



# Department of Defense Legacy Resource Management Program

## Amphibian and Reptile Biodiversity on United States

### Department of Defense Installations

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Final Report  
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# AMPHIBIAN AND REPTILE BIODIVERSITY ON UNITED STATES DEPARTMENT OF DEFENSE INSTALLATIONS



CHRISTOPHER E. PETERSEN, ROBERT E. LOVICH, AND SARAH STALLINGS



Photo Credit:

Ridge-nosed Rattlesnake (*Crotalus willardi*): Larry Jones

Granite Night Lizard (*Xantusia henshawi*): Robert Lovich

Long-tailed Salamander (*Eurycea longicauda*): Chris Petersen

Cascades Frog (*Rana cascadae*): Paul Block

# Abstract

The United States (U.S.) Department of Defense (DoD) occupies approximately 25 million acres of land within the U.S., spanning a diversity of ecosystems. To date, no comprehensive inventory and analysis of the amphibian and reptile (herpetofauna) species diversity has been conducted on DoD lands. This study updated or developed new herpetofauna species lists for 415 DoD properties (301 DoD installations and 114 installation detachments/ranges/annexes) within the continental U.S., and created an inventory for subsequent analysis of the herpetofauna species diversity on DoD sites.

Our analysis revealed that DoD properties support a total of 440 confirmed species, with an additional 86 species potentially present, but are unconfirmed to date. The herpetofauna species confirmed on the DoD sites evaluated in this report represent 63 percent of the total biodiversity of all native herpetofauna species documented in the continental U.S. Snakes are the most abundant herpetofauna species type found on DoD lands.

Of the military Services, Army sites have the most confirmed species, followed by the Air Force, Navy, and Marine Corps, respectively. Those military installations with the greatest herpetofauna biodiversity are located in southeastern U.S. (Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina). Fort Stewart, a U.S. Army site located in Georgia, has the greatest number of confirmed herpetofauna species (100 species).

Of the species/subspecies confirmed present on DoD sites, 26 are Federally-listed (Threatened or Endangered), 58 are State-listed, and 71 are considered At-risk according to their NatureServe conservation status of G1/T1-G3/T3. Army and Air Force installations/detachments have more species/subspecies that are Federally-listed and State-listed than Navy and Marine Corps sites. Our analysis verifies that 45 percent of all Federally-listed herpetofauna species in the continental U.S. are confirmed present on DoD sites.

Thirty non-native and native transplant herpetofauna species/subspecies are confirmed present on DoD sites. The American Bullfrog, Red-eared Slider, and Mediterranean Gecko are the most common non-native or native transplant species on DoD sites.

Twenty-four venomous reptile species are confirmed present on 202 DoD sites (49 percent of all sites included in this analysis) in the continental U.S. The Copperhead is confirmed present on more DoD sites (N=80) than any other venomous snake species.

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# CHAPTER 1

## Introduction

### 1.1 AMPHIBIANS AND REPTILES

Amphibians and reptiles (herpetofauna) account for a considerable portion of contemporary biodiversity, with approximately 18,111 species having been formally described (Frost, 2017; Uetz and Hosek, 1995). Herpetofauna are found in nearly every habitat, occur on every continent except Antarctica (AmphibiaWeb, 2011; Vitt & Caldwell, 2008), and are both ecologically and culturally significant around the globe. Amphibians and reptiles are essential components of the ecosystems they inhabit, maintaining the ecological integrity of their habitats as predators, competitors, and prey, often surpassing other vertebrate groups in terms of species abundance, diversity, and biomass (Klemens, 2000; Semlitsch, 2003; Stuart et al., 2008; Vitt & Caldwell, 2008; Ernst & Lovich, 2009), and serving as indicators of environmental health (Ernst & Lovich, 2009; Hayes et al., 2006; Hayes et al., 2002; Johnson et al., 2007; Pounds et al., 2006).

Herpetofauna are excellent indicator species, meaning populations will start to show signs of stress quickly when their ecosystem becomes polluted, diseases are introduced, or there are significant changes to their habitats. This sensitivity to environmental changes has contributed to relatively high extinction rates in herpetofauna. Recent extinction rates of amphibians may be more than 200 times that of historical background rates (McCallum, 2007). There are at least six major causes of recent herpetofauna declines and extinctions: habitat loss and fragmentation; land conversion; collection for commercial trade; introduction of exotic species that prey on, compete with, and parasitize native amphibians; environmental contaminants; climate change; and infectious disease (Collins, 2010; Collins and Crump, 2009; Marks, 2006; Ribeiro et al., 2009).

Management of herpetofauna is necessary not only to protect those species, but also to protect the ecosystems in which they live. Managing habitats for herpetofauna is essential for the health of the entire ecosystem.

### 1.2 NATURAL RESOURCES MANAGEMENT ON MILITARY LANDS

The United States (U.S.) Department of Defense (DoD) manages approximately 25 million acres of land and water, spanning a diversity of ecosystems. The primary purpose of these lands is to train warfighters and test weapons in support of national defense. Despite the repeated and long-term use of military lands for this mission, several studies have documented the critical role these lands play in maintaining biodiversity (Aycrigg et al., 2015; Groves et al., 2000; Stein et al., 2008; Zentelis and Lindenmayer, 2015). For example, it has been reported that DoD lands have the greatest density of both Endangered Species Act (ESA) -status species and NatureServe (G1-G2) -imperiled species of any federal land management agency (Aycrigg et al., 2015; Stein et al., 2008). Furthermore, even though DoD lands comprise only 5% of the total area of federal lands, they represent 82.6% of the diversity of ecological

systems in the contiguous United States (Aycrigg et al., 2015). In fact, DoD lands contain the second-highest diversity of ecological systems in the U.S. after the National Park System, which contains over 27% more land area than the DoD.

The DoD takes an ecosystem-based approach to natural resources management—which is implemented at installations using Integrated Natural Resource Management Plans (INRMPs). The Sikes Act (16 U. S. Code [U.S.C.] 670a–670o, 74 Stat. 1052), as amended, requires the DoD to prepare and implement INRMPs for those installations that have been determined to have significant natural resources. The primary purpose of an INRMP is to create a single comprehensive ecosystem-based plan that ensures natural resources conservation measures and military operations are integrated and consistent with environmental stewardship, laws and regulations, and the military mission.

The management and conservation of herpetofauna on military lands is performed primarily through the implementation of specific management guidelines, protocols, and associated projects within each installation’s INRMP. Specifically, conservation measures are incorporated for the avoidance, minimization, and mitigation of potential adverse impacts that DoD activities may potentially have on ESA-listed, State-listed, and At-risk species (including species that have been petitioned and may become listed within the next 5-10 years), and their habitats. Thus, the INRMP supports the regulatory compliance requirements of the ESA, Sikes Act and NEPA. In order to adaptively manage our natural resources, installation INRMPs are reviewed for operation and effect every 5 years.

In addition, the DoD has a network of subject matter experts in the field of herpetology (DoD Partners in Amphibian and Reptile Conservation) that distribute information and develop products that assist with meeting military mission goals, while promoting stewardship and conservation for amphibians and reptiles. The DoD is the first and only U.S. agency with a comprehensive Strategic Plan for Amphibians and Reptiles (Lovich et al. 2015, although species protection is not a primary mission). It should be noted that other federal agencies are perusing their own strategic plans for amphibians and reptiles (e.g. Bureau of Land Management; David Hu, personal communication).

In this study, we provide a detailed analysis of the herpetofauna biodiversity on Continental U.S. (CONUS) military installations. Our study is unique in that we used site-specific data from military installations to identify those species confirmed present, and also species that are potentially present (unconfirmed), and had each species list peer-reviewed by a state wildlife agency herpetologist/biologist or local expert. We summarize our results both by military Service (Air Force, Army, Navy and Marine Corps) and all DoD Services combined. We also report on herpetofauna species confirmed present on DoD lands that are ESA-listed, State-listed, At-risk (NatureServe conservation rankings G1-G3), non-native and native transplants, and venomous. Lastly, we compare the total herpetofauna biodiversity on DoD properties to that of all native herpetofauna species in the contiguous (hereafter referred to as “continental”) U.S.

# CHAPTER 2

## Methods

### 2.1 PROTOCOL FOR THE DEVELOPMENT OF THE NATIONAL MILITARY HERPETOFAUNA INVENTORY

From 2013 to 2016, we annually analyzed and updated the herpetofauna species lists for Navy, Marine Corps, Air Force, and Army CONUS installations with INRMPs (DoD Legacy Project Numbers 12-423, 13-641, 13-642). Only military installations with INRMPs were included in our analysis since those properties had been evaluated by the military Services and determined to have significant natural resources. As discussed above, The Sikes Act (16 United States Code [U.S.C.] 670a–670o, 74 Stat. 1052), as amended, requires the DoD to prepare and implement an INRMP for each military installation, unless the absence of significant natural resources makes the preparation of such a plan inappropriate or unnecessary. We focused our analysis on military installations with INRMPs, since we felt that they would likely support the greatest populations of herpetofauna. It is unknown the number of military properties not determined to have significant natural resources and not included in our analysis. However, these sites would generally not have suitable habitat to support diverse populations of herpetofauna.

In many instances, DoD installations with INRMPs had one or several geographically-distinct properties (detachments, ranges, annexes) under its command. We developed an individual herpetofauna species list for each DoD parcel (installation, detachments, ranges, annexes).

For each military site, an existing herpetofauna species list (if available) was updated or a new list was developed. We followed the protocol below to develop a new or update an existing herpetofauna species list for each DoD site:

1. We developed a preliminary inventory of herpetofauna species using information from field guides, VertNet (<http://vertnet.org/>), the National Amphibian Atlas ([http://armi.usgs.gov/national\\_amphibian\\_atlas.php](http://armi.usgs.gov/national_amphibian_atlas.php), amphibian occurrences), and HerpMapper (<http://www.herpMapper.org/>) for each site. Species inventories were entered into a Microsoft Excel spreadsheet. Scientific and common nomenclature was standardized using Society for the Study of Amphibians and Reptiles (SSAR) Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in Our Understanding, 7<sup>th</sup> Ed. (<https://ssarherps.org/cndb/>). Subspecies designation (as relevant) was used during the development of the herpetofauna species lists for each DoD site. This was particularly important since some subspecies had a conservation status designation (Federal or State) that differed from the full species level.

2. We then identified those herpetofauna species confirmed present on each installation and recorded these data in the inventory spreadsheet. A species was considered confirmed present on a military site when there was literature present verifying that the species occurred specially on the installation. Literature was often in the form of site-specific survey/inventory data or a report produced by a

professional herpetologist or contractor, a museum voucher, or data presented in the installation's INRMP. Personal observations from a reliable source, such as an installation natural resource manager or field biologist, were also accepted in some cases following a review of the supporting information. Citations were provided in the inventory spreadsheet for every confirmed species. For sea turtle species, a confirmed observation was recorded only when there was documentation of a nesting or a stranding event on a particular military property. A species was classified as being potentially present on an installation when it was within the circumscribed natural or introduced range of that species, and the species had been documented in the same county as a particular DoD site, but a specimen had not been confirmed within the boundaries of the installation.

3. We sent each species list to a state wildlife agency biologist/herpetologist or a regional expert for a technical review. Sometimes additional species were determined to be confirmed on an installation based on records from state natural heritage datasets that were not found using other data sources. In addition, sometimes records were removed from a species list based on the professional recommendation of a reviewer.

4. A final review and validation of the updated species list was conducted by the military installation's natural resource manager or DoD Service headquarters representative. Species inventories for the Navy and Marine Corps sites were initially developed and reviewed in 2014, with a subsequent review and update occurring in 2017. Air Force and Army species inventories were updated in 2015 and 2016, respectively.

The protocol above was repeated for all military sites included in our analysis individually, and then merged together into a single Microsoft Excel spreadsheet inventory. Additional columns of data added to the inventory included the status of Federally-listed and State-listed species, as well as those with a NatureServe conservation status ranking of G1/T1-G3/T3.

To determine ESA designations, we searched the U.S. Fish and Wildlife Service (USFWS) Environmental Conservation Online System (<https://ecos.fws.gov/ecp0/pub/SpeciesReport.do?groups=D&listingType=L&mapstatus=1>). The following six ESA designations were added to the inventory for listed species: Under Review; Candidate; Proposed; Similarity of Appearance-Threatened; Threatened; Endangered. Under Review species included (1) species that have been petitioned for listing and for which a 90-day finding has not been published and (2) species that have been petitioned for listing for which a 90-day finding has been published, but for which a 12-month finding had not yet been published in the Federal Register.

State-listed (Endangered or Threatened) status designations were added to the inventory using an updated version of the data collected for *State of the Union: Legal Authority Over the Use of Native Amphibians and Reptiles in the United States* (Nanjappa & Conrad, 2011). The update of these data occurred in 2017 and was reviewed and validated by state wildlife professionals before being added to the dataset.

NatureServe conservation status rankings for each species were determined using NatureServe Explorer (<http://explorer.natureserve.org/>) and added to the inventory spreadsheet. NatureServe assigns rounded global conservation status rankings on a scale of G1 to G5 (T1 to T5 for subspecies). In this report, we define species/subspecies with a NatureServe conservation ranking of G1/T1-G3/T3 as an At-risk species.

## 2.2 DATA ANALYSIS

We used Microsoft Excel for our analysis of the military herpetofauna species inventory. The total number of confirmed species (by military Service and all DoD sites combined) was determined by querying the inventory to identify those species confirmed present on at least one military installation. Species not confirmed present on any military site were considered to be Potential (unconfirmed) species, and were determined by querying the inventory for those species with a status of Potential in the inventory. We evaluated Federally-listed species, State-listed species, and At-risk species (NatureServe conservation status ranking G1/T1–G3/T3) by querying the inventory for those various designations.

We considered non-native species to be an introduced, alien, or non-indigenous species to the U.S., or a native U.S. species that has been transplanted outside its natural range (native transplant). Species determined non-native for this analysis were selected using the U.S. Geological Survey (USGS) Nonindigenous Aquatic Species website (<http://nas.er.usgs.gov/default.aspx>) and the SSAR North American Species Names Database. We identified these species in the inventory by querying their scientific names in the inventory.

