner	<i>Notropis oxyrinchus</i>	Cyprinidae	TX.
3C Peppered shiner	<i>Notropis perpallidus</i>	Cyprinidae	AR, OK.
2 Proserpine shiner	<i>Notropis proserpinus</i>	Cyprinidae	TX.
3A Rio Grande bluntnose shiner	<i>Notropis simus simus</i>	Cyprinidae	NM.
2 Ouachita Mountain shiner	<i>Notropis snelsoni</i>	Cyprinidae	AR, OK.
2 Altamaha shiner	<i>Notropis xanourus</i>	Cyprinidae	GA.
2 Swamp shiner	<i>Notropis</i> sp.	Cyprinidae	FL.
1 Cahaba shiner	<i>Notropis</i> sp.	Cyprinidae	AL.
2 Palezone shiner	<i>Notropis</i> sp.	Cyprinidae	AL, KY, TN.
2 Kanawha minnow	<i>Phenacobius tereulus</i>	Cyprinidae	NC, VA, WV.
2 Sacramento splittail	<i>Pogonichthys macrolepidotus</i>	Cyprinidae	CA.
2 Relict dace	<i>Relictus solitarius</i>	Cyprinidae	NV.
2 Cheat minnow	<i>Rhinichthys bowersi</i>	Cyprinidae	PA, WV.
2 Hoopa speckled dace	<i>Rhinichthys osculus hoopae</i>	Cyprinidae	NV.

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories)

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE	
2	Fahranagat speckled dace	<i>Rhinichthys osculus velifer</i>	Cyprinidae	NV.
2	Anargosa Canyon speckled dace	<i>Rhinichthys osculus</i> ssp.	Cyprinidae	CA.
2	Diamond Valley speckled dace	<i>Rhinichthys osculus</i> ssp.	Cyprinidae	NV.
2	Meadow Valley Wash speckled dace	<i>Rhinichthys osculus</i> ssp.	Cyprinidae	NV.
2	White River speckled dace	<i>Rhinichthys osculus</i> ssp.	Cyprinidae	NV.
2	Monitor Valley speckled dace	<i>Rhinichthys osculus</i> ssp.	Cyprinidae	NV.
2	Oasis Valley speckled dace	<i>Rhinichthys osculus</i> ssp.	Cyprinidae	NV.
2	Sandhills chub	<i>Sanotilus lumbee</i>	Cyprinidae	NV.
2	White River desert sucker	<i>Catostomus clarki intermedius</i>	Catostomidae	NC, SC.
2	Meadow Valley Wash desert sucker	<i>Catostomus clarki</i> ssp.	Catostomidae	NV.
2	Zuni Mountain sucker	<i>Catostomus discobolus yarrowi</i>	Catostomidae	NV.
3B	Webug sucker	<i>Catostomus fecundus</i>	Catostomidae	AZ, NM.
2	Goose Lake sucker	<i>Catostomus occidentalis lacustris</i>	Catostomidae	UT.
2	Jenny Creek sucker	<i>Catostomus riviculus</i> ssp.	Catostomidae	CA, OR.
2	Klamath largescale sucker	<i>Catostomus snyderi</i>	Catostomidae	CA, OR.
2	Wall Canyon sucker	<i>Catostomus</i> sp.	Catostomidae	CA, OR.
2	Blue sucker	<i>Cycleptus elongatus</i>	Catostomidae	NV.
3C	Rustyside sucker	<i>Maxistoma hamiltoni</i>	Catostomidae	AL, AR, IA, IL, IN, KS, KY, LA, MI, MO, MS, MT, ND, NE, NM, OH, OK, PA, SD, TN, TX, WI, WV, Mexico.
2	Bighead (=Savannah) redborse	<i>Maxistoma</i> sp.	Catostomidae	VA.
1	Razorback sucker	<i>Xyrauchen texanus</i>	Catostomidae	GA, SC.
3C	Headwater catfish	<i>Ictalurus lupus</i>	Catostomidae	AZ, CA, CO, NV, UT, WY.
3C	Carolina madtom	<i>Noturus furiosus</i>	Ictaluridae	NM, TX.
2	Orangefin madtom	<i>Noturus gilberti</i>	Ictaluridae	NC.
2	Quachita madtom	<i>Noturus lachneri</i>	Ictaluridae	NC, VA.
2	Frecklebelly madtom	<i>Noturus sunitus</i>	Ictaluridae	AR.
1	Necoho madtom	<i>Noturus placidus</i>	Ictaluridae	AL, GA, IA, MS, TN.
2	Pygmy madtom	<i>Noturus stanauli</i>	Ictaluridae	KS, MO, OK.
2	Caddo madtom	<i>Noturus taylori</i>	Ictaluridae	TN.
2	Widemouth blindcat	<i>Satan eurystomus</i>	Ictaluridae	AR.
2	Toothless blindcat	<i>Trogloglanis pattersoni</i>	Ictaluridae	TX.
2	Northern cavefish	<i>Amblyopsis spelaea</i>	Amblyopsidae	IN, KY.
2	Preston White River springfish	<i>Crenichthys baileyi albivallis</i>	Cyprinodontidae	NV.
2	Moapa White River springfish	<i>Crenichthys baileyi moapa</i>	Cyprinodontidae	NV.
2	Conchos pupfish	<i>Cyprinodon eximius</i>	Cyprinodontidae	TX, Mexico.
3A	Teocopa pupfish	<i>Cyprinodon nevadensis calidae</i>	Cyprinodontidae	CA.
1	Shoshone pupfish	<i>Cyprinodon nevadensis shoshone</i>	Cyprinodontidae	CA.
1	Pecos pupfish	<i>Cyprinodon pecosensis</i>	Cyprinodontidae	CA.
2	White Sands pupfish	<i>Cyprinodon tularosa</i>	Cyprinodontidae	NM, TX.
3A	Monkey Springs pupfish	<i>Cyprinodon</i> sp.	Cyprinodontidae	NM, TX.
2	Palomas pupfish	<i>Cyprinodon</i> sp.	Cyprinodontidae	AZ.
3A	Whiteline topminnow	<i>Fundulus albolineatus</i>	Cyprinodontidae	NM, Mexico.
3C	Barrens topminnow	<i>Fundulus julisia</i>	Cyprinodontidae	AL.
2	Waccamaw killifish	<i>Fundulus waccamensis</i>	Cyprinodontidae	TN.
2	Blotched gambusia	<i>Gambusia senilis</i>	Cyprinodontidae	NC.
2	Sacramento perch (native population)	<i>Archoplites interruptus</i>	Poeciliidae	TX, Mexico.
2	Carolina (=barred) pygmy sunfish	<i>Elassoma boehlkei</i>	Centrarchidae	CA.
2	Blue-barred pygmy sunfish	<i>Elassoma okatie</i>	Centrarchidae	NC, SC.
1	Spring pygmy sunfish	<i>Elassoma</i> sp.	Centrarchidae	SC.
2	Guadalupe bass	<i>Micropterus treculi</i>	Centrarchidae	AL.
2	Crystal darter	<i>Amocrypta asprella</i>	Percidae	TX.
2	Eastern sand darter	<i>Amocrypta pellucida</i>	Percidae	AL, AR, FL, IA, IL, IN, KY, LA, MI, MO, MS, OH, OK, TN, WI, WV.
3C	Sharphead darter	<i>Etheostoma acuticeps</i>	Percidae	IL, IN, KY, MI, NY, OH, PA, VT, WV.
2	Coppercheek darter	<i>Etheostoma aqualis</i>	Percidae	NC, TN, VA.
2	Arkansas darter	<i>Etheostoma cragini</i>	Percidae	TN.
2	Coldwater darter	<i>Etheostoma ditreus</i>	Percidae	AR, CO, KS, MO, OK.
2	Rio Grande darter	<i>Etheostoma grahami</i>	Percidae	AL, GA, TN.
3C	Greenthroat darter	<i>Etheostoma lepidum</i>	Percidae	TX, Mexico.
2	Pinewoods darter	<i>Etheostoma nanae</i>	Percidae	NM, TX.
2	Yellowcheek darter	<i>Etheostoma noyesi</i>	Percidae	NC, SC.
2	Cumberland Johnny darter	<i>Etheostoma nigrum suzannei</i>	Percidae	AR.
2	Finescale saddled darter	<i>Etheostoma osburni</i>	Percidae	KY.
3C	Paleback darter	<i>Etheostoma pallidiorum</i>	Percidae	VA, WV.
3B	Waccamaw darter	<i>Etheostoma perlongum</i>	Percidae	AR.
2	Striated darter	<i>Etheostoma striatulum</i>	Percidae	NC.
2	Tusculumbia darter	<i>Etheostoma tuscumbia</i>	Percidae	TN.
2	Jewel darter	<i>Etheostoma (Doratio) sp.</i>	Percidae	AL, TN.
2	Cherokee darter	<i>Etheostoma (Illocoentra) sp.</i>	Percidae	TN.
3C	Yazoo darter	<i>Etheostoma (Illocoentra) sp.</i>	Percidae	GA.
2	Goldline darter	<i>Percina aurolineata</i>	Percidae	MS.
2	Bluestripe darter	<i>Percina cyanotaenia</i>	Percidae	AL, GA.
2	Freckled darter	<i>Percina lenticula</i>	Percidae	MO.
2	Longhead darter	<i>Percina macrocephala</i>	Percidae	AL, GA, LA, MS.
2	Longnose darter	<i>Percina nasuta</i>	Percidae	KY, NC, NY, OH, PA, TN, VA, WV.
2	Olive darter	<i>Percina squamata</i>	Percidae	AR, MO, OK.
2	Stargazing darter	<i>Percina uranides</i>	Percidae	GA, KY, TN.
3A	Blue pike	<i>Stizostedion vitreum glaucum</i>	Percidae	AR, IL, IN, LA, MO.
2	Tidewater goby	<i>Bicyclotopus newberryi</i>	Gobiidae	MI, NY, OH, PA, Canada.
1	O'opu alamo'o	<i>Lentipes concolor</i>	Gobiidae	CA.
2	Rough sculpin	<i>Cottus asperimus</i>	Cottidae	HI.
2	Malheur mottled sculpin	<i>Cottus bairdi</i> ssp.	Cottidae	CA.
3C	Shoshone sculpin	<i>Cottus greeni</i>	Cottidae	OR.
2	Wood River sculpin	<i>Cottus letopomus</i>	Cottidae	ID.

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories).

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
1 Pygmy sculpin	<i>Cottus pygmaeus</i>	Cottidae	AL.
2 Slender sculpin	<i>Cottus tenuis</i>	Cottidae	OR.
2 Bluestone sculpin	<i>Cottus</i> sp.	Cottidae	VA, WV.
AMPHIBIANS			
2 Flatwoods salamander	<i>Ambystoma cingulatum</i>	Ambystomatidae	AL, FL, GA, MS, SC.
2 California tiger salamander	<i>Ambystoma tigrinum californiense</i>	Ambystomatidae	CA.
2 Sonoran tiger salamander	<i>Ambystoma tigrinum stebbinsi</i>	Ambystomatidae	AZ, Mexico.
2 Hellbender	<i>Cryptobranchus alleganiensis</i>	Cryptobranchidae	AL, AR, GA, IA, IL, IN, KY, KS, MD, MN, MO, MS, NC, NY, OH, PA, SC, TN, VA, WV.
3C Green salamander (Appalachian population)	<i>Aneides aeneus</i>	Plethodontidae	AL, KY, MD, MS, OH, PA, TN, VA, WV.
2 Green salamander (Southern Blue Ridge population)	<i>Aneides aeneus</i>	Plethodontidae	GA, NC, SC.
2 Sacramento Mountains salamander	<i>Aneides hardii</i>	Plethodontidae	NM.
1 Inyo Mountains slender salamander	<i>Batrachoseps campii</i>	Plethodontidae	CA.
2 Channel Islands slender salamander	<i>Batrachoseps pacificus pacificus</i>	Plethodontidae	CA.
2 Kern Canyon slender salamander	<i>Batrachoseps sinuatus</i>	Plethodontidae	CA.
2 Teuchachapi slender salamander	<i>Batrachoseps stebbinsi</i>	Plethodontidae	CA.
2 Yellow-blotched ensatina	<i>Bufo insularis</i>	Plethodontidae	CA.
2 Large-blotched ensatina	<i>Bufo insularis</i>	Plethodontidae	CA.
2 Barton Springs salamander	<i>Bufo insularis</i>	Plethodontidae	CA.
2 Dark-sided salamander	<i>Bufo</i> sp.	Plethodontidae	TX.
2 Junaluska salamander	<i>Bufo</i> sp.	Plethodontidae	AL, TN.
3B Cascade Caverns salamander	<i>Bufo</i> sp.	Plethodontidae	NC.
2 Texas salamander	<i>Bufo</i> sp.	Plethodontidae	TX.
2 Conal blind salamander	<i>Bufo</i> sp.	Plethodontidae	TX.
3B Valdivia Farms salamander	<i>Bufo</i> sp.	Plethodontidae	TX.
2 Oklahoma salamander	<i>Bufo</i> sp.	Plethodontidae	TX.
2 Tennessee cave salamander	<i>Gyrinophilus palleucus</i>	Plethodontidae	AR, OK, MO.
1 Berry cave salamander	<i>Gyrinophilus palleucus gulosus</i>	Plethodontidae	AL, GA, TN.
2 West Virginia spring salamander	<i>Gyrinophilus subterraneus</i>	Plethodontidae	TN.
2 Georgia blind salamander	<i>Gyrinophilus subterraneus</i>	Plethodontidae	WV.
2 Limestone salamander	<i>Hydromantes wallacei</i>	Plethodontidae	GA, FL.
2 Mount Lyell salamander	<i>Hydromantes brunus</i>	Plethodontidae	CA.
2 Shasta salamander	<i>Hydromantes platycephalus</i>	Plethodontidae	CA.
2 Caddo Mountain salamander	<i>Hydromantes shastae</i>	Plethodontidae	CA.
2 Del Norte salamander	<i>Plethodon caddoensis</i>	Plethodontidae	AR.
2 Fourche Mountain salamander	<i>Plethodon elongatus</i>	Plethodontidae	CA, OR.
2 Peaks of Otter salamander	<i>Plethodon fourchensis</i>	Plethodontidae	AR.
3C Coeur d'Alene salamander	<i>Plethodon hubrichti</i>	Plethodontidae	VA.
2 Larch Mountain salamander	<i>Plethodon idahoensis</i>	Plethodontidae	ID, MT.
1 Jemez Mountain salamander	<i>Plethodon larselli</i>	Plethodontidae	OR, WA.
3C Rich Mountain (=Ouachita) salamander	<i>Plethodon neomexicanus</i>	Plethodontidae	NM.
2 Cow Knob (=White-spotted) salamander	<i>Plethodon ouachitae</i>	Plethodontidae	AR, OK.
2 Siskiyou Mountains salamander	<i>Plethodon punctatus</i>	Plethodontidae	VA, WV.
2 Robust (=Blanco) blind salamander	<i>Plethodon stormi</i> (=P. elongatus s.)	Plethodontidae	CA, OR.
3C Neuse River (=Carolina) waterdog	<i>Typhlonigra robusta</i>	Plethodontidae	TX.
2 Sipesy Fork mudpuppy (=waterdog)	<i>Necturus lewisi</i>	Proteidae	NC.
2 Black-spotted newt	<i>Necturus maculosus</i> ssp.	Proteidae	AL.
2 Gulf Hammock dwarf siren	<i>Notophthalmus meridionalis</i>	Salamandridae	TX, Mexico.
2 Rio Grande lesser siren	<i>Pseudobranchius striatus lustricolus</i>	Sirenidae	FL.
2 Boreal western toad (Rocky Mountains population)	<i>Siren intermedia texana</i>	Sirenidae	TX, Mexico.
2 Black toad	<i>Bufo boreas boreas</i>	Bufoinae	CO, NM, WY.
2 Arroyo southwestern toad	<i>Bufo exsul</i>	Bufoinae	CA.
2 Arizona southwestern toad	<i>Bufo microscaphus californicus</i>	Bufoinae	CA, Mexico.
2 Amargosa toad	<i>Bufo microscaphus microscaphus</i>	Bufoinae	AZ, CA, NM, NV, UT, Mexico.
3C Sonoran green toad	<i>Bufo nelsoni</i>	Bufoinae	NV.
3C Pine Barrens treefrog	<i>Bufo retiformis</i>	Bufoinae	AZ, Mexico.
2 Illinois Strecker's chorus frog	<i>Hyla anderssoni</i>	Hylidae	AL, FL, NC, NJ, SC.
2 Guayon, rock frog	<i>Pseudacris streckeri illinoensis</i>	Hylidae	AR, IL, MO.
2 mottled coqui (Ebenida's coqui)	<i>Eleutherodactylus cooki</i>	Leptodactylidae	PR.
2 Web-footed coqui	<i>Eleutherodactylus aneides</i>	Leptodactylidae	PR.
3B Ramos bromeliad frog	<i>Eleutherodactylus karlschadti</i>	Leptodactylidae	PR.
3B Duckwater frog	<i>Eleutherodactylus ramosi</i>	Leptodactylidae	PR.
3A San Felipe leopard frog	<i>Rana</i> sp.	Ranidae	NV.
2 Florida crawfish (=gopher) frog	<i>Rana</i> sp.	Ranidae	CA.
2 Carolina crawfish (=gopher) frog	<i>Rana areolata aescopus</i>	Ranidae	FL, GA.
2 Dusky crawfish (=gopher) frog	<i>Rana areolata capito</i>	Ranidae	GA, NC, SC.
2 California red-legged frog	<i>Rana areolata seveca</i>	Ranidae	AL, FL, LA, MS.
3B Vegas Valley leopard frog	<i>Rana aurora draytoni</i>	Ranidae	CA, Mexico.
2 Florida bog frog	<i>Rana (pipiens) fisheri</i>	Ranidae	WV.
3A Relict leopard frog	<i>Rana okaloosae</i>	Ranidae	FL.
1 Tarahumara frog	<i>Rana onca</i>	Ranidae	AZ, NV, UT.
2 Yavapai (=lowland) leopard frog	<i>Rana tarahumarae</i>	Ranidae	AZ, Mexico.
	<i>Rana yavapaiensis</i>	Ranidae	AZ, CA, NV, Mexico.
REPTILES			
2 Alligator snapping turtle	<i>Macrochelys temminckii</i>	Chelydridae	AR, AL, FL, GA, IL, IN, KY, KS, LA, MD, MS, OK, TN, TX.
3C Northwestern pond turtle (California population)	<i>Clemmys barrowsi barrowsi</i>	Emyridae	CA.
2 Northwestern pond turtle	<i>Clemmys barrowsi barrowsi</i>	Emyridae	OR, WA, Canada.
2 Southwestern pond turtle	<i>Clemmys barrowsi pallida</i>	Emyridae	CA.
2 Bog turtle	<i>Clemmys sullivanbergi</i>	Emyridae	CT, DE, GA, IA, MD, NC, NY, NJ, PA, RI, SC, VA.

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CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE	
2	Barbour's map turtle	<i>Graptemys barbouri</i>	Emydidae	AL, FL, GA
3C	Cagle's map turtle	<i>Graptemys caglei</i>	Emydidae	TX.
2	Yellow-blotched map turtle (=sawback)	<i>Graptemys flavimaculata</i>	Emydidae	MS.
3C	Black-knobbed map turtle (=sawback)	<i>Graptemys nigrinoda</i>	Emydidae	AL, MS.
3C	Sabine Ouachita map turtle	<i>Graptemys ouachitensis sabinensis</i>	Emydidae	LA, TX.
3C	Texas map turtle	<i>Graptemys versa</i>	Emydidae	TX.
2	Northern diamondback terrapin	<i>Malaclemys terrapin terrapin</i>	Emydidae	CT, DE, MD, NC, NJ, NY, MA, RI, VA.
3C	Susannee cooter	<i>Pseudemys concinna suwanensis</i>	Emydidae	FL, GA.
2	Jicotea	<i>Pseudemys (decussata) stejnegeri</i>	Emydidae	PR.
3C	Big Bend slider	<i>Pseudemys scripta gaigeae</i>	Emydidae	TX, Mexico.
3B	Key striped mud turtle	<i>Kinosternon bauri bauri</i>	Kinosternidae	FL.
2	Arizona yellow mud turtle	<i>Kinosternon flavescens arizonense</i>	Kinosternidae	AZ, Mexico.
2	Yellow mud turtle (northern populations)	<i>Kinosternon flavescens flavescens</i>	Kinosternidae	IA, IL, MO, NE.
3B	Illinois mud turtle	<i>Kinosternon flavescens sponneri</i>	Kinosternidae	IA, IL, MO.
2	Big Bend mud turtle	<i>Kinosternon hirtipes murrayi</i>	Kinosternidae	TX, Mexico.
2	Desert tortoise (Mojave Desert population)	<i>Gopherus (=Xerobates) agassizii</i>	Testudinidae	CA, NV, Mexico.
2	Desert tortoise (Sonora Desert population)	<i>Gopherus (=Xerobates) agassizii</i>	Testudinidae	AZ, Mexico.
2	Gopher tortoise (eastern population)	<i>Gopherus polyphemus</i>	Testudinidae	FL, GA, SC.
3C	Baker's worm (=legless) lizard	<i>Amphisbaena bakeri</i>	Amphisbaenidae	PR.
2	Island glass lizard	<i>Ophisaurus compressus</i>	Anguillidae	FL, GA, SC.
2	Panamint alligator lizard	<i>Elgaria panamintinus</i>	Anguillidae	CA.
2	Black California legless lizard	<i>Anniella pulchra nigra</i>	Anniellidae	CA.
2	Barefoot gecko	<i>Coleonyx (=Narybius) switaki</i>	Gekkonidae	CA, Mexico.
3C	Reticulated (=Big Bend) gecko	<i>Coleonyx reticulatus</i>	Gekkonidae	TX, Mexico.
3C	Gila monster	<i>Heloderma suspectum</i>	Helodermatidae	AZ, CA, NM, NV, UT, Mexico.
2	Cook's anole	<i>Anolis cooki</i>	Iguanidae	PR.
2	Puerto Rican pygmy anole	<i>Anolis occultus</i>	Iguanidae	PR.
2	Reticulate collared lizard	<i>Crotaphytus reticulatus</i>	Iguanidae	TX, Mexico.
3A	Navassa Island iguana	<i>Cyclura cornuta nigerrima</i>	Iguanidae	Navassa Island
3A	Navassa curly-tailed lizard	<i>Leiocephalus eremitus</i>	Iguanidae	Navassa Island
2	Texas horned lizard	<i>Phrynosoma cornutum</i>	Iguanidae	AZ, AR, CO, KS, LA, MD, NM, OK, TX, Mexico.
2	San Diego horned lizard	<i>Phrynosoma coronatum blainvilliei</i>	Iguanidae	CA, Mexico.
1	Flat-tailed horned lizard	<i>Phrynosoma mcalli</i>	Iguanidae	CA, AZ, Mexico.
3C	Sand dune sagebrush lizard	<i>Sceloporus graciosus arenicolous</i>	Iguanidae	TX, NM.
2	Florida scrub lizard	<i>Sceloporus woodi</i>	Iguanidae	FL.
2	Colorado Desert fringed-toed lizard	<i>Uma notata notata</i>	Iguanidae	CA, Mexico.
2	Cowles fringe-toed lizard	<i>Uma notata rufopunctata</i>	Iguanidae	AZ, Mexico.
3C	Pandanus skink	<i>Auilacoxys leptosoma</i>	Scincidae	TT.
2	Florida Keys mole skink	<i>Bufo egregius egregius</i>	Scincidae	FL.
2	Cedar Key mole skink	<i>Bufo egregius insularis</i>	Scincidae	FL.
2	Arizona Gilbert's skink	<i>Bufo gilberti arizonensis</i>	Scincidae	AZ.
2	Blue-tailed ground lizard	<i>Ameiva websteri</i>	Telidae	PR.
2	Gray-checkered whiptail	<i>Cnemidophorus dixonii</i>	Telidae	NM, TX.
2	Orange-throated whiptail	<i>Cnemidophorus hyperythrus</i>	Telidae	CA, Mexico.
2	Southern rubber boa	<i>Charina bottae umbratica</i>	Boidae	CA.
3A	St. Croix racer (=ground snake)	<i>Alsophis sancticrucis</i>	Colubridae	VI.
2	Olebra garden snake	<i>Arrhyton exiguus exiguus</i>	Colubridae	PR.
2	Kirtland's snake	<i>Clonophis kirtlandi</i>	Colubridae	IL, IN, KY, MI, OH, PA.
2	Key ring-necked snake	<i>Diadophis punctatus acricus</i>	Colubridae	FL.
3C	Desert king snake	<i>Lampropeltis getulus splendida</i>	Colubridae	AZ, NM, OK, TX.
3C	Gray-banded king snake	<i>Lampropeltis mexicana alterna</i>	Colubridae	TX.
2	San Diego Mountain king snake	<i>Lampropeltis zonata pulchra</i>	Colubridae	CA.
2	Alameda striped racer	<i>Hasticophis lateralis euryxanthus</i>	Colubridae	CA.
2	Copperbelly water snake	<i>Nerodia erythrogaster neglecta</i>	Colubridae	IL, IN, KY, MI, OH.
2	Brazos water snake	<i>Nerodia harteri harteri</i>	Colubridae	TX.
2	Lake Erie water snake	<i>Nerodia sipedon insularum</i>	Colubridae	OH, Canada.
2	Black pine snake	<i>Pituophis melanoleucus lodingi</i>	Colubridae	AL, LA, MS.
2	Northern pine snake	<i>Pituophis melanoleucus melanoleucus</i>	Colubridae	AL, GA, NC, NJ, SC, TN, VA, WV.
2	Florida pine snake	<i>Pituophis melanoleucus mugitus</i>	Colubridae	AL, FL, GA, SC.
2	Santa Cruz Island gopher snake	<i>Pituophis melanoleucus pumilis</i>	Colubridae	CA.
2	Louisiana pine snake	<i>Pituophis melanoleucus ruthveni</i>	Colubridae	LA, TX.
2	Short-tailed snake	<i>Stilosoma extenuatum</i>	Colubridae	FL.
2	Risrock crowned snake	<i>Tantilla colitica</i>	Colubridae	FL.
2	Short-headed garter snake	<i>Thamnophis brachystoma</i>	Colubridae	NY, PA.
2	Giant Sierra garter snake	<i>Thamnophis couchii gigas</i>	Colubridae	CA.
2	Mexican garter snake	<i>Thamnophis eques</i>	Colubridae	AZ, NM, Mexico.
2	Narrow-headed garter snake	<i>Thamnophis rufipunctatus</i>	Colubridae	AZ, NM, Mexico.
2	Texas garter snake	<i>Thamnophis sirtalis annectans</i>	Colubridae	KS, TX.
2	Navassa dusky dwarf boa	<i>Tropidophis melanurus bucculentus</i>	Colubridae	Navassa Island.
3C	Arizona ridge-nosed rattlesnake	<i>Crotalus willardi willardi</i>	Viperidae	AZ, Mexico.
2	Eastern massasauga	<i>Sistrurus catenatus catenatus</i>	Viperidae	IA, IL, IN, MI, MO, MN, NY, OH, PA, WI, Canada.
BIRDS				
2	Reddish egret	<i>Egretta rufescens</i>	Ardeidae	FL, TX, Mexico, West Indies;
2	White-faced ibis	<i>Plegadis chihi</i>	Threskiornithidae	AL, CA, LA, MS.
3C	Tule white-fronted goose	<i>Anser albifrons albas</i>	Anatidae	N-AZ, CA, CO, HI, NV, OK, OR, TX, UT;
2	West Indian whistling duck	<i>Dendrocygna arboxea</i>	Anatidae	V-ID, WY, Mexico.
2	Pulvous whistling duck (SW U.S. population)	<i>Dendrocygna bicolor</i>	Anatidae	FL-AK; V-CA, OR.
2	Lesser white-cheeked pintail	<i>Anas bahamensis bahamensis</i>	Anatidae	PR, VI, West Indies.
2	West Indian ruddy duck	<i>Oxyura jamaicensis jamaicensis</i>	Anatidae	N-AZ, CA; V-Mexico.
				PR, VI, West Indies, South America.

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3C American swallow-tailed kite	<i>Elanoides forficatus forficatus</i>	Accipitridae	N=AL, AR, FL, GA, IA, IL, KS, LA, MN, MO, MS, NC, NE, OK, SC, TN, TX, WI; V=Central America.
2 Apache northern goshawk	<i>Accipiter gentilis apache</i>	Accipitridae	N=AZ, NM, Mexico.
3C Puerto Rican sharp-shinned hawk	<i>Accipiter striatus venator</i>	Accipitridae	PR.
2 Northern gray hawk	<i>Buteo nitidus maximus</i>	Accipitridae	N=AZ, NM, TX, Mexico.
2 Puerto Rican broad-winged hawk	<i>Buteo platypterus brunescens</i>	Accipitridae	PR.
2 Ferruginous hawk	<i>Buteo regalis</i>	Accipitridae	N=CO, ID, KS, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA, WY, Canada; V=AZ, CA, Mexico.
3C Swainson's hawk	<i>Buteo swainsoni</i>	Accipitridae	N=AK, AZ, CA, CO, IA, ID, KS, MN, MO, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA, WY, Canada; V=FL, Mexico, Central and South America.
2 Southeastern American kestrel	<i>Falco sparverius paulus</i>	Falconidae	AL, FL, GA, LA, MS.
2 Western sage grouse	<i>Centrocercus urophasianus phaeus</i>	Phasianidae	OR, WA, Canada.
2 Columbian sharp-tailed grouse	<i>Tympanuchus phasianellus columbianus</i>	Phasianidae	CA, CO, ID, OR, MT, NV, UT, WA, WY, Canada.
2 Mangrove clapper rail	<i>Rallus longirostris insularum</i>	Rallidae	FL.
1 California black rail	<i>Laterallus jamaicensis coturniculus</i>	Rallidae	AZ, CA, Mexico.
2 Caribbean coot	<i>Fulica caribaea</i>	Rallidae	PR, VI, West Indies.
2 Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	Charadriidae	N=CA, CO, KS, NM, NV, OK, OR, TX, UT, WA; V=AZ, Mexico.
2 Southeastern snowy plover	<i>Charadrius alexandrinus tenuirostris</i>	Charadriidae	AL, FL, LA, MS, PR, Greater Antilles.
2 Mountain plover	<i>Charadrius montanus</i>	Charadriidae	N=CO, KS, MT, ND, NE, NM, OK, SD, TX, WY; V=AZ, CA, NV, UT, Mexico.
2 Elegant tern	<i>Sterna elegans</i>	Laridae	CA, Mexico.
2 Long-billed curlew	<i>Numenius americanus</i>	Scolopacidae	N=CA, CO, IA, ID, KS, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA, WI, WY, Canada; V=AZ, LA, MN, Mexico.
2 Bristle-thighed curlew	<i>Numenius tahitiensis</i>	Scolopacidae	N=AK; V=HI, Central Pacific Islands
2 Marbled murrelet	<i>Brachyramphus marmoratus</i>	Alcidae	AK, CA, OR, WA, Canada, North Pacific rim to Japan.
2 White-crowned pigeon	<i>Columba leucocephala</i>	Columbidae	FL, West Indies, Central America.
2 Radau Micronesian pigeon	<i>Ducula oceanica rataensis</i>	Columbidae	TT (Marshall Islands).
2 Truk Micronesian pigeon	<i>Ducula oceanica teraoki</i>	Columbidae	TT (Caroline Islands).
3A Mariana fruit dove	<i>Ptilinopus roseicapillus</i>	Columbidae	GU, CN.
3C Palau ground dove	<i>Gallicolumba canifrons</i>	Columbidae	Palau IS., West Pacific Ocean.
3A Guam white-throated ground-dove	<i>Gallicolumba xanthonura xanthonura</i>	Columbidae	GU, CN.
3C Palau Nicobar pigeon	<i>Caloenas nicobarensis pelewensis</i>	Columbidae	TT (Caroline Islands).
3B Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Cuculidae	N=AZ, CA, CO, ID, NM, NV, OR, TX, UT, WA, Canada, Mexico; V=Central and South America.
2 Virgin Islands screech owl	<i>Otus natipus newtoni</i>	Strigidae	PR, VI.
3C Palau owl	<i>Pyroglaux (=Otus) podargina</i>	Strigidae	Palau IS., West Pacific Ocean.
2 Cactus ferruginous pygmy-owl	<i>Glaucidium brasilianum cactorum</i>	Strigidae	AZ, TX, Mexico.
2 Spotted owl	<i>Strix occidentalis</i>	Strigidae	AZ, CA, CO, NM, OR, TX, UT, WA, Mexico.
1 Ponape short-eared owl	<i>Asio flammeus ponapensis</i>	Strigidae	TT (Caroline Islands).
2 Southwestern willow flycatcher	<i>Empidonax traillii eximius</i>	Tyrannidae	AZ, CO, NM, Mexico.
1 Appalachian Bewick's wren	<i>Thryomanes bewickii alius</i>	Troglodytidae	AL, GA, KY, MD, NC, OH, PA, SC, TN, VA, WV, Canada.
3A San Clemente Bewick's wren	<i>Thryomanes bewickii leucophrys</i>	Troglodytidae	CA.
2 Coastal black-tailed gnatcatcher	<i>Poliopitila melanura californica</i>	Muscicapidae	CA, Mexico.
3C Palau fantail flycatcher	<i>Rhipidura lepida</i>	Muscicapidae	Palau IS., West Pacific Ocean.
3C Truk monarch	<i>Metabolus rugensis</i>	Muscicapidae	TT (Caroline Islands).
3A Guam rufous-fronted fantail	<i>Rhipidura rufifrons uraniae</i>	Muscicapidae	GU.
1 Palau white-breasted wood-swallow	<i>Arenas leucorhynchus pelewensis</i>	Artamidae	TT (Caroline Islands).
2 Migrant loggerhead shrike	<i>Lanius ludovicianus migrans</i>	Laniidae	N=AR, CT, DE, DC, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, NC, NE, NH, NJ, NY, OH, OK, PA, RI, TN, TX, VA, VT, WI, WV, Canada; V=AL, FL, GA, LA, MS, SC.
3A Cardinal honey-eater	<i>Myzomela cardinalis saffordi</i>	Melephagidae	GU, CN.
2 Bishop's o'o	<i>Mobo bishopi</i>	Melephagidae	HI.
2 Rota bridled white-eye	<i>Zosterops conspicillata rotensis</i>	Zosteropidae	CN.
1 Truk greater white-eye	<i>Rukia ruki</i>	Zosteropidae	TT (Caroline Islands).
3C Arizona Bell's vireo	<i>Vireo bellii arizonae</i>	Vireonidae	N=AZ, CA, NV, UT; V=Mexico.
3C Colina warbler	<i>Vermivora crissalis</i>	Emberizidae	N=TX, V=Mexico.
2 Tropical parula (=olive-backed warbler)	<i>Parula pitayumi nigrilora</i>	Emberizidae	TX, Mexico.
2 Golden-cheeked warbler	<i>Dendroica chrysoparia</i>	Emberizidae	N=TX; V=Mexico, Central America.
2 Stoddard's yellow-throated warbler	<i>Dendroica dominica stoddardi</i>	Emberizidae	AL, FL.
2 Elfin woods warbler	<i>Dendroica angelae</i>	Emberizidae	PR.
2 Brownsville common yellowthroat	<i>Geothlypis trichas insperata</i>	Emberizidae	TX, Mexico.
2 Saltmarsh common yellowthroat	<i>Geothlypis trichas sinuosa</i>	Emberizidae	CA.
2 Texas (=Sennett's) olive sparrow	<i>Arremonops rufivirgatus rufivirgatus</i>	Emberizidae	TX, Mexico.
3C Yuma brown towhee	<i>Pipilo fuscus relictus</i>	Emberizidae	AZ.
2 Bachman's sparrow	<i>Aimophila aestivalis</i>	Emberizidae	AL, AR, FL, GA, IL, IN, KY, LA, MD, MO, MS, NC, OH, OK, PA, SC, TN, TX, VA, WV.
2 Texas Botteri's sparrow	<i>Aimophila botterii texana</i>	Emberizidae	TX, Mexico.
3C Yuma rufous-crowned sparrow	<i>Aimophila ruficeps rupicola</i>	Emberizidae	AZ.
2 Belding's savannah sparrow	<i>Passerculus sandwichensis beldingi</i>	Emberizidae	CA, Mexico.
2 Large-billed savannah sparrow	<i>Passerculus sandwichensis rostratus</i>	Emberizidae	N=Mexico; V=AZ, CA.
3A Texas Henslow's sparrow	<i>Ammodramus henslowii houstonensis</i>	Emberizidae	TX.
2 Wakulla seaside sparrow	<i>Ammodramus maritima junicola</i>	Emberizidae	FL.
2 Smyrna seaside sparrow	<i>Ammodramus maritima pelonota</i>	Emberizidae	FL.
2 Akak song sparrow	<i>Melospiza melodia anaka</i>	Emberizidae	AK.

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3A Santa Barbara song sparrow	<i>Melospiza melodia graminea</i>	Emberizidae	CA.
2 Suisun song sparrow	<i>Melospiza melodia macularis</i>	Emberizidae	CA.
2 San Pablo song sparrow	<i>Melospiza melodia samuelis</i>	Emberizidae	CA.
2 Alameda (South Bay) song sparrow	<i>Melospiza melodia pusillula</i>	Emberizidae	CA.
2 Tricolored blackbird	<i>Agelaius tricolor</i>	Emberizidae	CA, OR, Mexico.
2 Mexican hooded oriole	<i>Icterus cucullatus cucullatus</i>	Emberizidae	TX, Mexico.
2 Sennett's hooded oriole	<i>Icterus cucullatus sennettii</i>	Emberizidae	TX, Mexico.
2 Audubon's oriole	<i>Icterus graduacauda audubonii</i>	Emberizidae	TX, Mexico.
3C Palau blue-faced parrotfinch	<i>Erythrura trichroa pelewensis</i>	Estrildidae	TT (Caroline Islands).
MAMMALS			
2 Tuckahoe masked shrew	<i>Sorex cinereus nigriculus</i>	Soricidae	NJ.
2 Pribilof Islands shrew	<i>Sorex hydrodromus</i>	Soricidae	AK.
2 Mt. Lyell shrew	<i>Sorex lyelli</i>	Soricidae	CA.
2 Preble's shrew	<i>Sorex preblei</i>	Soricidae	ID, MT, OR, WA, WY.
2 Homosassa shrew	<i>Sorex longirostris eionis</i>	Soricidae	FL.
1 Salt marsh vagrant shrew	<i>Sorex vagrans halicoetes</i>	Soricidae	CA.
3B San Bernardino dusky shrew	<i>Sorex monticolus parvidens</i>	Soricidae	CA.
2 Buena Vista Lake shrew	<i>Sorex ornatus relictus</i>	Soricidae	CA.
2 Monterey ornate shrew	<i>Sorex ornatus salarius</i>	Soricidae	CA.
2 Ornate salt marsh shrew	<i>Sorex ornatus salicornicus</i>	Soricidae	CA.
1 Suisun ornate shrew	<i>Sorex ornatus sinusus</i>	Soricidae	CA.
2 Santa Catalina shrew	<i>Sorex ornatus willetti</i>	Soricidae	CA.
3B Ashland shrew	<i>Sorex trigonirostris</i>	Soricidae	OR.
2 Southern water shrew	<i>Sorex palustris punctulatus</i>	Soricidae	MD, NC, PA, TN, VA, WV.
2 Glacier Bay water shrew	<i>Sorex alaskanus</i>	Soricidae	AK.
2 Arizona shrew	<i>Sorex arizonae</i>	Soricidae	AZ, NM.
2 Long-tailed shrew	<i>Sorex dispar</i>	Soricidae	MA, MD, ME, NC, NH, NJ, NY, PA, TN, VA, VT, WV, WA.
2 Destruction Island shrew	<i>Sorex trowbridgii destructionis</i>	Soricidae	WA.
3C Northeastern pygmy shrew	<i>Microsorex hoyi thompsoni</i>	Soricidae	MA, ME, MI, NH, NY, OH, PA, VT, WI, WV.
2 Southern pygmy shrew	<i>Microsorex hoyi winnemana</i>	Soricidae	IL, IN, KY, MD, NC, OH, TN, VA.
2 Martha's Vineyard short-tailed shrew	<i>Blarina brevicauda aloga</i>	Soricidae	MA.
2 Nantucket short-tailed shrew	<i>Blarina brevicauda compacta</i>	Soricidae	MA.
2 Aransas short-tailed shrew	<i>Blarina brevicauda plumbea</i>	Soricidae	TX.
2 Sherman's short-tailed shrew	<i>Blarina brevicauda shermani</i>	Soricidae	FL.
3C Dismal Swamp short-tailed shrew	<i>Blarina brevicauda telmalestes</i>	Soricidae	NC, VA.
3C Anastasia Island mole	<i>Scalopus aquaticus anastasiae</i>	Talpidae	FL.
2 Englewood mole	<i>Scalopus aquaticus bassi</i>	Talpidae	FL.
2 Presidio mole	<i>Scalopus aquaticus texanus</i>	Talpidae	TX.
3C Star-nosed mole	<i>Condylura cristata parva</i>	Talpidae	GA, MD, NC, SC, TN, VA, WV.
2 Mariana flying fox (Rota, northern island populations)	<i>Pteropus mariannus mariannus</i>	Pteropodidae	CH.
1 Mariana flying fox (Agigun, Tinian, Siapan populations)	<i>Pteropus mariannus mariannus</i>	Pteropodidae	CH.
2 Pagan Mariana flying fox (=Pagan fruit bat)	<i>Pteropus mariannus paganensis</i>	Pteropodidae	CH.
2 Sanoan flying fox (=Samoan fruit bat)	<i>Pteropus samoensis samoensis</i>	Pteropodidae	AS, Western Samoa.
2 Sheath-tailed bat	<i>Emballonura semicaudata</i>	Emballonuridae	CH, GU, TT (Caroline Islands).
2 Mexican long-tongued bat	<i>Choonycteris mexicana</i>	Phyllostomidae	AZ, CA, NM, Mexico, Central & South America.
2 California leaf-nosed bat	<i>Nacrotus californicus</i>	Phyllostomidae	AZ, CA, NM, Mexico.
3A Insular long-tongued bat	<i>Myotis plethodon frater</i>	Phyllostomidae	PR.
2 Desmarest's fig-eating bat	<i>Stenoderma rufum</i>	Phyllostomidae	PR.
2 Eastern small-footed bat	<i>Myotis subulatus leibii</i>	Vespertilionidae	AR, CT, DE, GA, IL, IN, KY, MA, MD, ME, MI, NC, NJ, NY, OH, OK, PA, RI, TN, VA, VT, WV, Canada.
2 Occult little brown bat	<i>Myotis lucifugus occultus</i>	Vespertilionidae	AZ, CA, NH, TX, Mexico.
2 Southeastern myotis (bat)	<i>Myotis austroriparius</i>	Vespertilionidae	AL, AR, FL, GA, IL, IN, KY, LA, MD, MS, NC, OK, SC, TN, TX.
2 Southwestern cave myotis (bat)	<i>Myotis velifer brevis</i>	Vespertilionidae	AZ, CA, NM.
2 Spotted bat	<i>Eudernia maculatum</i>	Vespertilionidae	AZ, CA, CO, ID, MT, NM, NV, OR, UT, WY, TX, Canada, Mexico.
2 Pacific western big-eared bat	<i>Plecotus townsendii townsendii</i>	Vespertilionidae	CA, ID, OR, WA, Canada.
2 Rafinesque's (=southeastern) big-eared bat	<i>Plecotus rafinesquii</i>	Vespertilionidae	AL, AR, FL, GA, IL, IN, KY, LA, MD, MS, NC, OH, OK, SC, TN, TX, VA.
2 Greater western mastiff-bat	<i>Emops perotis californicus</i>	Molossidae	AZ, CA, NM, TX, Mexico.
2 Underwood's mastiff-bat	<i>Emops underwoodi</i>	Molossidae	AZ, Mexico, Central America.
2 Florida mastiff-bat	<i>Emops glaucinus floridanus</i>	Molossidae	FL.
2 Barnes' pika	<i>Ochotona princeps barnesi</i>	Ochotonidae	UT.
2 Cinnamon pika	<i>Ochotona princeps cinnamomea</i>	Ochotonidae	UT.
3C Copenhagen Basin pika	<i>Ochotona princeps clamosa</i>	Ochotonidae	ID.
2 Lasal pika	<i>Ochotona princeps lasalensis</i>	Ochotonidae	UT.
2 Heliotrope pika	<i>Ochotona princeps moorei</i>	Ochotonidae	UT.
2 Goat Peak pika	<i>Ochotona princeps nigrescens</i>	Ochotonidae	NM.
2 Wasatch pika	<i>Ochotona princeps wasatchensis</i>	Ochotonidae	UT.
1 Riparian brush rabbit	<i>Sylvilagus bachmani riparius</i>	Leporidae	CA.
1 Lower Keys marsh rabbit	<i>Sylvilagus palustris hefneri</i>	Leporidae	FL.
3C Micco cottontail rabbit	<i>Sylvilagus floridanus amophilus</i>	Leporidae	FL.
2 Smiths Island cottontail rabbit	<i>Sylvilagus floridanus hitchcoci</i>	Leporidae	VA.
2 Davis Mountains cottontail rabbit	<i>Sylvilagus floridanus robustus</i>	Leporidae	TX.
2 New England cottontail rabbit	<i>Sylvilagus transitionalis</i>	Leporidae	AL, GA, KY, MA, MD, ME, NC, NH, NJ, NY, PA, TN, VA, VT, WV.
2 Sierra Nevada snowshoe hare	<i>Lepus americanus gairdneri</i>	Leporidae	CA.
2 White-sided jack rabbit	<i>Lepus callotis galliardii</i>	Leporidae	NM, Mexico.
2 Mountain beaver (Moxo Basin population)	<i>Aplodontia rufa californica</i>	Aplodontidae	CA.

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories).

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
1 Point Arena mountain beaver	<i>Aplodontia rufa nigra</i>	Aplodontidae	CA.
2 Point Reyes mountain beaver	<i>Aplodontia rufa pbaea</i>	Aplodontidae	CA.
3A Penasco least chipmunk	<i>Eutamias minimus atristriatus</i>	Sciuridae	NH.
2 Organ Mountains Colorado chipmunk	<i>Eutamias quadrivittatus australis</i>	Sciuridae	NH.
2 Hidden Forest Uinta chipmunk	<i>Eutamias umbrinus nevadensis</i>	Sciuridae	NV.
2 Mount Ellen Uinta chipmunk	<i>Eutamias umbrinus sedulus</i>	Sciuridae	UT.
2 Palmer's chipmunk	<i>Eutamias palmeri</i>	Sciuridae	NV.
2 Wet Mountains yellow-bellied marmot	<i>Marmota flaviventris notivox</i>	Sciuridae	CO.
2 Nelson's antelope ground squirrel	<i>Amospermophilus nelsoni</i>	Sciuridae	CA.
1 Northern Idaho ground squirrel	<i>Spermophilus brunneus</i> ssp.	Sciuridae	ID.
2 Southern Idaho ground squirrel	<i>Spermophilus brunneus</i> ssp.	Sciuridae	ID.
3C Richardson's ground squirrel	<i>Spermophilus richardsoni nevadensis</i>	Sciuridae	ID, NV, OR.
2 Allen's 13-lined ground squirrel	<i>Spermophilus tridecemlineatus alleni</i>	Sciuridae	WY.
3C White Mountains ground squirrel	<i>Spermophilus tridecemlineatus monticola</i>	Sciuridae	AZ.
2 Mohave ground squirrel	<i>Spermophilus mohavensis</i>	Sciuridae	CA.
2 Palm Springs ground squirrel	<i>Spermophilus tereticaudus chlorus</i>	Sciuridae	CA.
2 Arizona black-tailed prairie dog	<i>Cynomys ludovicianus arizonensis</i>	Sciuridae	AZ, NM, TX, Mexico.
2 Mangrove fox squirrel	<i>Sciurus niger avicennia</i>	Sciuridae	FL.
2 Sherman's fox squirrel	<i>Sciurus niger shermani</i>	Sciuridae	FL.
2 Chiricahua Nayarit squirrel	<i>Sciurus nayaritensis chiricahuae</i>	Sciuridae	AZ.
2 Santa Catalina Mountains squirrel	<i>Sciurus arizonensis catalinae</i>	Sciuridae	AZ.
2 San Bernardino flying squirrel	<i>Glaucomys sabrinus californicus</i>	Sciuridae	CA.
3C Prince of Wales flying squirrel	<i>Glaucomys sabrinus griseifrons</i>	Sciuridae	AK.
2 Roy Prairie pocket gopher	<i>Thomomys mazama glacialis</i>	Geomysidae	WA.
2 Goldbeach western pocket gopher	<i>Thomomys mazama helleri</i>	Geomysidae	WA.
2 Louie's western pocket gopher	<i>Thomomys mazama louiei</i>	Geomysidae	WA.
2 Tacoma western pocket gopher	<i>Thomomys mazama tacomensis</i>	Geomysidae	WA.
2 Fish Spring pocket gopher	<i>Thomomys umbrinus abstrusus</i>	Geomysidae	NV.
2 Amargosa southern pocket gopher	<i>Thomomys umbrinus amargosae</i>	Geomysidae	CA.
2 Bonneville southern pocket gopher	<i>Thomomys umbrinus bonnevillei</i>	Geomysidae	UT.
2 Clear Lake pocket gopher	<i>Thomomys umbrinus convexus</i>	Geomysidae	UT.
2 San Antonio pocket gopher	<i>Thomomys umbrinus curtatus</i>	Geomysidae	NV.
2 Pistol River pocket gopher	<i>Thomomys umbrinus detumidus</i>	Geomysidae	OR.
2 Mount Ellen pocket gopher	<i>Thomomys umbrinus dissimilis</i>	Geomysidae	UT.
3C Aninas southern pocket gopher	<i>Thomomys umbrinus emotus</i>	Geomysidae	NH.
3C Graham Mountains pocket gopher	<i>Thomomys umbrinus grahamensis</i>	Geomysidae	CA.
2 Guadalupe southern pocket gopher	<i>Thomomys umbrinus guadalupensis</i>	Geomysidae	NH, TX.
2 Hualapai southern pocket gopher	<i>Thomomys umbrinus hualpaiensis</i>	Geomysidae	AZ.
2 Limpia southern pocket gopher	<i>Thomomys umbrinus limpiae</i>	Geomysidae	TX.
2 Hearn's southern pocket gopher	<i>Thomomys umbrinus hearnii</i>	Geomysidae	NH.
2 Stansbury Island pocket gopher	<i>Thomomys umbrinus minimus</i>	Geomysidae	UT.
2 Prospect Valley pocket gopher	<i>Thomomys umbrinus muralis</i>	Geomysidae	AZ.
2 Antelope Island pocket gopher	<i>Thomomys umbrinus nepophilus</i>	Geomysidae	UT.
2 Cebolleta southern pocket gopher	<i>Thomomys umbrinus paguatae</i>	Geomysidae	NH.
2 Salt Gulch pocket gopher	<i>Thomomys umbrinus powelli</i>	Geomysidae	UT.
2 Pajarito southern pocket gopher	<i>Thomomys umbrinus quercinus</i>	Geomysidae	AZ.
2 Skull Valley pocket gopher	<i>Thomomys umbrinus robustus</i>	Geomysidae	UT.
2 Swasey Spring pocket gopher	<i>Thomomys umbrinus severi</i>	Geomysidae	UT.
2 Searchlight southern pocket gopher	<i>Thomomys umbrinus suboles</i>	Geomysidae	AZ.
2 Harquahala southern pocket gopher	<i>Thomomys umbrinus subsimilis</i>	Geomysidae	AZ.
2 Limpia Creek pocket gopher	<i>Thomomys umbrinus texensis</i>	Geomysidae	TX.
2 Mer Rouge pocket gopher	<i>Geomys bursarius breviceps</i>	Geomysidae	LA.
3C White Sands pocket gopher	<i>Geomys arenarius brevirrostris</i>	Geomysidae	NH.
2 Texas maritime pocket gopher	<i>Geomys personatus maritimus</i>	Geomysidae	TX.
2 Carrizo Springs pocket gopher	<i>Geomys personatus streckeri</i>	Geomysidae	TX.
3A Sherman's southeastern pocket gopher	<i>Geomys pinetis fontaneli</i>	Geomysidae	GA.
3A Goff's southeastern pocket gopher	<i>Geomys pinetis goffi</i>	Geomysidae	FL.
3B Colonial pocket mouse	<i>Perognathus colonus</i>	Geomysidae	GA.
2 Cumberland pocket mouse	<i>Perognathus cumberlandius</i>	Geomysidae	GA.
2 White-eared pocket mouse	<i>Perognathus alticola alticola</i>	Heteromyidae	CA.
2 Tehachapi white-eared pocket mouse	<i>Perognathus alticola inexpectatus</i>	Heteromyidae	CA.
2 Silky pocket mouse	<i>Perognathus flavus goodpastori</i>	Heteromyidae	AZ.
2 Los Angeles pocket mouse	<i>Perognathus longimembris brevinasus</i>	Heteromyidae	CA.
2 Pacific little pocket mouse	<i>Perognathus longimembris pacificus</i>	Heteromyidae	CA.
2 Coconino Arizona pocket mouse	<i>Perognathus amplus amodytes</i>	Heteromyidae	AZ.
2 Yavapai Arizona pocket mouse	<i>Perognathus amplus amplus</i>	Heteromyidae	AZ.
2 Wupatki Arizona pocket mouse	<i>Perognathus amplus cineris</i>	Heteromyidae	AZ.
2 San Joaquin pocket mouse	<i>Perognathus inornatus inornatus</i>	Heteromyidae	CA.
2 Salinas pocket mouse	<i>Perognathus inornatus psammophilus</i>	Heteromyidae	CA.
2 Black Mountain pocket mouse	<i>Perognathus intermedius nigricornis</i>	Heteromyidae	AZ.
2 Fletcher dark kangaroo mouse	<i>Microdipodops megacephalus nasutus</i>	Heteromyidae	NV.
2 Desert Valley kangaroo mouse	<i>Microdipodops megacephalus alhiwenter</i>	Heteromyidae	NV.
2 Dolphin Island awl-toothed kangaroo rat	<i>Dipodomys ordii cineraceus</i>	Heteromyidae	UT.
2 Gunnison Island kangaroo rat	<i>Dipodomys microps alfredi</i>	Heteromyidae	UT.
2 Marble Canyon kangaroo rat	<i>Dipodomys microps leucotis</i>	Heteromyidae	AZ.
2 Dolphin Island chisel-toothed kangaroo rat	<i>Dipodomys microps russellus</i>	Heteromyidae	UT.
2 Marysville Heerman's kangaroo rat	<i>Dipodomys heermanni eximus</i>	Heteromyidae	CA.
2 Big-eared kangaroo rat	<i>Dipodomys elephantinus</i>	Heteromyidae	CA.
2 Texas kangaroo rat	<i>Dipodomys elator</i>	Heteromyidae	OK, TX.
2 Merriam's kangaroo rat	<i>Dipodomys merriami frenatus</i>	Heteromyidae	UT.
2 Short-nosed kangaroo rat	<i>Dipodomys nitratoides brevinasus</i>	Heteromyidae	CA.
2 Pine Island rice rat	<i>Oryzomys palustris planirostris</i>	Muridae	FL.
2 Sanibel Island rice rat	<i>Oryzomys palustris sanibeli</i>	Muridae	FL.
3B Silver rice rat	<i>Oryzomys argentatus</i>	Muridae	FL.

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories).

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
2 Chiricahua western harvest mouse	<i>Reithrodontomys megalotis arizonensis</i>	Muridae	AZ.
2 Southern marsh harvest mouse	<i>Reithrodontomys megalotis limicola</i>	Muridae	CA.
2 Stansbury Island harvest mouse	<i>Reithrodontomys megalotis rarus</i>	Muridae	UT.
2 Santa Cruz harvest mouse	<i>Reithrodontomys megalotis santacruzae</i>	Muridae	CA.
2 Pinacate cactus mouse	<i>Peromyscus eremicus papagensis</i>	Muridae	AZ., Mexico.
2 Black Mountain cactus mouse	<i>Peromyscus eremicus pullus</i>	Muridae	AZ.
3A Pallid oldfield beach mouse	<i>Peromyscus polionotus decoloratus</i>	Muridae	FL.
2 Santa Rosa beach mouse	<i>Peromyscus polionotus leucocephalus</i>	Muridae	FL.
2 St. Andrews beach mouse	<i>Peromyscus polionotus peninsularis</i>	Muridae	FL.
2 Anacapa deer mouse	<i>Peromyscus maniculatus anacapae</i>	Muridae	CA.
2 San Clemente deer mouse	<i>Peromyscus maniculatus clementis</i>	Muridae	CA.
2 Monomoy white-footed mouse	<i>Peromyscus leucopus amodytes</i>	Muridae	MA.
2 Pungo white-footed mouse	<i>Peromyscus leucopus easti</i>	Muridae	VA.
2 Martha's Vineyard white-footed mouse	<i>Peromyscus leucopus fuscus</i>	Muridae	MA.
3A Anastasia Island cotton mouse	<i>Peromyscus gossypinus anastasiae</i>	Muridae	FL., GA.
3A Chadwick Beach cotton mouse	<i>Peromyscus gossypinus restrictus</i>	Muridae	FL.
2 Palo Duro mouse	<i>Peromyscus sonoriensis</i>	Muridae	TX.
2 Florida mouse	<i>Peromyscus floridanus</i>	Muridae	FL.
2 Yuma hispid cotton rat	<i>Sigmodon hispidus eremicus</i>	Muridae	CA, AZ., Mexico.
3C Lower Keys cotton rat	<i>Sigmodon hispidus eximius</i>	Muridae	FL.
2 Insular hispid cotton rat	<i>Sigmodon hispidus insulicola</i>	Muridae	FL.
3C Micco hispid cotton rat	<i>Sigmodon hispidus littoralis</i>	Muridae	FL.
2 Yavapai Arizona cotton rat	<i>Sigmodon arizonae jacksoni</i>	Muridae	AZ.
2 Colorado River cotton rat	<i>Sigmodon arizonae plenus</i>	Muridae	CA.
2 Hot Springs cotton rat	<i>Sigmodon fulviventer goldmani</i>	Muridae	NM.
2 Southern Appalachian eastern woodrat	<i>Neotoma floridana haemastorea</i>	Muridae	GA, NC, SC.
2 Eastern woodrat	<i>Neotoma floridana magister</i>	Muridae	AL, CT, IL, IN, KY, MD, NC, NJ, NY, OH, PA, TN, VA, WV.
2 White Sands woodrat	<i>Neotoma micropus leucophaea</i>	Muridae	NM.
2 Santa Catalina Mountains woodrat	<i>Neotoma mexicana bullata</i>	Muridae	AZ.
2 San Joaquin Valley woodrat	<i>Neotoma fuscipes riparia</i>	Muridae	CA.
2 Kentucky red-backed vole	<i>Clethrionomys gapperi maurus</i>	Muridae	KY.
3B Pynatuning red-backed vole	<i>Clethrionomys gapperi paludicola</i>	Muridae	OH, PA.
3B Kittatiny red-backed vole	<i>Clethrionomys gapperi rupicola</i>	Muridae	PA.
2 White-footed vole	<i>Arborimus albipes</i>	Muridae	CA, OR.
2 Duke's salt marsh vole	<i>Microtus pennsylvanicus dukecampbelli</i>	Muridae	FL.
2 Potholes meadow vole	<i>Microtus pennsylvanicus kincaidi</i>	Muridae	WA.
2 Block Island meadow vole	<i>Microtus pennsylvanicus proventus</i>	Muridae	RI.
2 Penobscot meadow vole	<i>Microtus pennsylvanicus shattucki</i>	Muridae	ME.
2 Beach vole	<i>Microtus breweri</i>	Muridae	WA.
3C Arizona montane vole	<i>Microtus montanus arizonensis</i>	Muridae	AZ, NM.
2 Pahrangat Valley montane vole	<i>Microtus montanus lucosus</i>	Muridae	NV.
2 Ash Meadows montane vole	<i>Microtus montanus nevadensis</i>	Muridae	NV.
2 Virgin River montane vole	<i>Microtus montanus rivularis</i>	Muridae	UT.
2 San Pablo California vole	<i>Microtus californicus sanpabloensis</i>	Muridae	CA.
2 Owens Valley California vole	<i>Microtus californicus vallicola</i>	Muridae	CA.
2 Shaw Island Townsend's vole	<i>Microtus townsendii pugeti</i>	Muridae	WA.
2 Anak tundra vole	<i>Microtus oeconomus anakensis</i>	Muridae	AK.
2 Montague tundra vole	<i>Microtus oeconomus elymocetes</i>	Muridae	AK.
3C Graham Mountains long-tailed vole	<i>Microtus longicaudus leucophaeus</i>	Muridae	AZ.
2 Southern rock vole	<i>Microtus chrotorrhinus carolinensis</i>	Muridae	NC, TN, VA, WV.
2 Navaho Mountain Mexican vole	<i>Microtus mexicanus navaho</i>	Muridae	AZ, UT.
3A Louisiana prairie vole	<i>Microtus ochrogaster ludovicianus</i>	Muridae	LA, TX.
2 Round-tailed muskrat	<i>Neofiber alleni</i>	Muridae	FL, GA.
3C Dismal Swamp bog lemming	<i>Synaptomys cooperi helaletes</i>	Muridae	NC, VA.
2 Nebraska bog lemming	<i>Synaptomys cooperi relictus</i>	Muridae	NE.
2 Kansas bog lemming	<i>Synaptomys cooperi paludis</i>	Muridae	KS.
2 Northern bog lemming	<i>Synaptomys borealis sphagnicola</i>	Muridae	ME, NH, Canada.
2 New Mexican jumping mouse	<i>Zapus hudsonius luteus</i>	Zapodidae	AZ, NM.
2 Preble's meadow jumping mouse	<i>Zapus hudsonius preblei</i>	Zapodidae	CO, WY.
2 Point Reyes jumping mouse	<i>Zapus trinotatus orarius</i>	Zapodidae	CA.
2 Sierra Nevada red fox	<i>Vulpes vulpes necator</i>	Canidae	CA, NV.
2 Swift fox	<i>Vulpes velox</i>	Canidae	CO, KS, MT, ND, NE, NM, OK, SD, TX, WY, Canada.
2 Santa Catalina Island fox	<i>Urocyon littoralis catalinae</i>	Canidae	CA.
2 San Clemente Island fox	<i>Urocyon littoralis clementae</i>	Canidae	CA.
2 San Nicolas Island fox	<i>Urocyon littoralis dickeyi</i>	Canidae	CA.
2 San Miguel Island fox	<i>Urocyon littoralis littoralis</i>	Canidae	CA.
2 Santa Cruz Island fox	<i>Urocyon littoralis santacruzae</i>	Canidae	CA.
2 Santa Rosa Island fox	<i>Urocyon littoralis santarosae</i>	Canidae	CA.
3C Glacier (black) bear	<i>Ursus americanus emmonsii</i>	Ursidae	AK.
2 Florida black bear	<i>Ursus americanus floridanus</i>	Ursidae	FL, GA.
2 Louisiana black bear	<i>Ursus americanus luteolus</i>	Ursidae	LA, MS, TX.
2 Key Vaca raccoon	<i>Procyon lotor auspicatus</i>	Procyonidae	FL.
2 Key West raccoon	<i>Procyon lotor incautus</i>	Procyonidae	FL.
3C Eastern marten	<i>Martes americana americana</i>	Mustelidae	MA, ME, MI, ND, NH, NY, OH, PA, VT, WI, Canada.
2 Florida long-tailed weasel	<i>Mustela frenata peninsularis</i>	Mustelidae	FL.
2 Everglades mink	<i>Mustela vison evergladensis</i>	Mustelidae	FL.
2 Florida mink	<i>Mustela vison luteiventris</i>	Mustelidae	FL.
2 North American wolverine	<i>Gulo gulo luscus</i>	Mustelidae	CO, ID, MI, MT, ND, NV, UT, WY.
2 California wolverine	<i>Gulo gulo luteus</i>	Mustelidae	CA, OR, WA.
2 Channel Islands spotted skunk	<i>Spilogale putorius amphiala</i>	Mustelidae	CA.
2 Eastern hog-nosed skunk	<i>Conepatus leuconotus texensis</i>	Mustelidae	TX, Mexico.
2 Colorado hog-nosed skunk	<i>Conepatus mesoleucus figuinsi</i>	Mustelidae	CO.
2 Big Thicket hog-nosed skunk	<i>Conepatus mesoleucus talmalestes</i>	Mustelidae	TX.