Venomous species were analyzed separately in this study due to the potential risk of negative human-wildlife interactions, and included rattlesnakes (*Crotalus* and *Sistrurus* spp.), the cottonmouth (*Agkistrodon piscivorus*), the copperhead (*Agkistrodon contortrix*), coralsnakes (*Micrurus* spp. and *Micruroides euryxanthus*), and the Gila Monster (*Heloderma suspectum*). We identified venomous species confirmed present on military sites by querying the inventory for these species by their scientific name.

# Chapter 3

## Results

### 3.1 DOD PROPERTIES

We updated the herpetofauna species lists and analyzed these data for 415 DoD properties (301 DoD installations and 114 detachments/ranges/annexes; Table 1; Figure 3-1). The number of major DoD installations included in this analysis by Military Service were 152 (Army), 77 (Air Force), 57 (Army), and 15 (Marine Corps). All analyses included at least one military site or detachment from the continental U.S.

Table 1. Department of Defense Properties Included in the 2017 Herpetofauna Inventory Analysis. Names listed alphabetically by military Service

Air Force	Altus Air Force Base (AFB); Arnold AFB; Avon Park Air Force Range (AFR); Bangor International Airport (IAP) Air National Guard (ANG) Base; Barksdale AFB; Beale AFB; Buckley AFB; Cannon AFB/Melrose AFR; Cape Canaveral Air Force Station (AFS); Cape Cod AFS; Cavalier AFS; Cheyenne Mountain AFS; Columbus AFB; Dare County Range; Davis-Monthan AFB; Dobbins Air Reserve Base (ARB); Dyess AFB; Edwards AFB; Eglin AFB; Ellsworth AFB; Fairchild AFB (Clear Lake Recreation Area & Cusick Survival Training Site, Lookout Pass Survival Training Site, Main Base); Francis E. Warren AFB; Gila River Air Force Space Surveillance Station; Goodfellow AFB; Grand Forks AFB; Hanscom AFB (Main Base, Maynard/Sudbury Geophysics Radar Laboratory Annex, Sagamore Hill Solar Weather Observatory Annex); Hill AFB (Main Base, Little Mountain Test and Training Range, Utah Test and Training Range); Holloman AFB; Homestead ARB; Hurlburt Field; Jacksonville ANG; Joint Base Andrews; Joint Base Antonio (Lackland AFB/Randolph AFB/Camp Bullis Training Annex/Seguin Auxiliary Field); Joint Base Charleston (Weapons Station); Joint Base Langley-Eustis (Fort Eustis); Joint Base McGuire-Dix-Lakehurst; Kirtland AFB; Laughlin AFB; Little Rock AFB; Luke AFB (Barry M. Goldwater Range - East, Main Base); MacDill AFB; Malmstrom AFB; March ARB; Maxwell AFB; McConnell AFB; McEntire Joint National Guard Base (NGB); Minot AFB; Moody AFB; Mountain Home AFB (Electronic Combat Site, Juniper Butte Range, Saylor Creek Range, Small Arms Range); Nellis AFB/Creech AFB/Nevada Test and Training Range; New Boston AFS; Niagara Fall Air Reserve Station; Offutt AFB; Otis ANG; Patrick AFB; Peterson AFB; Pillar Point AFS; Pope AFB; Robins AFB; San Diego Air Force Space Surveillance Station; Schriever Air Force Base; Scott AFB; Selfridge ANGB; Seymour-Johnson AFB (Fort Fisher Recreation Area, Main Base); Shaw AFB/Poinsett Electronic Combat Range; Sheppard AFB; Tinker AFB; Travis AFB; Tyndall AFB; US Air Force Academy; Vance AFB (Kegelman Auxiliary Airfield, Main Base); Vandenberg AFB; Warren Grove ANG; Westover ARB; Whiteman AFB; Wright-Patterson AFB
Army	Aberdeen Proving Ground; Adelphi Laboratory Center; Anniston Army Depot; Arden Hills Army Training Site (TS); Auburn TS; Austin Training Area (TA); Bangor TS; Bethany Beach TS; Biak Training Center (TC); Blossom Point Research Facility; Blue

	<p>Grass Army Depot; Bog Brook TS; Bordentown Communications and System Management Segment; Brunswick TS; Buckeye TA; Camel Tracks TS; Camp Ashland; Camp Atterbury Joint Maneuver TC; Camp Beauregard TS; Camp Blanding Joint TC; Camp Bowie; Camp Butner (Main Base, Snow Camp TS); Camp Clark TS; Camp Curtis Guild; Camp Dawson; Camp Dodge; Camp Edwards; Camp Grafton (Camp Grafton North, Camp Grafton South); Camp Grayling Joint Maneuver Center; Camp Gruber Maneuver TC; Camp Guernsey TS; Camp Mabry; Camp Maxey; Camp McCain; Camp Minden TC; Camp Murray; Camp Navajo; Camp Perry TS; Camp Ravenna Joint Military TC; Camp Ripley; Camp Roberts Maneuver Training Center; Camp San Luis Obispo; Camp Shelby Joint Forces TC; Camp Sherman Joint TC; Camp Smith TS; Camp Swift; Camp Villere; Camp Williams; Cape May Court House Armory; Carlisle Barracks; Caswell TS; Catoosa TS; Devens Reserve Forces TA; Disney TC (Artemus); Douglas Creek Local TA; Dover Armory; Dugway Proving Ground; Eastern Kentucky TS; Florence Military Reservation; Floyd Edsall TC; Fort A.P Hill; Fort Belvoir; Fort Benning; Fort Bliss; Fort Bragg; Fort Campbell Military Reservation; Fort Carson (Main Base, Pinon Canyon Maneuver Site); Fort Chaffee; Fort Custer TC; Fort Detrick; Fort Dix-Unit Training Equipment Site Facility; Fort Drum; Fort George G. Meade; Fort Gordon; Fort Hood; Fort Huachuca; Fort Hunter Liggett; Fort Indiantown Gap; Fort Irwin; Fort Jackson; Fort Knox; Fort Leavenworth; Fort Lee; Fort Leonard Wood; Fort McClellan Army National Guard (ANG) TC; Fort McCoy; Fort Polk; Fort Riley; Fort Rucker; Fort Sill; Fort Stewart; Fort Walters; Fort William H. Harrison; Franklin Armory; Gardiner TS; Greenlief TS; Hawthorne Army Depot; Hollis TS; Illinois Army National Guard (Sparta TA); Iowa Army Ammunition Plant (AAP); Jefferson Proving Grounds; Joint Base Lewis-McCord; Joint Systems Manufacturing Center-Lima; Kansas ANG Training Range Salina; Lander TA; Letterkenny Army Depot; Limestone Hills TA; Lovell TA; Maneuver TC-Fort Picket; Marseilles TS; McAlester AAP; McCrady TC; Mead TS; Milan AAP; Milan TS; Military Ocean Terminal Concord; Military Ocean Terminal Sunny Point; Morristown Armory; Muscatatuck Urban TC; Nevada ANG (Stead TS); New Castle River Road TS; New Hampshire ANG TS; Orchard TS; Oregon ANG (Camp Adair, Camp Rilea); Parks Reserve Force TA; Pembroke Regional Training Institute; Picatinny Arsenal; Pine Bluff Arsenal; Plymouth TS; Presidio of Monterey/Fort Ord; Pueblo Chemical Depot; Radford AAP (Main Base, New River Storage Unit); Red River Army Depot; Redstone Arsenal; Robinson Maneuver TC; Sea Girt; Sheridan TA; Sierra Army Depot; Smyrna TS; Snake Creek TS; Tarlton Readiness Center; Tooele Army Depot (TEAD; Main Base, TEAD North Area, TEAD South Area); Tuckerton Armory; Tullahoma TS; Wendell H Ford Regional TC; West Camp Rapid TA; West Point Military Reservation; White Sands Missile Range; Yakima TC; Yuma Proving Ground</p>
Marine Corps	<p>Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms; Marine Corps Air Station (MCAS) Beaufort; MCAS Camp Pendleton; MCAS Cherry Point; MCAS Miramar; MCAS Yuma (Barry M. Goldwater Range, Chocolate Mountain Aerial Gunnery Range, Main Base); Marine Corps Base (MCB) Camp Lejeune; MCB Camp Pendleton; MCB Quantico; Marine Corps Logistics Base (MCLB) Albany; MCLB Barstow; Marine Corps Mountain Warfare Training Center Bridgeport (TA 11 and TA 10); Marine Corps Recruit Depot Parris Island; Marine Corps Support Facility Blount Island; Townsend Bombing Range</p>
Navy	<p>Great Pond Outdoor Adventure Center; Joint Expeditionary Base (JEB) Little Creek-Fort Story (Fort Story, Little Creek); Joint Base Anacostia-Bolling; Manchester Fuel Depot; Naval Air Facility El Centro (Main Base, Parachute Drop Zone -Range 2510, Target 101-Range 2510, Target 103-Range 2510, Target 68-Range 2512, Target 95 -Range 2512); Naval Air Station (NAS) Corpus Christi (Main Base, Naval Auxiliary</p>



Landing Airfield [NALF]; Navy Outlying Landing Field [NOLF] Canbaniss, NOLF Goliad, NOLF Waldron, Peary Place Transmitter Site); NAS Fallon (Dixie Meadows, Dixie Valley Highway, Dixie Valley Settlement Area, Horse Creek, Main Base, Range B-16, Range B-17, Range B-19, Range B-20); NAS Jacksonville (Main Base, OLF Whitehouse, Pinecastle Range, Rodman Bombing Target Range); NAS Joint Reserve Base New Orleans; NAS Key West (Boca Chica); NAS Kingsville (Main Base, McMullen Range Complex, Naval Auxiliary Landing Field [NALF] Orange Grove); NAS Lemoore; NAS Meridian (Joe Williams Field, McCain Field, Searay Target Range); NAS Oceana (Dam Neck Annex, Main Base, NALF Fentress); NAS Patuxent River (Bloodsworth Island Bombing Range, Main Base, Webster Field); NAS Pensacola (Center for Information Dominance-Corry Station, Saufley Field Naval Education and Training Professional Development Center [NETPDC], Main Base, NOLF Bronson Field); NAS Whidbey Island (Ault Field, Lake Hancock, OLF Coupeville, Seaplane Base); NAS Whiting Field (Main Base, NOLF Evergreen, NOLF Harold, NOLF Pace, NOLF Santa Rosa, NOLF Site 8-A, NOLF Spencer, NOLF Wolf, OLF Holley); National Maritime Intelligence Center; Naval Base Coronado (Camp Michael Monsoor, Camp Morena, NAS North Island, Naval Outlying Landing Field Imperial Beach, Remote TS, Warner Springs, San Clemente Island, Silver Strand Training Complex North, Silver Strand Training Complex South); Naval Base Kitsap (Bremerton, Camp Mckean, Camp Wesley Harris, Toandos Peninsula, Naval Base Kitsap [NBK] Bangor, NBK Jackson Park Housing Complex and Naval Hospital Bremerton, NBK Keyport, Zelatched Point); Naval Base Point Loma; Naval Base San Diego (Chollas Heights Housing Area, Eucalyptus Ridge Housing Area, Howard Gillmore Housing Area, Mission Gorge Recreational Facility, Murphy Canyon Housing Area, Naval Medical Center San Diego); Naval Magazine Indian Island; Naval Observatory Flagstaff Station; Naval Recreation Center Solomons; Naval Station (NS) Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing); Naval Support Activity Orlando (Tactical Towed Array Calibration Facility at Leesburg/Bugg Spring Facility); Naval Support Facility Dahlgren (Mainside, Pumpkin Neck); Naval Surface Warfare Center Acoustic Research Detachment Bayview; Naval Weapons Station (NWS) Seal Beach (Defense Fuel Support Point San Pedro, Fallbrook Detachment, Main Base, Norco/Corona); Naval Weapons Systems Training Facility Boardman; Naval Base Ventura County (Point Mugu, Port Hueneme, San Nicolas Island); NS Newport; Naval Submarine Base (NAVSUBASE) Kings Bay; NAVSUBASE New London (Admiral Fife Recreational Area, Beaverdam Brook Wetland, Main Base); Naval Air Weapons Station China Lake; Naval Construction Battalion Center Gulfport (Western Maneuver Area); Naval Computer and Telecommunications Area Master Station, Atlantic Detachment Cutler (High Frequency Site, Very Low Frequency Site); Naval Research Laboratory Washington (Chesapeake Bay Detachment, Midway Research Center, Pomonkey Detachment); Naval Radio Transmitter Facility (NRTF) Dixon; NRTF Jim Creek; NS Everett (Smokey Point Support Complex); NS Great Lakes; NS Norfolk (Craney Island, Main Base); Naval Support Activity (NSA) Annapolis; NSA Crane (Glendora Test Area, Main Base); NSA Midsouth Memphis; NSA Monterey (Annex, Lab/Rec, Dunes/Research, Main Grounds, Naval Industrial Reserve Ordinance Plant Santa Cruz, Point Sur); NSA Northwest; NSA Panama City; Naval Support Facility (NSF) Carderock; NSF Indian Head; NWS Earle (Chapel Hill, Main Base, Waterfront); NWS Yorktown (Cheatham Annex, Main Base, Sugar Grove [Leased Operations Area], Yorktown Fuel Depot); Survival, Evasion, Resistance and Escape School; U.S. Navy Observatory