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories).

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
2 Southwestern otter	<i>Lutra canadensis sonora</i>	Mustelidae	AZ, CA, CO, NM, UT.
2 North American lynx	<i>Felis lynx canadensis</i>	Felidae	AK, CO, ID, ME, MI, MN, MT, ND, NH, NV, NY, OR, UT VT, WA, WI, WY, Canada.
2 Texas margay	<i>Felis wiedii cooperi</i>	Felidae	TX, Mexico.
2 Yuma puma	<i>Felis concolor browni</i>	Felidae	AZ, CA, Mexico.
2 Wisconsin puma	<i>Felis concolor schorgeri</i>	Felidae	IA, IL, KS, MN, MO, WI, Canada.
2 Hilton Head white-tailed deer	<i>Odocoileus virginianus hiltonensis</i>	Cervidae	SC.
2 Blackbeard Island white-tailed deer	<i>Odocoileus virginianus nigriribbis</i>	Cervidae	GA.
2 Bulls Island white-tailed deer	<i>Odocoileus virginianus taurinsulae</i>	Cervidae	SC.
2 Hunting Island white-tailed deer	<i>Odocoileus virginianus venatoria</i>	Cervidae	SC.
3A Woodland caribou (Montana population)	<i>Rangifer tarandus caribou</i>	Cervidae	MT.
2 California bighorn sheep	<i>Ovis canadensis californiana</i>	Bovidae	CA, OR, WA, Canada.
2 Peninsular bighorn sheep	<i>Ovis canadensis cremnobates</i>	Bovidae	CA, Mexico.

INVERTEBRATES

SPONGES (Porifera)

3B Muscular sponge	<i>Anheteromyia biceps</i>	Spongillidae	MI
2 Carolina sponge	<i>Carvomeyenia carolinensis</i>	Spongillidae	SC.
2 Oklawaha sponge	<i>Dosilia palmeri</i>	Spongillidae	FL, Mexico.
2 Kissimmee sponge	<i>Ephydatia subtilis</i>	Spongillidae	FL.
2 Pennsylvania sponge	<i>Heteromeyenia longistylis</i>	Spongillidae	PA.
2 Oneida sponge	<i>Spongilla heteroclerifa</i>	Spongillidae	NY.
3B Spongy sponge	<i>Spongilla spongiosa</i>	Spongillidae	SC.

HYDROIDS (Cnidaria)

2 (No common name)	<i>Ostromouvia horii</i>		HI
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FLATWORMS (Turbellaria)

2 (Planarian, no common name)	<i>Kenkia rhynchida</i>	Kenkiidae	OR.
2 (Planarian, no common name)	<i>Kenkia (=Macrocotyla) glandulosa</i>	Kenkiidae	MO, IA.
2 Culver's planarian	<i>Sphalloplana culveri</i>	Kenkiidae	WV.
3A Holsinger's groundwater planarian	<i>Sphalloplana holsingeri</i>	Kenkiidae	VA.
2 Refton Cave planarian	<i>Sphalloplana pricei</i>	Kenkiidae	PA.
3A Bigger's groundwater planarian	<i>Sphalloplana subtilis</i>	Kenkiidae	VA.
2 (Planarian, no common name)	<i>Sphalloplana virginiana</i>	Kenkiidae	VA.
2 (Planarian, no common name)	<i>Procotyla typhlops</i>	Kenkiidae	MD, VA.

EARTHWORMS (Annelids, Class Oligochaeta)

2 Oregon giant earthworm	<i>Megascolides macelfreshi</i>	Megascolecidae	OR.
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BRANCHIOPODS (Crustaceans, Subclass Branchiopoda)

3B Mono Lake brine shrimp	<i>Artemia monica</i>	Artemiidae	CA.
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ISOPODS (Crustaceans, Order Isopoda)

2 Clifton Cave isopod	<i>Caecidotea burri</i>	Asellidae	KY.
2 (Isopod, no common name)	<i>Caecidotea filicispeluncae</i>	Asellidae	OR.
2 (Isopod, no common name)	<i>Caecidotea caninus</i>	Asellidae	WV.
2 Franz's isopod	<i>Caecidotea franzi</i>	Asellidae	MD.
2 (Isopod, no common name)	<i>Caecidotea simonini</i>	Asellidae	WV.
2 (Isopod, no common name)	<i>Caecidotea sinuatus</i>	Asellidae	WV.
2 Bat Cave isopod	<i>Caecidotea macropoda</i>	Asellidae	OK.
2 Nickajack Cave isopod	<i>Caecidotea nickajackensis</i>	Asellidae	TN.
2 Rye Cove Cave isopod	<i>Lirceus culveri</i>	Asellidae	VA.
2 Lee County Cave isopod	<i>Lirceus usdagulun</i>	Asellidae	VA.

AMPHIPODS (Crustaceans, Order Amphipoda)

2 (Amphipod, no common name)	<i>Metabetaeus lobens</i>	Alpheidae	HI.
2 Central Missouri cave amphipod	<i>Allocranonyx hubrichti</i>	Gammaridae	MO.
2 Oklahoma cave amphipod	<i>Allocranonyx pellicidus</i>	Gammaridae	OK.
2 Illinois cave amphipod	<i>Gammarus acherondytes</i>	Gammaridae	IL.
2 Bousfield's amphipod	<i>Gammarus bousfieldi</i>	Gammaridae	KY.
2 Noel's amphipod	<i>Gammarus desperatus</i>	Gammaridae	MI.
2 Diminutive amphipod	<i>Gammarus hyalleloides</i>	Gammaridae	TX.
2 Pecos amphipod	<i>Gammarus pecos</i>	Gammaridae	TX.

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories).

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
3C Kansas well amphipod	<i>Baetruus hubrichti</i>	Crangonyetidae	KS, MO, OK.
3C Anomalous spring amphipod	<i>Crangonyx anomalus</i>	Crangonyetidae	IN, KY, OH.
2 Dearolf's (=Pennsylvania) cave amphipod	<i>Crangonyx dearolfi</i>	Crangonyetidae	MD, PA.
3C Appalachian Valley cave amphipod	<i>Crangonyx antennatus</i>	Crangonyetidae	AL, IL, TN, VA.
2 Florida cave amphipod	<i>Crangonyx grandinatus</i>	Crangonyetidae	FL.
2 Hoib's cave amphipod	<i>Crangonyx hobbsi</i>	Crangonyetidae	FL.
3C Minor cave amphipod	<i>Crangonyx minor</i>	Crangonyetidae	IA, IL, IN, MI, Canada.
3C Packard's cave amphipod	<i>Crangonyx packardi</i>	Crangonyetidae	IN, KY.
3C Allegheny cave amphipod	<i>Stygobromus (=Stygonectes) allegheniensis</i>	Crangonyetidae	MD, NY, PA.
2 Tidewater interstitial amphipod	<i>Stygobromus (=Apocrangonyx) araeus</i>	Crangonyetidae	VA.
2 Arizona cave amphipod	<i>Stygobromus (=Stygonectes) arizonensis</i>	Crangonyetidae	AZ.
2 Balcones cave amphipod	<i>Stygobromus (=Stygonectes) balconis</i>	Crangonyetidae	TX.
2 Barr's cave amphipod	<i>Stygobromus (=Stygonectes) barri</i>	Crangonyetidae	MO.
2 Bifurcated cave amphipod	<i>Stygobromus (=Stygonectes) bifurcatus</i>	Crangonyetidae	TX.
2 Bowman's cave amphipod	<i>Stygobromus (=Stygonectes) bowmani</i>	Crangonyetidae	OK.
2 Clanton's cave amphipod	<i>Stygobromus (=Stygonectes) clantoni</i>	Crangonyetidae	KS, MO.
2 Burnsville Cove cave amphipod	<i>Stygobromus (=Stygonectes) conradi</i>	Crangonyetidae	VA.
2 Cooper's cave amphipod	<i>Stygobromus (=Stygonectes) cooperi</i>	Crangonyetidae	WV.
2 Culver's cave amphipod	<i>Stygobromus culveri</i>	Crangonyetidae	WV.
2 Cascade Cave amphipod	<i>Stygobromus (=Stygonectes) dejectus</i>	Crangonyetidae	TX.
2 Elevated Spring amphipod	<i>Stygobromus (=Stygonectes) elatus</i>	Crangonyetidae	AR.
3C Greenbrier Cave amphipod	<i>Stygobromus (=Stygonectes) emarginatus</i>	Crangonyetidae	MD, WV.
3C Ephernal cave amphipod	<i>Stygobromus (=Stygonectes) ephemerus</i>	Crangonyetidae	VA.
3C Central Kentucky cave amphipod	<i>Stygobromus (=Stygonectes) exilis</i>	Crangonyetidae	AL, KY, TN.
2 Ezell's Cave amphipod	<i>Stygobromus (=Stygonectes) flagellatus</i>	Crangonyetidae	TX.
2 Franz's amphipod	<i>Stygobromus frauzi</i>	Crangonyetidae	MD.
3C Shenandoah Valley cave amphipod	<i>Stygobromus (=Stygonectes) gracilipes</i>	Crangonyetidae	MD, PA, VA, WV.
2 Grady's cave amphipod	<i>Stygobromus gradyi</i>	Crangonyetidae	CA.
2 Devil's Sinkhole amphipod	<i>Stygobromus (=Stygonectes) hadenoecus</i>	Crangonyetidae	TX.
2 Hara's cave amphipod	<i>Stygobromus harai</i>	Crangonyetidae	CA.
2 Pickle Springs amphipod	<i>Stygobromus heteropodus</i>	Crangonyetidae	MO.
2 Malheur Cave amphipod	<i>Stygobromus hubbsi</i>	Crangonyetidae	OR.
2 Tidewater amphipod	<i>Stygobromus (=Stygonectes) indentatus</i>	Crangonyetidae	VA.
3C Iowa amphipod	<i>Stygobromus iowae</i>	Crangonyetidae	IA.
2 Long-legged cave amphipod	<i>Stygobromus (=Stygonectes) longipes</i>	Crangonyetidae	TX.
3A Rubious Cave amphipod	<i>Stygobromus (=Apocrangonyx) lucifugus</i>	Crangonyetidae	IL.
2 MacKenzie's cave amphipod	<i>Stygobromus mackenziei</i>	Crangonyetidae	CA.
3C Southwestern Virginia cave amphipod	<i>Stygobromus mackini</i>	Crangonyetidae	TN, VA.
2 Mountain cave amphipod	<i>Stygobromus (=Stygonectes) montanus</i>	Crangonyetidae	AR.
2 Morrison's cave amphipod	<i>Stygobromus (=Stygonectes) morrisoni</i>	Crangonyetidae	VA, WV.
2 Bath County cave amphipod	<i>Stygobromus (=Stygonectes) mundus</i>	Crangonyetidae	VA.
2 Norton's cave amphipod	<i>Stygobromus (=Apocrangonyx) nortoni</i>	Crangonyetidae	TN.
2 Pocahontas cave amphipod	<i>Stygobromus nanus</i>	Crangonyetidae	WV.
2 Onondaga Cave amphipod	<i>Stygobromus onondagaensis</i>	Crangonyetidae	MO.
3C Oregon cave amphipod	<i>Stygobromus oregonensis</i>	Crangonyetidae	OR.
2 Ozark cave amphipod	<i>Stygobromus (=Stygonectes) ozarkensis</i>	Crangonyetidae	AR, MO, OK.
2 Minute cave amphipod	<i>Stygobromus (=Apocrangonyx) parvus</i>	Crangonyetidae	WV.
2 Peck's cave amphipod	<i>Stygobromus (=Stygonectes) pecki</i>	Crangonyetidae	TX.
2 Pizzini's amphipod	<i>Stygobromus (=Stygonectes) pizzinii</i>	Crangonyetidae	DC, MD, PA, VA.
2 Wisconsin well amphipod	<i>Stygobromus putealis</i>	Crangonyetidae	WI.
2 Redacted cave amphipod	<i>Stygobromus redactus</i>	Crangonyetidae	WV.
2 Redell's cave amphipod	<i>Stygobromus (=Stygonectes) redelli</i>	Crangonyetidae	TX.
2 Alabama well amphipod	<i>Stygobromus smithi</i>	Crangonyetidae	AL.
2 Spring cave amphipod	<i>Stygobromus (=Stygonectes) spinatus</i>	Crangonyetidae	WV.
2 Stellmack's cave amphipod	<i>Stygobromus (=Stygonectes) stellmacksi</i>	Crangonyetidae	PA.
2 Subtle cave amphipod	<i>Stygobromus (=Apocrangonyx) subtilis</i>	Crangonyetidae	IL, MO.
3C Potomac groundwater amphipod	<i>Stygobromus (=Stygonectes) tenuis potomacus</i>	Crangonyetidae	DC, MD, PA, VA.
2 Wengerers' cave amphipod	<i>Stygobromus wengerorum</i>	Crangonyetidae	CA.
1 Kauai cave amphipod	<i>Spelaeorchestia koloana</i>	Talitridae	HI.

CRAYFISHES & SHRIMPS (Crustaceans, Order Decapoda)

2 (Shrimp, no common name)	<i>Antecaridina laevis</i>	Atyidae	HI.
2 (Shrimp, no common name)	<i>Halocaridina palaheno</i>	Atyidae	HI.
2 Hona cave shrimp	<i>Typhlatya hona</i>	Atyidae	FR, West Indies
2 (Crayfish, no common name)	<i>Cambarus batchi</i>	Cambaridae	KY.
3C Big South Fork crayfish	<i>Cambarus bowchardi</i>	Cambaridae	KY, TN.
2 Greensboro burrowing crayfish	<i>Cambarus catagnus</i>	Cambaridae	NC.
2 New River rifle crayfish	<i>Cambarus chasmodactylus</i>	Cambaridae	NC, VA, WV.
2 Chickamauga crayfish	<i>Cambarus extraneus</i>	Cambaridae	GA, TN.
2 (Crayfish, no common name)	<i>Cambarus millus</i>	Cambaridae	AL.
2 Obey crayfish	<i>Cambarus obeyensis</i>	Cambaridae	TN.
3 (Crayfish, no common name)	<i>Cambarus spicatus</i>	Cambaridae	SC.
2 (Crayfish, no common name)	<i>Cambarus tartarus</i>	Cambaridae	OK.
2 (Crayfish, no common name)	<i>Distocambarus youngineri</i>	Cambaridae	SC.
2 (Crayfish, no common name)	<i>Fallicambarus jeanne</i>	Cambaridae	AR.
2 Oktibbeha rivulet crayfish	<i>Hobbsius oronectesoides</i>	Cambaridae	MS.
3C Conchas crayfish	<i>Oronectes deane</i>	Cambaridae	NM.
2 Louisville crayfish	<i>Oronectes jeffersoni</i>	Cambaridae	KY.
2 (Crayfish, no common name)	<i>Oronectes williamsi</i>	Cambaridae	AL.
2 Pala Springs Cave crayfish	<i>Procambarus abernethi</i>	Cambaridae	FL.
2 Jackson Prairie crayfish	<i>Procambarus barbouri</i>	Cambaridae	MS.
2 Mississippi flatwoods crayfish	<i>Procambarus coxii</i>	Cambaridae	MS.
2 Carrollton crayfish	<i>Procambarus caryus</i>	Cambaridae	MS.

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories.)

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
2 (Crayfish, no common name)	<i>Procambarus echinatus</i>	Cambaridae	SC.
2 Pee Dee lotic crayfish	<i>Procambarus lepidodactylus</i>	Cambaridae	NC, SC.
2 (Crayfish, no common name)	<i>Procambarus liberorum</i>	Cambaridae	MS.
2 Shutispear crayfish	<i>Procambarus lylei</i>	Cambaridae	MS.
2 Bearded red crayfish	<i>Procambarus pogum</i>	Cambaridae	MS.
2 (Shrimp, no common name)	<i>Callinectes ppholidota</i>	Hippolytidae	HI.
2 (Shrimp, no common name)	<i>Palaeomonella burnsi</i>	Palaeomonidae	HI.
2 Texas cave shrimp	<i>Palaeomonetes antronum</i>	Palaeomonidae	TX.
1 Squirrel Chimney cave shrimp	<i>Palaeomonetes cummingsi</i>	Palaeomonidae	FL.
2 (Shrimp, no common name)	<i>Procaris hawaiiensis</i>	Procarididae	HI.
2 (Shrimp, no common name)	<i>Vetericaris chaceorum</i>	Procarididae	HI.
SPIDERS (Arachnids, Order Aranea)			
2 Dolloff Cave spider	<i>Meta dolloff</i>	Araneidae	CA.
2 Torreya trap-door spider	<i>Cyclocosmia torreyi</i>	Ctenizidae	FL.
2 Key gnaphosid spider	<i>Cesonia irvingi</i>	Gnaphosidae	FL.
2 Cavern sheet-web spider	<i>Islandiana speophila</i>	Lynphiidae	WV.
1 Kauai cave wolf spider (pe'e pe'e maka 'ole)	<i>Adelocosa anops</i>	Lycosidae	HI.
3C Rosemary wolf spider	<i>Lycosa ericeticola</i>	Lycosidae	FL.
2 Lake Placid funnel wolf spider	<i>Scotopus placidus</i>	Lycosidae	FL.
2 Lost Nantahala Cave spider	<i>Nesticus cooperi</i>	Nesticidae	NC.
2 Grassy Creek Cave spider	<i>Nesticus dilutus</i>	Nesticidae	TN.
2 Crystal Caverns cave spider	<i>Nesticus furtivus</i>	Nesticidae	TN.
2 Cave Spring Cave spider	<i>Nesticus jonesi</i>	Nesticidae	AL.
2 Valentine's cave spider	<i>Nesticus valentinei</i>	Nesticidae	TN.
2 Santa Cruz telemid spider	<i>Telesia sp.</i>	Telemidae	CA.
PSEUDOSCORPIONS (Arachnids, Order Pseudoscorpiones)			
2 Dry Fork Valley cave pseudoscorpion	<i>Apochthonius paucispinosus</i>	Chthoniidae	WV.
2 Malheur pseudoscorpion	<i>Apochthonius malheur</i>	Chthoniidae	OR.
2 Grubbs' cave pseudoscorpion	<i>Aphrastochthonius grubbsi</i>	Chthoniidae	CA.
2 Carlow's Cave pseudoscorpion	<i>Aphrastochthonius similis</i>	Chthoniidae	CA.
2 Greenbrier Valley cave pseudoscorpion	<i>Kleptochthonius henroti</i>	Chthoniidae	WV.
2 Organ Cave pseudoscorpion	<i>Kleptochthonius hetricki</i>	Chthoniidae	WV.
2 Orpheus cave pseudoscorpion	<i>Kleptochthonius orpheus</i>	Chthoniidae	WV.
2 Proserpina cave pseudoscorpion	<i>Kleptochthonius proserpinae</i>	Chthoniidae	WV.
2 Aalbu's cave pseudoscorpion	<i>Archeolarca aalbu</i>	Garypidae	CA.
2 Grand Canyon cave pseudoscorpion	<i>Archeolarca cavicola</i>	Garypidae	AZ.
2 Guadalupe cave pseudoscorpion	<i>Archeolarca guadalupensis</i>	Garypidae	TX.
2 Lacey's cave pseudoscorpion	<i>Larca laceyi</i>	Garypidae	CA.
2 Empire Cave pseudoscorpion	<i>Nicrocresgus isperialis</i>	Neobisiidae	CA.
2 Music Hall Cave pseudoscorpion	<i>Pseudogarypus orpheus</i>	Pseudogarypidae	CA.
2 Royal syarinid pseudoscorpion	<i>Chitrella regina</i>	Syarinidae	WV.
HARVESTMEN (Arachnids, Order Opiliones)			
2 Edgewood blind harvestman	<i>Sitalcina minor</i>	*	CA.
ROCKHOPPERS & BRISTLETAILS (Insects, Order Archeognatha)			
2 Hawaiian long-palp bristletail	<i>Machiloides heteropus</i>	Machilidae	HI.
2 Perkin's club-palp bristletail	<i>Machiloides perkinsi</i>	Machilidae	HI.
SPRINGTAILS (Insects, Order Collembola)			
2 Gandy Creek cave springtail	<i>Pseudosinella certa</i>	Entomobryidae	WV.
2 Shelled cave springtail	<i>Pseudosinella testa</i>	Entomobryidae	WV.
MAYFLIES (Insects, Order Ephemeroptera)			
2 Berner's two-winged mayfly	<i>Heterocleon berneri</i>	Baetidae	GA.
2 American sandburrowing mayfly	<i>Dolania americana</i>	Belontiidae	FL, GA, SC, NC.
2* Yellow brachycercus mayfly	<i>Brachycercus flavus</i>	Caenidae	LA*
2 Argo ephemerelean mayfly	<i>Ephemerella argo</i>	Ephemerellidae	GA, IL, IN, SC.
2* Frison's seratellan mayfly	<i>Seratella frisoni</i>	Ephemerellidae	AL*, IL*, MD*
2* Spiculose seratellan mayfly	<i>Seratella spiculosa</i>	Ephemerellidae	TN*, NC*
2* Colorado burrowing mayfly	<i>Ephemerella campar</i>	Ephemeridae	CO*
2* West Virginia burrowing mayfly	<i>Ephemerella triplex</i>	Ephemeridae	WV*
3A Robust pentagenian burrowing mayfly	<i>Pentagenia robusta</i>	Ephemeridae	OR*
3B Meridon blackwater mayfly	<i>Pseudirica meridionalis (synonym of P. centralis)</i>	Heptageniidae	FL, GA.
2 Cahaba sandfiltering mayfly	<i>Homoeoneuria cahabensis</i>	Oligoneuridae	AL, MS.
2 Blackwater sandfiltering mayfly	<i>Homoeoneuria dolani</i>	Oligoneuridae	FL, GA, SC.
3A Diverse isonychian mayfly	<i>Isonychia diversa</i>	Oligoneuridae	TN*
2 Pocatonia River mayfly	<i>Acanthotretopus pocatonicus</i>	Siphonuridae	IL, WI.
2 False aeneletus mayfly	<i>Aeletes falsus</i>	Siphonuridae	AZ.
DRAGONFLIES & DAMSELFLIES (Insects, Order Odonata)			
2 Balnorhea damselfly	<i>Argia sp.</i>	Coenagrionidae	TX.
2 Sabino Canyon damselfly	<i>Argia sp.</i>	Coenagrionidae	AZ.
3C Barrens bluet damselfly	<i>Phallagma recurvatum</i>	Coenagrionidae	MA, NY, NJ.
2 San Francisco fork-tail damselfly	<i>Ischnura gemina</i>	Coenagrionidae	CA.

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories).

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
2	<i>Aedytes megalagrion damselfly</i>	Coenagrionidae	HI.
2*	<i>Fallax megalagrion damselfly</i>	Coenagrionidae	HI*.
2*	<i>Pele megalagrion damselfly</i>	Coenagrionidae	HI*.
2*	<i>Waianae megalagrion damselfly</i>	Coenagrionidae	HI*.
3A	<i>Jugorum megalagrion damselfly</i>	Coenagrionidae	HI.
2	<i>Leptodemas megalagrion damselfly</i>	Coenagrionidae	HI.
2	<i>Molokai megalagrion damselfly</i>	Coenagrionidae	HI.
3A	<i>Nesiotes megalagrion damselfly</i>	Coenagrionidae	HI*.
2	<i>Nigrohannatus megalagrion damselfly</i>	Coenagrionidae	HI.
2	<i>Blackline megalagrion damselfly</i>	Coenagrionidae	HI.
2	<i>Oahu megalagrion damselfly</i>	Coenagrionidae	HI.
2	<i>Oceanic megalagrion damselfly</i>	Coenagrionidae	HI.
1	<i>Pacific megalagrion damselfly</i>	Coenagrionidae	HI.
2	<i>Orangeblack megalagrion damselfly</i>	Coenagrionidae	HI.
2	<i>Say's spiketail dragonfly</i>	Cordulegasteridae	FL, GA.
2	<i>Apalachicola twilight skimmer dragonfly</i>	Corduliidae	AL, FL.
2	<i>Ohio emerald dragonfly</i>	Corduliidae	IL, OH*, IN*.
2	<i>Big Thicket emerald dragonfly</i>	Corduliidae	TX.
2	<i>Banded bog skimmer dragonfly</i>	Corduliidae	NY, NJ, MA, RI, NH.
2	<i>Cherokee clubtail dragonfly</i>	Gomphidae	SC, AL, NC, TN, VA.
2	<i>Tennessee clubtail dragonfly</i>	Gomphidae	TN.
2	<i>Septima's clubtail dragonfly</i>	Gomphidae	AL, NC.
3B	<i>Hudson clubtail dragonfly</i>	Gomphidae	MA, NY (as name originally used).
2	<i>Sandhills clubtail dragonfly</i>	Gomphidae	NC, SC.
2	<i>Elusive clubtail dragonfly</i>	Gomphidae	MD, WI, Canada, IA*, IL*, IN*, KY*, MI*, MN*, NY*, OH*, TN*, WV*, AL*, GA*.
2	<i>Bronze clubtail dragonfly</i>	Gomphidae	FL, AL, SC, NC, TN.
2	<i>Extra-striped snaketail dragonfly</i>	Gomphidae	WI, Canada, ME*, NY?, PA*.
2*	<i>Edmund's snaketail dragonfly</i>	Gomphidae	NC*.
2	<i>Midget snaketail dragonfly</i>	Gomphidae	KY, NC, NY, PA, VA, TN, MA*.
2	<i>Alleghany snaketail dragonfly</i>	Gomphidae	WV, VA, AL, TN*.
2	<i>Ozark snaketail dragonfly</i>	Gomphidae	AR, MO.
2	<i>Variagated clubtail dragonfly</i>	Gomphidae	FL, NC.
2	<i>Wabash belted skimmer dragonfly</i>	Macromiidae	OH*, IN*, TX.
STONEFLIES (Insects, Order Plecoptera)			
2	<i>Lake Tahoe benthic stonefly</i>	Capniidae	CA, NV.
2	<i>Natchez stonefly</i>	Chloroperlidae	MS.
3A	<i>Robert's alloperlan stonefly</i>	Chloroperlidae	IL*.
2	<i>Chukcho stonefly</i>	Chloroperlidae	MS.
3B	<i>Schoolhouse Springs leuctran stonefly</i>	Leuctridae	IA.
2	<i>Shirrtail Creek stonefly</i>	Leuctridae	CA.
2	<i>Meltwater lednian stonefly</i>	Menouridae	MT.
2	<i>Wahkeena Falls flightless stonefly</i>	Menouridae	OR.
2	<i>Fender's soliperlan stonefly</i>	Peltoperlidae	VA.
3C	<i>Georgia beloneurian stonefly</i>	Perlidae	GA, NC.
2	<i>Cheaha beloneurian stonefly</i>	Perlidae	AL.
3C	<i>Hanson's appalachian stonefly</i>	Perlidae	KY, MA, NH, SC, TN.
2	<i>Leon River winter stonefly</i>	Taeniopterygidae	TX.
COCKROACHES (Insects, Order Blattodea)			
2	<i>Tuna Cave roach</i>	Blaberidae	PR.
GRASSHOPPERS & ALLIES (Insects, Order Orthoptera)			
2	<i>Idaho pointheaded grasshopper</i>	Acrididae	ID.
2	<i>Michigan bog grasshopper</i>	Acrididae	MI.
2	<i>Siskiyou chloaaltis grasshopper</i>	Acrididae	OR.
2*	<i>Big Cedar grasshopper</i>	Acrididae	OR*.
2*	<i>Superb grasshopper</i>	Acrididae	TX*.
2	<i>Lake Byron locust</i>	Acrididae	HI, WI, Canada.
2	<i>Pinaleno monkey grasshopper</i>	Emastacidae	AZ.
2	<i>Desert monkey grasshopper</i>	Emastacidae	CA, NV.
2	<i>Howarth's cave cricket</i>	Gryllidae	HI.
2	<i>Schauinsland's bush cricket</i>	Gryllidae	HI.
2	<i>Kauana Cave cricket</i>	Gryllidae	HI.
2	<i>Keys scaly cricket</i>	Gryllidae	FL.
2	<i>Prairie mole cricket</i>	Gryllidae	AR, MO, KS, OK, IL*, MS*.
2	<i>Oahu deceptor bush cricket</i>	Gryllidae	HI.
2	<i>Laricis tree cricket</i>	Gryllidae	HI, OH.
2	<i>Volcanoes cave cricket</i>	Gryllidae	HI.
2	<i>Kauai thinfooted bush cricket</i>	Gryllidae	HI.
2	<i>Arizona giant sand treader cricket</i>	Rhaphidophoridae	AZ.
2	<i>Kelso giant sand treader cricket</i>	Rhaphidophoridae	CA.
2	<i>Cochella giant sand treader cricket</i>	Rhaphidophoridae	CA.
2	<i>Sansell Cave cricket</i>	Rhaphidophoridae	CA.
2	<i>Tanner's black camel cricket</i>	Rhaphidophoridae	UT.
2	<i>Kelso Jerusalem cricket</i>	Stenopelmatidae	CA.
2	<i>Point Conception Jerusalem cricket</i>	Stenopelmatidae	CA.
2	<i>Cochella Valley Jerusalem cricket</i>	Stenopelmatidae	CA.
2	<i>Navajo Jerusalem cricket</i>	Stenopelmatidae	AZ.