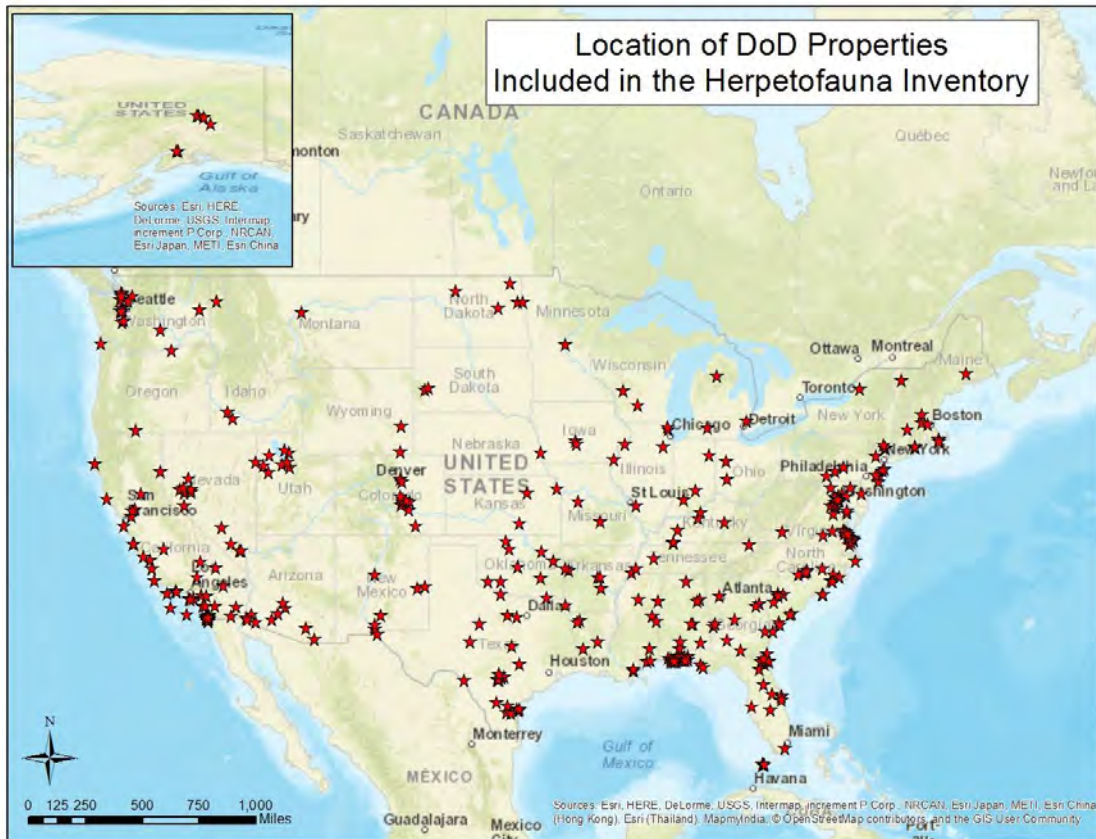


Figure 3-1. Location of DoD Properties Included in the Herpetofauna Inventory Analysis

### 3.2 CONFIRMED AND POTENTIAL SPECIES

Analysis of the herpetofauna inventory data from all 415 DoD sites combined show 440 species confirmed present and an additional 86 species unconfirmed, but potentially present (Table 2). When considering the total number of herpetofaunal species potentially present on DoD sites (526 species), confirmed species account for 84 percent of the total.

There were 164 confirmed amphibian species and 276 confirmed reptile species on the DoD sites evaluated in this report. The most abundant species of herpetofauna confirmed present on DoD sites by species type are frog/toad - American Bullfrog (*Lithobates catesbeianus*); salamander - Eastern Newt (*Notophthalmus viridescens*); crocodylian - American Alligator (*Alligator mississippiensis*); snake - Eastern Racer (*Coluber constrictor*); lizard - Little Brown Skink (*Scincella lateralis*); and turtle – Common Snapping Turtle (*Chelydra serpentina*; Figure 3-2).

Figure 3-2. (Top left to right) American Bullfrog, Eastern Newt, American Alligator, North American Racer, Little Brown Skink, Common Snapping Turtle.



Of the species types, snakes have the greatest number and percentage of confirmed species (131 species/30 percent; Figures 3-3, 3-4), both on all DoD sites and each individual military Services' (Air Force, Army, Marine Corps Navy) properties (Table 3). These results may seem surprising, given that salamander species have the most species (approximately 194) in the U.S. However, snake species generally have larger geographical ranges in comparison to salamander species, many of which have small, isolated geographical ranges, particularly in the southeastern Appalachian Mountains, where military sites are not common.

Of the military Services, Army properties have the most confirmed species, followed by the Air Force, Navy, and Marine Corps (Table 3, Figure 3-5). The greater herpetofauna biodiversity found on Army and Air Force properties is likely the result of the greater number of installations and acres managed by the two Services (approximately 12.2 and 9 million acres, respectively), as compared to the Navy and Marine Corps (approximately 2 million acres each). The geographical location of the various military sites also plays a role in the type of herpetofauna species diversity found on individual Services' lands. Army and Air Force installations are more common in the U.S. interior, whereas Navy and Marine Corps

installations are more common along the coast. As a result, there are more coastal herpetofauna species (e.g., sea turtle species) on Navy and Marine Corps lands than Army and Air Force lands.

The ten DoD installations with the most confirmed herpetofauna species are Fort Stewart (Army; 100 species); Camp Shelby Joint Forces Training Center (Army; 86 species); Fort Bragg (Army; 81 species); Marine Corps Base Camp Lejeune (79 species); Fort Gordon (Army; 76 species); Fort Benning (Army; 74 species); McCrady Training Center (Army; 72 species); Naval Air Station Pensacola (Saufley Field Naval Education and Training Professional Development Center; 71 species); Avon Park Air Force Range (69 species); and Fort Polk (Army; 68 species).

When looking at the total number of species potentially present on DoD sites, unconfirmed species that have circumscribed ranges inclusive of DoD sites account for 16 percent of the total (Table 2). A species could be unconfirmed for two reasons: (1) it was present on a DoD sites, but not yet documented, or (2) it is not present on an installation. It is difficult to determine which of these scenarios is accurate. However, the low percentage of undocumented species determined in this study demonstrates DoD’s success at documenting herpetofauna species on their lands through inventory and monitoring efforts and/or developing survey partnerships with state wildlife agencies, nongovernmental organizations, universities, etc.

Table 2. Number of Confirmed and Potential Herpetofaunal Species and Percentages by Species Type on DoD Properties According to a 2017 Herpetofauna Inventory Analysis.

Species Type	Number of Confirmed Species on DoD Installations	Number of Unconfirmed Species on DoD Installations	Total Expected Species (Confirmed and Unconfirmed)	Percent Confirmed Out of Total Expected	Percent Unconfirmed Out of Total Expected
Frogs and Toads	84	12	96	88%	12%
Salamanders	80	26	106	75%	25%
Lizards	94	20	114	82%	18%
Snakes	131	21	152	86%	14%
Turtles	48	7	55	87%	13%
Crocodiles/Alligators	3	0	3	100%	0
<b>Total</b>	440	86	526	84%	16%

Figure 3-3. Percent of Confirmed Species on DoD Properties by Species Type

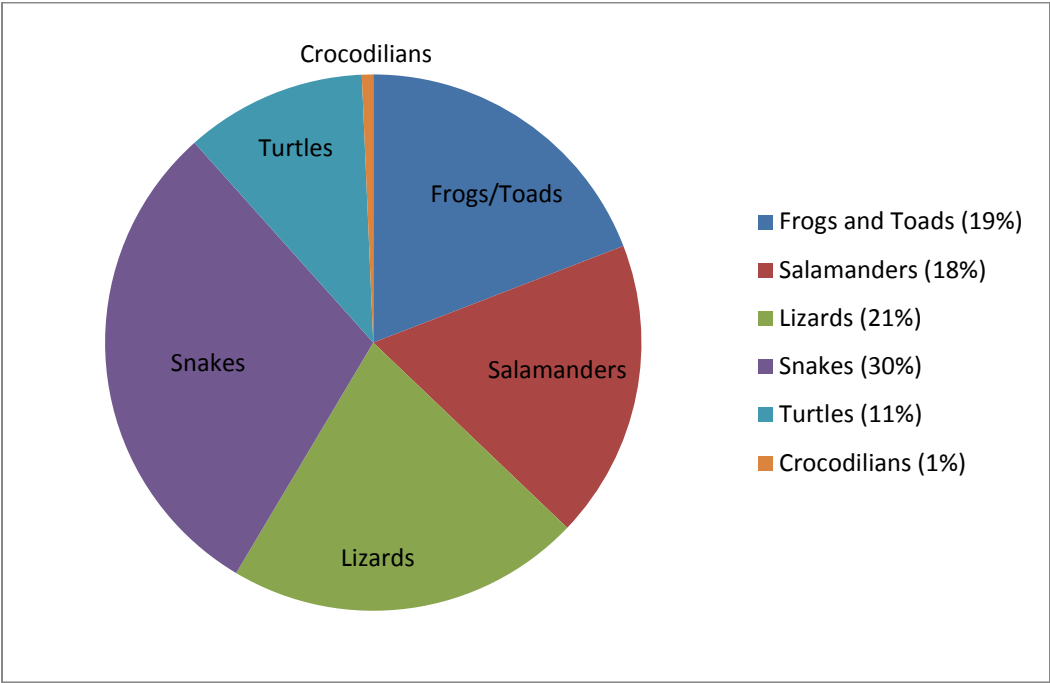


Figure 3-4. Number of Confirmed and Potential Species on DoD Properties by Species Type

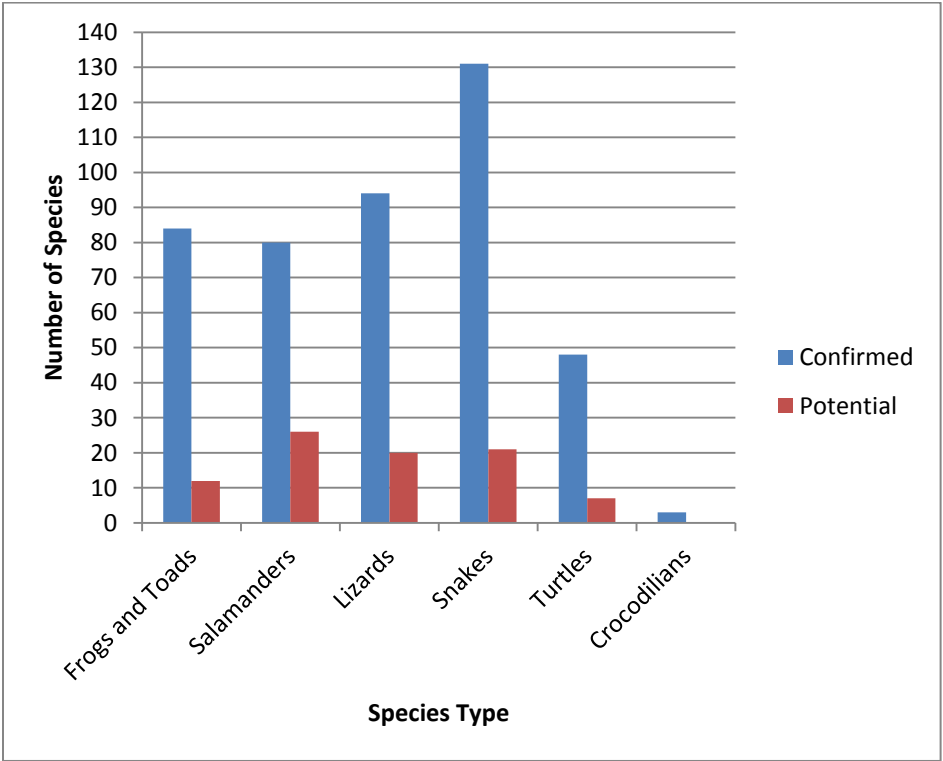
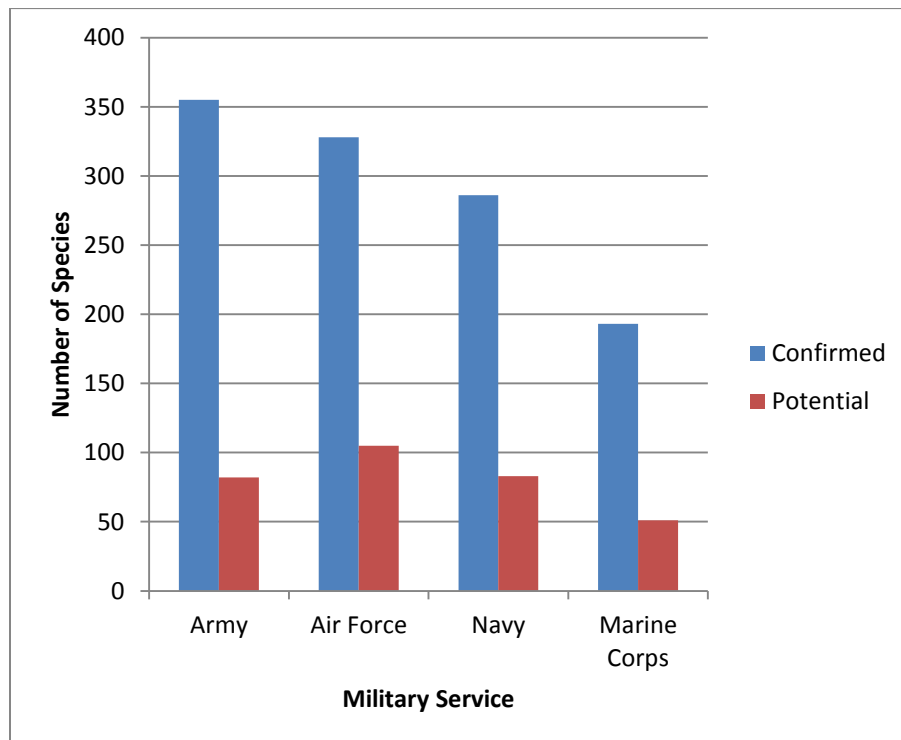


Table 3. Comparison of the Herpetofauna Biodiversity on DoD Properties by Military Service (2017).

Species Type	Number of Confirmed Species on Army Installations	Number of Potential Species on Army Installations	Number of Confirmed Species on Air Force Installations	Number of Potential Species on Air Force Installations	Number of Confirmed Species on Navy Installations	Number of Potential Species on Navy Installations	Number of Confirmed Species on Marine Corps Installations	Number of Potential Species on Marine Corps Installations
Frogs and Toads	72	11	67	11	61	11	41	9
Salamanders	70	24	47	21	45	20	31	11
Lizards	65	19	72	31	57	17	36	12
Snakes	113	15	100	33	88	24	62	15
Turtles	34	10	39	9	33	11	22	4
Crocodiles/Alligators	1	0	3	0	2	0	1	0
Total	355	79	328	105	286	83	193	51

Figure 3-5. Confirmed and Potential Species by Military Service





### 3.3 Comparison of Native Herpetofauna Biodiversity on DoD Properties to Continental United States Biodiversity

The native herpetofauna species confirmed present on the 415 DoD sites evaluated in this report represent 63 percent of the total native biodiversity of all herpetofauna species documented in the continental U.S. (Table 4). One hundred percent of the native crocodylian species, 78 percent of frog and toad species, 75 percent of snake species, 72 percent of turtle species, 63 percent of lizard species, and 42 percent of salamander species documented in the continental U.S. are confirmed present on DoD sites.

Table 4. Comparison of Native DoD Herpetofauna Biodiversity to Continental U.S. Native Herpetofauna Biodiversity (2017).

Species Type	Number of Confirmed Native Herpetofauna Species on DoD Installations	Number of Native Herpetofauna Species Within the U.S. (Source SSAR*)	Percent of DoD Native Herpetofauna Biodiversity to Native U.S. Biodiversity
Frogs and Toads	81	104	78%
Salamanders	80	191	42%
Lizards	81	128	63%
Snakes	128	171	75%
Turtles	48	67	72%
Crocodiles/Alligators	2	2	100%
Total	420	663	63%

\*Source: Society for the Study of Amphibians and Reptiles (SSAR) North American Species Names Database

### 3.4 Federal, State, and At-Risk Species Status

#### 3.4.1 Federal Status

##### 3.4.1.1 Confirmed Species—Federally Endangered and Threatened

There are 26 species/subspecies of herpetofauna confirmed present on 56 DoD sites in the continental U.S. that are Federally-listed as Endangered or Threatened by the USFWS (Table 5), including 5 frogs/toads, 4 salamanders, 1 crocodylian, 6 snakes, and 10 turtles. There are 58 Federally-listed herpetofaunal species in the continental U.S., and DoD sites have 45 percent of that total confirmed present on its lands.

The most frequently documented Federally-listed species on DoD sites is the Loggerhead Sea Turtle (*Caretta caretta*; Figure 3-6); however, the Eastern Indigo Snake (*Drymarchon couperi*), Green Sea Turtle (*Chelonia mydas*), Kemp's Ridley Sea Turtle (*Lepidochelys kempii*), Leatherback Sea Turtle (*Dermochelys coriacea*), and Agassiz's Desert Tortoise (*Gopherus agassizii*) are also relatively common.



Figure 3-6. Loggerhead Sea Turtle

The Army has the most confirmed Federally-listed Endangered and Threatened herpetofauna species/subspecies on its lands (14 species), followed by the Air Force (13 species), Navy (11 species), and Marine Corps (9 species; Table 2). The Navy has the most installations/detachments with Federally-Endangered and Threatened species confirmed present (19 sites).

The five DoD installations that have the most Federally-listed Endangered and Threatened herpetofauna species confirmed present are Cape Canaveral AFS (7 species), Eglin AFB, MacDill AFB, Patrick AFB, and MCB Camp Pendleton (5 species each).

Table 5. Federally-listed Endangered and Threatened Species Confirmed Present on DoD Properties in the Continental U.S. (2017). Species Arranged Alphabetically by Common Name.

Common Name	Federal Status	Sum of DoD Sites Confirmed Present	DoD Sites Confirmed Present by Military Service
Agassiz's Desert Tortoise ( <i>Gopherus agassizii</i> )	Threatened	7	<p><b>Air Force:</b> Edwards AFB; Nellis AFB/Creech AFB/Nevada Test and Training Range</p> <p><b>Army:</b> Floyd Edsall Training Center; Fort Irwin</p> <p><b>Marine Corps:</b> Marine Corps Air Ground Combat Center Twentynine Palms; Marine Corps Logistics Base Barstow</p> <p><b>Navy:</b> Naval Air Weapons Station China Lake</p>



American Crocodile ( <i>Crocodylus acutus</i> )	Threatened	2	<b>Air Force:</b> Homestead Air Reserve Base <b>Navy:</b> Naval Air Station (NAS) Key West <b>Army:</b> Fort Hunter Liggett
Arroyo Toad ( <i>Anaxyrus californicus</i> )	Endangered	5	<b>Marine Corps:</b> Marine Corps Air Station (MCAS) Camp Pendleton; Marine Corps Base (MCB) Camp Pendleton <b>Navy:</b> Naval Base Coronado (Remote Training Site Warner Springs); Naval Weapons Station Seal Beach (Fallbrook Detachment)
Atlantic Saltmarsh Snake ( <i>Nerodia clarkii taeniata</i> )	Threatened	1	<b>Air Force:</b> Cape Canaveral Air Force Station (AFS)
Black Pinesnake ( <i>Pituophis melanoleucus lodingi</i> )	Threatened	1	<b>Army:</b> Camp Shelby Joint Forces Training Center
Bog Turtle ( <i>Glyptemys muhlenbergii</i> )	Threatened	2	<b>Air Force:</b> Joint Base McGuire-Dix-Lakehurst <b>Army:</b> Carlisle Barracks
California Red-legged Frog ( <i>Rana draytonii</i> )	Threatened	6	<b>Air Force:</b> Pillar Point AFS; Vandenberg Air Force Base (AFB) <b>Army:</b> Military Ocean Terminal Concord; Parks Reserve Force Training Area; Camp San Luis Obispo <b>Navy:</b> Naval Support Activity Monterey (Point Sur)
California Tiger Salamander ( <i>Ambystoma californiense</i> )	Endangered (CA- Santa Barbara and Sonoma Co.) and Threatened (Central California)	4	<b>Air Force:</b> Travis AFB <b>Army:</b> Military Ocean Terminal Concord; Fort Hunter Liggett; Parks Reserve Force Training Area
Eastern Indigo Snake ( <i>Drymarchon couperi</i> )	Threatened	9	<b>Air Force:</b> Avon Park Air Force Range; Cape Canaveral AFS; Eglin AFB (extirpated); Homestead ARB; Hurlburt Field (extirpated); MacDill AFB; Moody AFB; Patrick AFB; Tyndall AFB (extirpated) <b>Army:</b> Camp Blanding Joint Training Center; Fort Stewart <b>Navy:</b> Naval Submarine Base Kings Bay
Eastern Massasauga ( <i>Sistrurus catenatus catenatus</i> )	Threatened	1	<b>Army:</b> Camp Grayling Joint Maneuver Center

Frosted Flatwoods Salamander ( <i>Ambystoma cingulatum</i> )	Threatened	2	<b>Army:</b> Fort Stewart <b>Marine Corps:</b> Townsend Bombing Range
Gopher Tortoise ( <i>Gopherus polyphemus</i> )	Threatened (AL, LA, MS)	1	<b>Army:</b> Camp Shelby Joint Forces Training Center
Green Sea Turtle ( <i>Chelonia mydas</i> )	Endangered and Threatened	8	<b>Air Force:</b> Cape Canaveral AFS; Eglin AFB; MacDill AFB; Patrick AFB; Tyndall AFB <b>Marine Corps:</b> MCB Camp Lejeune; MCB Camp Pendleton <b>Navy:</b> Naval Station Mayport
Hawksbill Sea Turtle ( <i>Eretmochelys imbricata</i> )	Endangered	2	<b>Air Force:</b> Cape Canaveral AFS; Patrick AFB
Kemp's Ridley Sea Turtle ( <i>Lepidochelys kempii</i> )	Endangered	8	<b>Air Force:</b> Cape Canaveral AFS; Eglin AFB; MacDill AFB; Patrick AFB; Tyndall AFB <b>Navy:</b> NAS Oceana (Dam Neck Annex); NAS Patuxent River (Bloodsworth Island Bombing Range; Main Base)
Leatherback Sea Turtle ( <i>Dermochelys coriacea</i> )	Endangered	8	<b>Air Force:</b> Cape Canaveral AFS; Eglin AFB; MacDill AFB; Tyndall AFB; Vandenberg AFB <b>Marine Corps:</b> MCB Camp Pendleton <b>Navy:</b> Naval Station Mayport; NAS Patuxent River
Loggerhead Sea Turtle ( <i>Caretta caretta</i> )	Endangered (North Pacific Ocean DPS) and Threatened (Northwest Atlantic Ocean DPS)	16	<b>Air Force:</b> Cape Canaveral AFS; Eglin AFB; MacDill AFB; Patrick AFB; Tyndall AFB <b>Marine Corps:</b> MCB Camp Lejeune; MCB Camp Pendleton <b>Navy:</b> Joint Expeditionary Base Little Creek-Fort Story (Fort Story); NAS Oceana (Dam Neck Annex); NAS Key West; NAS Patuxent River (Bloodsworth Island Bombing Range, Main Base, Webster Field); NAS Pensacola (Main Base, Navy Outlying Landing Field Bronson Field); Naval Station Mayport
Louisiana Pinesnake ( <i>Pituophis ruthveni</i> )	Proposed Threatened	1	<b>Army:</b> Fort Polk
Northern Mexican Gartersnake ( <i>Thamnophis eques megalops</i> )	Threatened	1	<b>Army:</b> Fort Huachuca
Olive Ridley Sea Turtle ( <i>Lepidochelys olivacea</i> )	Threatened	1	<b>Marine Corps:</b> MCB Camp Pendleton (stranding event)

Oregon Spotted Frog ( <i>Rana pretiosa</i> )	Threatened	1	<b>Army:</b> Joint Base Lewis-McCord
Reticulated Flatwoods Salamander ( <i>Ambystoma bishopi</i> )	Endangered	3	<b>Air Force:</b> Eglin AFB; Hurlburt Field <b>Navy:</b> NAS Whiting Field (OLF Holley)
Ringed Map Turtle ( <i>Graptemys oculifera</i> )	Threatened	1	<b>Navy:</b> Naval Construction Battalion Center Gulfport (Western Maneuver Area)
Sierra Nevada Yellow-legged Frog ( <i>Rana sierrae</i> )	Endangered	1	<b>Marine Corps:</b> Marine Corps Mountain Warfare Training Center (MCMWTC) Bridgeport
Sonoran Tiger Salamander ( <i>Ambystoma mavortium stebbinsi</i> )	Endangered	1	<b>Army:</b> Fort Huachuca
Yosemite Toad ( <i>Anaxyrus canorus</i> )	Threatened	1	<b>Marine Corps:</b> MCMWTC Bridgeport

### 3.4.1.2 Potential Species—Federally Endangered and Threatened

There are 9 species of herpetofauna potentially present on DoD sites in the continental U.S. that are Federally-listed as Endangered or Threatened by the USFWS (Table 6). Of the species types, there are 3 frogs/toads, 1 salamander, 1 lizard, and 4 snakes.

The Florida Sand Skink (*Plestiodon reynoldsi*) is potentially present on three DoD sites, and the remaining unconfirmed species are potentially present on one DoD site each.

Table 6. Federally-listed Endangered and Threatened Species Unconfirmed, but Potentially Present, on DoD Properties in the Continental U.S. (2017). Species Arranged Alphabetically by Common Name.

Common Name	Federal Status	Sum of DoD Sites Potentially Present	DoD Sites Potentially Present by Military Service
Alameda Striped Racer ( <i>Coluber lateralis euryxanthus</i> )	Threatened	1	<b>Army:</b> Parks Reserve Force Training Area
Austin Blind Salamander ( <i>Eurycea waterlooensis</i> )	Endangered	1	<b>Army:</b> Camp Mabry
Chiricahua Leopard Frog ( <i>Lithobates chiricahuensis</i> )	Threatened	1	<b>Army:</b> Fort Huachuca
Copper-bellied Watersnake ( <i>Nerodia erythrogaster neglecta</i> )	Threatened	1	<b>Army:</b> Muscatatuck Urban Training Center
Dusky Gopher Frog ( <i>Lithobates sevosus</i> )	Endangered	1	<b>Air Force:</b> Arnold Air Force Base (AFB)

Florida Sand Skink ( <i>Plestiodon reynoldsi</i> )	Threatened	3	<b>Air Force:</b> Avon Park Air Force Range; Homestead Air Reserve Base <b>Navy:</b> Naval Support Activity Orlando (Bugg Spring Facility)
Giant Gartersnake ( <i>Thamnophis gigas</i> )	Threatened	1	<b>Air Force:</b> Beale AFB
Houston Toad ( <i>Anaxyrus houstonensis</i> )	Endangered	1	<b>Army:</b> Camp Swift
San Francisco Gartersnake ( <i>Thamnophis sirtalis tetrataenia</i> )	Endangered	1	<b>Air Force:</b> Pillar Point AFS

### 3.4.1.3 Confirmed Species–Similarity of Appearance-Threatened

The American Alligator (*Alligator mississippiensis*, Figure 3-7) is the only herpetofauna species Federally-listed as Similarity of Appearance-Threatened on DoD lands and occurs on 46 DoD sites. Although this species was delisted in 1987, it is still protected under the ESA due to their close resemblance to the American Crocodile, which is Federally-listed as Threatened.



Figure 3-7. American Alligator

### 3.4.1.4 Confirmed Species–Federal Candidate

Two species of herpetofauna confirmed present on DoD sites in the continental U.S. are Federally-listed as candidate species by the USFWS (Table 7). The eastern population of the Gopher Tortoise (*Gopherus polyphemus*) is the most common candidate species, and occurs on 26 DoD sites (Figure 3-8). The Striped Newt (*Notophthalmus perstriatus*) occurs on only two DoD sites.



Figure 3-8. Gopher Tortoise

Table 7. Federally-listed Candidate Species Confirmed Present on DoD Properties in the Continental U.S. (2017). Species Arranged Alphabetically by Common Name. See Appendix A for Confirmed and Unconfirmed (Potential) Locations.

Common Name	Federal Status	Sum of DoD Sites Confirmed Present	DoD Sites Potentially Present by Military Service
<p>Gopher Tortoise (<i>Gopherus polyphemus</i>)</p>	<p>Candidate (eastern population)</p>	<p>26</p>	<p><b>Air Force:</b> Avon Park Air Force Range (AFR); Cape Canaveral Air Force Station (AFS); Eglin Air Force Base (AFB); Hurlburt Field; MacDill AFB; Moody AFB; Patrick AFB; Tyndall AFB</p> <p><b>Army:</b> Camp Blanding Joint Training Center; Camp Shelby Joint Forces Training Center; Fort Benning; Fort Gordon; Fort Rucker; Fort Stewart</p> <p><b>Marine Corps:</b> Marine Corps Logistics Base (MCLB) Albany; Marine Corps Recruit Depot (MCRD) Parris Island; Marine Corps Support Facility (MCSF) Blount Island)</p> <p><b>Navy:</b> Naval Air Station (NAS) Jacksonville (Main Base, Outlying Landing Field [OLF] Whitehouse); NAS Pensacola (Main Base, Saufley Field Naval Education and Training Professional Development Center [NETPDC], Navy</p>

			Outlying Landing Field [NOLF] Bronson Field); NAS Whiting Field (Main Base, OLF Holley); Naval Station Mayport; Naval Support Activity Orlando (Bugg Spring Facility); Naval Submarine Base (NAVSUBASE) Kings Bay
Striped Newt ( <i>Notophthalmus perstriatus</i> )	Candidate	2	<b>Army:</b> Fort Stewart; Camp Blanding Joint Training Center

### 3.4.1.5 Potential Species–Federal Candidate

At this time, there are no species of herpetofauna potentially present on DoD installations that are listed as candidate species by the USFWS.