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories).

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
2 Sierra pygmy grasshopper	<i>Tetrix sierrana</i>	Tetrigidae	CA.
2 Torreya pygmy grasshopper	<i>Tettigidea empedonepia</i>	Tettigidae	FL.
2 Nihoa banza conehead katydid	<i>Banza nihoa</i>	Tettigoniidae	HI.
2 Big Pine Key conehead katydid	<i>Belocephalus micanopy</i>	Tettigoniidae	FL.
2 Keys shortwinged conehead katydid	<i>Belocephalus sleighti</i>	Tettigoniidae	FL.
2 Remote conehead katydid	<i>Conocephaloides remotus</i>	Tettigoniidae	HI*
3A Pinnacles shield-back katydid	<i>Idiostatus kathleenae</i>	Tettigoniidae	CA.
2 Middlekauf's shieldback katydid	<i>Idiostatus middlekaufi</i>	Tettigoniidae	CA.
3A Antioch Dunes shieldback katydid	<i>Nehuba extincta</i>	Tettigoniidae	CA*
2 Santa Monica shieldback katydid	<i>Nehuba longipennis</i>	Tettigoniidae	CA.
ZOROAPTERANS (Insects, Order Zoroaptera)			
2 Swezey's zoroapteran	<i>Zorotypus swezeyi</i>	Zorotypidae	HI.
TRUE BUGS (Insects, Order Hemiptera)			
2 Saratoga Springs belostomatid bug	<i>Belostoma saratogae</i>	Belostomatidae	CA.
2 Mauna Loa metarragan seed bug	<i>Metarraga obscura</i>	Lygaeidae	HI.
2 Kauai band-legged seed bug	<i>Nesais alternatus</i>	Lygaeidae	HI.
2 Mt. Haleakala seed bug	<i>Nesais haleakalae</i>	Lygaeidae	HI.
2 Villosan flightless seed bug	<i>Nesocryptias villosa</i>	Lygaeidae	HI.
2 French Frigate Shoal seed bug	<i>Nysius frigateensis</i>	Lygaeidae	HI.
2 Fullaway's seed bug	<i>Nysius fullawayi</i>	Lygaeidae	HI.
2 Necker goosefoot seed bug	<i>Nysius neckerensis</i>	Lygaeidae	HI.
2 Nihoa nysius seed bug	<i>Nysius nihoa</i>	Lygaeidae	HI.
2 Necker bunchgrass seed bug	<i>Nysius suffusus</i>	Lygaeidae	HI.
2 Bryan's oceanides seed bug	<i>Oceanides bryani</i>	Lygaeidae	HI.
2 Perkins' oceanides seed bug	<i>Oceanides perkinsi</i>	Lygaeidae	HI.
2 Rough-headed oceanides seed bug	<i>Oceanides rugosiceps</i>	Lygaeidae	HI.
2 Dry Creek cliff strider bug	<i>Oravelia pepe</i>	Macroveliidae	CA.
2 Aan water treader bug	<i>Cyrtocercus aaa</i>	Mesoveliidae	HI.
3A Phyllostegian leaf bug	<i>Cyrtopeltis (=Eggytatus) phyllostegiae</i>	Miridae	HI.
2 Lanai kаланian leaf bug	<i>Kalania hawaiiensis</i>	Miridae	HI.
2 Oahu kаланian leaf bug	<i>Kalania sp.</i>	Miridae	CA, HI.
2 Anargosa naucorid bug	<i>Pelocoris shoshone</i>	Naucooridae	VA.
2 Dismal Swamp chlorochroan bug	<i>Chlorochroa dismala</i>	Pentatomidae	AZ.
2 Santa Rita Mountains chlorochroan bug	<i>Chlorochroa rita</i>	Pentatomidae	HI*
2 Pulchrus thread bug	<i>Bpicocoris pulchrus</i>	Reduviidae	HI.
2 Ana wingless thread bug	<i>Nesidiolestes ana</i>	Reduviidae	HI.
2 Mt. Tantalus wingless thread bug	<i>Nesidiolestes insularis</i>	Reduviidae	HI.
2 Robert's wingless thread bug	<i>Nesidiolestes roberti</i>	Reduviidae	HI.
2 Selium wingless thread bug	<i>Nesidiolestes selium</i>	Reduviidae	HI.
2 Smith's siacellan reduviid bug	<i>Siacella smithi</i>	Reduviidae	HI.
2 Annectans rhopalid bug	<i>Ithamar annectans</i>	Rhopalidae	HI.
2 Hawaiian rhopalid bug	<i>Ithamar hawaiiense</i>	Rhopalidae	HI.
3C Wilbur Springs shore bug	<i>Saldula usingeri</i>	Saldidae	CA.
CICADAS AND ALLIES (Insects, Order Homoptera)			
2 Redveined prairie leafhopper	<i>Aflexia (=Flexacia) rubranura</i>	Cicadellidae	WI, Canada, IL*
2 Barrens sedge leafhopper	<i>Limotettix sp.</i>	Cicadellidae	MD.
2 Kauai parti-colored oliarius planthopper	<i>Oliarius consimilis</i>	Cixiidae	HI.
2 Oliarius wild cotton planthopper	<i>Oliarius discrepans</i>	Cixiidae	HI.
2 Lanai oliarius planthopper	<i>Oliarius lanaiensis</i>	Cixiidae	HI.
2 Lihue oliarius planthopper	<i>Oliarius lihue</i>	Cixiidae	HI.
2 Barber's Point oliarius planthopper	<i>Oliarius myoporica</i>	Cixiidae	HI.
2 Priolan oliarius planthopper	<i>Oliarius priola</i>	Cixiidae	HI.
2 Mt. Tantalus short-wing fern planthopper	<i>Nesorestias filicicola</i>	Delphacidae	HI.
2 Iao Valley nesosydne planthopper	<i>Nesosydne acuta</i>	Delphacidae	HI.
2 Bridewell's nesosydne planthopper	<i>Nesosydne bridewelli</i>	Delphacidae	HI.
2 Nahiku nesosydne planthopper	<i>Nesosydne cyrtandrae</i>	Delphacidae	HI.
2 Glenwood nesosydne planthopper	<i>Nesosydne cyrtandricola</i>	Delphacidae	HI.
2 Kusche's nesosydne planthopper	<i>Nesosydne kuschei</i>	Delphacidae	HI.
2 Diamond Head nesosydne planthopper	<i>Nesosydne leachi</i>	Delphacidae	HI.
2 Long-footed nesosydne planthopper	<i>Nesosydne longipes</i>	Delphacidae	HI.
2 Keanae nesosydne planthopper	<i>Nesosydne sulcata</i>	Delphacidae	HI.
LACEWINGS & ALLIES (Insects, Order Neuroptera)			
2 San Francisco lacewing	<i>Mothochrysa californica</i>	Chrysopidae	CA.
2 Haleakala mesothauman spongillafly	<i>Mesothauma haleakalae</i>	Hemerobiidae	HI.
2 Cookes' spongillafly	<i>Pseudopsectra cookorum</i>	Hemerobiidae	HI.
2 Lobe-wing spongillafly	<i>Pseudopsectra lobipennis</i>	Hemerobiidae	HI.
2 Swezey's spongillafly	<i>Pseudopsectra swezeyi</i>	Hemerobiidae	HI.
2 Usinger's spongillafly	<i>Pseudopsectra usingeri</i>	Hemerobiidae	HI.
2 Cheese-weed owlfly	<i>Oliarces clara</i>	Ithonidae	AZ, CA.
2 Molokai antlion	<i>Eidolon perjurum</i>	Myrmeleontidae	HI.
BEETLES (Insects, Order Coleoptera)			
2 Piko anobiid beetle	<i>Holcobius pikensis</i>	Anobiidae	HI.
2 Antioch Dunes anthicid beetle	<i>Anthicus antiochensis</i>	Anthicidae	CA.
2 Sacramento anthicid beetle	<i>Anthicus sacramento</i>	Anthicidae	CA.

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories).

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
2 Beller's ground beetle	<i>Agonum belleri</i>	Carabidae	VA, OR.
2 Ar buckle Cave ground beetle	<i>Horologion speokoites</i>	Carabidae	WV.
2 Echo Cave beetle	<i>Pseudanopthalmus acherontis</i>	Carabidae	TN.
2 West Wills Valley cave beetle	<i>Pseudanopthalmus assimilis</i>	Carabidae	AL.
2 Avernum cave beetle	<i>Pseudanopthalmus avernum</i>	Carabidae	VA.
2 Benderman's cave beetle	<i>Pseudanopthalmus bendermani</i>	Carabidae	TN.
2 Limestone Cave beetle	<i>Pseudanopthalmus calcareus</i>	Carabidae	KY.
2 Catherine's cave beetle	<i>Pseudanopthalmus catherinae</i>	Carabidae	TN.
2 Little Kennedy Cave beetle	<i>Pseudanopthalmus cordicollis</i>	Carabidae	VA.
2 Deceptive cave beetle	<i>Pseudanopthalmus deceptivus</i>	Carabidae	VA.
2 New River Valley cave beetle	<i>Pseudanopthalmus egebti</i>	Carabidae	VA.
2 Engelhardt's cave beetle	<i>Pseudanopthalmus engelhardti</i>	Carabidae	TN.
2 Tapered cave beetle	<i>Pseudanopthalmus fastigatus</i>	Carabidae	GA.
2 Fowler's cave beetle	<i>Pseudanopthalmus fowleri</i>	Carabidae	TN.
2 Icebox Cave beetle	<i>Pseudanopthalmus frigidus</i>	Carabidae	KY.
2 Georgian cave beetle	<i>Pseudanopthalmus georgiae</i>	Carabidae	GA.
2 Timber Ridge cave beetle	<i>Pseudanopthalmus hadenoecus</i>	Carabidae	WV.
2 Lee County cave beetle	<i>Pseudanopthalmus hirsutus</i>	Carabidae	TN, VA.
2 Holsinger's cave beetle	<i>Pseudanopthalmus holsingeri</i>	Carabidae	VA.
2 Garden cave beetle	<i>Pseudanopthalmus hortulanus</i>	Carabidae	VA.
2 Hubbard's cave beetle	<i>Pseudanopthalmus hubbardi</i>	Carabidae	VA.
2 Hubricht's cave beetle	<i>Pseudanopthalmus hubrichti</i>	Carabidae	VA.
2 Stone-dwelling cave beetle	<i>Pseudanopthalmus hypolithos</i>	Carabidae	KY.
2 Illinois cave beetle	<i>Pseudanopthalmus illinoisensis</i>	Carabidae	IL.
2 Searcher cave beetle	<i>Pseudanopthalmus inquisitor</i>	Carabidae	TN.
2 Baker Station Cave beetle	<i>Pseudanopthalmus insularis</i>	Carabidae	TN.
2 Crossroads cave beetle	<i>Pseudanopthalmus intersextus</i>	Carabidae	VA.
2 Grassy Cove cave beetle	<i>Pseudanopthalmus jonesi</i>	Carabidae	TN.
2 Kramer's cave beetle	<i>Pseudanopthalmus krameri</i>	Carabidae	OH.
2 Rich Mountain cave beetle	<i>Pseudanopthalmus krekeri</i>	Carabidae	WV.
2 Lallemant's cave beetle	<i>Pseudanopthalmus lallemanti</i>	Carabidae	WV.
2 Mud-dwelling cave beetle	<i>Pseudanopthalmus linicola</i>	Carabidae	VA.
2 Long-headed cave beetle	<i>Pseudanopthalmus longiceps</i>	Carabidae	TN, VA.
2 Dry Fork Valley cave beetle	<i>Pseudanopthalmus montanus</i>	Carabidae	WV.
2 Nelson's cave beetle	<i>Pseudanopthalmus nelsoni</i>	Carabidae	VA.
3A Nickajack Cave beetle	<i>Pseudanopthalmus nickajackensis</i>	Carabidae	VA.
2 Norton's cave beetle	<i>Pseudanopthalmus nortoni</i>	Carabidae	TN.
2 Western cave beetle	<i>Pseudanopthalmus occidentalis</i>	Carabidae	TN.
2 Ohio cave beetle	<i>Pseudanopthalmus ohioensis</i>	Carabidae	OH.
2 Pale cave beetle	<i>Pseudanopthalmus pallidus</i>	Carabidae	TN.
2 Ridgetop cave beetle	<i>Pseudanopthalmus paradoxus</i>	Carabidae	VA.
2 Thin-neck cave beetle	<i>Pseudanopthalmus parvicollis</i>	Carabidae	VA.
2 Nobletts Cave beetle	<i>Pseudanopthalmus paulus</i>	Carabidae	TN.
2 Payne's cave beetle	<i>Pseudanopthalmus paynei</i>	Carabidae	TN.
2 Petrunkevitch's cave beetle	<i>Pseudanopthalmus petrunkevitchi</i>	Carabidae	VA.
2 Natural Bridge cave beetle	<i>Pseudanopthalmus pontis</i>	Carabidae	VA.
2 South Branch Valley cave beetle	<i>Pseudanopthalmus potomaca potomaca</i>	Carabidae	WV, VA.
2 Seneca cave beetle	<i>Pseudanopthalmus potomaca senecae</i>	Carabidae	WV.
2 Overlooked cave beetle	<i>Pseudanopthalmus praetermissus</i>	Carabidae	VA.
2 Spotted cave beetle	<i>Pseudanopthalmus punctatus</i>	Carabidae	VA.
2 Tiny cave beetle	<i>Pseudanopthalmus pusillus</i>	Carabidae	TN.
2 Straley's Cave beetle	<i>Pseudanopthalmus quadratus</i>	Carabidae	VA.
2 Rogers' cave beetle	<i>Pseudanopthalmus rogersae</i>	Carabidae	KY.
2 Saint Paul cave beetle	<i>Pseudanopthalmus sanctipauli</i>	Carabidae	VA.
2 Schoolhouse cave beetle	<i>Pseudanopthalmus scholasticus</i>	Carabidae	KY.
2 Lean cave beetle	<i>Pseudanopthalmus scutulis</i>	Carabidae	TN.
2 Sequoyah cave beetle	<i>Pseudanopthalmus sequoyah</i>	Carabidae	AL.
2 Silken cave beetle	<i>Pseudanopthalmus sericus</i>	Carabidae	VA.
2 Meridith Cave beetle	<i>Pseudanopthalmus sidus</i>	Carabidae	TN.
2 Simple cave beetle	<i>Pseudanopthalmus simplex</i>	Carabidae	TN.
2 Greenbrier Valley cave beetle	<i>Pseudanopthalmus subaequalis</i>	Carabidae	WV.
2 Thomas' cave beetle	<i>Pseudanopthalmus thomasi</i>	Carabidae	VA.
2 Indian Grave Point cave beetle	<i>Pseudanopthalmus tirostias</i>	Carabidae	VA.
3A Duck River cave beetle	<i>Pseudanopthalmus tullahoma</i>	Carabidae	TN.
2 Union County cave beetle	<i>Pseudanopthalmus unionis</i>	Carabidae	TN.
2 Blowing Cave beetle	<i>Pseudanopthalmus ventus</i>	Carabidae	TN.
2 Maiden Spring cave beetle	<i>Pseudanopthalmus (=Aphanotrechus) virginicus</i>	Carabidae	VA.
2 Wallace's cave beetle	<i>Pseudanopthalmus wallacei</i>	Carabidae	TN.
2 Roth's blind ground beetle	<i>Pterostichus rothi</i>	Carabidae	OR.
2 (Ground beetle, no common name)	<i>Rhadine ozarkensis</i>	Carabidae	AR.
2 Schaum's Blue Ridge ground beetle	<i>Sphaeroderus schaumii</i> ssp.	Carabidae	VA.
3C Mojave rabbitbrush longhorn beetle	<i>Crossidius mojavensis mojavensis</i>	Cerambycidae	CA.
2 Sixbanded longhorn beetle	<i>Dryobius sexnotatus</i>	Cerambycidae	LA, MD, MS, OH, PA, AL*, AR*, IN*, KS*, KY*, HI*, MO*, TN*, VA*, WV*.
2 Rude's longhorn beetle	<i>Necydalis rudei</i>	Cerambycidae	CA.
2 Hawaiian Flagithymysus longhorn beetles	<i>Flagithymysus</i> ca 43 spp.	Cerambycidae	HI.
3B Bog idol leaf beetle	<i>Donacia idola</i>	Chrysomelidae	VA*.
2 Idaho dunes tiger beetle	<i>Cicindela arenicola</i>	Cicindelidae	ID.
2* Cazier's tiger beetle	<i>Cicindela cazieri</i>	Cicindelidae	TX*.
2* Snyth's tiger beetle	<i>Cicindela chlorocephala snythi</i>	Cicindelidae	TX*.
3C Columbia River tiger beetle	<i>Cicindela columbica</i>	Cicindelidae	ID, WA, OR*.
1 Northeastern beach tiger beetle	<i>Cicindela dorsalis dorsalis</i>	Cicindelidae	VA, MD, NV, NJ, RI, PA*.
2* Oblivious tiger beetle	<i>Cicindela latesignata obliviosa</i>	Cicindelidae	CA*.
2 Coral Pink Dunes tiger beetle	<i>Cicindela limbata albissima</i>	Cicindelidae	UT.

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CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
2 Cobblestone tiger beetle	<i>Cicindela marginipennis</i>	Cicindelidae	NH, VT, NY, NJ, OH, PA, MS, WV*
2 Los Olivos tiger beetle	<i>Cicindela nevadica olmosa</i>	Cicindelidae	TX, NM, Mexico?
2 Subtropical blue-black tiger beetle	<i>Cicindela nigrocervula subtropica</i>	Cicindelidae	TX.
2* Neojuvencite tiger beetle	<i>Cicindela obsolata neojuvencite</i>	Cicindelidae	TX*.
2 Maricopa tiger beetle	<i>Cicindela oregona maricopa</i>	Cicindelidae	AZ.
2 Barbara Ann's tiger beetle	<i>Cicindela politula barbarannae</i>	Cicindelidae	TX.
2 Guadalupe Mountains tiger beetle	<i>Cicindela politula petrophila</i>	Cicindelidae	TX.
1 Puritan tiger beetle	<i>Cicindela puritana</i>	Cicindelidae	MD, VT, MA*, NH*, CT*.
2 Greenest tiger beetle	<i>Cicindela tranquebarica viridissima</i>	Cicindelidae	CA.
2 Oahu nesiotus weevil	<i>Desmocossus nesiotus</i>	Curculionidae	HI.
3C Antioch Dune weevil	<i>Dystichus rotundicollis</i>	Curculionidae	CA.
2 Oahu heteraphus fern weevil	<i>Heteraphus filicum</i>	Curculionidae	HI.
2 Nelson's miloderes weevil	<i>Miloderes nelsoni</i>	Curculionidae	CA.
2 Rulien's miloderes weevil	<i>Miloderes rulieni</i>	Curculionidae	NV.
2 Gifford's nesotocus weevil	<i>Nesotocus giffordi</i>	Curculionidae	HI.
2* Kauai nesotocus weevil	<i>Nesotocus kauaiensis</i>	Curculionidae	HI*.
2 Munro's nesotocus weevil	<i>Nesotocus munro</i>	Curculionidae	HI.
2 Lange's El Segundo Dune weevil	<i>Onychobaris langei</i>	Curculionidae	CA.
2 Windward Chain Oodemas weevils	<i>Oodemas</i> , 4 spp.	Curculionidae	HI.
2 Blackburn's pentarthrus weevil	<i>Pentarthrus blackburni</i>	Curculionidae	HI.
2 Obscure pentarthrus weevil	<i>Pentarthrus obscura</i>	Curculionidae	HI.
2 Hawaiian rhynogonus snout beetles	<i>Rhynogonus</i> 23 spp.	Curculionidae	HI.
2 Nihou stenotrupis weevil	<i>Stenotrupis pritchardiae</i>	Curculionidae	HI.
2 Blaisdell trigonoscuta weevil	<i>Trigonoscuta blaisdelli</i>	Curculionidae	CA.
2* Brown-tassel trigonoscuta weevil	<i>Trigonoscuta brunnotasselata</i>	Curculionidae	CA*.
2 Santa Catalina Island trigonoscuta weevil	<i>Trigonoscuta catalina</i>	Curculionidae	CA.
2 Dorothy's El Segundo Dune weevil	<i>Trigonoscuta dorothaea dorothae</i>	Curculionidae	CA.
1 Doyen's trigonoscuta dune weevil	<i>Trigonoscuta doyeri</i>	Curculionidae	CA.
3A Fort Ross trigonoscuta weevil	<i>Trigonoscuta rossi</i>	Curculionidae	CA*.
2 Santa Cruz Island shore weevil	<i>Trigonoscuta stantoni</i>	Curculionidae	CA.
3A Yorba Linda trigonoscuta weevil	<i>Trigonoscuta yorbalindae</i>	Curculionidae	CA*.
2 Death Valley agabus diving beetle	<i>Agabus rumpfi</i>	Dytiscidae	CA, NV?.
2 Bonita diving beetle	<i>Deronectes neomexicana</i>	Dytiscidae	NM, TX.
2 Fig seed diving beetle	<i>Desmopachria cenchrans</i>	Dytiscidae	FL*.
2 Texas cave diving beetle	<i>Haidoporus texanus</i>	Dytiscidae	TX.
2* Elusive hydroporus diving beetle	<i>Hydroporus elusivus</i>	Dytiscidae	NH*.
2 Folkerts' hydroporus diving beetle	<i>Hydroporus folkertsi</i>	Dytiscidae	AL.
2 Woolly hydroporus diving beetle	<i>Hydroporus hirsutus</i>	Dytiscidae	CA.
2 Leech's skyline diving beetle	<i>Hydroporus leechi</i>	Dytiscidae	CA.
2 Simple hydroporus diving beetle	<i>Hydroporus simplex</i>	Dytiscidae	CA.
2 Spangler's hydroporus diving beetle	<i>Hydroporus spangleri</i>	Dytiscidae	UT.
2* Sulphur Springs hydroporus diving beetle	<i>Hydroporus sulphureus</i>	Dytiscidae	AR*.
2 Utah hydroporus diving beetle	<i>Hydroporus utahensis</i>	Dytiscidae	UT.
3A Mono Lake hygrotrus diving beetle	<i>Hygrotrus artus</i>	Dytiscidae	CA*.
2 Curved-foot hygrotrus diving beetle	<i>Hygrotrus curvipes</i>	Dytiscidae	CA.
2 Narrow-foot hygrotrus diving beetle	<i>Hygrotrus diversipes</i>	Dytiscidae	WY.
2 Travertine band-thigh diving beetle	<i>Hygrotrus fontinalis</i>	Dytiscidae	CA.
2 Sylvan hygrotrus diving beetle	<i>Hygrotrus sylvanus</i>	Dytiscidae	NH, NY*.
2* Schwarz' diving beetle	<i>Laccophilus schwarzi</i>	Dytiscidae	MD*, VA*.
2 Hatch's click beetle	<i>Eanus hatchi</i>	Elateridae	WA, Canada?.
2 Hawaiian opensthes click beetles	<i>Eopensthes</i> 17 spp.	Elateridae	HI.
2 Necker itodacnus click beetles	<i>Itodacnus</i> 2 spp.	Elateridae	HI.
2 Waiona riffle beetle	<i>Atractelma waiona</i>	Elmidae	CA.
2 Parker's riffle beetle	<i>Cylloepus parkeri</i>	Elmidae	AZ.
2 Brownish dubiraphian riffle beetle	<i>Dubiraphia brunneiceps</i>	Elmidae	CA.
2 Giuliani's dubiraphian riffle beetle	<i>Dubiraphia giulianii</i>	Elmidae	CA.
2 Little riffle beetle	<i>Dubiraphia parva</i>	Elmidae	OK, IA.
2 Robust dubiraphian riffle beetle	<i>Dubiraphia robusta</i>	Elmidae	HI.
2 Dubiraphian riffle beetle (undescribed)	<i>Dubiraphia</i> sp.	Elmidae	ME.
2 Stephan's riffle beetle	<i>Heterelmis stephani</i>	Elmidae	AZ.
2 Marron's San Carlos riffle beetle	<i>Hulsechius marroni carolus</i>	Elmidae	AZ.
2 Brown's microcylloepus riffle beetle	<i>Microcylloepus browni</i>	Elmidae	MT.
2 Brown's optioservus riffle beetle	<i>Optioservus browni</i>	Elmidae	AR.
2 Pinnacles optioservus riffle beetle	<i>Optioservus canus</i>	Elmidae	CA.
2 Scott optioservus riffle beetle	<i>Optioservus phaeus</i>	Elmidae	KS.
2 Devil's Hole warm spring riffle beetle	<i>Stenelmis calida calida</i>	Elmidae	NV.
2 Koapa warm springs riffle beetle	<i>Stenelmis calida koapa</i>	Elmidae	NV.
2 Douglas stenelmis riffle beetle	<i>Stenelmis douglasensis</i>	Elmidae	HI.
2 Gamson's stenelmis riffle beetle	<i>Stenelmis gamsoni</i>	Elmidae	NC, AL, VA.
2 Warm spring zaitzevian riffle beetle	<i>Zaitzevia thernae</i>	Elmidae	MT.
2 Beer's false water penny beetle	<i>Aeneus beeri</i>	Bubriidae	OR.
2 Burnell's false water penny beetle	<i>Aeneus burnelli</i>	Bubriidae	OR.
2 Stark's false water penny beetle	<i>Alabaneubria starki</i>	Bubriidae	AL.
2 Variegated false water penny beetle	<i>Dicranopselaphus variegatus</i>	Bubriidae	IL.
2* Dohrn's elegant eucnemid beetle	<i>Paleocnemus dohrni</i>	Eucnemidae	CA*.
2 Red Hills unique whirligig beetle	<i>Spanglerogyris albiventris</i>	Gyrinidae	AL.
2 Hungerford's crawling water beetle	<i>Brychius hungerfordi</i>	Haliplidae	MI.
2* Disjunct crawling water beetle	<i>Haliphus nitens</i>	Haliplidae	TX?*, Canada*.
2 Maureen's gymnotherbius minute moss beetle	<i>Gymnotherbius maureenae</i>	Hydraenidae	MS.
2 Maureen's hydraenan minute moss beetle	<i>Hydraena maureenae</i>	Hydraenidae	VA.
2 Animas minute moss beetle	<i>Limnebius aridus</i>	Hydraenidae	NY.
2 Texas minute moss beetle	<i>Limnebius texanus</i>	Hydraenidae	TX.
2 Utah minute moss beetle	<i>Limnebius utahensis</i>	Hydraenidae	UT.
2 Wing-shoulder minute moss beetle	<i>Ochthebius crassalus</i>	Hydraenidae	CA.