### 3.4.1.6 Confirmed Species–Petitioned or Under Review

There are 32 species/subspecies of herpetofauna confirmed present on 121 DoD sites in the continental U.S. that have been petitioned for listing or are currently under review by the USFWS (Table 8). Of the species types, there are 5 frogs/toads, 7 salamanders, 4 lizards, 7 snakes, and 9 turtles.

The Spotted Turtle (*Clemmys guttata*; Figure 3-9) is confirmed present on more DoD sites (37 sites) than all other confirmed species that are petitioned for listing or under review. Two other species that are petitioned for listing or Under Review with relative high number of confirmed occurrences (25 sites) are the Eastern Diamond-backed Rattlesnake (*Crotalus adamanteus*) and the Northern Red-bellied Turtle (*Pseudemys rubriventris*).



Figure 3-9. Spotted Turtle

The Army has the most species/subspecies confirmed present that are petitioned for listing or under review (21 species), followed by the Air Force (20 species), Navy (12 species), and Marine Corps (10 species). The Army also has the most installations/detachments (47 sites) that have species/subspecies

which are confirmed present and petitioned for listing or under review. The DoD installation that has the most species/subspecies confirmed present that are petitioned for listing or under review is Fort Benning, an Army installation.

Table 8. Species Petitioned or Under Review for Endangered Species Act Listing by the United States Fish and Wildlife Service and Confirmed Present on DoD Properties (2017). Species Arranged Alphabetically by Common Name. See Appendix A for Unconfirmed (Potential) Locations.

Common Name	Status	Sum of DoD Sites Confirmed Present	DoD Sites Confirmed Present by Military Service
Alligator Snapping Turtle ( <i>Macrochelys temminckii</i> )	Under Review or Petitioned	15	<b>Air Force:</b> Barksdale Air Force Base (AFB); Little Rock AFB; Moody AFB; Tyndall AFB <b>Army:</b> Fort Benning; Fort Chaffee; Fort Polk; Red River Army Depot; Robinson Maneuver Training Center <b>Navy:</b> Naval Air Station (NAS) Joint Reserve Base New Orleans; NAS Pensacola (Main Base, Navy Outlying Landing Field [NOLF] Bronson Field, Saufley Field Naval Education and Training Professional Development Center [NETPDC]; NAS Whiting Field; Naval Construction Battalion Center (NCBC) Gulfport (Western Maneuver Area)
Arizona Toad ( <i>Anaxyrus microscaphus</i> )	Under Review or Petitioned	1	<b>Army:</b> Camp Navajo
Barbour's Map Turtle ( <i>Graptemys barbouri</i> )	Under Review or Petitioned	1	<b>Army:</b> Fort Benning
Blanding's Turtle ( <i>Emydoidea blandingii</i> )	Under Review or Petitioned	8	<b>Air Force:</b> New Boston Air Force Station (AFS) <b>Army:</b> Arden Hills Army Training Site; Camp Grayling Joint Maneuver Center; Camp Ripley; Devens Reserve Forces Training Area; Fort Custer Training Center; Fort Drum; Fort McCoy
Cascade Caverns Salamander ( <i>Eurycea latitans</i> )	Under Review or Petitioned	1	<b>Air Force:</b> Joint Base Antonio
Cascades Frog ( <i>Rana cascadae</i> )	Under Review or Petitioned	1	<b>Navy:</b> Naval Radio Transmission Facility (NRTF) Jim Creek
Chamberlain's Dwarf Salamander ( <i>Eurycea chamberlaini</i> )	Under Review or Petitioned	2	<b>Army:</b> Fort Bragg <b>Marine Corps:</b> Marine Corps Air Station (MCAS) Cherry Point

Desert Massasauga ( <i>Sistrurus catenatus edwardsii</i> )	Under Review or Petitioned	3	<b>Air Force:</b> Holloman AFB; Kirtland AFB <b>Army:</b> White Sands Missile Range
Eastern Diamond-backed Rattlesnake ( <i>Crotalus adamanteus</i> )	Under Review or Petitioned	25	<b>Air Force:</b> Avon Park Air Force Rnage (AFR); Eglin AFB; Hurlburt Field; Joint Base Charleston (Weapons Station); MacDill AFB <b>Army:</b> Camp Blanding Joint Training Center; Camp Shelby Joint Forces Training Center; Fort Benning; Fort Rucker; Fort Stewart <b>Marine Corps:</b> MCAS Beaufort; Marine Corps Base (MCB) Camp Lejeune; Marine Corps Logistics Base (MCLB) Albany; Marine Corps Recruit Depot (MCRD) Parris Island; Marine Corps Support Facility (MCSF) Blount Island; Townsend Bombing Range <b>Navy:</b> NAS Jacksonville (Main Base, Pinecastle Range); NAS Key West; NAS Pensacola ( Main Base, NOLF Bronson Field, Saufley Field NETPDTC); NAS Whiting Field (OLF Holley); Naval Station Mayport (Naval Fuel Depot); NAVSUBASE Kings Bay
Eastern Ribbonsnake ( <i>Thamnophis sauritus</i> )	Under Review or Petitioned (Lower Florida Keys Population)	1	<b>Navy:</b> NAS Key West
Escambia Map Turtle ( <i>Graptemys ernsti</i> )	Under Review or Petitioned	3	<b>Navy:</b> NAS Pensacola (Main Base, NOLF Bronson Field, Saufley Field NETPDTC)
Florida Pinesnake ( <i>Pituophis melanoleucus mugitus</i> )	Under Review or Petitioned	6	<b>Air Force:</b> Avon Park AFR; Eglin AFB <b>Army:</b> Camp Blanding Joint Training Center; Fort Benning; Fort Gordon; Fort Rucker <b>Marine Corps:</b> Townsend Bombing Range
Florida Scrub Lizard ( <i>Sceloporus woodi</i> )	Under Review or Petitioned	1	<b>Air Force:</b> Avon Park AFR
Foothill Yellow-legged Frog ( <i>Rana boylei</i> )	Under Review or Petitioned	1	<b>Army:</b> Fort Hunter Liggett
Gopher Frog ( <i>Lithobates capito</i> )	Under Review or Petitioned	14	<b>Air Force:</b> Avon Park AFR; Eglin AFB; MacDill AFB; Shaw



			AFB/Poinsett Electronic Combat Range <b>Army:</b> Camp Blanding Joint Training Center; Fort Benning; Fort Bragg; Fort Stewart; McCrady Training Center; Military Ocean Terminal Sunny Point; Tullahoma Training Site <b>Marine Corps:</b> MCB Camp Lejeune <b>Navy:</b> NAS Pensacola (Saufley Field NETPDTC); NAS Whiting Field (OLF Holley)
Green Salamander ( <i>Aneides aeneus</i> )	Under Review or Petitioned	1	<b>Army:</b> Redstone Arsenal
Hellbender ( <i>Cryptobranchus alleganiensis</i> )	Under Review or Petitioned	2	<b>Army:</b> Fort Campbell Military Reservation; Fort Leonard Wood
Kirtland's Snake ( <i>Clonophis kirtlandii</i> )	Under Review or Petitioned	2	<b>Army:</b> Fort Knox; Jefferson Proving Grounds
Northern Red-bellied Turtle ( <i>Pseudemys rubriventris</i> )	Under Review or Petitioned	25	<b>Air Force:</b> Dare County Range; Joint Base Langley-Eustis (Fort Eustis); Joint Base McGuire-Dix-Lakehurst; Warren Grove Air National Guard <b>Army:</b> Aberdeen Proving Ground; Fort A.P Hill; Fort Belvoir; Fort Indiantown Gap; Maneuver Training Center-Fort Picket <b>Marine Corps:</b> MCB Quantico <b>Navy:</b> Joint Expeditionary Base Little Creek-Fort Story (Little Creek, Fort Story); Naval Auxiliary Landing Field (NALF) Fentress; NAS Oceana (Dam Neck Annex, Main Base); NAS Patuxent River; Naval Recreation Center Solomons; Naval Support Activity Orlando (Bugg Spring Facility); Naval Support Facility (NSF) Dahlgren; Naval Support Activity (NSA) Northwest; NSF Carderock; NSF Indian Head; Naval Weapons Station (NWS) Earle; NWS Yorktown (Cheatham Annex, Main Base)
One-toed Amphiuma ( <i>Amphiuma pholeter</i> )	Under Review or Petitioned	1	<b>Air Force:</b> Eglin AFB
Panamint Alligator Lizard ( <i>Elgaria panamintina</i> )	Under Review or Petitioned	1	<b>Navy:</b> Naval Air Weapons Station (NAWS) China Lake

Short-tailed Snake ( <i>Lampropeltis extenuata</i> )	Under Review or Petitioned	1	<b>Air Force:</b> Avon Park AFR
Southern Hog-nosed Snake ( <i>Heterodon simus</i> )	Under Review or Petitioned	11	<b>Air Force:</b> Eglin AFB; Moody AFB; Shaw AFB/Poinsett Electronic Combat Range <b>Army:</b> Fort Benning; Fort Bragg; Fort Gordon; Fort Stewart; McCrady Training Center <b>Marine Corps:</b> MCB Camp Lejeune <b>Navy:</b> NAS Pensacola (Main Base, NOLF Bronson Field, Saufley Field NETPDTC)
Spot-tailed Earless Lizard ( <i>Holbrookia lacerata</i> )	Under Review or Petitioned	1	<b>Air Force:</b> Laughlin AFB
Spotted Turtle ( <i>Clemmys guttata</i> )	Under Review or Petitioned	37	<b>Air Force:</b> Dare County Range; Joint Base Langley-Eustis (Fort Eustis); Joint Base McGuire-Dix-Lakehurst; New Boston AFS; Otis Air National Guard; Warren Grove Air National Guard; Westover Air Reserve Base <b>Army:</b> Aberdeen Proving Ground; Blossom Point Research Facility; Camp Curtis Guild; Devens Reserve Forces Training Area; Fort A.P Hill; Fort Belvoir; Fort Bragg; Fort Drum; Fort Indiantown Gap; Fort Lee; Fort Stewart; Letterkenny Army Depot; Maneuver Training Center-Fort Picket; New Castle River Road Training Site; New Hampshire Army National Guard Training Site; Picatinny Arsenal; West Point Military Reservation <b>Marine Corps:</b> MCAS Beaufort; MCB Camp Lejeune; MCB Quantico <b>Navy:</b> JEB Little Creek-Fort Story (Fort Story); NALF Fentress; NAS Oceana (Dam Neck Annex, Main Base); NAS Patuxent River (Main Base, Webster Field); NSA Northwest; NSF Indian Head; NSF Dahlgren; NWS Yorktown (Cheatham Annex, Main Base)
Streamside Salamander ( <i>Ambystoma barbouri</i> )	Under Review or Petitioned	3	<b>Army:</b> Blue Grass Army Depot; Fort Knox; Jefferson Proving Grounds
Texas Salamander ( <i>Eurycea neotenes</i> )	Under Review or Petitioned	1	<b>Air Force:</b> Joint Base Antonio (Camp Bullis Training Annex)

Western Chicken Turtle ( <i>Deirochelys reticularia miaria</i> )	Under Review or Petitioned	3	<b>Air Force:</b> Tinker AFB <b>Army:</b> Camp Shelby Joint Forces Training Center; Red River Army Depot
Western Pond Turtle ( <i>Actinemys marmorata</i> )	Under Review or Petitioned	11	<b>Air Force:</b> Beal AFB; Edwards AFB; Travis AFB <b>Army:</b> Camp Roberts Training Site MTC-H; Camp San Luis Obispo; Fort Hunter Liggett; Military Ocean Terminal Concord <b>Marine Corps:</b> MCB Camp Pendleton <b>Navy:</b> Naval Base Coronado (Remote Training Site Warner Springs); NAVBASE Ventura County (Point Mugu); NWS Seal Beach (Fallbrook Detachment)
Western Spadefoot ( <i>Spea hammondi</i> )	Under Review or Petitioned	10	<b>Air Force:</b> Vandenberg AFB <b>Army:</b> Camp Roberts Training Site MTC-H; Fort Huachuca; Fort Hunter Liggett <b>Marine Corps:</b> MCAS Camp Pendleton; MCAS Miramar; MCB Camp Pendleton <b>Navy:</b> NAS Lemoore; Naval Base Coronado (Remote Training Site, Warner Springs); NWS Seal Beach (Fallbrook Detachment)
Wood Turtle ( <i>Glyptemys insculpta</i> )	Under Review or Petitioned	12	<b>Air Force:</b> New Boston AFS <b>Army:</b> Camp Grayling Joint Maneuver Center; Devens Reserve Forces Training Area; Fort Belvoir; Fort Drum; Fort Indiantown Gap; Fort McCoy; Franklin Armory; Letterkenny Army Depot; Pembroke Regional Training Institute; Picatinny Arsenal; West Point Military Reservation
Yuman Fringe-toed Lizard ( <i>Uma rufopunctata</i> )	Under Review or Petitioned	2	<b>Air Force:</b> Luke AFB (Barry M. Goldwater Range – East) <b>Marine Corps:</b> MCAS Yuma (Barry M. Goldwater Range)

### 3.4.1.7 Potential Species – Petitioned or Under Review

There are 13 species/subspecies potentially present and unconfirmed on DoD sites in the continental U.S. that have been petitioned for listing or are currently under review by the USFWS (Table 9). Of the species types, there are 7 salamanders, 2 snakes, and 4 turtles.

The Alabama Map Turtle (*Graptemys pulchra*) is currently under review by the USFWS, and is potentially present on more military sites (5 sites in Alabama and Mississippi) than all other unconfirmed species that are petitioned for listing or under review (Figure 3-10).