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2 Putnam minute moss beetle	<i>Ochthebius putnamensis</i>	Hydraenidae	HI.
2 Wilbur Springs minute moss beetle	<i>Ochthebius reticulatus</i>	Hydraenidae	CA.
2 Leech's chaetarthrian water scavenger beetle	<i>Chaetarthria leechi</i>	Hydrophilidae	CA.
2 Utah chaetarthrian water scavenger beetle	<i>Chaetarthria utahensis</i>	Hydrophilidae	UT.
2 Chiricahua water scavenger beetle	<i>Cymbiodyta arizonica</i>	Hydrophilidae	AZ.
2 Ricksecker's water scavenger beetle	<i>Hydrochara rickseckeri</i>	Hydrophilidae	CA.
2 Seth Forest water scavenger beetle	<i>Hydrochus</i> sp.	Hydrophilidae	MD.
2 Seclusive water scavenger beetle	<i>Paracymus seclusus</i>	Hydrophilidae	MS.
2 Florida intertidal firefly	<i>Micronaspis floridana</i>	Lampyridae	FL.
2 Everglades brownwing firefly	<i>Photuris brunneipennis floridana</i>	Lampyridae	FL.
2 Turtle Mound firefly	<i>Photuris</i> sp.	Lampyridae	FL.
2 Blind cave leiodid beetle	<i>Glacivicolica bathysciodes</i>	Leiodidae	ID.
2 Kawai flightless stag beetle	<i>Apterocyclus honoluluenis</i>	Lucanidae	HI.
2 Hopping's blister beetle	<i>Lytta hoppingi</i>	Meloidae	CA.
2* Mojave Desert blister beetle	<i>Lytta inseparata</i>	Meloidae	CA*
2 Anthony blister beetle	<i>Lytta mirifica</i>	Meloidae	HI*, Mexico.
2* Moestan blister beetle	<i>Lytta moesta</i>	Meloidae	CA*
2 Molestan blister beetle	<i>Lytta molesta</i>	Meloidae	CA.
2 Morrison's blister beetle	<i>Lytta morrisoni</i>	Meloidae	CA.
2 Hawaiian proterhinid beetles	<i>Proterhinus</i> 72 spp.	Proterhinidae	HI.
2 Magazine Mountain mold beetle	<i>Arianops sandersoni</i>	Psephenidae	AR.
2 Arizona water penny beetle	<i>Psephenus arizonensis</i>	Psephenidae	AZ.
2 White Mountains water penny beetle	<i>Psephenus montanus</i>	Psephenidae	AZ.
2 Ciervo aegialian scarab beetle	<i>Aegialia concinna</i>	Scarabaeidae	CA.
2 Crescent Dune aegialian scarab beetle	<i>Aegialia crescenta</i>	Scarabaeidae	NV.
2 Hardy's aegialian scarab beetle	<i>Aegialia hardyi</i>	Scarabaeidae	NV.
2 Large aegialian scarab beetle	<i>Aegialia magnifica</i>	Scarabaeidae	NV.
2* Eciguoua anomalan scarab beetle	<i>Anomala exigua</i>	Scarabaeidae	FL*
2 Archbold anomalan scarab beetle	<i>Anomala excisa</i>	Scarabaeidae	FL*
2* Tibial scarab beetle	<i>Anomala tibialis</i>	Scarabaeidae	TX*
2 Ford's aphodius scarab beetle	<i>Aphodius fordii</i>	Scarabaeidae	CA.
2 Aphodius tortoise commensal scarab beetle	<i>Aphodius troglodytes</i>	Scarabaeidae	FL, SC.
2 Big Dune aphodius scarab beetle	<i>Aphodius</i> sp.	Scarabaeidae	NV.
2 Crescent Dune aphodius scarab beetle	<i>Aphodius</i> sp.	Scarabaeidae	NV.
2 Sand Mountain aphodius scarab beetle	<i>Aphodius</i> sp.	Scarabaeidae	NV.
2 Big Pine Key atenius dung beetle	<i>Ataenius superficialis</i>	Scarabaeidae	FL.
2 Woodruff's atenius dung beetle	<i>Ataenius woodruffi</i>	Scarabaeidae	FL.
2 San Clemente Island coenonycha beetle	<i>Coenonycha clementina</i>	Scarabaeidae	CA.
2 Copris tortoise commensal scarab beetle	<i>Copris gopheri</i>	Scarabaeidae	FL.
2* Miami roundhead scarab beetle	<i>Cyclocephala miamiensis</i>	Scarabaeidae	FL*
2 Kelso Dune glaresis scarab beetle	<i>Glaresis arenata</i>	Scarabaeidae	CA.
2 Spiny Florida sandhill scarab beetle	<i>Gronocarus multispinosus</i>	Scarabaeidae	FL.
2 White sand bear scarab beetle	<i>Lichnanthe albopilosa</i>	Scarabaeidae	CA.
2 Bumblebee (=Pacific sand bear) scarab beetle	<i>Lichnanthe ursina</i>	Scarabaeidae	CA.
2 Scrub Island burrowing scarab beetle	<i>Nyctotrupes pedester</i>	Scarabaeidae	FL.
2 Onthophagus tortoise commensal scarab beetle	<i>Onthophagus polyphemi</i>	Scarabaeidae	SC, GA, FL, AL, MS.
2 Ocala burrowing scarab beetle	<i>Pelotrupes youngi</i>	Scarabaeidae	FL.
3C Robinson's rain scarab beetle	<i>Phoebetus robinsoni</i>	Scarabaeidae	CA.
2 Woolly Gulf dune scarab beetle	<i>Polyllanina pubescens</i>	Scarabaeidae	FL.
2 Saline Valley snow-front June beetle	<i>Polyphylla anteronivea</i>	Scarabaeidae	CA.
2 Spotted Warner Valley Dunes June beetle	<i>Polyphylla avittata</i>	Scarabaeidae	UT.
2 Barbate June beetle	<i>Polyphylla barbata</i>	Scarabaeidae	CA.
2 Death Valley June beetle	<i>Polyphylla erratica</i>	Scarabaeidae	CA.
2 Atascadero June beetle	<i>Polyphylla nubila</i>	Scarabaeidae	CA.
2 Delta June beetle	<i>Polyphylla stellata</i>	Scarabaeidae	CA.
2 Andrews' dune scarab beetle	<i>Pseudocotalpa andrewsi</i>	Scarabaeidae	CA.
2 Giuliani's dune scarab beetle	<i>Pseudocotalpa giulianii</i>	Scarabaeidae	NV.
2 Frost's spring serican scarab beetle	<i>Serica frosti</i>	Scarabaeidae	FL.
2* Tantula serican scarab beetle	<i>Serica tantula</i>	Scarabaeidae	FL*
2 Crescent Dune serican scarab beetle	<i>Serica</i> sp.	Scarabaeidae	NV.
2 Sand Mountain serican scarab beetle	<i>Serica</i> sp.	Scarabaeidae	NV.
2 Scrub palmetto flower scarab beetle	<i>Trigonopelastes floridana</i>	Scarabaeidae	FL.
2 Caracara commensal scarab beetle	<i>Trox howelli</i>	Scarabaeidae	FL.
3A Tooth Cave blind rove beetle	<i>Cylindropsis</i> sp.	Staphylinidae	TX.
2 Black lordithon rove beetle	<i>Lordithon niger</i>	Staphylinidae	MO, Canada, AR*, CT*, DC*, GA*, IL*, KS*, KY*, MI*, NY*, NC*, OH*, PA*, TX*, VA*, WV*, CA, Mexico.
2 Globose dune beetle	<i>Coelus globosus</i>	Tenebrionidae	CA.
1 San Joaquin dune beetle	<i>Coelus gracilis</i>	Tenebrionidae	CA.

SCORPIONFLIES & ALLIES (Insects, Order Mecoptera)

2 Gold rush hanging fly	<i>Orhittacus obscurus</i>	Bittacidae	CA.
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FLIES (Insects, Order Diptera)

2 Mary Alice's smallheaded fly	<i>Dilonchus marialiciae</i>	Acroceridae	NC.
3A Valley mydas fly	<i>Raphomydas trochilus</i>	Apioceratidae	CA*
2* Antioch cophuran robberfly	<i>Cophura hardi</i>	Asilidae	CA*
2 Antioch efferian robberfly	<i>Efferia antiochi</i>	Asilidae	CA.
2 Hurd's metapogon robberfly	<i>Metapogon hardi</i>	Asilidae	CA.
2 Nihoa two-spotted asteriid fly	<i>Bryania bipunctata</i>	Asteriidae	HI.
3A Ko'olau spurwing long-legged fly	<i>Campsicnemus (=Euperoptera) urabilis</i>	Dolichopodidae	HI*
3A Lanai ponca fly	<i>Drosophila lanaiensis</i>	Drosophilidae	HI*
3A Hawaiian chersodromian dance fly	<i>Chersodromia hawaiiensis</i>	Epididae	HI*

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories).

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
2 Wilbur Springs shore fly	<i>Paracoenia calida</i>	Ephydriidae	CA.
2 Sugarfoot moth fly	<i>Neopalpus nearcticus</i>	Psychodidae	FL.
2 Delong's mixogaster flower fly	<i>Mixogaster delongi</i>	Syrphidae	IL.
3C Ross's apatalestes tabanid fly	<i>Apatalestes rossi</i>	Tabanidae	CA*
2 Florida asaphomyian tabanid fly	<i>Asaphomyia floridensis</i>	Tabanidae	FL.
2* Texas asaphomyian tabanid fly	<i>Asaphomyia texanus</i>	Tabanidae	TX*
3C Belkin's dune tabanid fly	<i>Brennania belkini</i>	Tabanidae	CA, Mexico.
2 Brown merycomyan tabanid fly	<i>Merycomyia brunnea</i>	Tabanidae	FL.
3A Volutine stoneyian tabanid fly	<i>Stoneyia volutina</i>	Tabanidae	CA*
BUTTERFLIES & MOTHS (Insects, Order Lepidoptera)			
3A Chestnut ermine moth	<i>Argyresthia castaneola</i>	Argyresthiidae	NH*, VT*
2 Green heterocrossan carposinid moth	<i>Heterocrossa (=Carposina) viridis</i>	Carposinidae	HI.
3B Lora Aborn's moth	<i>Lorita abornana</i> (synonym of <i>L. scarificata</i>)	Cochylidae	CA.
3A Chestnut casebearer moth	<i>Coleophora leucochrysa</i>	Coleophoridae	PA*
2 Loet ethmid moth	<i>Ethmia monachella</i>	Ethmiidae	CO.
2 Ioxanthan looper moth	<i>Fletcherana ioxantha</i>	Geometridae	HI.
2 Geometrid moth, no common name	<i>Lytrosis permagnaria</i>	Geometridae	GA, KY, MO, TN, MS*
3A Kona giant looper moth	<i>Scotothyra (=Acrodrepnis) megalophylla</i>	Geometridae	HI*
3A Ko'olau giant looper moth	<i>Scotothyra (=Acrodrepnis) nesiotis</i>	Geometridae	HI*
3A Hawaiian hopsed looper moth	<i>Scotothyra paractis</i>	Geometridae	HI*
3A 'Ola' a peppered looper moth	<i>Tritocleis microphylla</i>	Geometridae	HI*
2* Necker petrochroan leaf miner moth	<i>Petrochroa neckerensis</i>	Gracilariidae	HI.
2 Dun skipper	<i>Euphyes vestris harbisoni</i>	Hesperiidae	CA.
2 Dakota skipper	<i>Hesperia dacotae</i>	Hesperiidae	NH, IA, SD, ND, IL*, Canada.
2 MacNeill sooty wing skipper	<i>Hesperopis gracielae</i>	Hesperiidae	AZ, CA, NV, UT.
2 Salt marsh skipper	<i>Panoquina errans (=panoquinoides e.)</i>	Hesperiidae	CA, Mexico.
2 Rare skipper	<i>Problema balanta</i>	Hesperiidae	MO, VA, NC, SC, GA.
2 Wandering skipper	<i>Pseudocopaedes eunus eunus</i>	Hesperiidae	CA, NV?, AZ?, Mexico?
2 Laguna Mountains skipper	<i>Pyrgus ruralis laguna</i>	Hesperiidae	CA.
2 Atala butterfly	<i>Emaeus atala florida</i>	Lycanidae	FL.
3C Comstock's blue butterfly	<i>Euphilotes (=Shijinaeoides) battoides comstocki</i>	Lycanidae	CA.
2 Baking Powder Flat blue butterfly	<i>Euphilotes battoides ssp.</i>	Lycanidae	NV.
3C Langston's blue butterfly	<i>Euphilotes (=Shijinaeoides) enoptes langstoni</i>	Lycanidae	CA.
2 Mattoni's blue butterfly	<i>Euphilotes (=Shijinaeoides) rita mattoni</i>	Lycanidae	NV.
3A Xerces blue butterfly	<i>Glaucopsyche xerces</i>	Lycanidae	CA*
2 Miami blue butterfly	<i>Hemiaris thomasi bethunebakeri</i>	Lycanidae	FL.
3A Fender's blue butterfly	<i>Icaricia icarioides fenderi</i>	Lycanidae	OR.
2 Morro Bay blue butterfly	<i>Icaricia icarioides morroensis</i>	Lycanidae	CA.
2 Pheres blue butterfly	<i>Icaricia icarioides pheres</i>	Lycanidae	CA.
2 Bog elfin butterfly	<i>Incisalia (=Calliphrys =Mitoura) lanoraieensis</i>	Lycanidae	NE, NY, Canada, NH*
3C Doudoroff's elfin butterfly	<i>Incisalia (=Calliphrys =Mitoura) mossi doudoroffi</i>	Lycanidae	CA.
3C Wind's elfin butterfly	<i>Incisalia (=Calliphrys =Mitoura) mossi windi</i>	Lycanidae	CA.
2 San Gabriel Mountains elfin butterfly	<i>Incisalia (=Calliphrys =Mitoura) mossi hidahupa</i>	Lycanidae	CA.
2 Karner blue butterfly	<i>Lycia melissa samuelis</i>	Lycanidae	IL, IN, MI, NY, OH, WI, IA*, ND*, PA*
3C Clouded tailed copper butterfly	<i>Lycia arota nubila</i>	Lycanidae	CA.
2 Clayton's copper butterfly	<i>Lycia dorcas claytoni</i>	Lycanidae	NE.
2 Hermes copper butterfly	<i>Lycia hermes</i>	Lycanidae	CA, Mexico.
2 Sweadner's olive hairstreak butterfly	<i>Mitoura (=Calliphrys) gryneus sweadneri</i>	Lycanidae	FL.
3C Hessel's hairstreak butterfly	<i>Mitoura (=Calliphrys) hesseli</i>	Lycanidae	GA, FL, MD, NC, NE, NJ, VA, MD*
2 Thorne's hairstreak butterfly	<i>Mitoura thornei</i>	Lycanidae	CA.
2 Boharts' blue butterfly	<i>Philotiella speciosa bohartorum</i>	Lycanidae	CA.
2 San Emigdio blue butterfly	<i>Plebulina (=Plebejus) emigdionis</i>	Lycanidae	CA.
2 Mardon blue butterfly	<i>Plebejus mardon</i>	Lycanidae	CA.
2 San Gabriel Mountains blue butterfly	<i>Plebejus saepiolus aureolus</i>	Lycanidae	CA.
2 Spring Mountains blue butterfly	<i>Plebejus shasta charlestonensis</i>	Lycanidae	NV.
2 Bartram's hairstreak butterfly	<i>Strymon acis bartrami</i>	Lycanidae	FL.
3C Hawaiian hairstreak butterfly	<i>Vaga Blackburni</i>	Lycanidae	HI.
2 Kendall's yucca skipper butterfly	<i>Megathymus coloradensis kendalli</i>	Megathymidae	TX.
2 Maculated nanfreda skipper butterfly	<i>Stallingsia maculosus</i>	Megathymidae	TX, Mexico.
3A American chestnut nepticulid moth	<i>Ectodemia castaneae</i>	Nepticulidae	MD*
3A Philephagan chestnut nepticulid moth	<i>Ectodemia philephaga</i>	Nepticulidae	MD*
2 Albarufan dagger moth	<i>Acronicta albarufa</i>	Noctuidae	MA, MO, NJ, Canada, CT*, GA*, NC*, NY*, PA*, OH*, VA*, CO*, NH*
2 Bucholtz' dart moth	<i>Agrotis bucholtzi</i>	Noctuidae	NJ.
3A 'Poko' noctuid moth	<i>Agrotis (=Spaelotis) crinigera</i>	Noctuidae	HI*
3A Midway agrotis noctuid moth	<i>Agrotis (=Peridroma) fasciata</i>	Noctuidae	HI*
3A Kerr's agrotis noctuid moth	<i>Agrotis kerrii</i>	Noctuidae	HI*
3A Laysan agrotis noctuid moth	<i>Agrotis (=Prodenia) laysanensis</i>	Noctuidae	HI*
3A Procellaris agrotis noctuid moth	<i>Agrotis procellaris</i>	Noctuidae	HI*
2* Smyth's apamea moth	<i>Apamea smythi</i>	Noctuidae	VA*, IL*
3C Marbled underwing moth	<i>Catocala nympha</i>	Noctuidae	KY, NC, SC, IL*, IN*, MD*, NJ*, NY*, OH*, PA*, VA*, VT*, WV*
2 Precious underwing moth	<i>Catocala pretiosa</i>	Noctuidae	NJ, NH*, CT*, MA*, MD*, NY*, PA*, OH*, MD*, VA*, TN*
2 Hebard's noctuid moth	<i>Erythroecia hebardii</i>	Noctuidae	OH, NJ, VA*
3A Confused helioverpa noctuid moth	<i>Helioverpa confusa</i>	Noctuidae	HI*
3A Minute helioverpa noctuid moth	<i>Helioverpa minuta</i>	Noctuidae	HI*
3A Laysan dropseed noctuid moth	<i>Hypena (=Mesaniptris) laysanensis</i>	Noctuidae	HI*
3A Rilo hypenan noctuid moth	<i>Hypena (=Mesaniptris) newelli</i>	Noctuidae	HI*
3A Lovegrass noctuid moth	<i>Hypena (=Mesaniptris) plagiota</i>	Noctuidae	HI*
3A Kahulamano noctuid moth	<i>Hypena (=Mesaniptris) senicula</i>	Noctuidae	HI*
2 Lesmer's noctuid moth	<i>Lithophane lesmeri</i>	Noctuidae	NJ, NY, CT*, NC?, SC?

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories).

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
2* Noctuid moth, no common name	<i>Luperina trigona</i>	Noctuidae	TN*
2* Noctuid moth, no common name	<i>Papaipema avense</i>	Noctuidae	MI*, NY*, Canada*
2* Rattlesnake-master borer moth	<i>Papaipema erynii</i>	Noctuidae	IL*, IN*
2 Decodon borer moth	<i>Papaipema sulphurata</i>	Noctuidae	MA
2 Ceromantic noctuid moth	<i>Pyreferra ceromantica</i>	Noctuidae	AL, FL, SC, TN, ALA*, CT*, MA*, ME*, NY*, Canada*
2 Noctuid moth, no common name	<i>Schinia indiana</i>	Noctuidae	MI, MN, WI, AR?*, IL*, IN*, NC?, NE?, TX?
2 Okfehenoke zale moth	<i>Zale perculata</i>	Noctuidae	GA, FL*
2 Florida leafwing butterfly	<i>Anaea troglodyta floridalis</i>	Nymphalidae	FL
1 Uncompahgre fritillary butterfly	<i>Boloria acrocnema</i>	Nymphalidae	CO
1 Alamosa satyr butterfly	<i>Cercyonis meadi alamosa</i>	Nymphalidae	CO
3A Sthenele wood nymph butterfly	<i>Cercyonis sthenele sthenele</i>	Nymphalidae	CA*
2 Oso Flaco patch butterfly	<i>Chlosyne leanira osoflaco</i>	Nymphalidae	CA
2 Morand's checkerspot butterfly	<i>Euphydryas anicia morandi</i>	Nymphalidae	NV
2 Mono checkerspot butterfly	<i>Euphydryas editha monoensis</i>	Nymphalidae	CA, NV
2 Wright's checkerspot butterfly	<i>Euphydryas editha quino</i> (=E. e. wrighti)	Nymphalidae	CA, Mexico
3C Obsolete viceroy butterfly	<i>Limenitis archippus obsoletus</i>	Nymphalidae	AZ, CA, NM, NV, Mexico
2 Mitchell satyr butterfly	<i>Neonympha (=Euptychia) mitchelli</i>	Nymphalidae	IN, MI, NC, NJ, OH*, MD*?
3C Chryxus arctic butterfly	<i>Oeneis chryxus valerata</i>	Nymphalidae	WA
2 Tamy crescent butterfly	<i>Phyciodes batesi</i>	Nymphalidae	NC, VA, NY, MI, WI, MD, SD, MN, Canada, GA*, WV*, PA*, NJ*
3C Minute checkerspot butterfly	<i>Poladyras minuta minuta</i>	Nymphalidae	TX, NM
3C Smoky eyed brown butterfly	<i>Satyrodes eurydice fuscus</i>	Nymphalidae	CO, IL, IA, NE
3C Unsilvered fritillary butterfly	<i>Speyeria adiastrum adiastrum</i>	Nymphalidae	CA
3A Atossa fritillary butterfly	<i>Speyeria adiastrum atossa</i>	Nymphalidae	CA*
3C Clemence's fritillary butterfly	<i>Speyeria adiastrum clemencei</i>	Nymphalidae	CA
2 Callippe silverspot butterfly	<i>Speyeria callippe callippe</i>	Nymphalidae	CA
3A Willamette silverspot butterfly	<i>Speyeria callippe extincta</i>	Nymphalidae	OR
2 Tehachapi Mountain silverspot butterfly	<i>Speyeria egleis tehachapina</i>	Nymphalidae	CA
3B Hydaspes fritillary butterfly	<i>Speyeria hydaspes conquista</i>	Nymphalidae	CO*, NM*
2 Regal fritillary butterfly	<i>Speyeria idalia</i>	Nymphalidae	MA, MD, VA, WV, PA, OH, IN, MI, IL, MO, MN, WI, IA, OK, KS, NE, SD, ND, CO, CT*, DE*, ME*, MT*, NC*, NH*, NJ*, NY*, RI*, Canada
3C Apache silverspot butterfly	<i>Speyeria nokomis apacheana</i>	Nymphalidae	CA, NV
2 Blue silverspot butterfly	<i>Speyeria nokomis caerulea</i>	Nymphalidae	AZ*, Mexico
3B Blueblack silverspot butterfly	<i>Speyeria nokomis nigrocaerulea</i>	Nymphalidae	AZ, NM
3C Mountain silverspot butterfly	<i>Speyeria nokomis nitocris</i>	Nymphalidae	AZ, NM, CO
2 Great basin silverspot butterfly	<i>Speyeria nokomis nitocris</i>	Nymphalidae	CO, UT
2 Behren's silverspot butterfly	<i>Speyeria zerene behrensi</i>	Nymphalidae	CA
2 Carole's silverspot butterfly	<i>Speyeria zerene carolae</i>	Nymphalidae	NV
2 Myrtle's silverspot butterfly	<i>Speyeria zerene myrtilae</i>	Nymphalidae	CA
2 Henne's eucosma moth	<i>Eucosma hennei</i>	Olethreutidae	CA
3C San Francisco tree lupine moth	<i>Grapholita edwardsiana</i>	Olethreutidae	CA
3A Strobben's parnassian butterfly	<i>Parnassius clodius strobbeni</i>	Papilionidae	CA*
2 Busck's gall moth	<i>Carolella busckiana</i>	Phalonidae	CA*
3C Catalina orange tip butterfly	<i>Anthocharis cethura catalina</i>	Pieridae	CA
2 Andrew's marble butterfly	<i>Eichloe hyantis andrewi</i>	Pieridae	CA
3C Helios yellow butterfly	<i>Eurasa dina helios</i>	Pieridae	PR, Caribbean
2* Daecke's pyralid moth	<i>Crambus daeckellus</i>	Pyralidae	NJ*
2* Molokai sedge hedyleptan moth	<i>Hedylepta anastrotoides</i>	Pyralidae	HI*
2* Kohala Mountain sedge hedyleptan moth	<i>Hedylepta anastrotoides</i>	Pyralidae	HI
2* 'Ohe hedyleptan moth	<i>Hedylepta asaphandra</i>	Pyralidae	HI*
3A Oahu swamp hedyleptan moth	<i>Hedylepta epocentra</i>	Pyralidae	HI*
2* Ola'a banana hedyleptan moth	<i>Hedylepta euryprora</i>	Pyralidae	HI*
2* Fullaway's banana hedyleptan moth	<i>Hedylepta fullawayi</i>	Pyralidae	HI*
2* Giffard's 'Ohe hedyleptan moth	<i>Hedylepta giffardi</i>	Pyralidae	HI*
2* Kilauea pe'iniu hedyleptan moth	<i>Hedylepta iridis</i>	Pyralidae	HI*
3A Laysan hedyleptan moth	<i>Hedylepta laysanensis</i>	Pyralidae	HI*
2* Meyrick's banana hedyleptan moth	<i>Hedylepta meyricki</i>	Pyralidae	HI*
2* Hawaiian bean leafroller moth	<i>Hedylepta acrognona</i>	Pyralidae	HI*
2* Maui banana hedyleptan moth	<i>Hedylepta muscicola</i>	Pyralidae	HI*
2* Hawaiian lo'ulu hedyleptan moth	<i>Hedylepta pritchardii</i>	Pyralidae	HI*
3A Telegraphic hedyleptan moth	<i>Hedylepta telegrapha</i>	Pyralidae	HI*
2 Blue margaritanian moth	<i>Margaritana cyanonichla</i>	Pyralidae	HI
2 Green margaritanian moth	<i>Margaritana exaula</i>	Pyralidae	HI
2 'Ohenaupaka oebian moth	<i>Oecobla dryadopa</i>	Pyralidae	HI
2 Ford's sand dune moth	<i>Psammobotys fordi</i>	Pyralidae	CA
2 Chestnut clearwing moth	<i>Synanthedon castaneae</i>	Sesiidae	VA*, PA*, SC*, ME*, MS*, NY*
2 Blanchard's sphinx moth	<i>Adhemarius blanchardorum</i>	Sphingidae	TX
3C Weist's sphinx moth	<i>Diprosopus westi</i>	Sphingidae	CO, NE, AZ, TX, MT
3A Blackburn's sphinx moth	<i>Hauduca blackburni</i>	Sphingidae	HI*
2 Fabulous green sphinx of Kauai	<i>Tinostoma smaragdinus</i>	Sphingidae	HI
3A Chestnut leaf miner moth	<i>Tischeria perpinea</i>	Tischeriidae	VA*
2 Stevens' tortricid moth	<i>Decodes stevensi</i>	Tortricidae	CO
2 'Ohe'ohē leaf roller moth	<i>Spheterista chebeana</i>	Tortricidae	HI
2 Greenbanded 'Ohe'ohē leafroller moth	<i>Spheterista pterotropiana</i>	Tortricidae	HI
2 Wailupe leafroller moth	<i>Spheterista reynoldsiana</i>	Tortricidae	HI

CADDISFLIES (Insects, Order Trichoptera)

2 Mt. Hood primitive brachycentrid caddisfly	<i>Eobrachycentrus gelidae</i>	Brachycentridae	OR
2 Artesian agapetus caddisfly	<i>Agapetus artesianus</i>	Glossosomatidae	MO
2 Denning's agapetus caddisfly	<i>Agapetus denningi</i>	Glossosomatidae	OR*
2 Arkansas agapetus caddisfly	<i>Agapetus medicus</i>	Glossosomatidae	AR

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories).

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
2 San Marcos saddle-case caddisfly	<i>Proteptila arca</i>	Glossosomatidae	TX.
2 Flint's net-spinning caddisfly	<i>Cheumatopsyche flinti</i>	Hydropsychidae	TX.
2 Helma's net-spinning caddisfly	<i>Cheumatopsyche helma</i>	Hydropsychidae	ME, KY*, TN*
2 Vannote's net-spinning caddisfly	<i>Cheumatopsyche vannotei</i>	Hydropsychidae	PA.
2 California diplectronan caddisfly	<i>Diplectrona californica</i>	Hydropsychidae	CA.
2 Schuh's homoplectran caddisfly	<i>Homoplectra schuhi</i>	Hydropsychidae	OR.
2 Abellan hydropsyche caddisfly	<i>Hydropsyche abella</i>	Hydropsychidae	OR.
2 Buffalo Springs caddisfly	<i>Hydropsyche etnieri</i>	Hydropsychidae	TN.
2 Reisen's hydropsyche caddisfly	<i>Hydropsyche reiseni</i>	Hydropsychidae	OK.
2* King's Creek parapysche caddisfly	<i>Parapsyche extensa</i>	Hydropsychidae	CA*
2 Knoxville hydroptilan micro caddisfly	<i>Hydroptila decia</i>	Hydroptilidae	TN.
2 Kite's neutrichian micro caddisfly	<i>Neotrichia kitea</i>	Hydroptilidae	MO.
2 Aisea ochrotrichian micro caddisfly	<i>Ochrotrichia aisea</i>	Hydroptilidae	OR.
2 Contorted ochrotrichian micro caddisfly	<i>Ochrotrichia contorta</i>	Hydroptilidae	MO, AR.
2 Deschutes ochrotrichian micro caddisfly	<i>Ochrotrichia phenosa</i>	Hydroptilidae	OR*
2 Provost's ochrotrichian micro caddisfly	<i>Ochrotrichia provosti</i>	Hydroptilidae	FL.
2 Vertrees's ochrotrichian micro caddisfly	<i>Ochrotrichia vertreesi</i>	Hydroptilidae	OR.
2 Florida oxyethiran micro caddisfly	<i>Oxyethira florida</i>	Hydroptilidae	FL, TX.
2* Fischer's lepidostoman caddisfly	<i>Lepidostoma fischeri</i>	Lepidostomatidae	OR.
2 Goeden's lepidostoman caddisfly	<i>Lepidostoma goedeni</i>	Lepidostomatidae	OR.
1 Cold Spring caddisfly	<i>Lepidostoma</i> sp.	Lepidostomatidae	CA.
2* Florida ceracleon longhorn caddisfly	<i>Ceraclea floridana</i>	Leptoceridae	FL*
2 Vertrees's ceracleon caddisfly	<i>Ceraclea (=Athrripsodes) vertreesi</i>	Leptoceridae	OR.
2* Little oecetis longhorn caddisfly	<i>Oecetis parva</i>	Leptoceridae	FL*
3A Athens long-horned caddisfly	<i>Triacnodes phalacris</i>	Leptoceridae	OR*
2* Three-tooth long-horned caddisfly	<i>Triacnodes tridentata</i>	Leptoceridae	OR*, FL*
2 Headwater chilostigma caddisfly	<i>Chilostigma itascae</i>	Limnephilidae	MI.
2 Cascades aptanian caddisfly	<i>Apatania (=Radana) tavalis</i>	Limnephilidae	OR.
2 Denning's cryptic caddisfly	<i>Cryptochia denningi</i>	Limnephilidae	CA.
2 Kings Canyon cryptochian caddisfly	<i>Cryptochia exella</i>	Limnephilidae	CA.
2 Blue Mountains cryptochian caddisfly	<i>Cryptochia neosa</i>	Limnephilidae	OR.
2 Confusion caddisfly	<i>Cryptochia shasta</i>	Limnephilidae	CA.
2 Amphibious caddisfly	<i>Desmuna bethula</i>	Limnephilidae	CA.
2 King's Creek ecclisomyian caddisfly	<i>Ecclisomyia bilera</i>	Limnephilidae	CA.
2* Green Springs Mountain farulan caddisfly	<i>Farula davisii</i>	Limnephilidae	OR*
2 Mt. Hood farulan caddisfly	<i>Farula jowettii</i>	Limnephilidae	OR.
2 Tombstone Prairie farulan caddisfly	<i>Farula reaperi</i>	Limnephilidae	OR.
1 Sagehen Creek goeracean caddisfly	<i>Goeracea oregona</i>	Limnephilidae	CA.
2 Long-tailed caddisfly	<i>Farula</i> sp.	Limnephilidae	CA.
2 Missouri glyptopsyche caddisfly	<i>Glyptopsyche missouri</i>	Limnephilidae	MO.
3C Klamath limnephilus caddisfly	<i>Limnephilus alconura</i>	Limnephilidae	OR.
2 Fort Dick limnephilus caddisfly	<i>Limnephilus atercus</i>	Limnephilidae	CA, OR.
2 Columbia Gorge neothremman caddisfly	<i>Neothremma andersoni</i>	Limnephilidae	OR.
2 Golden-horned caddisfly	<i>Neothremma genella</i>	Limnephilidae	CA.
2 Siskiyou caddisfly	<i>Neothremma siskiyou</i>	Limnephilidae	CA.
2 Tombstone Prairie oligophlebodes caddisfly	<i>Oligophlebodes mostbenton</i>	Limnephilidae	OR.
2* Clatsop philocascan caddisfly	<i>Philocasca oron</i>	Limnephilidae	OR*
3B (Caddisfly, no common name)	<i>Psilotreta hansonii</i>	Odentoceridae	MA.
3B Oregon dolophilodes caddisfly	<i>Dolophilodes (=Sortosa) oregona</i>	Philoptamidae	OR.
2 Carlson's polycentropus caddisfly	<i>Polycentropus carlsoni</i>	Polycentropodidae	SC.
2 Nearctic padmiellan caddisfly	<i>Padmiella nearctica</i>	Psychomyiidae	AR.
2 Siskiyou caddisfly	<i>Tinodes siskiyou</i>	Psychomyiidae	OR.
2 Alexander's rhyacophilan caddisfly	<i>Rhyacophila alexandri</i>	Rhyacophilidae	MT.
3B Castle Lake rhyacophilan caddisfly	<i>Rhyacophila anabilis</i>	Rhyacophilidae	CA*
2 Obrien rhyacophilan caddisfly	<i>Rhyacophila colonus</i>	Rhyacophilidae	OR.
2 Fender's rhyacophilan caddisfly	<i>Rhyacophila fenderi</i>	Rhyacophilidae	OR.
2 Haddock's rhyacophilan caddisfly	<i>Rhyacophila haddocki</i>	Rhyacophilidae	OR.
2 Castle Crags rhyacophilan caddisfly	<i>Rhyacophila lineata</i>	Rhyacophilidae	CA.
2 Bilobed rhyacophilan caddisfly	<i>Rhyacophila mosana</i>	Rhyacophilidae	CA.
2 Spiny rhyacophilan caddisfly	<i>Rhyacophila spinata</i>	Rhyacophilidae	CA.
2 One-spot rhyacophilan caddisfly	<i>Rhyacophila unipunctata</i>	Rhyacophilidae	OR.
2 Stannard's agarodes caddisfly	<i>Agarodes stannardi</i>	Sericostomatidae	MS, TN.
2 Zigzag blackwater caddisfly	<i>Agarodes ziczac</i>	Sericostomatidae	FL.