Figure 3-10. Alabama Map Turtle

Table 9. Species Petitioned or Under Review for Endangered Species Act Listing by the United States Fish and Wildlife Service and Potentially Present on DoD Properties (2017). Species Arranged Alphabetically by Common Name. See Appendix A for Unconfirmed (Potential) Locations.

Common Name	Status	Sum of DoD Sites Potentially Present	DoD Sites Potentially Present by Military Service
Alabama Map Turtle ( <i>Graptemys pulchra</i> )	Under Review or Petitioned	5	<b>Air Force:</b> Columbus Air Force Base (AFB); Maxwell AFB <b>Navy:</b> Naval Air Station (NAS) Meridian (Joe Williams Field, McCain Field, Searay Target Range)
Black-knobbed Map Turtle ( <i>Graptemys nigrinoda</i> )	Under Review or Petitioned	2	<b>Air Force:</b> Columbus AFB; Maxwell AFB
Comal Blind Salamander ( <i>Eurycea tridentifera</i> )	Under Review or Petitioned	1	<b>Air Force:</b> Joint Base Antonio
Kern Plateau Slender Salamander ( <i>Batrachoseps robustus</i> )	Under Review or Petitioned	1	<b>Navy:</b> Naval Air Weapons Station (NAWS) China Lake
Key Ring-necked Snake ( <i>Diadophis punctatus acricus</i> )	Under Review or Petitioned	1	<b>Navy:</b> NAS Key West
Lesser Slender Salamander ( <i>Batrachoseps minor</i> )	Under Review or Petitioned	1	<b>Army:</b> Camp San Luis Obispo
Neuse River Waterdog ( <i>Necturus lewisi</i> )	Under Review or Petitioned	3	<b>Air Force:</b> Seymour-Johnson AFB <b>Army:</b> Camp Butner <b>Marine Corps:</b> Marine Corps Air Station (MCAS)

			Cherry Point
Oklahoma Salamander ( <i>Eurycea tynnerensis</i> )	Under Review or Petitioned	2	<b>Army:</b> Camp Gruber Maneuver Training Center; Fort Leonard Wood
Pascagoula Map Turtle ( <i>Graptemys gibbonsi</i> )	Under Review or Petitioned	1	<b>Army:</b> Camp Shelby Joint Forces Training Center
Rim Rock Crowned Snake ( <i>Tantilla oolitica</i> )	Under Review or Petitioned	2	<b>Air Force:</b> Homestead ARB <b>Navy:</b> NAS Key West
Western River Cooter ( <i>Pseudemys gorzugi</i> )	Under Review or Petitioned	1	<b>Air Force:</b> Laughlin AFB
Seepage Salamander ( <i>Desmognathus aeneus</i> )	Under Review or Petitioned	3	<b>Army:</b> Anniston Army Depot; Fort Benning; Fort McClellan Army National Guard Training Center
Tennessee Cave Salamander ( <i>Gyrinophilus palleucus</i> )	Under Review or Petitioned	2	<b>Army:</b> Redstone Arsenal; Smyrna Training Site

### 3.4.2 State Status

#### 3.4.2.1 Confirmed Species—State-Endangered and -Threatened

Our results show 58 species/subspecies of herpetofauna are confirmed present on 104 DoD sites (25 percent of all DoD sites included in this analysis) in states where they are listed as State-Endangered or -Threatened (Table 10). Of the species types, there are 11 frogs/toads, 9 salamanders, 2 crocodylians, 2 lizards, 18 snakes, and 16 turtles. A few pictures of the State-listed species confirmed present on DoD sites can be seen in Figure 3-11 below.

The Gopher Tortoise (*Gopherus polyphemus*) is State-Endangered in Mississippi and South Carolina, and State-Threatened in Florida, Georgia, and Louisiana. This turtle species is confirmed present on more DoD sites than any other State-listed species (27 sites). Other common State-listed species on DoD lands include the Loggerhead Sea Turtle (*Caretta caretta*; 16 sites), American Alligator (*Alligator mississippiensis*; 13 sites), Texas Horned Lizard (*Phrynosoma cornutum*; 12 sites) and the Eastern Indigo Snake (*Drymarchon couperi*; 9 sites).



Figure 3-11. (Top, left to right) Eastern Hog-nosed Snake, Texas Horned Lizard, Timber Rattlesnake (Bottom, left to right) Wood Turtle, Ornate Box Turtle, Gopher Frog

The Air Force and Army have the most State-listed species confirmed present (32 species each), followed by the Navy (20) and Marine Corps (11 species). Eglin AFB and Cape Canaveral AFS have the most State-listed species confirmed present (7 species each). The Army has the most installations/detachments with State-listed species/subspecies confirmed present (43 sites), followed by the Navy (27 sites each), Air Force (25), and Marine Corps (9 sites).

Table 10. State-listed Endangered and -Threatened Species Confirmed Present on DoD Properties (2017). Species Arranged Alphabetically by Common Name. See Appendix A For Specific Locations.

State Status	Species Name
State-Endangered and -Threatened  (58 species/subspecies)	Alligator Snapping Turtle ( <i>Macrochelys temminckii</i> ) American Alligator ( <i>Alligator mississippiensis</i> ) American Crocodile ( <i>Crocodylus acutus</i> ) Atlantic Saltmarsh Snake ( <i>Nerodia clarkii taeniata</i> ) Barbour's Map Turtle ( <i>Graptemys barbouri</i> ) Black Pinesnake ( <i>Pituophis melanoleucus lodingi</i> ) Blanchard's Cricket Frog ( <i>Acris blanchardi</i> ) Blanding's Turtle ( <i>Emydoidea blandingii</i> ) Bog Turtle ( <i>Glyptemys muhlenbergii</i> ) California Tiger Salamander ( <i>Ambystoma californiense</i> ) Cascade Caverns Salamander ( <i>Eurycea latitans</i> ) Crawfish Frog ( <i>Lithobates areolatus</i> ) Eastern Cornsnake ( <i>Pantherophis guttatus</i> ) Eastern Diamond-backed Rattlesnake ( <i>Crotalus adamanteus</i> ) Eastern Coral Snake ( <i>Micrurus fulvius</i> ) Eastern Hog-nosed Snake ( <i>Heterodon platirhinos</i> ) Eastern Indigo Snake ( <i>Drymarchon couperi</i> ) Eastern Narrow-mouthed Toad ( <i>Gastrophryne carolinensis</i> ) Eastern Spadefoot ( <i>Scaphiopus holbrookii</i> )

	<p> Eastern Tiger Salamander (<i>Ambystoma tigrinum</i>)  Florida Bog Frog (<i>Lithobates okaloosae</i>)  Florida Brownsnake (<i>Storeria victa</i>)  Florida Pinesnake (<i>Pituophis melanoleucus mugitus</i>)  Frosted Flatwoods Salamander (<i>Ambystoma cingulatum</i>)  Gopher Frog (<i>Lithobates capito</i>)  Gopher Tortoise (<i>Gopherus polyphemus</i>)  Green Sea Turtle (<i>Chelonia mydas</i>)  Hawksbill Sea Turtle (<i>Eretmochelys imbricata</i>)  Hellbender (<i>Cryptobranchus alleganiensis</i>)  Kemp's Ridley Sea Turtle (<i>Lepidochelys kempii</i>)  Kirtland's Snake (<i>Clonophis kirtlandii</i>)  Leatherback Sea Turtle (<i>Dermochelys coriacea</i>)  Lesser Siren (<i>Siren intermedia</i>)  Loggerhead Sea Turtle (<i>Caretta caretta</i>)  Mabee's Salamander (<i>Ambystoma mabeei</i>)  Northern Cricket Frog (<i>Acris crepitans</i>)  Northern Leopard Frog (<i>Lithobates pipiens</i>)  Northern Pine Snake (<i>Pituophis melanoleucus melanoleucus</i>)  Northern Red-bellied Turtle (<i>Pseudemys rubriventris</i>)  Northern Watersnake (<i>Nerodia sipedon</i>)  Oregon Spotted Frog (<i>Rana pretiosa</i>)  Ornate Box Turtle (<i>Terrapene ornata</i>)  Pine Barrens Treefrog (<i>Hyla andersonii</i>)  Rainbow Snake (<i>Farancia erytrogramma</i>)  Reticulate Collared Lizard (<i>Crotaphytus reticulatus</i>)  Reticulated Flatwoods Salamander (<i>Ambystoma bishopi</i>)  Ringed Map Turtle (<i>Graptemys oculifera</i>)  Short-tailed Snake (<i>Lampropeltis extenuata</i>)  Sierra Nevada Yellow-legged Frog (<i>Rana sierrae</i>)  Smooth Greensnake (<i>Opheodrys ventralis</i>)  Southern Hog-nosed Snake (<i>Heterodon simus</i>)  Spotted Turtle (<i>Clemmys guttata</i>)  Striped Newt (<i>Notophthalmus perstriatus</i>)  Texas Horned Lizard (<i>Phrynosoma cornutum</i>)  Texas Lyresnake (<i>Trimorphodon vilkinsonii</i>)  Texas Tortoise (<i>Gopherus berlandieri</i>)  Timber Rattlesnake (<i>Crotalus horridus</i>)  Wood Turtle (<i>Glyptemys insculpta</i>) </p>
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### 3.4.2.2 Potential Species—State-Endangered and -Threatened

The data show 43 species of herpetofauna are potentially present and unconfirmed on 70 DoD sites in states where they are listed as State-Endangered or -Threatened (Table 11). Of the species types, there are 4 frogs/toads, 11 salamanders, 3 lizards, 19 snakes, and 6 turtles.

The Army has the most State-listed species potentially present (28 species), followed by the Air Force and Navy (11 species each), and Marine Corps (1 species). The Iowa Army Ammunition Plant has more



State-listed species potentially present (5 species) than all other DoD sites. The Army has the most installations/detachments where State-listed species/subspecies are potentially present (26 sites), followed by the Navy (25 sites), Air Force (17 sites), and Marine Corps (2 sites).

In comparison to all other potentially present State-Endangered and -Threatened species/subspecies, the Western Pond Turtle (*Actinemys marmorata*) has the most observations (Figure 3-12). This species is potentially present on 13 DoD sites in Washington, where it is State-Threatened.



Figure 3-12. Western Pond Turtle



Table 11. State-listed Endangered and Threatened Species/Subspecies Potentially Present on DoD Properties (2017). Species Arranged Alphabetically by Common Name. See Appendix A for Specific Locations.

State Status	Species Name
<p style="text-align: center;">State-Endangered and -Threatened  (43 species/subspecies)</p>	Alameda Striped Racer ( <i>Coluber lateralis euryxanthus</i> )
	Austin Blind Salamander ( <i>Eurycea waterlooensis</i> )
	Barking Treefrog ( <i>Hyla gratiosa</i> )
	Big Bend Black-headed Snake ( <i>Tantilla cucullata</i> )
	Black-knobbed Map Turtle ( <i>Graptemys nigrinoda</i> )
	Blue-spotted Salamander ( <i>Ambystoma laterale</i> )
	Black-striped Snake ( <i>Coniophanes imperialis</i> )
	Brazos River Watersnake ( <i>Nerodia harteri</i> )
	Comal Blind Salamander ( <i>Eurycea tridentifera</i> )
	Cope’s Gray Treefrog ( <i>Hyla chrysoscelis</i> )
	Copperhead ( <i>Agkistrodon contortrix</i> )
	Diamond-backed Watersnake ( <i>Nerodia rhombifer</i> )
	Eastern Glass Lizard ( <i>Ophisaurus ventralis</i> )
	False Map Turtle ( <i>Graptemys pseudogeographica</i> )
	Four-toed Salamander ( <i>Hemidactylium scutatum</i> )
	Gila Monster ( <i>Heloderma suspectum</i> )
	Greater Short-horned Lizard ( <i>Phrynosoma hernandesi</i> )
	Houston Toad ( <i>Anaxyrus houstonensis</i> )
	Key Ring-necked Snake ( <i>Diadophis punctatus acricus</i> )
	Lined Snake ( <i>Tropidoclonion lineatum</i> )
	Long-tailed Salamander ( <i>Eurycea longicauda</i> )
	Marbled Salamander ( <i>Ambystoma opacum</i> )
	Massasauga ( <i>Sistrurus catenatus</i> )
	Mud Salamander ( <i>Pseudotriton montanus</i> )
	Mudpuppy ( <i>Necturus maculosus</i> )
	North American Racer ( <i>Coluber constrictor</i> )
	Northern Cat-eyed Snake ( <i>Leptodeira septentrionalis</i> )
	Northern Dwarf Siren ( <i>Pseudobranchius striatus</i> )
	Northern Map Turtle ( <i>Graptemys geographica</i> )
	One-toed Amphiuma ( <i>Amphiuma pholeter</i> )
	Plain-bellied Watersnake ( <i>Nerodia erythrogaster</i> )
	Plains Hog-nosed Snake ( <i>Heterodon nasicus</i> )
	Rough Greensnake ( <i>Opheodrys aestivus</i> )
	San Francisco Gartersnake ( <i>Thamnophis sirtalis tetrataenia</i> )
	Scarletsnake ( <i>Cemophora coccinea</i> )
	Sheep Frog ( <i>Hypopachus variolosus</i> )
	Smooth Earthsnake ( <i>Virginia valeriae</i> )
	Speckled Racer ( <i>Drymobius margaritiferus</i> )
	Spiny Softshell ( <i>Apalone spinifera</i> )
	Tennessee Cave Salamander ( <i>Gyrinophilus palleucus</i> )
	Western Pond Turtle ( <i>Actinemys marmorata</i> )
	Western Wormsnake ( <i>Carphophis vermis</i> )
	Yellow Mud Turtle ( <i>Kinosternon flavescens</i> )

### 3.4.3 At-Risk Species Status

#### 3.4.3.1 Confirmed Species—At-Risk Species

Our results verify that 71 species/subspecies of herpetofauna confirmed present on DoD sites have a NatureServe status of G1/T1-G3/T3 (Table 12). Seven species/subspecies are listed as G1/T1- Critically Imperiled, 23 species/subspecies are listed as G2/T2 – Imperiled, and 41 species are listed as G3/T3 – Vulnerable. Species types include 11 frogs/toads, 12 salamanders, 1 crocodilian, 17 lizards, 15 snakes, and 15 turtles. At least one At-risk species is confirmed present on 126 DoD sites (30 percent of all sites included in this analysis). The Army has the most installations/detachments with confirmed At-risk species/subspecies (45 sites), followed by the Navy (40 sites), Air Force (28 sites), and Marine Corps (13 sites).