ANTS, BEES, & WASPS (Insects, Order Hymenoptera)

2* Yellow-banded andrenid bee	<i>Pardita hirticeps luteocincta</i>	Andrenidae	CA*
2 Antioch andrenid bee	<i>Pardita scitula antiochensis</i>	Andrenidae	CA.
2 Franklin's bumblebee	<i>Bombus franklini</i>	Apidae	OR.
2 Nihoa sclerodermus wasp	<i>Sclerodermus nihouensis</i>	Bethylidae	HI.
3C Antioch potter wasp	<i>Microdynerus (=Leptochilus) arenicolus</i>	Eumenidae	AZ, CA, NV.
2 Nihoa eupelmus wasp	<i>Eupelmus nihouensis</i>	Eupelmidae	HI.
1 Valley oak ant	<i>Proceratium californicum</i>	Formicidae	CA.
2 Ancient ant	<i>Smithistruma</i> sp.	Formicidae	CA.
2* Andrenoid yellow-faced bee	<i>Nesoprosopis andrenoides</i>	Hylaeidae	HI*
3A Lanai yellow-faced bee	<i>Nesoprosopis angustula</i>	Hylaeidae	HI*
2 Anomalous yellow-faced bee	<i>Nesoprosopis anomala</i>	Hylaeidae	HI.
2* Anthricinan yellow-faced bee	<i>Nesoprosopis anthricina</i>	Hylaeidae	HI*
2* Assimilans yellow-faced bee	<i>Nesoprosopis assimilans</i>	Hylaeidae	HI*
3A Blackburn's yellow-faced bee	<i>Nesoprosopis blackburni</i>	Hylaeidae	HI*
2* Bluewing yellow-faced bee	<i>Nesoprosopis caeruleipennis</i>	Hylaeidae	HI*
2* Chlorostictan yellow-faced bee	<i>Nesoprosopis chlorostictata</i>	Hylaeidae	HI*
2* Comes yellow-faced bee	<i>Nesoprosopis comes</i>	Hylaeidae	HI*
2* Conehead yellow-faced bee	<i>Nesoprosopis coniceps</i>	Hylaeidae	HI*

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories).

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
3A Connected yellow-faced bee	<i>Nesoprosopis connectens</i>	Hylaeidae	HI*
2* Crabronid yellow-faced bee	<i>Nesoprosopis crabronoides</i>	Hylaeidae	HI*
2* Difficult yellow-faced bee	<i>Nesoprosopis difficilis</i>	Hylaeidae	HI*
2* Dmidiatan yellow-faced bee	<i>Nesoprosopis diuidata</i>	Hylaeidae	HI*
3A Erythrodenes yellow-faced bee	<i>Nesoprosopis erythrodenas</i>	Hylaeidae	HI*
2* Easy yellow-faced bee	<i>Nesoprosopis facilis</i>	Hylaeidae	HI*
2* Fern yellow-faced bee	<i>Nesoprosopis filicum</i>	Hylaeidae	HI*
3A Finitiman yellow-faced bee	<i>Nesoprosopis finitima</i>	Hylaeidae	HI*
2 Very yellow-faced bee	<i>Nesoprosopis flavifrons</i>	Hylaeidae	HI.
2* Yellow-foot yellow-faced bee	<i>Nesoprosopis flavipes</i>	Hylaeidae	HI*
2 Darrowing yellow-faced bee	<i>Nesoprosopis fuscipennis</i>	Hylaeidae	HI.
2* Shadowfoot darrowing yellow-faced bee	<i>Nesoprosopis fuscipennis obscuripes</i>	Hylaeidae	HI*
2* Haleakala yellow-faced bee	<i>Nesoprosopis haleakalae</i>	Hylaeidae	HI.
3A Hilaris yellow-faced bee	<i>Nesoprosopis hilaris</i>	Hylaeidae	HI*
2* Hirsute yellow-faced bee	<i>Nesoprosopis hirsutula</i>	Hylaeidae	HI*
3A Monocolor yellow-faced bee	<i>Nesoprosopis homechroma</i>	Hylaeidae	HI*
2* Hostile yellow-faced bee	<i>Nesoprosopis hostilis</i>	Hylaeidae	HI*
2* Hulan yellow-faced bee	<i>Nesoprosopis hula</i>	Hylaeidae	HI*
2* Insignis yellow-faced bee	<i>Nesoprosopis insignis</i>	Hylaeidae	HI*
2* Kauai yellow-faced bee	<i>Nesoprosopis kauaiensis</i>	Hylaeidae	HI*
2* Koa yellow-faced bee	<i>Nesoprosopis koae</i>	Hylaeidae	HI*
2* Kona yellow-faced bee	<i>Nesoprosopis kona</i>	Hylaeidae	HI*
2* Laetan yellow-faced bee	<i>Nesoprosopis laeta</i>	Hylaeidae	HI*
3A Broadhead yellow-faced bee	<i>Nesoprosopis laticeps</i>	Hylaeidae	HI*
2* Longhead yellow-faced bee	<i>Nesoprosopis longiceps</i>	Hylaeidae	HI*
3A Maui yellow-faced bee	<i>Nesoprosopis mauensis</i>	Hylaeidae	HI*
3A Melanothrix yellow-faced bee	<i>Nesoprosopis melanothrix</i>	Hylaeidae	HI*
3A Mutatan yellow-faced bee	<i>Nesoprosopis mutata</i>	Hylaeidae	HI*
3A Molokai yellow-faced bee	<i>Nesoprosopis neglecta</i>	Hylaeidae	HI*
3A Snowy yellow-faced bee	<i>Nesoprosopis nivalis</i>	Hylaeidae	HI*
2* Obscuratan yellow-faced bee	<i>Nesoprosopis obscurata</i>	Hylaeidae	HI*
2* Ombrias yellow-faced bee	<i>Nesoprosopis ombrias</i>	Hylaeidae	HI*
3A Pele yellow-faced bee	<i>Nesoprosopis pele</i>	Hylaeidae	HI*
2 Perkin's yellow-faced bee	<i>Nesoprosopis perkinsiana</i>	Hylaeidae	HI.
3A Perspicuan yellow-faced bee	<i>Nesoprosopis perspicua</i>	Hylaeidae	HI*
3A Psambian yellow-faced bee	<i>Nesoprosopis psambhia</i>	Hylaeidae	HI*
2* Furry yellow-faced bee	<i>Nesoprosopis pubescens</i>	Hylaeidae	HI*
2* Redtail yellow-faced bee	<i>Nesoprosopis rubrocaudatus</i>	Hylaeidae	HI*
3A Rugulose yellow-faced bee	<i>Nesoprosopis rugulosa</i>	Hylaeidae	HI*
2* Satellus yellow-faced bee	<i>Nesoprosopis satellus</i>	Hylaeidae	HI*
3A Bristlefront yellow-faced bee	<i>Nesoprosopis setosifrons</i>	Hylaeidae	HI*
2* Simple yellow-faced bee	<i>Nesoprosopis simplex</i>	Hylaeidae	HI*
2* Specular yellow-faced bee	<i>Nesoprosopis specularis</i>	Hylaeidae	HI*
2* Sphecodoid yellow-faced bee	<i>Nesoprosopis sphecodoides</i>	Hylaeidae	HI*
2* Unique yellow-faced bee	<i>Nesoprosopis unica</i>	Hylaeidae	HI*
2* Vicinan yellow-faced bee	<i>Nesoprosopis vicina</i>	Hylaeidae	HI*
2* Volatile yellow-faced bee	<i>Nesoprosopis volatilis</i>	Hylaeidae	HI*
2 Antioch mutillid wasp	<i>Hymenula (Hymenula) pacifica</i>	Mutillidae	CA.
2 Hawaiian deinomyzian sphecid wasp	<i>Deinomyzina hawaiiensis</i>	Sphecidae	HI.
2 Puna deinomyzian sphecid wasp	<i>Deinomyzina punae</i>	Sphecidae	HI.
2 Giffard's ectemnius sphecid wasp	<i>Ectemnius (=Mesocrabo) giffardi</i>	Sphecidae	HI.
2 Short-foot ectemnius sphecid wasp	<i>Ectemnius (=Oreocrabo) curtipes</i>	Sphecidae	HI.
2 Brown cross ectemnius sphecid wasp	<i>Ectemnius (=Oreocrabo) fulvicrus</i>	Sphecidae	HI.
2 Haleakala ectemnius sphecid wasp	<i>Ectemnius (=Oreocrabo) haleakalae</i>	Sphecidae	HI.
2 Bidecoratus sphecid wasp	<i>Ectemnius (=Mesocrabo) bidecoratus</i>	Sphecidae	HI.
2 Redheaded sphecid wasp	<i>Euceris ruficeps</i>	Sphecidae	CA*, NV.
2 Kauai nesomyzian sphecid wasp	<i>Nesomyzina kauaiensis</i>	Sphecidae	HI.
2 Perkins' nesomyzian sphecid wasp	<i>Nesomyzina perkinsi</i>	Sphecidae	HI.
2 Shade-winged nesomyzian sphecid wasp	<i>Nesomyzina sciopteryx</i>	Sphecidae	HI.
2* Antioch sphecid wasp	<i>Phyllanthus nasalis</i>	Sphecidae	CA*, NV.
2 Niiau odynerus vespoid wasp	<i>Odynerus niiauensis</i>	Vespidae	HI.
2 Soror odynerus vespoid wasp	<i>Odynerus soror</i>	Vespidae	HI.
MILLIPEDES (Class Diplopoda)			
2 (Millipede, no common name)	<i>Toltecus chihuensis</i>	Atopetholidae	MX, Mexico.
SNAILS (Mollusks, Class Gastropoda)			
2 (Snail, no common name)	<i>Meritilia hawaiiensis</i> (Kay, 1979)	Meritidae	HI.
2 Tulotona (Alabama livebearing snail)	<i>Tulotona magnifica</i> (Conrad, 1834)	Viviparidae	AL.
2 (Snail, no common name)	<i>Valvata utahensis</i> Call, 1884	Valvatidae	UT, HI.
2 Newcomb's littorine snail	<i>Algaecorda newcombiana</i> (=Littorina subrotunda) (Carpenter, 1865)	Littorinidae	CA, VA, OR.
2 Tumbling Creek caudoanail	<i>Antrobia culveri</i> (Hübner, 1971)	Hydrobiidae	MO.
2 Bylas springsnail	<i>Apachecoccus arizonae</i> Taylor, 1987	Hydrobiidae	AZ.
2 Blue Spring hydrobe	<i>Aphaestraccon asthenes</i> (Thompson, 1968)	Hydrobiidae	FL.
2 Wekiwa hydrobe	<i>Aphaestraccon monas</i> (Pilsbry, 1899)	Hydrobiidae	FL.
2 Dense hydrobe	<i>Aphaestraccon pygmaeus</i> (Thompson, 1968)	Hydrobiidae	FL.
2 Fenney Spring hydrobe	<i>Aphaestraccon xynoelectus</i> (Thompson, 1968)	Hydrobiidae	FL.
2 Crystal siltsnail (=helicoid spring snail)	<i>Cincinnatia helicogyna</i> (Thompson, 1968)	Hydrobiidae	FL.
2 Ichetucknee siltsnail	<i>Cincinnatia nica</i> (Thompson, 1968)	Hydrobiidae	FL.
2 Enterprise siltsnail	<i>Cincinnatia noureensis</i> (Dall, 1885)	Hydrobiidae	FL.
2 Pymy siltsnail	<i>Cincinnatia pura</i> (Thompson, 1968)	Hydrobiidae	FL.

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CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
2 Ponderous siltsnail (=Ponderous spring snail)	<i>Cincinnati ponderosa</i> (Thompson, 1968)	Hydrobiidae	FL.
2 Seminole siltsnail (=Seminole Spring snail)	<i>Cincinnati vanhyningi</i> (Vanatta, 1934)	Hydrobiidae	FL.
2 Wekiwa siltsnail (=Wekiwa Spring snail)	<i>Cincinnati wekiwae</i> (Thompson, 1968)	Hydrobiidae	FL.
2 Genus (no common names)	<i>Clappia</i> 2 spp.	Hydrobiidae	AL.
2 Phantom cave snail	<i>Cochliopa texana</i> Pilsbry, 1935	Hydrobiidae	TX.
2 Moapa pebblesnail (=Muddy Valley turban snail)	<i>Fluminicola avernalis</i> (Pilsbry, 1935)	Hydrobiidae	NV.
2 Columbia pebblesnail (=Great Columbia River spire snail)	<i>Fluminicola (=Lithoglyphus) columbianus</i> (Hemphill in Pilsbry, 1899)	Hydrobiidae	ID, OR, WA.
2 Pahranagat pebblesnail (=Pahranagat Valley turban snail)	<i>Fluminicola merriami</i> (Pilsbry and Belcher, 1892)	Hydrobiidae	NV.
3A Longstreet Spring snail	<i>'Fluminicola' sp.</i>	Hydrobiidae	NV.
1 Chupadera springsnail	<i>'Fontelicella' chupaderae</i> Taylor, 1987	Hydrobiidae	NM.
2 Davis County springsnail	<i>'Fontelicella' davisii</i> Taylor, 1987	Hydrobiidae	TX.
1 Gila springsnail	<i>'Fontelicella' gilae</i> Taylor, 1987	Hydrobiidae	NM.
2 Presidio County springsnail	<i>'Fontelicella' metcalfei</i> Taylor, 1987	Hydrobiidae	TX.
1 Socorro springsnail	<i>'Fontelicella' meximexicana</i> (Pilsbry, 1916)	Hydrobiidae	NM.
2 Pecos springsnail	<i>'Fontelicella' peconensis</i> Taylor, 1987	Hydrobiidae	NM.
1 Roswell spring snail	<i>'Fontelicella' roswellensis</i> Taylor, 1987	Hydrobiidae	NM.
1 New Mexico hot spring snail	<i>'Fontelicella' thermalis</i> Taylor, 1987	Hydrobiidae	NM.
2 Three Forks springsnail	<i>'Fontelicella' trivialis</i> (Taylor, 1987)	Hydrobiidae	AZ.
2 Tapered cavesnail	<i>Pontigens holsingeri</i> (Habrigh, 1976)	Hydrobiidae	WV.
2 Greenbrier cavesnail	<i>Pontigens turritella</i> (Habrigh, 1976)	Hydrobiidae	WV.
2 Mimic cavesnail	<i>Phreatodrobia imitata</i> (Herschler and Longley, 1986)	Hydrobiidae	TX.
2 Ocmulgee marstonia (snail)	<i>Pyrgulopsis (=Marstonia) agarhcta</i> (Thompson, 1969)	Hydrobiidae	GA.
2 Grand Wash springsnail	<i>Pyrgulopsis bacchus</i> Hershler, 1988	Hydrobiidae	AZ.
2 Beaver pond marstonia (snail)	<i>Pyrgulopsis (=Marstonia) castor</i> (Thompson, 1977)	Hydrobiidae	GA.
1 Crystal Spring springsnail	<i>Pyrgulopsis cristallis</i> Hershler and Sada, 1987	Hydrobiidae	NV.
2 Kingsman springsnail	<i>Pyrgulopsis conicus</i> Hershler, 1988	Hydrobiidae	AZ.
3C Desert springsnail (=St George snail)	<i>Pyrgulopsis (=Mnicola, =Fontelicella) deserta</i> (Pilsbry, 1916)	Hydrobiidae	UT, AZ.
1 Ash Meadows pebblesnail (=Point of Rocks Spring snail)	<i>Pyrgulopsis erythropus</i> (Pilsbry, 1899)	Hydrobiidae	NV.
1 Fairbanks springsnail	<i>Pyrgulopsis fairbanksensis</i> Hershler and Sada, 1987	Hydrobiidae	NV.
2 Idaho springsnail	<i>Pyrgulopsis (=Fontelicella) idahoensis</i> (Pilsbry, 1933)	Hydrobiidae	ID.
1 Elongate-gland springsnail	<i>Pyrgulopsis isolatus</i> Hershler and Sada, 1987	Hydrobiidae	NV.
2 Verde Rim springsnail	<i>Pyrgulopsis glandulosus</i> Hershler, 1988	Hydrobiidae	AZ.
2 Oasis Valley springsnail	<i>Pyrgulopsis (=Fontelicella) micrococcus</i> (Pilsbry, 1893)	Hydrobiidae	NV.
2 Montezuma Well springsnail	<i>Pyrgulopsis montezumensis</i> Hershler, 1988	Hydrobiidae	AZ.
2 Page springsnail	<i>Pyrgulopsis morrisoni</i> Hershler, 1988	Hydrobiidae	AZ.
1 Distal-gland springsnail (=Large-gland Nevada spring snail)	<i>Pyrgulopsis nanus</i> Hershler and Sada, 1987	Hydrobiidae	NV.
2 Royal (=beese) marstonia (snail)	<i>Pyrgulopsis (=Marstonia) ommoraphe</i> (Thompson, 1977)	Hydrobiidae	TN.
2 Armored (=thick-shelled) marstonia	<i>Pyrgulopsis (=Marstonia) pachyta</i> (Thompson, 1977)	Hydrobiidae	AL.
1 Median-gland Nevada springsnail	<i>Pyrgulopsis pisteri</i> Hershler and Sada, 1987	Hydrobiidae	NV.
2 Jackson Lake springsnail (=Elk Island snail)	<i>Pyrgulopsis (=Fontelicella) robusta</i> (Walker, 1908)	Hydrobiidae	WY.
2 Brown springsnail	<i>Pyrgulopsis solus</i> Hershler, 1988	Hydrobiidae	AZ.
2 Possil springsnail	<i>Pyrgulopsis simplex</i> Hershler, 1988	Hydrobiidae	AZ.
2 Huachuca springsnail	<i>Pyrgulopsis thompsoni</i> Hershler, 1988	Hydrobiidae	AZ, Mexico.
2 Sparrow pebblesnail	<i>Somatogyrus parvulus</i> (Tryon, 1865)	Hydrobiidae	TN.
2 Savannah pebblesnail	<i>Somatogyrus tenax</i> (Thompson, 1969)	Hydrobiidae	GA.
2 Sculpin snail	<i>Stiobia nana</i> (Thompson, 1978)	Hydrobiidae	AL.
1 Diamond Y Spring snail	<i>Tryonia adamantina</i> Taylor, 1987	Hydrobiidae	TX.
1 Alamosa springsnail	<i>Tryonia alamosae</i> Taylor, 1987	Hydrobiidae	NM.
1 Sportinggoods tryonia snail	<i>Tryonia angulata</i> Hershler and Sada, 1987	Hydrobiidae	NV.
2 Brune's tryonia snail	<i>Tryonia brunel</i> Taylor, 1987	Hydrobiidae	TX.
2 Cheatun's snail (Phantom tryonia)	<i>Tryonia cheatun</i> (Pilsbry, 1935)	Hydrobiidae	TX.
2 Grated tryonia (=White River snail)	<i>Tryonia clathrata</i> Stimpson, 1865	Hydrobiidae	NV.
1 Point of Rocks tryonia snail	<i>Tryonia elata</i> Hershler and Sada, 1987	Hydrobiidae	NV.
1 Minute tryonia snail (=minute slender tryonia snail)	<i>Tryonia ericae</i> Hershler and Sada, 1987	Hydrobiidae	NV.
2 Gila tryonia snail	<i>Tryonia gilae</i> Taylor, 1987	Hydrobiidae	AZ.
2 Mimic tryonia (=California brackish water snail)	<i>Tryonia imitator</i> (Pilsbry, 1899)	Hydrobiidae	CA.
2 Koster's springsnail	<i>Tryonia kosteri</i> Taylor, 1987	Hydrobiidae	NM.
2 Quitobaquito tryonia	<i>Tryonia quitobaquitae</i> Hershler, 1988	Hydrobiidae	AZ.
1 Gonzales Spring snail	<i>Tryonia stocktonensis</i> Taylor, 1987	Hydrobiidae	TX.
2 Anargosa tryonia snail (=Anargosa & small solid tryonia)	<i>Tryonia variogata</i> Hershler and Sada, 1987	Hydrobiidae	NV.
2 San Bernardino springsnail	<i>Yaquicoccus bernardinus</i> Taylor, 1987	Hydrobiidae	AZ.
1 Virile Anargosa snail	Genus and species undescribed	Hydrobiidae	NV.
1 Elias Rapids snail	Genus and species undescribed	Hydrobiidae	ID.
2 Badwater snail	<i>Assiminea infina</i> Berry, 1947	Assimineidae	CA.
1 Pecos assimineae snail	<i>Assiminea pecos</i> Taylor, 1987	Assimineidae	NM, TX.
3B Anthony's river snail	<i>Athearnia anthonyi</i> (Redfield, 1854)	Pleuroceridae	GA, TN.
2 Black-crest elma (=Albany snail)	<i>Elimia (=Goniobasis) albanyensis</i> (Lea, 1864)	Pleuroceridae	FL.
3B Indiana river snail	<i>Goniobasis semicarinata indianensis</i> (Pilsbry, 1903)	Pleuroceridae	IN.
1 Spiny riversnail	<i>Io fluvialis</i> (Say, 1834)	Pleuroceridae	TN, VA.
2 Boulder (=crass river) snail	<i>Leptoxis (=Athearnia) crassa</i> (Haldeman, 1841)	Pleuroceridae	GA, TN.
2 Onyx rocksnail (=mainstream river snail)	<i>Leptoxis praerosa</i> (Say, 1821)	Pleuroceridae	KY, TN.
3B Umbilicate rocksnail (=Umbilicate river snail)	<i>Leptoxis subglubosa umbilicata</i> (Weatherly, 1876)	Pleuroceridae	TN.
2 Armored rocksnail (=armigerous river snail)	<i>Lithasia armigera</i> (Say, 1821)	Pleuroceridae	KY.
2 Helmet rocksnail (=Dutton's river snail)	<i>Lithasia duttoniana</i> (Lea, 1841)	Pleuroceridae	TN.
2 Ornate rocksnail (=geniculate river snail)	<i>Lithasia geniculata</i> (Haldeman, 1840)	Pleuroceridae	KY, TN.

Note: Species in categories 1 and 2 are candidates; species in category 3 are not (see text for explanation of categories)

CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
2 Rugose rocksnail (=Jay's river snail)	<i>Lithasia jayana</i> (Lea, 1841)	Pleuroceridae	TN.
2 Warty rocksnail (=Elk River file snail)	<i>Lithasia lima</i> (Conrad, 1834)	Pleuroceridae	TN., AL.
3C Small geniculate river snail	<i>Lithasia pinguis</i> (Lea, 1852)	Pleuroceridae	TN.
2 Muddy rocksnail (=rugged river snail)	<i>Lithasia salebrosa</i> (Conrad, 1834)	Pleuroceridae	TN.
2 Varicose rocksnail (=verrucose file snail)	<i>Lithasia verrucosa</i> (Rafinesque, 1820)	Pleuroceridae	KY, TN.
2 Shortface lanx (=giant Columbia River limpet)	<i>Fisherola nuttalli</i> (Haldeman, 1841)	Lymnaeidae	ID, OR, WA.
3B Spruce Creek king's crown	<i>Melongenella</i> sp.	Melongenidae	FL.
3A Fish Springs marshsnail (=Fish Springs pond snail)	<i>Stagnicola pilsbryi</i> (Hemphill, 1890)	Lymnaeidae	UT.
2 Thickshell pondsnail (=Utah band snail)	<i>Stagnicola utahensis</i> (=Lymnaea kingii) (Call, 1844)	Lymnaeidae	UT.
2 Jackson Lake snail	<i>Helisoma</i> (=Carinifex) <i>jacksonense</i> (Henderson, 1932)	Planorbidae	WY.
3C New Mexico rams-horn (snail)	<i>Pecosorbis kansasensis</i> (Case, 1966)	Planorbidae	NM, TX.
2 Magnificent (=Cape Fear) rams horn	<i>Planorbella</i> (=Helisoma) <i>magnifica</i> (Pilsbry, 1903)	Planorbidae	NC.
2 Acorn rams-horn	<i>Planorbella multivolvis</i> (Case, 1847)	Planorbidae	MI.
2 Greenfield rams-horn	<i>Taphius eucosmius eucosmius</i> (Bartsch, 1908)	Planorbidae	NC.
1 Snake River physa snail	<i>Physa</i> sp.	Physidae	ID.
3B Conanche physa (=Diamond-Y pond snail)	<i>Physella bottoneri</i> (=P. <i>virgata bottoneri</i>) (Clench, 1924)	Physidae	TX.
2 Fish Lake physa (=Fish Lake snail)	<i>Physella</i> (=Stenophysa) <i>microstriata</i> (Chamberlain & Berry, 1930)	Physidae	UT.
2 Cave physa (=Wyoming cave snail)	<i>Physella</i> (=Physa) <i>spelunca</i> (Turner & Clench, 1925)	Physidae	WY.
2 Utah physa (=Utah bubble snail)	<i>Physella</i> (=Physa) <i>utahensis</i> (Clench, 1925)	Physidae	UT.
2 Wet-rock physa (=Zion Canyon snail)	<i>Physella</i> (=Physa) <i>zionis</i> (Pilsbry, 1905)	Physidae	UT.
2 Genus (no common name)	<i>Perdicella</i> 7 spp.	Achatinellidae	HI.
2 Short Samoan tree snail	<i>Samoana abbreviata</i> (Housson, 1869)	Partulidae	American Samoa.
2 Genus (Snails, no common name)	<i>Carelia</i> ca 12 spp.	Anastriidae	HI*.
2 San Clemente Island blunt-top snail (=Insular birddrop)	<i>Sterkia clementina</i> (Sterki, 1890)	Pupillidae	CA.
2 Alabama vertigo	<i>Vertigo alabamensis</i> Clapp, 1915	Pupillidae	AL.
2 Briarton Pleistocene snail	<i>Vertigo briarensis</i> (Leonard, 1972)	Pupillidae	MI, IA, WI.
2 Keys vertigo	<i>Vertigo hebari</i> Vannatta, 1912	Pupillidae	FL.
2 Hubricht's vertigo	<i>Vertigo hubrichti</i> (Pilsbry, 1934)	Pupillidae	MI, IA, WI.
2 Meramac River vertigo	<i>Vertigo meramacensis</i> (Van DAVender, 1977)	Pupillidae	IA, MO.
2 Occult vertigo	<i>Vertigo occulta</i> (Leonard, 1972)	Pupillidae	IA, MN.
2 Iowa Pleistocene vertigo	<i>Vertigo</i> sp.	Pupillidae	IA.
2 (Snail, no common name)	<i>Catinella gelida</i> (Baker, 1927)	Succineidae	IA.
2 Kanab ambersnail	<i>Oxyloma haydeni kanabensis</i> Pilsbry, 1948	Succineidae	UT.
2 Minnesota Pleistocene succineid	<i>Succinea</i> sp.	Succineidae	MN, IA.
2 Iowa Pleistocene succineid	<i>Succinea</i> sp.	Succineidae	IA, MN.
3C Florida treesnail	<i>Liguus fasciatus</i> (Muller, 1774)	Bulimulidae	FL.
2 Shaggy coil	<i>Helicodiscus diadema</i> Grimm, 1967	Helicodiscidae	VA.
2 Toothy coil	<i>Helicodiscus hexodon</i> Hubricht, 1966	Helicodiscidae	TN.
2 Marbled disc	<i>Discus marmoratus</i> H.B. Baker, 1932	Discidae	ID.
1 Santa Barbara shelled slug (=Slug snail)	<i>Einneya notabilis</i> Cooper, 1863	Arioidae	CA.
2 Blind glyph	<i>Glyphyalinia pecki</i> Hubricht, 1966	Zonitidae	AL.
2 Maryland glyph	<i>Glyphyalinia raderi</i> (Dall, 1898)	Zonitidae	KY, MD, VA, WV.
3C Mirey Ridge supercoil	<i>Paravitrea clappi</i> (Pilsbry, 1898)	Zonitidae	NC, TN.
2 Sidelong supercoil	<i>Paravitrea ceres</i> Hubricht, 1978	Zonitidae	WV.
2 Mt. Matafao different snail	<i>Diastole matafaoi</i> H.B. Baker, 1938	Helicarionidae	American Samoa.
2 Tight coin (=Yate's snail)	<i>Amonitella yatesi</i> Cooper, 1868	Amonitellidae	CA.
2 Franklin Mountain wood snail	<i>Ashmunella pasonis</i> (Drake, 1951)	Polygyridae	TX.
2 Mission Creek oregonian	<i>Cryptomastix magnidentata</i> (=Tridopsis <i>mullani</i> n.) (Pilsbry, 1940)	Polygyridae	ID.
2 Palmetto pillsnail	<i>Buchanotrema cheatumi</i> (=Stenotrema <i>leai cheatumi</i>) (Pullington, 1974)	Polygyridae	TX.
2 Carinate pillsnail	<i>Buchanotrema</i> (=Stenotrema) <i>hubrichti</i> (Pilsbry, 1940)	Polygyridae	IL.
3C Ocoee covert (=Archer's toothed land snail)	<i>Mesodon archeri</i> Pilsbry, 1940	Polygyridae	TN.
2 Calico Rock oval (=Clench's middle-toothed land snail)	<i>Mesodon clenchi</i> (Rehder, 1932)	Polygyridae	AR.
2 (Snail, no common name)	<i>Mesodon clausus troessulus</i> Hubricht, 1966	Polygyridae	AL.
3C Big-tooth covert (=Jones' middle-toothed land snail)	<i>Mesodon jonesianus</i> (Archer, 1938)	Polygyridae	NC, TN.
2 Horseshoe liptooth	<i>Polygyra hippocrepis</i> (Pfeiffer, 1848)	Polygyridae	TX.
2 White liptooth (=strange many-whorled land snail)	<i>Polygyra peregrina</i> Rehder, 1932	Polygyridae	AR.
1 Rich Mt. slitmouth (=Pilsbry's narrow-apertured land snail)	<i>Stenotrema pilsbryi</i> (Ferris, 1900)	Polygyridae	AR, OK.
2 Arkansas wedge (=western three-toothed land snail)	<i>Tridopsis occidentalis</i> (Pilsbry & Ferris, 1907)	Polygyridae	AR.
1 Karok Indian snail (=Karok hesperian)	<i>Vespericola karokorum</i> Talmage, 1962	Polygyridae	CA.
2 Idaho banded mountainsnail	<i>Oreohelix idahoensis idahoensis</i> Newcomb, 1866	Oreohelcidae	ID.
2 Boulder pile mountainsnail	<i>Oreohelix jugalis</i> (=Oreohelix <i>jugalis jugalis</i>) (Hemphill, 1890)	Oreohelcidae	ID.
2 Coalville mountainsnail	<i>Oreohelix peripherica weberiana</i> (Pilsbry, 1939)	Oreohelcidae	UT.
2 Carinated striate banded mountainsnail	<i>Oreohelix strigosa gonioogyra</i> Pilsbry, 1933	Oreohelcidae	UT.
2 Whorled (=vortex banded) mountainsnail	<i>Oreohelix vortex</i> (=Oreohelix <i>jugalis vortex</i>) (Berry, 1932)	Oreohelcidae	ID.
2 Lava rock (=Walton's banded) mountainsnail	<i>Oreohelix waltoni</i> (Solen, 1975)	Oreohelcidae	ID.
2 White desert snail	<i>Eremarionta</i> (=Helicarionta) <i>immaculata</i> (Willst, 1937)	Helminthoglyptidae	CA.
2 Thousand Palms desert snail	<i>Eremarionta</i> (=Helicarionta) <i>milipalmarum</i> (Berry, 1930)	Helminthoglyptidae	CA.
2 Sonoran (=Colorado) desert snail	<i>Eremarionta</i> (=Helicarionta) <i>sonorana</i> (Berry, 1929)	Helminthoglyptidae	CA.
2 Catalina mountain snail	<i>Helicarionta</i> (=Oreohelix) <i>avalonensis</i> (Hemphill in Pilsbry, 1906)	Oreohelcidae	CA.

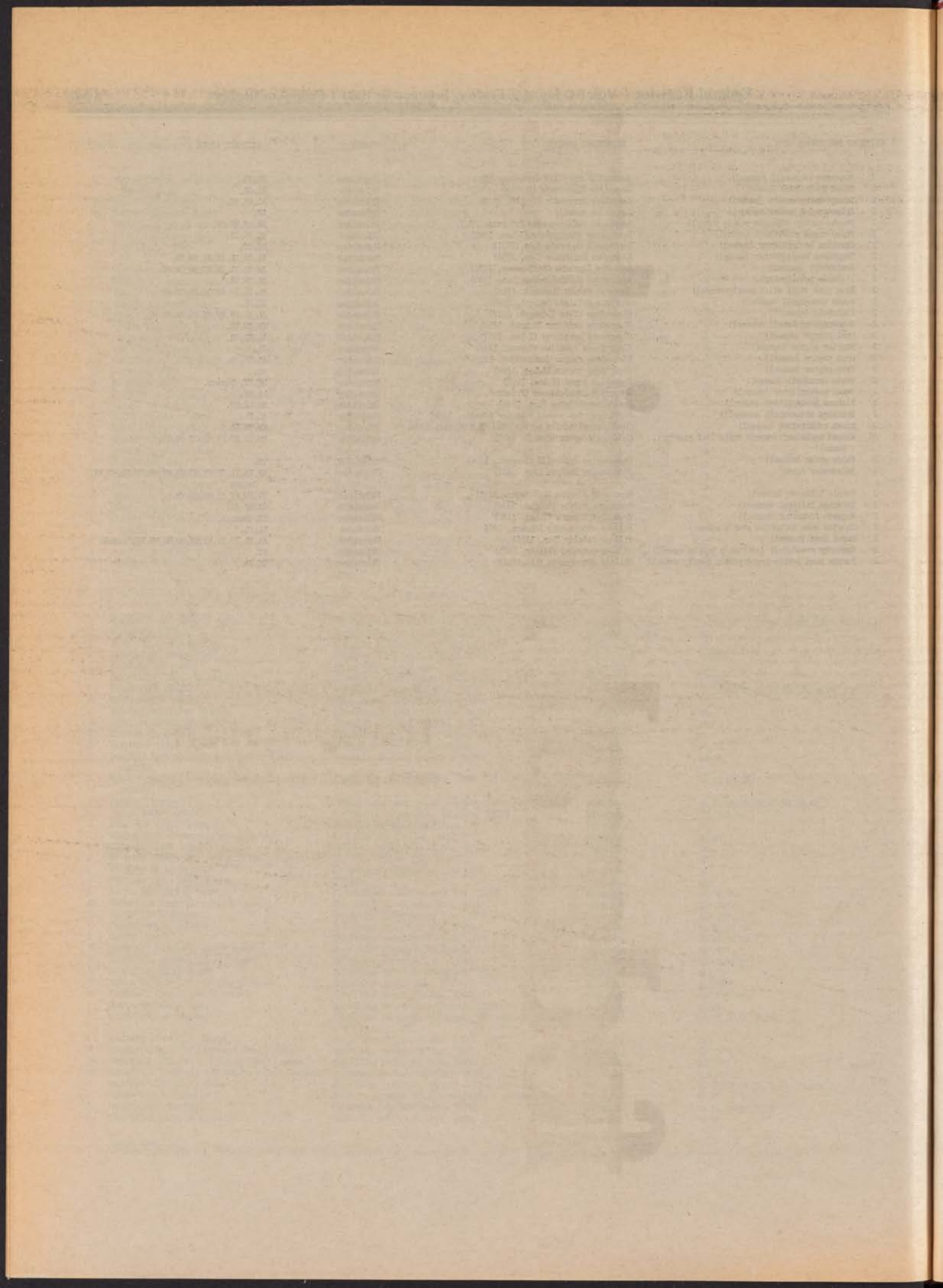
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CATEGORY AND COMMON NAME	SCIENTIFIC NAME	FAMILY	HISTORIC RANGE
2 Merced Canyon shoulderband (=Allyn Smith's banded snail)	<i>Helminthoglypta allynsmithi</i> (Pilsbry, 1939)	Helminthoglyptidae	CA.
3B Cape Mendocino snail	<i>Helminthoglypta arrosa mattoiensis</i> (A.G. Smith, 1938)	Helminthoglyptidae	CA.
3B Dented peninsula snail	<i>Helminthoglypta arrosa mureka</i> (Bartsch, 1909)	Helminthoglyptidae	CA.
2 (Snail, no common name)	<i>Helminthoglypta arrosa poncensis</i> (A. G. Smith, 1938)	Helminthoglyptidae	CA.
2 (Snail, no common name)	<i>Helminthoglypta arrosa williamsi</i> (A. G. Smith, 1938)	Helminthoglyptidae	CA.
2 Kern shoulderband	<i>Helminthoglypta callistoderma</i> (Pilsbry & Ferris, 1918)	Helminthoglyptidae	CA.
2 Victorville shoulderband	<i>Helminthoglypta nohaveena</i> (Berry, 1927)	Helminthoglyptidae	CA.
2 Nicklin's peninsula snail	<i>Helminthoglypta nickliniana awania</i> (Bartsch, 1919)	Helminthoglyptidae	CA.
2 (Snail, no common name)	<i>Helminthoglypta nickliniana bridgesi</i> (Newcomb, 1861)	Helminthoglyptidae	CA.
2 (Snail, no common name)	<i>Helminthoglypta sequicola consors</i> (Berry, 1938)	Helminthoglyptidae	CA.
2 (Snail, no common name)	<i>Helminthoglypta traski coelata</i> (Bartsch, 1916)	Helminthoglyptidae	CA.
1 Banded dune snail (=Morro shoulderband)	<i>Helminthoglypta walkeriana</i> (Hemphill, 1911)	Helminthoglyptidae	CA.
1 Santa Barbara islandsnail (=concentrated snail)	<i>Micrarionta facta</i> (Newcomb, 1864)	Helminthoglyptidae	CA.
2 San Nicholas islandsnail (=fraternal snail)	<i>Micrarionta foralis</i> (Hemphill, 1901)	Helminthoglyptidae	CA.
2 San Clemente islandsnail (=Gabb's snail)	<i>Micrarionta gabbi</i> (Newcomb, 1864)	Helminthoglyptidae	CA.
3B Cathedral snail	<i>Micrarionta indioensis cathedralis</i> (Willat, 1935)	Helminthoglyptidae	CA.
3C Horseshoe snail	<i>Micrarionta intercorsa</i> (W. G. Binney, 1857)	Helminthoglyptidae	CA.
2 Pricklypear islandsnail (=prickly pear snail)	<i>Micrarionta opuntia</i> Roth, 1975	Helminthoglyptidae	CA.
2 (Snail, no common name)	<i>Micrarionta rowelli bakerensis</i> (Pilsbry & Lowe, 1934)	Helminthoglyptidae	CA.
2 California McCoy snail	<i>Micrarionta rowelli mcoliana</i> (Willat, 1935)	Helminthoglyptidae	CA.
3C Bicolored cactusnail (=Tryon's snail)	<i>Micrarionta (=Micrarionta) tryoni</i> (Newcomb, 1864)	Helminthoglyptidae	CA.
2 Keeled sideband	<i>Monadenia circumcarinata</i> (Stearns, 1879)	Helminthoglyptidae	CA.
2 (Snail, no common name)	<i>Monadenia fidelis minor</i> (W. G. Binney, 1885)	Helminthoglyptidae	OR.
2 Rocky coast snail	<i>Monadenia fidelis pronotis</i> (Berry, 1931)	Helminthoglyptidae	CA.
2 Indian Yosemite snail	<i>Monadenia hillebrandi yosemitensis</i> (Lowe, 1916)	Helminthoglyptidae	CA.
2 (Snail, no common name)	<i>Monadenia monsonum buttoni</i> (Pilsbry, 1900)	Helminthoglyptidae	CA.
2 (Snail, no common name)	<i>Monadenia monsonum hirsuta</i> (Pilsbry, 1927)	Helminthoglyptidae	CA.
2 Shasta sideband	<i>Monadenia troglodytes</i> (Hanna & Smith, 1933)	Helminthoglyptidae	CA.
2 Trinity bristlesnail (=California northern river snail)	<i>Monadenia setosa</i> (Talmadge, 1952)	Helminthoglyptidae	CA.
2 San Xavier talussnail	<i>Sonorella eremita</i> (Pilsbry & Ferris, 1915)	Helminthoglyptidae	AZ.
2 Franklin Mountain talussnail	<i>Sonorella metcalfei</i> (Miller, 1976)	Helminthoglyptidae	TX.
3C Wreathed cactusnail (=Wreathed island snail)	<i>Xerarionta (=Micrarionta) redimita</i> (W. G. Binney, 1858)	Helminthoglyptidae	CA.

CLAMS & MUSSELS (Mollusks, Class Bivalvia)			
2 Spectacle case (pearly mussel)	<i>Cumberlandia monodonta</i> (Say, 1929)	Margaritiferidae	AL, AR, IA, IN, IL, KY, MO, NE?, OH, TN, VA, WI.
2 Alabama pearlshell	<i>Margaritifera marrianae</i> Johnson, 1983	Margaritiferidae	AL.
2 Sangre de Cristo peaclam	<i>Pisidium saquinchristi</i> Taylor, 1987	Sphaeriidae	NH.
2 Peaclam (No common name)	<i>Pisidium ultrantontanum</i> Prime, 1865	Sphaeriidae	CA, OR.
2 Altamaha arc-mussel	<i>Alasmodonta arcuata</i> (Lea, 1838)	Unionidae	GA.
2 Cumberland elktoe (mussel)	<i>Alasmodonta atropurpurea</i> (Rafinesque, 1831)	Unionidae	KY, TN.
1 Dwarf wedge mussel	<i>Alasmodonta heterodon</i> (Lea, 1829)	Unionidae	CT, MA, MD, NC, NH, NJ, NY?, PA, VA, VT, Canada.
3A Coosa elktoe (mussel)	<i>Alasmodonta maccordi</i> Athearn, 1964	Unionidae	AL.
2 Appalachian elktoe (mussel)	<i>Alasmodonta raveneliana</i> (Lea, 1834)	Unionidae	NC.
3A Carolina elktoe (mussel)	<i>Alasmodonta robusta</i> Clarke, 1981	Unionidae	NC.
2 Florida arc-mussel	<i>Alasmodonta wrightiana</i> (Walker, 1901)	Unionidae	FL.
2 Fat three-ridge (mussel)	<i>Amblesia neisleri</i> (I. Lea, 1858)	Unionidae	FL, GA.
1 Ouachita Rock pocketbook (=Wheeler's pearly mussel)	<i>Arkansia wheeleri</i> Ortmann & Walker, 1912	Unionidae	AR, OK.
2 Western fanshell (=western fan-shell pearly mussel)	<i>Cyprogenia aberti</i> (Conrad, 1850)	Unionidae	AR, KS, MO, OK.
2 Fanshell (mussel)	<i>Cyprogenia stegaria</i> (=C. <i>irrorata</i>) (Rafinesque, 1820)	Unionidae	AL, IL, IN, KY, OH, PA, TN, VA, WV.
2 Salina mucket (mussel)	<i>Disconaias salinasensis</i> (Simpson, 1908)	Unionidae	TX, Mexico.
2 Cape Fear spike (mussel)	<i>Ellipectio marsupioessa</i> Fuller, 1972	Unionidae	NC.
2 Winged spike (=recovery pearly mussel)	<i>Ellipectio nigella</i> (Lea, 1852)	Unionidae	AL, GA.
2 Altamaha lance (mussel)	<i>Ellipectio shepardiana</i> (I. Lea, 1834)	Unionidae	GA.
2 Altamaha spiny mussel (=Georgia spiny mussel)	<i>Ellipectio spinosa</i> (Lea, 1836)	Unionidae	GA.
2 Waccamaw spike (mussel)	<i>Ellipectio waccamawensis</i> (Lea, 1863)	Unionidae	NC.
2 Waccamaw lance pearly mussel	<i>Ellipectio</i> sp.	Unionidae	NC.
2 Purple bankclimber (mussel)	<i>Ellipectoideus slootianus</i> (I. Lea, 1840)	Unionidae	AL, GA, FL.
3A Sugar spoon (=arc-form pearly mussel)	<i>Epioblasma arcuiformis</i> (Lea, 1831)	Unionidae	AL*, TN*.
3A Angled riffleshell	<i>Epioblasma biemarginata</i> (Lea, 1857)	Unionidae	AL*, TN*.
2 Cumberlandian conshell	<i>Epioblasma brevidens</i> (Lea, 1831)	Unionidae	AL, KY, TN, VA.
2 Oyster mussel	<i>Epioblasma capsaeformis</i> (Lea, 1834)	Unionidae	AL, KY, TN, VA.
3A Leafshell (=arcuate pearly mussel)	<i>Epioblasma flexuosa</i> (Rafinesque, 1820)	Unionidae	AL*, TN*.
3A Acornshell (=acorn pearly mussel)	<i>Epioblasma haysiana</i> (Lea, 1834)	Unionidae	AL*, TN*, VA*.
3B Lefevre's pearly mussel	<i>Epioblasma lefevrei</i> (Utterback, 1915)	Unionidae	AR*, MO*.
3A Narrow catspaw (=Stones pearly mussel)	<i>Epioblasma lenior</i> (Lea, 1843)	Unionidae	AL*, TN*.
3A Forkshell (Lewis' pearly mussel)	<i>Epioblasma lewisi</i> (Walker, 1910)	Unionidae	AL*, TN*, KY*.
2 Upland conshell (mussel)	<i>Epioblasma metastriata</i> (Conrad, 1840)	Unionidae	AL, GA.
2 Purple catspaw (mussel)	<i>Epioblasma obliquata obliquata</i> (=E. <i>sulcata sulcata</i>) (Rafinesque, 1820)	Unionidae	AL, IL, IN, KY, OK, TN.
2 Southern acornshell (mussel)	<i>Epioblasma othcalogensis</i> (I. Lea, 1857)	Unionidae	GA.
3A Round conshell (=fine-rayed pearly mussel)	<i>Epioblasma personata</i> (Say, 1829)	Unionidae	AL*, TN*.
3A Tennessee riffleshell (=nearby pearly mussel)	<i>Epioblasma propinqua</i> (Lea, 1857)	Unionidae	AL*, TN*.
3A Cumberland leafshell (=Steward's pearly mussel)	<i>Epioblasma stewartsoni</i> (Lea, 1852)	Unionidae	AL*, TN*.
2 Northern riffleshell (mussel)	<i>Epioblasma torulosa rangiana</i> (I. Lea, 1839)	Unionidae	IL, IN, KY, MI, OH, PA, VA, Canada.
2 Narrow pigtoe (mussel)	<i>Fusconia escambia</i> (Clench and Turner, 1956)	Unionidae	AL, FL.
2 Cracking pearly mussel	<i>Hemistana lata</i> (Rafinesque, 1820)	Unionidae	AL, IL, IN, KY, TN, VA.
2 Fine-lined pocketbook (mussel)	<i>Lampsilis altilis</i> (Conrad, 1834)	Unionidae	AL, GA.

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2 Southern sandshell (mussel)	<i>Lampsilis australis</i> (Simpson, 1900)	Unionidae	AL, FL.
2 Lined pocketbook (mussel)	<i>Lampsilis bicarinata</i> (Simpson, 1900)	Unionidae	AL, GA.
2 Orange-nacre mucket (mussel)	<i>Lampsilis perovalis</i> (Conrad, 1834)	Unionidae	AL, GA, MS.
2 Arkansas fat mucket (mussel)	<i>Lampsilis powelli</i>	Unionidae	AR.
2 Neosho mucket (=Neosho pearly mussel)	<i>Lampsilis rafinesqueana</i> Frierson, 1927	Unionidae	AR, KS, MO, OK.
2 Shiny-rayed pocketbook (mussel)	<i>Lampsilis subangulata</i> (I. Lea, 1840)	Unionidae	AL, FL, GA.
2 Carolina heelsplitter (mussel)	<i>Lasmigona decorata</i> (Lea, 1852)	Unionidae	NC, SC.
2 Tennessee heelsplitter (mussel)	<i>Lasmigona holstonia</i> (Lea, 1838)	Unionidae	AL, GA, IL, IN, KY, TN, VA.
2 Scalseshell (mussel)	<i>Leptodea leptoda</i> (Rafinesque, 1820)	Unionidae	AR, IA, IL, IN, KY, MO, OH, OK.
2 Slabside pearlymussel	<i>Lexingtoni dolabelloides</i> (Lea, 1840)	Unionidae	AL, TN, VA.
2 Ring pink (Golf stick pearly mussel)	<i>Obovaria retusa</i> (Lamarck, 1819)	Unionidae	AL, IL, IN, KY, OH, PA, TN, WV.
2 Round ebonyshell (mussel)	<i>Obovaria rotulata</i> (Wright, 1899)	Unionidae	AL, FL.
2 Clubshell (mussel)	<i>Pleurobema clava</i> (Lamarck, 1819)	Unionidae	AL, IL, IN, KY, MI, OH, PA, TN, WV.
2 Tennessee clubshell (mussel)	<i>Pleurobema oviforme</i> (Conrad, 1834)	Unionidae	KY, TN, VA.
2 Oval pigtoe (mussel)	<i>Pleurobema pyriforme</i> (I. Lea, 1857)	Unionidae	AL, FL, GA.
2 Warrior pigtoe (mussel)	<i>Pleurobema rubellum</i> (Conrad, 1834)	Unionidae	AL.
3P Pink pigtoe (mussel)	<i>Pleurobema rubrum</i> (Rafinesque, 1820)	Unionidae	AL, KY, TN.
2 True pigtoe (mussel)	<i>Pleurobema vernum</i> (I. Lea, 1860)	Unionidae	AL.
2 Texas hornshell (mussel)	<i>Popenaias popei</i> (I. Lea, 1857)	Unionidae	NH, TX, Mexico.
2 Texas heelsplitter (mussel)	<i>Potamilus amphichaenus</i> (Frierson, 1898)	Unionidae	LA, TX.
2 Alabama heelsplitter (mussel)	<i>Potamilus inflatus</i> (Lea, 1831)	Unionidae	AL, LA, MS.
2 Southern kidneyshell (mussel)	<i>Ptychobranchus jonesi</i> (van der Schalie, 1934)	Unionidae	AL, FL.
2 Rough rabbitsfoot (mussel)	<i>Quadrula cylindrica strigillata</i> (B.H. Wright, 1898)	Unionidae	KY, TN, VA.
3C Winged mapleleaf (=rough maple leaf pearly mussel)	<i>Quadrula fragosa</i> (Conrad, 1835)	Unionidae	IN, IL, KS, KY, MO, OH, OK, WI.
2 False spike (mussel)	<i>Quincuncina mitchelli</i> (Simpson, 1896)	Unionidae	TX.
2 Salamander mussel	<i>Simpsonaias ambiguus</i> (Say, 1825)	Unionidae	AR, IA, IL, IN, KY, MI, MO, NY, OH, TN, PA, WI, WV, Canada.
2 Purple lilliput (mussel)	<i>Toxolasma lividus</i> (Rafinesque, 1831)	Unionidae	IL, IN, KY, MI, MO, OH, TN.
2 Savannah lilliput (mussel)	<i>Toxolasma pullus</i> (Conrad, 1838)	Unionidae	GA, NC, SC.
2 Mexican fawnfoot (mussel)	<i>Truncilla cognata</i> (I. Lea, 1860)	Unionidae	TX, Mexico.
2 Choctaw bean (=Choctaw pearly mussel)	<i>Villosa choctawensis</i> Athearn, 1964	Unionidae	AL, FL.
2 Rayed bean (mussel)	<i>Villosa fabalis</i> (Lea, 1831)	Unionidae	AL, IL, IN, KY, MI, OH, TN, PA, VA, WV, Canada.
2 Kentucky creekshell (=Ortman's pearly mussel)	<i>Villosa ortmanni</i> (Walker, 1925)	Unionidae	KY.
2 Purple bean (=Fine-rayed purple pearly mussel)	<i>Villosa perpurpurea</i> (Lea, 1861)	Unionidae	TN, VA.



Federal Register

Friday
January 6, 1989

Part V

Department of Transportation

Federal Aviation Administration

14 CFR Part 107

Access to Secure Areas of Airports;
Final Rule

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 107

[Docket No. 25568; Amdt. No. 107-4]

RIN 2120-AC69

Access to Secured Areas of Airports

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This rule establishes a requirement for certain airport operators to submit to the Director of Civil Aviation Security, for approval and inclusion in their approved security programs, amendments to ensure that only those persons authorized to have access to secured areas of an airport are able to obtain that access and, also, to ensure that such access is denied immediately to individuals whose authority to have access changes. The rule provides for the installation and use of a system, method, or procedure that meets certain performance standards, or the use of an approved alternative system, method, or procedure for controlling access to secured areas of airports. This rule is needed to improve control of the locations that provide access to secured areas of airports. It is intended to enhance airport security by precluding access to these areas by unauthorized persons.

EFFECTIVE DATE: February 8, 1989.

FOR FURTHER INFORMATION CONTACT:

Quinten T. Johnson, Civil Aviation Security Division (ACS-100), Office of Civil Aviation Security, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; Telephone (202) 267-3370.

SUPPLEMENTARY INFORMATION:**Background**

The Federal Aviation Administration's (FAA) Civil Aviation Security Program was initiated in 1973. Part 107 of the Federal Aviation Regulations was promulgated to provide a secure environment in which air carriers can operate. Airport operators are required by Part 107 to have an FAA-approved airport security program. The approved security program must describe the functions and procedures to control access to certain areas of the airport and to control movement of persons and vehicles within those areas. The Personnel Identification Procedures contained in airport security programs provide a means of control once an individual has gained access to a

restricted area. The FAA is concerned that these procedures could allow an individual using forged, stolen, or noncurrent identification to compromise the secured areas. The FAA is also concerned that former employees could use their familiarity with airline and airport procedures to succeed in entering a secured area and possibly commit a criminal act on board an aircraft.

The December 7, 1987, tragedy involving Pacific Southwest Airlines (PSA) Flight 1771, in which 38 passengers and 5 crewmembers were killed after departing Los Angeles International Airport, highlighted FAA's interest in improving the control of access to secured areas of an airport. An airport area where access to aircraft and airport facilities is possible should be accessible only to an individual who is authorized to be in that area. These areas should be controlled carefully to prevent tampering with aircraft and airport facilities and to preclude tragic consequences.

The FAA accelerated its efforts to head off the type of situation potentially reflected by the crash of PSA Flight 1771 and to improve the level of security generally. This acceleration resulted in the promulgation of an emergency final rule amending the preboarding screening procedures contained in Parts 108 and 129 of the Federal Aviation Regulations (52 FR 48508; December 22, 1987). To complement the procedures required by that emergency regulation and to expand the performance standards of security systems at airports, on March 11, 1988, the FAA issued Notice of Proposed Rulemaking (Notice) No. 88-6 (53 FR 9094; March 18, 1988). That notice proposed that airport operators, whose airports met certain criteria, be required to submit to the Administrator, for approval and inclusion in their approved security programs, amendments to their programs that ensure that only those persons authorized to have access to secured areas of an airport are able to obtain that access and also ensure that such access is denied immediately to individuals whose authority to have access changes. It further proposed that the program provide for a means to differentiate between persons authorized to have access to only a particular portion of the secured area and persons authorized to have access only to other portions or to the entire secured area. To provide this increased control of locations on the airport, the FAA proposed in Notice No. 88-6 the installation of a computer-controlled card access system. The notice also proposed that airport operators be

allowed to install alternative systems which, in the Administrator's judgment, would have the same capabilities as the computer-card system and would provide an equivalent level of security.

Additionally, Notice No. 88-6 specifically stated that the proposal would supplement, not replace, the existing photo identification system required by an airport operator's approved security program. The continuous display of the individual identification in secured areas is necessary so that unauthorized individuals can be challenged in accordance with § 107.13. However, the notice proposed that the airport operator be given the option of integrating the system proposed by Notice No. 88-6 with the photo identification system and issuing a single credential.

The anticipated capabilities of a computer-controlled card access system were discussed in Notice No. 88-6. In addition to being able to monitor each location where access to the secured area is permitted by means of a "card reader" linked to the control computer, the system would be designed to provide for unique coding for each card. The system would also be capable of performing other functions that can improve an airport's security profile including the ability to cause an alert when access is denied to a person who attempts to use an invalid card and to establish a log of the system's activity. The notice intentionally did not address the details regarding the actual locations of the card readers and the operational methods to be employed by the system since each individual airport would employ a system specific to its needs.

In Notice No. 88-6, the FAA proposed a 4-phase schedule for airport operators to submit to the Administrator amendments to their security programs. The phases were based on the total number of persons screened annually at an airport. (The preamble to the proposed rule incorrectly stated "number of passengers screened" annually.)

The notice proposed that, upon approval of the amendment by the Administrator, airport operators would fully implement their systems within 6 months from the date of approval. However, the Administrator could allow up to an additional 6 months for implementation of the system at certain locations on each airport. The intent was to ensure implementation at the most critical airport locations and to allow additional time for implementation at locations that provide access to more remote locations on the airport.

Discussion of Comments

As of May 31, 1988, the FAA received 122 written comments in response to Notice No. 88-6 from organizations representing the aviation industry, air carriers, individuals, manufacturers, and airports. The majority of the commenters object to the proposal either in part or in its entirety. They believe the proposal to be premature and lacking in its evaluation of complex issues. Numerous commenters support the intent of the proposed rule but express concern because it lacked specificity about the requirements and because they made incorrect assumptions about the scope of the requirements. The following discussion is intended to address the comments and explain the FAA's response to the concerns identified in the 122 comments received through May 31, 1988. The FAA has reviewed and considered late-filed comments to determine if any new issues were raised or any significant, new factual information was provided.