As with State-listed species, the Gopher Tortoise is the most common At-risk species confirmed present on DoD sites (1 site where it is Federally-listed as Threatened and 26 sites where it is listed as a candidate). Other common At-risk species confirmed present include the Loggerhead Sea Turtle (*Caretta caretta*; 17 sites), Alligator Snapping Turtle (*Macrochelys temminckii*; 15 sites), and Gopher Frog (*Lithobates capito*; 14 sites; Figure 3-13).



Figure 3-13. Gopher Frog

Table 12. At-Risk Species/Subspecies Confirmed Present on DoD Properties (2017). Species Arranged Alphabetically by Common Name. See Appendix A for Specific Locations.

NatureServe Status	Species Name
<p>G1/T1–Critically Imperiled  (7 species/subspecies)</p>	<p>Atlantic Saltmarsh Snake (<i>Nerodia clarkii taeniata</i>)                      Black-spotted Newt (<i>Notophthalmus meridionalis</i>)                      Kemp's Ridley Sea Turtle (<i>Lepidochelys kempii</i>)                      San Clemente Night Lizard (<i>Xantusia riversiana reticulata</i>)                      San Nicolas Night Lizard (<i>Xantusia riversiana riversiana</i>)                      Sonoran Tiger Salamander (<i>Ambystoma mavortium stebbinsi</i>)                      Texas Salamander (<i>Eurycea neotenes</i>)</p>
<p>G2/T2–Imperiled  (23 species/subspecies)</p>	<p>American Crocodile (<i>Crocodylus acutus</i>)                      Arroyo Toad (<i>Anaxyrus californicus</i>)                      Barbour's Map Turtle (<i>Graptemys barbouri</i>)                      Black Pinesnake (<i>Pituophis melanoleucus lodingi</i>)                      California Red-legged Frog (<i>Rana draytoni</i>)                      California Tiger Salamander (<i>Ambystoma californiense</i>)                      Colorado Checkered Whiptail (<i>Aspidoscelis neotesselata</i>)                      Escambia Map Turtle (<i>Graptemys ernsti</i>)                      Florida Bog Frog (<i>Lithobates okaloosae</i>)                      Florida Scrub Lizard (<i>Sceloporus woodi</i>)                      Frosted Flatwoods Salamander (<i>Ambystoma cingulatum</i>)                      Kirtland's Snake (<i>Clonophis kirtlandii</i>)                      Leatherback Sea Turtle (<i>Dermochelys coriacea</i>)                      Louisiana Pinesnake (<i>Pituophis ruthveni</i>)                      Oregon Spotted Frog (<i>Rana pretiosa</i>)                      Pearl River Map Turtle (<i>Graptemys pearlensis</i>)                      Reticulated Flatwoods Salamander (<i>Ambystoma bishopi</i>)                      San Bernardino Ring-necked Snake (<i>Diadophis punctatus modestus</i>)                      San Joaquin Coachwhip (<i>Coluber flagellum ruddocki</i>)                      Sierra Nevada Yellow-legged Frog (<i>Rana sierrae</i>)                      Southern Hog-nosed Snake (<i>Heterodon simus</i>)                      Striped Newt (<i>Notophthalmus perstriatus</i>)                      Yosemite Toad (<i>Anaxyrus canorus</i>)</p>
<p>G3/T3–Vulnerable  (41 species/subspecies)</p>	<p>Alligator Snapping Turtle (<i>Macrochelys temminckii</i>)                      Arizona Toad (<i>Anaxyrus microscaphus</i>)                      Bog Turtle (<i>Glyptemys muhlenbergii</i>)                      California Legless Lizard (<i>Anniella pulchra</i>)                      Cascade Caverns Salamander (<i>Eurycea latitans</i>)                      Cascades Frog (<i>Rana cascadae</i>)                      Colorado Fringe-toed Lizard (<i>Uma notata</i>)                      Desert Massasauga (<i>Sistrurus catenatus edwardsii</i>)                      Eastern Hellbender (<i>Cryptobranchus alleganiensis alleganiensis</i>)                      Eastern Indigo Snake (<i>Drymarchon couperi</i>)                      Eastern Massasauga (<i>Sistrurus catenatus catenatus</i>)                      Flat-tailed Horned Lizard (<i>Phrynosoma mcallii</i>)                      Florida Pinesnake (<i>Pituophis melanoleucus mugitus</i>)                      Florida Worm Lizard (<i>Rhineura floridana</i>)</p>

	<p> Foothill Yellow-legged Frog (<i>Rana boylei</i>)  Sonoran Horned Lizard (<i>Phrynosoma goodei</i>)  Gopher Frog (<i>Lithobates capito</i>)  Gopher Tortoise (<i>Gopherus polyphemus</i>)  Green Salamander (<i>Aneides aeneus</i>)  Green Sea Turtle (<i>Chelonia mydas</i>)  Gulf Saltmarsh Snake (<i>Nerodia clarkii clarkii</i>)  Hawksbill Sea Turtle (<i>Eretmochelys imbricata</i>)  Hellbender (<i>Cryptobranchus alleganiensis</i>)  Island Glass Lizard (<i>Ophisaurus compressus</i>)  Loggerhead Sea Turtle (<i>Caretta caretta</i>)  Louisiana Slimy Salamander (<i>Plethodon kisatchie</i>)  Northern Mexican Gartersnake (<i>Thamnophis eques megalops</i>)  Mimic Glass Lizard (<i>Ophisaurus mimicus</i>)  Agassiz's Desert Tortoise (<i>Gopherus agassizii</i>)  Mojave Fringe-toed Lizard (<i>Uma scoparia</i>)  Olive Ridley Sea Turtle (<i>Lepidochelys olivacea</i>)  Panamint Alligator Lizard (<i>Elgaria panamintina</i>)  Reticulate Collared Lizard (<i>Crotaphytus reticulatus</i>)  Short-tailed Snake (<i>Lampropeltis extenuata</i>)  San Diego Horned Lizard (<i>Phrynosoma blainvillii</i>)  Spot-tailed Earless Lizard (<i>Holbrookia lacerata</i>)  Western Massasauga (<i>Sistrurus tergeminus</i>)  Western Pond Turtle (<i>Actinemys marmorata</i>)  Western Spadefoot (<i>Spea hammondi</i>)  Wood Turtle (<i>Glyptemys insculpta</i>)  Yuman Fringe-toed Lizard (<i>Uma rufopunctata</i>) </p>
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The Air Force and the Army have the most confirmed At-risk species/subspecies on its installations/detachments (37 species), followed by the Navy (32 species) and Marine Corps (20 species). Eglin AFB, Avon Park AFR, Cape Canaveral AFS, Fort Stewart and NAS Pensacola have the most confirmed At-risk species (8 species each).

### 3.4.3.2 Potential Species—At-Risk Species

In addition to the confirmed At-risk species/subspecies listed above, there are an additional 39 species/subspecies with a NatureServe status of G1/T1–G3/T3 that are potentially present on DoD sites (Table 13). Seven species/subspecies are listed as G1/T1-Critically Imperiled, 19 species/subspecies are listed as G2/T2-Imperiled, and 13 species are listed as G3/T3-Vulnerable. Species types include 4 frogs/toads, 17 salamanders, 3 lizards, 11 snake species, and 4 turtles. The Army has the most At-risk species/subspecies potentially present on its lands (31 species), followed by the Navy (27 species), Air Force (24 species), and Marine Corps (9 species).

Table 13. At-Risk Species/Subspecies Potentially Present on DoD Properties (2017).  
Species Arranged Alphabetically by Common Name. See Appendix A for Specific Locations.

NatureServe Status	Species Name
G1/T1–Critically Imperiled  (7 species/subspecies)	Austin Blind Salamander ( <i>Eurycea waterlooensis</i> ) Comal Blind Salamander ( <i>Eurycea tridentifera</i> ) Dusky Gopher Frog ( <i>Lithobates sevosus</i> ) Houston Toad ( <i>Anaxyrus houstonensis</i> ) Key Ring-necked Snake ( <i>Diadophis punctatus acricus</i> ) Lesser Slender Salamander ( <i>Batrachoseps minor</i> ) Rim Rock Crowned Snake ( <i>Tantilla oolitica</i> )
G2/T2–Imperiled  (19 species/subspecies)	Alameda Striped Racer ( <i>Coluber lateralis euryxanthus</i> ) Amargosa Toad ( <i>Anaxyrus nelsoni</i> ) Bezy's Night Lizard ( <i>Xantusia bezyi</i> ) Brazos River Watersnake ( <i>Nerodia harteri</i> ) Broad-striped Dwarf Siren ( <i>Pseudobranchius striatus striatus</i> ) Chiricahua Leopard Frog ( <i>Lithobates chiricahuensis</i> ) Concho Watersnake ( <i>Nerodia paucimaculata</i> ) Florida Sand Skink ( <i>Plestiodon reynoldsi</i> ) Giant Gartersnake ( <i>Thamnophis gigas</i> ) Mount Lyell Salamander ( <i>Hydromantes platycephalus</i> ) Neuse River Waterdog ( <i>Necturus lewisi</i> ) Pascagoula Map Turtle ( <i>Graptemys gibbonsi</i> ) San Francisco Gartersnake ( <i>Thamnophis sirtalis tetrataenia</i> ) San Simeon Slender Salamander ( <i>Batrachoseps incognitus</i> ) Santa Lucia Mountains Slender Salamander ( <i>Batrachoseps luciae</i> ) Savannah Slimy Salamander ( <i>Plethodon savannah</i> ) Shenandoah Mountain Salamander ( <i>Plethodon virginia</i> ) Tennessee Cave Salamander ( <i>Gyrinophilus palleucus</i> ) Texas Scarletsnake ( <i>Cemophora coccinea lineri</i> )
G3/T3–Vulnerable  (13 species/subspecies)	Black-knobbed Map Turtle ( <i>Graptemys nigrinoda</i> ) Blue Spiny Lizard ( <i>Sceloporus cyanogenys</i> ) Brown-backed Salamander ( <i>Eurycea aquatica</i> ) Cow Knob Salamander ( <i>Plethodon punctatus</i> ) Dusty Hog-nosed Snake ( <i>Heterodon gloydi</i> ) Kern Plateau Slender Salamander ( <i>Batrachoseps robustus</i> ) Mississippi Diamond-backed Terrapin ( <i>Malaclemys terrapin pileata</i> ) Oklahoma Salamander ( <i>Eurycea tynerensis</i> ) Rio Grande Cooter ( <i>Pseudemys gorzugi</i> ) Seepage Salamander ( <i>Desmognathus aeneus</i> ) Big Bend Black-headed Snake ( <i>Tantilla cucullata</i> ) Tucson Shovel-nosed Snake ( <i>Chionactis occipitalis klauberi</i> ) Webster's Salamander ( <i>Plethodon websteri</i> )



### 3.5 Non-native and Native Transplant Herpetofauna Species

Our analysis verifies 30 non-native and native transplant herpetofauna species/subspecies are collectively confirmed present on 80 DoD sites (19 percent of all sites included in this analysis) in the continental U.S. (Appendix B). Ten of these species/subspecies (American Bullfrog [*Lithobates catesbeianus*]; Cane Toad [*Rhinella marina*]; Red-eared Slider [*Trachemys scripta elegans*]; Rio Grande Chirping Frog [*Eleutherodactylus cystignathoides*]; San Diego Alligator Lizard [*Elgaria multicarinata webbii*]; Common Snapping Turtle [*Chelydra serpentina*]; Spiny Softshell [*Apalone spinifera*]; Western Painted Turtle [*Chrysemys picta belli*]; Barred Tiger Salamander [*Ambystoma mavortium*]; Yellow-bellied Slider [*Trachemys scripta scripta*]) are native to the U.S., but have been transported outside their natural range. Of the remaining species/subspecies confirmed present, 20 are considered introduced, alien, or non-indigenous to the U.S. Homestead AFB, located in southern Florida, has more confirmed invasive herpetofauna species (19 species) than any other DoD installation.

The American Bullfrog, Red-eared Slider, and Mediterranean Gecko (*Hemidactylus turcicus*) are the most common native transplant and non-native herpetofauna species on DoD sites (Figure 3-14). At least one of these three species is confirmed present on 70 of the 80 DoD sites that have confirmed non-native and native transplant herpetofauna species. These species are also potentially present on an additional 137 military sites.

Six additional non-native and native transplant species/subspecies are potentially present on DoD sites. These species/subspecies are confirmed present in the same county as a particular military site, but have not been confirmed present on the military site. These species include five native transplant species (Mudpuppy [*Necturus maculosus*]; Northern Leopard Frog [*Lithobates pipiens*]; Reef Gecko [*Sphaerodactylus notatus*]; Rio Grande Leopard Frog [*Lithobates berlandieri*]; Texas Horned Lizard [*Phrynosoma cornutum*]) and one non-native species (Coqui [*Eleutherodactylus coqui*]).

Figure 3-14. (Top, left to right) American Bullfrog and Red-eared Slider; (Bottom) Mediterranean Gecko



### 3.6 Venomous Species

Our analysis verifies 24 venomous reptile species are confirmed present on 202 DoD sites (49 percent of all sites included in this analysis) in the continental U.S. (Appendix C). Species confirmed present include 2 species of *Agkistrodon* (*A. contortrix* and *A. piscivorus*), 2 species of *Micrurus* (*M. fulvius* and *M. tener*), 1 species of *Micruroides* (*M. euryxanthus*), 16 species of *Crotalus* (see Appendix C for list of *Crotalus* spp.), and 2 species of *Sistrurus* (*S. catenatus*, *S. miliarius*). In addition, the Gila monster (*Heloderma suspectum*) is confirmed present on several military sites in the southwestern U.S.

The Copperhead (*Agkistrodon contortrix*) is confirmed present on more DoD sites (80) than any other venomous snake species (Figure 3-15). The Arizona Black Rattlesnake (*Crotalus cerberus*), Twin-spotted Rattlesnake (*Crotalus pricei*), and Ridge-nosed Rattlesnake (*Crotalus willardi*) are the least common venomous snake species on DoD lands, and are only confirmed present on one site each (Appendix C).