Six commenters request a 60-day extension of the May 2, 1988, closing date for comments on Notice No. 88-6 including requests from the American Association of Airport Executives (AAAE), the Airport Operators Council International (AOCI), and the Regional Airline Association (RAA). A letter was also received from the Air Transport Association (ATA) in support of the AAAE and AOCI requests. They comment that, considering the magnitude of the issue, more time is needed to allow for wider distribution and discussion, to prepare additional information concerning the costs associated with the proposed system, and to allow maximum comments and facilitate an open exchange of ideas. The FAA denied the requests for extension. However, the FAA continued to consider late-filed comments beyond July 2, the date on which the requested extension period would have expired.

Twelve commenters are recommending that Notice No. 88-6 be withdrawn to allow time for the FAA, airport operators and tenants, and other interested parties to explore the total security problem that might exist at airports. At least three commenters are requesting a public hearing which they believe will allow them to air their concerns and expose pertinent issues thereby providing the FAA and the aviation community with necessary information. Ten commenters specifically request the FAA to conduct a study of the technology that is available regarding automated access control systems to determine the most appropriate system to accomplish the

objective of the proposals. Several commenters, including the ATA and AAAE, recommend that the FAA conduct a pilot program at several airports to evaluate more realistically the issues involved in this rulemaking.

While worthy of merit under less compelling circumstances, the implementation of any of these recommendations would result in the postponement of a security measure intended to promote the safety of air transportation and therefore must be balanced carefully against that goal. The information that would be provided to the FAA through a public hearing would duplicate, to a large extent, that already contained in Docket No. 25568. Through its experience at more than a dozen major airports and other facilities, the FAA has been made aware of most of the existing technology regarding computerized access control systems and is confident that technology is available to meet the requirements of this final rule. Additionally, the FAA historically has been reviewing and evaluating all aspects of an airport operator's security program to ensure that it is commensurate with the size, layout, location, and activity level of the particular airport. Consequently, the FAA fully expects to be involved early on regarding the scope and design of a system that meets the required performance standards or an approved alternative that will comply with the final rule. From its historical role, as well as its early participation in the process outlined in this final rule, the FAA believes that the requirements of this rulemaking are both realistic and supportable.

The FAA plans also to issue general guidelines to assist airport operators in their selection of a system, method, or procedure and preparation of an amendment. The guidelines also will assist FAA personnel in their review and approval of the amendment containing an airport operator's proposed strategy to install and implement a system, method, or procedure that meets the performance standards or an approved alternative. In summary, the FAA's input and involvement at the very early stage will address many of the commenters' concerns that might otherwise argue for delaying final action.

Funding was another concern identified by 46 commenters. Most of them indicate that the Airport Improvement Program (AIP) would be their only source of funding. Many airport managers make reference to the notice which states that the proposed system would be eligible for funding

under AIP; however, their concern is that the amount of AIP funding available would not cover all costs. Commenters also express concern that other airport improvement projects would be impeded due to the diversion of AIP funds.

Several of the commenters recommend that the FAA consider making other funds available if a final rule is issued. Lastly, the commenters state that the short implementation schedule proposed in the notice could make AIP funding impossible due to the amount of time needed to process such requests.

The majority of the airports covered by this rule are primary airports. These airports, particularly the larger ones, have historically funded much or most of their capital development without Federal financial aid. In addition, primary airports receive entitlement funds each year under the AIP. It is expected that these airport sponsors would use the AIP entitlements or their own resources to fund required security capital costs. To the extent that these resources are not adequate at smaller airports and depending on the availability of other funding sources within the AIP, the FAA would consider supporting the program with funding, as necessary. Since the final rule includes a revised implementation schedule, the FAA believes that normal funding within the AIP should be sufficient to aid airports, and a "set aside" fund is not necessary.

Fifty-eight commenters are concerned about the costs that would be involved to achieve compliance with the requirement being proposed. They believe the cost figures reflected in the notice to be underestimated. Several commenters, including the ATA, AAAE, and AOCI, provide details of estimated costs. Those organizations indicate that the FAA cost estimates are underestimated by as much as a factor of 10. For that reason, the commenters believe that the Regulatory Evaluation is not accurate. They also state that the regulation being proposed meets the criteria for a major regulation under Executive Order 12291 and, therefore, requires a Regulatory Impact Analysis.

In response to the concerns regarding the estimated costs of the proposal, the FAA reviewed further the data contained in its Regulatory Evaluation. The results of that review are reflected in the evaluation for the final rule. A summary of the Regulatory Evaluation is included in this preamble under the heading "Economic Summary."

The concerns identified by the commenters regarding the implementation of the proposal reflect the extremely tight timeframe proposed

in Notice No. 88-6. Twenty-nine commenters contend that the unrealistic schedule makes compliance impossible considering the time-consuming process involved for budgeting, designing, bidding, procuring, and installing a system. Several commenters are recommending 2 years in addition to the time proposed in Notice No. 88-6. One commenter recommends that the compliance time for this requirement be 3 years following the allocation of dedicated AIP funds.

The FAA agrees with the commenters regarding their concerns about the implementation schedule proposed in Notice No. 88-6. Accordingly, the final rule contains a revised implementation schedule. The revised schedule constitutes a significant change from the language proposed in Notice No. 88-6.

Thirteen commenters express concern for the effectiveness of a system that airport operators might be forced to implement if they are subject to the schedule proposed in the notice. If 269 airports were required to comply with the schedule as proposed in the notice, the overdemand for qualified vendors would require using inexperienced contractors and companies. The commenters are in favor of extending the time period for implementation since compliance with the proposed schedule could have a detrimental effect on the system quality and reliability, especially at medium- and small-sized airports.

The FAA considers these concerns to be valid, and as stated above, the schedule contained in the final rule is revised. Current data indicate that 270 airports would be required to comply with a final rule.

The performance standards associated with a computer-controlled card access system causes serious concerns for at least 14 of the commenters. Nine commenters believe the time-date requirement for controlling access to be impractical due to necessary adjustments in work schedules to meet demands. Their specific concern is for the impact it will have on day-to-day operations; e.g., reassigning staff personnel, using different gates for delayed flights, working overtime, and changing workshifts.

If a computer-controlled card system is selected by an airport operator to meet the requirements of the final rule, the FAA anticipates that the system would be designed to have unique coding for each card so that the computer can be reprogrammed in minutes to revise the access authorized by a specific card. Such details will be developed in the context of the amendment to an airport's approved

security program and will take into account the need for operational flexibility. The FAA plans to issue general guidelines on system operation.

Many of the commenters express concern for terminology contained in the notice. "Secured area" is not defined in Part 107 or 108 of the FAR. Two commenters request a definition of "immediately" which is stated in the proposal to indicate when access should be denied to individuals whose authority changes. Other commenters express concern regarding the use of the word "airports" versus "airport operators" in the preamble to Notice No. 88-6. Twenty commenters are concerned about an apparent conflict that centers around the airport operator's responsibilities for security under Part 107 and those of air carriers subject to Part 108 who have entered into exclusive use agreements with airport operators. The commenters urge the FAA to clarify this issue before proceeding with a final rule. One commenter requests standardization by the FAA in its interpretation of a final rule.

The FAA intentionally did not define "secured area" in the notice, nor is it defined in the final rule. To do so could result in the compromise of airport operators' security programs. Use of the term "immediately" is intended to stress the urgency with which an airport operator should act to deny access to secured areas by unauthorized individuals. The preamble to Notice No. 88-6 used the phrase "in a matter of minutes." Although the FAA has not further defined this term in the final rule, the FAA believes that the time interval should be the reasonable minimum time necessary to adjust the database to deny access to an individual. Regarding the use of the word "airport," the FAA agrees that the preamble statement referenced by the commenters creates confusion. However, the proposed rule and the final rule clearly establish that the regulated entity is the airport operator. Finally, the FAA does not view the use of the term "airport operator" as being inappropriate notwithstanding that an airport operator may have entered into an exclusive use agreement with an air carrier. When entering into an exclusive use agreement, the air carrier must accept the controls and procedures levied upon it by the airport operator. In such a case, the airport operator may be required to establish additional controls or modify existing ones for selected areas of an airport to comply with this final rule.

The FAA agrees with the commenter who requests that the FAA standardize its interpretation of a final rule to

prevent serious differences in its implementation. The FAA will accomplish the requested standardization through the issuance of guidance to the various FAA regions for dissemination to the civil aviation security inspectors.

A number of commenters express concern that individuals who ordinarily have access at several airports (such as crewmembers or officials of a multi-airport jurisdiction) would need a card for each airport. At least five commenters recommend that a commonality exist among the systems to preclude possible confusion and inconvenience stemming from individual systems which deny access to the above individuals. The commenters, in essence, recommend that the FAA require access control systems that are compatible on a national basis.

The FAA does not agree at this time that imposing uniformity is warranted. First, it would require imposing a uniform type of system, e.g., a computer-controlled card system. Moreover, requiring each airport to have a system with nationwide capacity and compatibility (capable of storing hundreds of thousands of names) would drive system costs up and would benefit only a small segment of the individuals who are associated with the regulated entities. Moreover, since the final rule expands the opportunity to use an alternative system, method, or procedure in response to the comments, nationwide uniformity is not practicable. However, an effort is underway to study the feasibility of an access system with multi-airport capabilities. The FAA anticipates that operational issues will be identified in the study.

Twenty commenters address the issue of alternative access control systems that provide an equivalent level of security. Many of these commenters, including operators of small airports, state that nonautomated systems should be permitted. They believe that the requirement for the alternative to have the same capabilities as a computer-controlled card system is too restrictive. Ten comments were received from people who are in the business of providing systems for access control. The intent of these commenters is to make the FAA aware of technologies that are available, and, more importantly, to recommend that a final rule not require one type of system while allowing others to be used by exception as proposed in Notice No. 88-6.

The FAA agrees that, in addition to the specific technology identified in Notice No. 88-6, others may be available

to meet the objectives of the proposal. The FAA also envisions that operators of the smaller airports may be able to meet the requirements of this final rule with minimal or no computer-assisted hardware installation. The final rule is revised accordingly.

The lack of specificity regarding the doors, gates, or other locations that would be involved in the implementation of the proposed system is of concern to 24 commenters. They contend that the number of access points to be controlled will significantly impact the cost of the system. They also express concern about the applicability of a rule to those points that give access to various suppliers who are making daily deliveries to tenants in a restricted area and to the current escort procedures that provide construction workers with daily or temporary access to restricted areas. Seven commenters believe the proposal to be in conflict with fire codes.

For the same reason that "secured area" was not defined, the FAA was not specific regarding doors, gates, and other locations to be controlled. To do so would compromise an airport operator's security program. For that reason, the FAA specifically requested that airport operators not discuss in their comments specific details of current or proposed security arrangements. The FAA-planned guidance for the various FAA regions will assist the FAA personnel and airport operators in the identification of those access points that should be subject to control by the system, method, or procedure required by this final rule. The FAA does not envision that every door or other access point will need the enhanced access controls. In response to the concern regarding suppliers, the intended effect of the requirement proposed by the notice will not allow the FAA to consider the inconvenience of such a requirement to any one group. Escort procedures are associated with an airport's identification system, and Notice No. 88-6 stated that the proposal would supplement, not replace, an existing identification system required by an airport operator's security program. Escorting of persons will continue to be permitted under the rule.

Twenty-nine commenters state that the complicated and expensive automated security measures proposed by the notice are not necessary at small airports since small airports experience different types of problems than do large airports. Nineteen commenters specifically state that the current procedures are adequate and that the

level of security anticipated by the FAA through the final rule can only be obtained via greater discipline of personnel and more training on security issues. Six commenters recommend an evaluation of different airports to determine the scope of security needs and to give consideration to the complexity of operations before effecting a rule to require all airports to have a complex and expensive computer-controlled system.

The FAA agrees with the commenters and recognizes that security varies from airport to airport. The final rule is revised to permit FAA approval of an alternative system, method, or procedure that provides an appropriate level of security commensurate with an airport's needs.

At least three commenters express concern that Notice No. 88-6 does not address the impact on fixed based operators (FBO) and request clarification of this issue. Eleven commenters express the same concern for general aviation (GA) operations.

Upon adoption of a final rule, the airport operator would be the regulated party. As tenants of the airport, FBO's and GA operations would be subject to the control procedures identified by the airport operator.

Seventeen commenters state that the required system will not prevent a person from violating security measures if that person has such a desire. At least three commenters state that the required system will not prevent the PSA Flight 1771 type of tragedy.

The FAA believes that the emergency final rule amending the preboarding screening procedures complemented by the requirements of this rule to require airport operators to implement a positive access control system will substantially increase the overall level of security and will minimize the likelihood of a PSA Flight 1771 type of situation.

Finally, 11 persons comment that the proposed regulation will, at the very least, enhance security to a minimal degree. They contend that in some cases security will deteriorate if all issues involved at any one airport are not considered in the system design and implementation.

The FAA believes that the final rule will enhance airport security beyond a minimal degree since its intent is to preclude access to secured areas by unauthorized persons. Since the commenters did not identify the specific issues to be considered to prevent a deterioration of security, the FAA cannot adequately respond to that concern.

Discussion of the Rule

After considering the comments, the FAA is amending Part 107 to add a new § 107.14 to require improved access control to secured areas of certain airports. The final rule revises the proposed rule in several significant respects as a result of the comments received.

Section 107.14(a). Paragraph (a) of § 107.14 is revised in three ways from the proposal. First, the amendment to an airport operator's approved security program is to be submitted to the Director of Civil Aviation Security rather than the Administrator. The substitution of the Director of Civil Aviation Security for the Administrator has been made throughout § 107.14. Second, the last two sentences of proposed paragraph (a), dealing with the timeframe for implementation of a required system, have been deleted. The implementation schedule is found in paragraph (c) of § 107.14 of the final rule and is discussed below. Third, the requirement of paragraph (a) that certain airport operators submit, for approval and inclusion in their approved security programs, amendments that provide for the installation and use of a computer-controlled card system for access to secured areas of the airport, has been modified. Paragraph (a) now requires the installation and use of a system, method, or procedure that meets specified performance standards to control access to secured areas of the airport. This change allows the installation and use of systems, methods, or procedures other than computer-controlled card systems which may be currently available or that become available in the future as technology evolves and that meet the performance standards.

Section 107.14(b). Paragraph (b) of § 107.14 addresses the approval of alternative systems, methods, or procedures. The final rule reflects major changes from the proposed rule as a result of comments received. Approval of an alternative under the final rule is not tied to having the same capabilities as the system, method, or procedure meeting the performance standards of paragraph (a). This permits approval of other than automated systems. However, the critical element for approval of any alternative is the same in the final rule as it was in the proposed rule; the alternative must provide an overall level of security equal to that which would be provided by the type of system, method, or procedure described in paragraph (a).

Section 107.14(c). Paragraph (c) of the proposed rule sets forth the schedule for airport operators to submit the amendments to their approved security programs required by paragraph (a) or (b). The final rule retains the 4-phase approach and the timeframes for airports subject to each phase to submit their amendments. Airport operators may submit their amendments prior to the date required by this final rule. For example, since some airport operators will be able to meet the requirements of the rule without installing a system, method, or procedure that meets the performance standards of paragraph (a), and will be able to meet the intent of the rule on a much faster timeframe, they are encouraged to submit their plans before the dates required by the final rule.

Operators of Phase I airports, where 25 million or more persons are screened annually or as designated by the Director of Civil Aviation Security, must submit amendments by 6 months after the effective date of the final rule. Operators of Phase II airports, where more than 2 million persons are screened annually, must submit amendments by 6 months after the effective date of the final rule. Operators of Phase III airports, where 500,000 to 2 million persons are screened annually, must submit amendments by 12 months after the effective date of the final rule. Operators of Phase IV airports, where less than 500,000 persons are screened annually, must submit amendments by 12 months after the effective date of the final rule.

Paragraph (c) of the final rule also includes an implementation schedule. The implementation timeframe, which was in paragraph (a) of the proposed rule, is substantially revised in the final rule. The proposed rule provided that "the system must be in use within 6 months" after approval of an airport operator's amendment to its approved security program. The proposed rule also provided for an additional 6 months at certain locations on an airport. The short timeframe of the proposed rule applied to airports in all four phases.

The final rule is different in several major respects. First, the implementation schedule is now linked to the phases. The final rule provides that the system, method, or procedure must be fully operational within 18 months after approval of an airport operator's amendment to its approved security program only at Phase I airports. Operators of Phase II airports have 24 months after approval of the amendments to their approved security programs. Operators of Phase III and IV

airports have 30 months. The approved amendment for each airport shall specify how the system, method, or procedure will be fully operational within the appropriate timeframe.

Finally, paragraph (c) has added language to address the situation where an existing airport becomes subject to the requirements of § 107.14 after the effective date of the final rule. The timeframes for such an airport operator to submit an amendment to its approved security program and to specify that the system, method, or procedure must be fully operational depend on the phase that is applicable to the airport.

Section 107.14(d). A new paragraph (d) is included in the final rule to address the situation of brand new airports commencing operations after December 31, 1990. It is FAA's view that new airports should meet the requirements of section 107.14 when they commence operations since the improved access control requirements of the rule can be included in the design for these new airports and at a lower cost than a subsequent retrofit.

Economic Summary

The following is a summary of the final cost impact and benefit assessment of this rule amending Part 107 of the Federal Aviation Regulations to provide enhanced control of access to secured areas at certain U.S. airports. A full regulatory evaluation has been inserted into the public docket for this rulemaking.

For purposes only of this evaluation, the projected economic impact of the rule is based on the costs of installing and operating a computer-controlled card access system. Other access control systems, methods, or procedures may be permitted as a means of compliance with this rule subject to the approval of the Director of Civil Aviation Security.

Fifty-eight of the 122 written comments received as of May 31, 1988, in response to Notice No. 88-6 published in the *Federal Register* on March 18, 1988, pertain to the economic impact of the proposal. These comments were submitted by industry associations, individual airport authorities, air services, and producers of airport security equipment. The vast majority of these comments generally state that the FAA had underestimated the total costs required for compliance with the proposed rule.

Many of these comments are premised on two basic assumptions: (1) That the FAA underestimated the cost per access point, and (2) that the FAA underestimated the number of access

points requiring enhanced control at airports.

The FAA has carefully reviewed its own cost estimates in light of comments received and does not agree that it underestimated the cost per access point. The FAA's estimates of design, testing, hardware, installation, maintenance, software update, and security card replacement costs were based on price quotes of manufacturers of computer card access systems. Cost per access area will differ for airports of different sizes, due to the large number of variables in required equipment, labor and maintenance and structural alterations associated with retrofit of existing systems. Thus, it is misleading to estimate total costs of the proposed rulemaking based on the cost per access area of one or two airports, as was done by some commenters.

Regarding the number of access points, the FAA believes that several commenters misunderstand the scope of the proposed rulemaking and have therefore overestimated the number of access points that the rule would require to have enhanced access controls (system, method, or procedure). In determining the number of doors that would be affected, the FAA did not envision that every door in a terminal area would need to be so controlled. Rather, the design of many airport buildings permits a "funneling through" effect which would minimize the number of doors requiring such enhanced control. In general, funneling persons through a single point with enhanced access controls to an area would eliminate the need to have such controls at subsequent doors.

Therefore, for its economic analysis of the final rule, the FAA has not revised its estimates of the average number of access points that would need to be controlled in the four categories of airports. The number of access points for airports of each phase remains as follows in the economic analysis of the final rule:

- Phase I: 128 access points
- Phase II: 60 access points
- Phase III: 25 access points
- Phase IV: 10 access points

Several airport operators comment that the cost of the required security measure described in Notice No. 88-6 is excessive and would impose a heavy financial burden on them. The FAA recognizes these concerns and has therefore emphasized in the final rule that an airport operator may submit an amendment to its security program for approval by the Director of Civil Aviation Security, which does not

necessarily require a computer card or automated system. The Director of Civil Aviation Security may approve such an alternative system, method, or procedure if, in the Director's judgment, it provides an overall level of security equal to that of a system, method or procedure meeting the performance standards outlined in the final rule. These performance standards, although stringent, do not specifically require use of a computerized or automated system.

In addition, the implementation schedule for affected airports has been revised in the final rule to allow more time for compliance, particularly for medium- and small-sized airports. One positive effect of this change may be to spread up-front costs for installation over a longer period of time, easing the burden on many airport operators.

Costs

This analysis of the costs of compliance with the final rule is premised on the assumption that all 270 airports will install computer-controlled card access systems. In actuality, many airport operators, particularly of medium- and small-sized airports in Phases III and IV, may install alternative access control systems, methods, or procedures, with the approval of the Director of Civil Aviation Security, that may prove to be less costly than the computer card systems. Therefore, the actual costs of this rule may be less than the estimated costs in this analysis.

Estimated costs of implementing controlled access systems at 270 airports in the United States, in accordance with the specifications and revised schedule of new § 107.14, are \$169.9 million in 1987 dollars, and \$119.1 million discounted present value (employing a 10 percent discount rate) for the 10-year evaluation period from

1989-1998. For Phase I airports, average hardware and installation costs are expected to be \$1,465,600, with average annual recurring costs of approximately \$126,600. For Phase II airports, average hardware and installation costs are expected to be \$732,000, with annual recurring costs of approximately \$88,730. For Phase III airports, average hardware and installation costs are expected to be \$245,000, with annual recurring costs of approximately \$42,969. For Phase IV airports, average hardware and installation costs are expected to be \$56,000, with annual recurring costs of approximately \$3,100. Table I shows the total of these costs by phase of airport and by year for the 270 airports affected by this rule.

The revised implementation schedules specified in this rule for airports of the four phases, permitting installation, maintenance and labor costs to commence later than indicated in the Initial Regulatory Evaluation, have the effect of slightly reducing the present value of total costs. Nonetheless, overall estimated costs of compliance have increased from estimates in the Initial Regulatory Evaluation, as a result of an increase in the number of airports in each phase. According to a recent review, there are 17 rather than 16 airports in Phase I, 54 rather than 48 airports in Phase II, 46 rather than 45 airports in Phase III, and 153 rather than 160 airports in Phase IV.

Benefits

The primary benefit of this rule will be the prevention of potential fatalities and injuries and the destruction of property resulting from a criminal act or an act of air piracy. The tragic loss on December 7, 1987, of 38 passengers and 5 crewmembers aboard PSA Flight 1771, serves as a basis for focusing on the type of catastrophic event that may be

prevented by adopting new security regulations. It is important to recognize that the PSA Flight 1771 incident involved a smaller aircraft and passenger load than a typical Part 121 air carrier operation. If such a criminal act were perpetrated in a larger or more heavily loaded aircraft, the casualty loss would have been significantly higher.

The estimated \$119.1 million cost (discounted present value) of this rule can be recovered fully if one incident, involving the loss of 170 lives and a wide-bodied jet transport of the type typically used in domestic operations, is prevented as a result of requiring improved security programs at U.S. airports during the 10 years following adoption of this rule. This determination is based upon a minimum value of \$1.0 million per life saved, used in FAA regulatory evaluations, and an aircraft hull value of approximately \$30.0 million, discounted from the middle of the 10-year evaluation period to account for the uncertainty of when such an incident may be prevented.

Regulatory Flexibility Determination

This amendment would affect 270 of the 427 airports subject to the security provisions of Part 107. The FAA's small entity size standards criterion define a small airport as one owned by a county, city, town or other jurisdiction with a population of 49,999 or less. Applying the FAA's size threshold criterion, 76 of the 427 airports are small. Since only 22 of the 270 airports that would be required to comply with this proposal are small, the requirement for the enhanced access controls will not affect a substantial number (at least one third) of the 76 small airports subject to Part 107. Therefore, this final rule will not have a significant economic impact, positive or negative, on a substantial number of small entities.

TABLE I.—COST OF COMPUTER-CONTROLLED CARD ACCESS SYSTEMS FOR YEARS 1989-1998

Year	Phase I	Phase II	Phase III	Phase IV	Total Costs
1989	² \$9,444,067	\$13,417,920			\$22,861,987
1990	² 18,599,133	² 24,312,420	² 5,359,491		48,271,044
1991	¹ 1,989,000	² 14,430,420	² 5,646,991		22,066,411
1992	1,989,000	¹ 4,548,420	² 5,646,991	² 8,698,050	20,882,461
1993	1,989,000	4,548,420	¹ 1,890,324	¹ 359,550	8,787,294
1994	2,641,800	4,548,420	1,890,324	359,550	9,440,094
1995	1,989,000	5,520,420	1,890,324	359,550	9,759,294
1996	1,989,000	4,548,420	2,235,324	818,550	9,591,294
1997	1,989,000	4,548,420	1,890,324	359,550	8,787,294
1998	2,641,800	4,548,420	1,890,324	359,550	9,440,094
Total Cost (1987 dollars)	45,260,800	84,971,700	28,340,416	11,314,350	169,887,266
Total Cost (present value; 10% discount rate)	33,345,586	60,267,176	18,312,651	7,224,445	119,149,858

¹ Recurring annual costs include security access card replacement, computer maintenance, software update and support, and additional labor. Recurring costs also include card readers maintenance every 4th year.

² One-time installation costs include planning and procurement of computers, peripheral equipment, card readers, security access cards, engineering site survey and design, and Manager/Operator training.

Trade Impact Statement

This rule is expected to have no impact on trade opportunities for both U.S. firms doing business overseas and foreign firms doing business in the United States. This amendment affects only certain domestic airports subject to Part 107 of the FAR. Since there is virtually no foreign competition for the services provided by U.S. domestic airports, there is expected to be no impact on trade opportunities for either U.S. firms overseas or foreign firms in the United States.

Reporting and Recordkeeping

The requirements in the current regulations (Part 107) for an airport operator to submit an airport security program and amendments to the FAA for approval were approved by the Office of Management and Budget (OMB) under Control No. 2120-0075. Pursuant to this final rule, the FAA forwarded an amendment to Control No. 2120-0075 to OMB in accordance with the Paperwork Reduction Act of 1980 (Pub. L. 96-511). OMB approved the FAA's amendment of Control No. 2120-0075 on January 3, 1989.

Federalism Implications

The FAA believes that airport operators and sponsors will not be unduly burdened by the requirements of the final rule based on (1) the availability of AIP funding; (2) potential lower costs associated with alternative systems, methods, or procedures; and (3) the extended implementation schedule providing amortization of installations costs. On these bases, the FAA has determined that this regulation will not have a substantial direct effect on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, preparation of a Federalism assessment is not warranted.

Conclusion

For the reasons discussed in the preamble, and based on the findings in the Regulatory Flexibility Determination and the International Trade Impact Analysis, the FAA has determined that this regulation is not major under Executive Order 12291. In addition, it is certified that this rule will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act of 1980. Because of the substantial public interest resulting from Notice No. 88-6,

this rule is considered significant under the DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A copy of the final regulatory evaluation of the rule, including a Regulatory Flexibility Determination and Trade Impact Analysis, has been placed in the docket. A copy may be obtained by contacting the person identified under "FOR FURTHER INFORMATION CONTACT".

List of Subjects in 14 CFR Part 107

Transportation, Air safety, Safety, Aviation safety, Air transportation, Air carriers, Aircraft, Airports, Airplanes, Airlines, Aviation security, Secured areas.

The Amendment

Accordingly, Part 107 of the Federal Aviation Regulations (14 CFR Part 107) is amended as follows:

PART 107—AIRPORT SECURITY

1. The authority citation for Part 107 continues to read as follows:

Authority: 49 U.S.C. 1354, 1356, 1357, 1358, and 1421; 49 U.S.C. 106(g) (Revised, Pub. L. 97-449; January 12, 1983).

2. By adding a new § 107.14 to read as follows:

§ 107.14 Access control system.

(a) Except as provided in paragraph (b) of this section, each operator of an airport regularly serving scheduled passenger operations conducted in airplanes having a passenger seating configuration (as defined in § 108.3 of this chapter) of more than 60 seats shall submit to the Director of Civil Aviation Security, for approval and inclusion in its approved security program, an amendment to provide for a system, method, or procedure which meets the requirements specified in this paragraph for controlling access to secured areas of the airport. The system, method, or procedure shall ensure that only those persons authorized to have access to secured areas by the airport operator's security program are able to obtain that access and shall specifically provide a means to ensure that such access is denied immediately at the access point or points to individuals whose authority to have access changes. The system, method, or procedure shall provide a means to differentiate between persons authorized to have access to only a particular portion of the secured areas and persons authorized to have access only to other portions or to the entire secured area. The system, method, or procedure shall be capable of limiting an individual's access by time and date.

(b) The Director of Civil Aviation Security will approve an amendment to an airport operator's security program that provides for the use of an alternative system, method, or procedure if, in the Director's judgment, the alternative would provide an overall level of security equal to that which would be provided by the system, method, or procedure described in paragraph (a) of this section.

(c) Each airport operator shall submit the amendment to its approved security program required by paragraph (a) or (b) of this section according to the following schedule:

(1) By August 8, 1989, or by 6 months after becoming subject to this section, whichever is later, for airports where at least 25 million persons are screened annually or airports that have been designated by the Director of Civil Aviation Security. The amendment shall specify that the system, method, or procedure must be fully operational within 18 months after the date on which an airport operator's amendment to its approved security program is approved by the Director of Civil Aviation Security.

(2) By August 8, 1989, or by 6 months after becoming subject to this section, whichever is later, for airports where more than 2 million persons are screened annually. The amendment shall specify that the system, method, or procedure must be fully operational within 24 months after the date on which an airport operator's amendment to its approved security program is approved by the Director of Civil Aviation Security.

(3) By February 8, 1990, or by 12 months after becoming subject to this section, whichever is later, for airports where at least 500,000 but not more than 2 million persons are screened annually. The amendment shall specify that the system, method, or procedure must be fully operational within 30 months after the date on which an airport operator's amendment to its approved security program is approved by the Director of Civil Aviation Security.

(4) By February 8, 1990, or by 12 months after becoming subject to this section, whichever is later, for airports where less than 500,000 persons are screened annually. The amendment shall specify that the system, method, or procedure must be fully operational within 30 months after the date on which an airport operator's amendment to its approved security program is approved by the Director of Civil Aviation Security.

(d) Notwithstanding paragraph (c) of this section, an airport operator of a

newly constructed airport commencing initial operation after December 31, 1990, as an airport subject to paragraph (a) of this section, shall include as part of its original airport security program to be submitted to the FAA for approval a fully operational system, method, or procedure in accordance with this section.

Issued in Washington, DC, on January 3, 1989.

T. Allan McArtor,
Administrator.

[FR Doc. 89-279 Filed 1-4-89; 9:48 am]

BILLING CODE 4910-13-M