Located in Arizona, the Army site Fort Huachuca and the Air Force site Luke AFB (Barry M. Goldwater Range – East) have more confirmed venomous snake species (7 species each) than all other DoD sites included in this analysis. Fort Benning, Fort Stewart, and MCB Camp Lejeune (located in Alabama/Georgia, Georgia and North Carolina, respectively) have the second-greatest number of venomous snake species (6 species each).

Figure 3-15. Copperhead



## CHAPTER 4

# Summary and Recommendations

### 4.1 HERPETOFAUNA BIODIVERSITY ON DOD PROPERTIES

This project developed an updated herpetofauna species inventory and conducted an analysis of amphibians and reptiles on 415 DoD sites (301 DoD installations and 114 detachments/ranges/annexes) within the continental U.S. The military installations included in this analysis were evaluated by the military Services (as required by The Sikes Act) and considered to have significant natural resources and thus requiring an INRMP. We focused our analysis on military installations with INRMPs, since we felt that they would likely support the greatest populations of herpetofauna. It is unknown the number of military properties not determined to have significant natural resources and not included in our analysis. However, these sites would generally not have suitable habitat to support populations of herpetofauna.

Our analysis has revealed that DoD properties support an extensive diversity of amphibian and reptile species. In fact, the herpetofauna species confirmed on DoD sites represent 63 percent of the total biodiversity of all native herpetofauna species documented in the continental U.S. DoD sites included in our analysis support a total of 440 confirmed herpetofauna species, with an additional 86 species potentially present, but unconfirmed to date. The total number of unconfirmed species potentially present on DoD sites account for 16 percent of the observations. This low percentage of undocumented species suggests that the DoD is conducting effective survey and inventory efforts to confirm the herpetofauna species on their lands.

Of the military Services, Army sites have the most confirmed species, followed by the Air Force, Navy, and Marine Corps. Those military installations with the greatest herpetofauna biodiversity are located in the southeastern U.S. (Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina). Fort Stewart, located in Georgia, has the most confirmed herpetofauna species (100 species).

There are 26 species/subspecies of herpetofauna confirmed present on DoD sites in the continental U.S. that are Federally-listed as Endangered or Threatened by the USFWS. Of the species types, the majority of Federally-listed species/subspecies (10) are turtles. Our analysis reveals that DoD sites have 45 percent of all the Federally-Endangered and -Threatened herpetofauna species in the continental U.S. confirmed present on its lands. At this time, there are no Federally-listed lizard species confirmed present on DoD properties. It should be noted that the Flat-tailed Horned Lizard has been petitioned for listing under the ESA multiple time, and remains unlisted in part because of the voluntary conservation and management of the DoD and other stake holders (Flat-tailed Horned Lizard Interagency Coordinating Committee [FTHL ICC], 2003). Of the 32 species/subspecies of herpetofauna confirmed present on DoD sites that have been petitioned for listing or are currently under review by the USFWS, the Spotted Turtle is the most common, occurring at 37 locations.

Our results show that 26 percent of the DoD sites evaluated in this analysis have at least one species/subspecies of herpetofauna confirmed present that is listed as State-Endangered or -Threatened.



Of the species types, snakes and turtles make up the majority of these observations. The Gopher Tortoise is confirmed present on more DoD sites than any other State-listed species.

The data revealed that 71 species/subspecies of reptiles and amphibians confirmed present on DoD sites have a NatureServe status of G1/T1–G3/T3 and are considered to be At-risk species. Of the species types, lizards are the most common At-risk species. As with State-listed species, the Gopher Tortoise is confirmed present on more DoD sites than any other At-risk species.

Analysis all Federally-listed, State-listed, and At-risk species confirmed present on DoD sites combined (100 species/subspecies) has revealed that snakes have a higher number and proportion of species/subspecies than other species type (26 species, 26 percent). These results are consistent with the high proportion of snake species found on DoD lands in comparison to the other species types. The second-highest number and proportion of species type of Federally-listed, State-listed, and At-risk species confirmed on DoD sites are turtles (21 species, 21 percent). These results were expected because a correspondingly high proportion of turtle species in the U.S. are Federally-listed, State-listed, or considered to be At-risk, and most DoD sites occur in low-lying areas that support suitable turtle habitat (e.g., freshwater wetlands or coastline).

In general, non-native and native transplant herpetofauna species are not known to be common on DoD properties. Our results reveal that 30 non-native and native transplant herpetofauna species/subspecies are confirmed present on 19 percent of all DoD sites included in this analysis. The American Bullfrog, Red-eared Slider, and Mediterranean Gecko are the most common native transplant and non-native herpetofauna species on DoD sites. Further studies could reveal invasion patterns and susceptibility to invasion.

Venomous reptile species are confirmed present on 49 percent of DoD sites. The Copperhead is the most common venomous snake species and has been documented on 80 military sites. Two military installations in Arizona (Fort Huachuca and Luke AFB [Barry M. Goldwater Range – East]) have the greatest number of venomous snake species confirmed present.

#### **4.2 GENERAL RECOMMENDATIONS FOR DOD PROPERTIES**

The following recommendations are suggested to further enhance our understanding of herpetofauna biodiversity, conservation, and management on all DoD-managed lands.

1. Prioritize herpetofauna inventories/surveys at DoD installations where the number of unconfirmed species potentially present is greater than 80 percent of the total expected herpetofauna biodiversity (confirmed and unconfirmed). A detailed inventory of the amphibians and reptiles on these installations would improve the overall knowledge of the herpetofauna biodiversity on DoD sites.
2. For those military installations with unconfirmed species, it would be beneficial to understand why these species have not been confirmed through previous survey methods. For instance, have surveys and detection methods been employed that simply won't encounter or detect those potentially occurring species? Are they aquatic, and only terrestrial surveys have been accomplished? Are they rare, cryptic, and/or occur at low densities? Or, possibly, they simply do not occur naturally on respective installation/s. Consideration of the life histories and utilizing best methods for detecting those potentially occurring species is strongly recommended when considering faunal surveys.

3. Maintain the herpetofauna species spreadsheet developed for this report up to date. This may be accomplished through annual data calls or by asking for voluntary updates from installation natural resource managers.
4. Program and conduct general herpetofauna surveys and monitoring regularly and at intervals to document the presence or absence of species and document general population trends.
5. Program for and conduct surveys for the occurrence of non-native herpetofauna species and amphibian and reptiles diseases. Address the need for monitoring and control of non-native herpetofauna in installation INRMPS.
6. Natural resource managers or other knowledgeable personnel at installations with venomous snakes should educate military and civilian personnel of the potential dangers (along with the important benefits) of these species. Educational posters, pamphlets, and brochures are recommended.
7. It is recommended that this report and resulting data be shared across the DoD Services and military installations. This can accomplished through posting this report on the DoD Natural Resources website (<http://www.dodnaturalresources.net/DoD-PARC.html>), conducting a webinar for the DoD Natural Resources Webinar Series, briefing the DoD Conservation Committee, and developing informational fact sheets on the results.

## CHAPTER 5

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# List of Acronyms and Abbreviations

AFB	Air Force Base
AFR	Air Force Range
AFS	Air Force Station
ANGB	Air National Guard Base
ARB	Air Reserve Base
DoD	Department of Defense
ESA	Endangered Species Act
INRMP	Integrated Natural Resource Management Plan
JB	Joint Base
JEB	Joint Expeditionary Base
JMCT	Joint Maneuver Training Center
MC	Marine Corps
MCAGCC	Marine Corps Air Ground Combat Center
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
MCLB	Marine Corps Logistics Base
MCMWCT	Marine Corps Mountain Warfare Training Center
MCRD	Marine Corps Recruit Depot
MCSF	Marine Corps Support Facility
NALF	Naval Auxiliary Landing Field
NAS	Naval Air Station
NAVSTA	Naval Station
NAVSUBASE	Submarine Base
NAWS	Naval Air Weapons Station
NBK	Naval Base Kitsap
NCBC	Naval Construction Battalion Center
NETPDC	Naval Education and Training Professional Development Center
NGTC	National Guard Training Center
NOLF	Navy Outlying Landing Field
NRL	Naval Research Laboratory
NRTF	Naval Radio Transmission Facility
NSA	Naval Support Activity
NSF	Naval Support Facility
NWS	Naval Weapons Station
NWSTF	Naval Weapons Systems Training Facility
OLF	Outlying Landing Field
PARC	Partners in Amphibian and Reptile Conservation
SERE	Survival, Evasion, Resistance and Escape School
TS	Training Site

TTACF	Tactical Towed Array Calibration Facility
U.S.	United States
USFWS	United States Fish and Wildlife Service

# Literature Cited

- AmphibiaWeb. 2017. <http://amphibiaweb.org/>
- Aycrigg, J. L., R. Travis Belote, Matthew S. Dietz, Gregory H. Aplet, & Richard A. Fischer. 2015. Bombing for Biodiversity in the United States: Response to Zentelis & Lindenmayer 2015. *Conservation Letters*, July/August 2015, 8(4), 306–307.
- Benton, N. , J. D. Ripley and F. Powledge (Eds.). 2008. *Conserving Biodiversity on Military Lands: A Guide for Natural Resources Managers* . <http://www.dodbiodiversity.org/>
- Collins, J. P. 2010. Amphibian decline and extinction: what we know and what we need to learn. *Diseases of Aquatic Organisms*. 92:93-99. doi: 10.3354/dao02307
- Collins, J. P., and M.L. Crump. 2009. *Extinction in Our Times. Global Amphibian Decline.*: Oxford University Press.
- Crother, B. I., (ed.) 2012. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding. SSAR Herpetological Circular 39:1-92.
- Endangered Species Glossary-Midwest Region.  
2013.<http://www.fws.gov/midwest/endangered/glossary/index.html>
- Ernst, C. H., and J.E. Lovich. 2009. *Turtles of the United States and Canada*: Johns Hopkins University Press.
- Faber-Langendoen, D., J. Nichols, L. Master, K. Snow, A. Tomaino, R. Bittman, and B. Young 2012. NatureServe Conservation Status Assessments: Methodology for Assigning Ranks: Revised ed. Pp. 1-52. Arlington, Virginia: NatureServe.
- Flat-tailed Horned Lizard Interagency Coordinating Committee (FTHL ICC). 2003. Flat-tailed Horned Lizard Rangewide Management Strategy. 107 p.
- Frost, Darrel R. 2017. Amphibian Species of the World: an Online Reference. Version 6.0 (June, 2017). Electronic Database accessible at <http://research.amnh.org/herpetology/amphibia/index.html>. American Museum of Natural History, New York, USA
- Hayes, T. B., P. Case, S. Chui, D. Chung, D., C. Haeffele, K. Hatson, and M. Tsui. 2006. Pesticide mixtures, endocrine disruption, and amphibian declines: Are we underestimating the impact? *Environmental Health Perspectives*, 114:40-50. doi: 10.1289/ehp.8051
- Hayes, T. B., A. Collins, M. Lee, M. Mendoza, N. Noriega, A.A. Stuart, , and A. Vonk. 2002. Hermaphroditic, demasculinized frogs after exposure to the herbicide atrazine at low ecologically relevant doses. *Proceedings of the National Academy of Sciences of the United States of America*, 99(8):5476-5480. doi: 10.1073/pnas.082121499

- Johnson, P. T. J., J.M. Chase, K. Dosch, R.B. Hartson, J.A. Gross, D.J. Larson, and S.R. Carpenter. 2007. Aquatic eutrophication promotes pathogenic infection in amphibians. *Proceedings of the National Academy of Sciences of the United States of America*, 104 40:15781-15786. doi: 10.1073/PNAS.0707763104
- Klemens, M.W (ed.). 2000. *Turtle Conservation*. Washington, DC: Smithsonian Institution Press.
- Lovich, R.E., C. Petersen, A. Dalsimer. 2015. Department of Defense Natural Resources Program. Strategic Plan for Amphibian and Reptile Conservation and Management on Department of Defense Lands. 14 Pages.
- Marks, R. 2006. Amphibians and Reptiles:Vol. 35. Natural Resources Conservation Service and Wildlife Habitat Council.
- McCallum, M. L. 2007. Amphibian decline or extinction? Current declines dwarf background extinction rate. *Journal of Herpetology*, 41(3):483-491. doi: <http://dx.doi.org/10.1670/0022-1511>
- Nanjappa, P., and P.M. Conrad. 2014. Conservation and Protection Status by Species. In P. Nanjappa & P. M. Conrad (Eds.), *State of the Union: Legal Authority Over the Use of Native Amphibians and Reptiles in the United States* (1.04 ed., pp. 189-225). Washington, DC: Association of Fish & Wildlife Agencies.
- NatureServe Explorer. 2017. <http://explorer.natureserve.org/ranking.htm#global>
- NatureServe Network. 2017. <http://www.natureserve.org/>
- Pounds, A., M.R. Bustamante, L.A. Coloma, J.A. Conuegra, M.P.L. Fogden, P.N. Foster, and B.E. Young. 2006. Widespread amphibian extinctions from epidemic disease driven by global warming. *Nature*. 439:161-167. doi: 10.1038/nature04246
- Ribeiro, R., X. Santos, N. Sillero, M.A. Carretero, and G.A. Llorente. 2009. Biodiversity and land uses at a regional scale: Is agriculture the biggest threat for reptile assemblages? *Acta Oecologica*. 35(2):327-334. doi: <http://dx.doi.org/10.1016/j.actao.2008.12.003>
- Semlitsch, R. D. 2003. Conservation of Pond-Breeding Amphibians. In R. D. Semlitsch (Ed.), *Amphibian Conservation*. Pp. 8-23. Washington, DC: Smithsonian Institution Press.
- Sikes Act, 16 U.S.C. 670a-670f
- Stein, B., C. Scott, and N. Benton. 2008. Federal lands and endangered species: The role of military and other federal lands in sustaining biodiversity. *BioScience*. 58(4):339-347. doi: 10.1641/B580409
- Stuart, S. N., M. Hoffmann, J. S. Chanson, N. A. Cox, R. J. Berridge, P. Ramani, and B. E. Young . 2008. *Threatened Amphibians of the World*. (Eds.). Barcelona, Spain; Gland, Switzerland; Arlington, Virginia: Lynx Edicions; IUCN; Conservation International.
- Uetz, P., Freed, P. & Jiri Hošek (eds.), *The Reptile Database*, <http://www.reptile-database.org>, accessed June 2017.



Vitt, L. J., J.P. Caldwell. 2008. *Herpetology, Third Edition: An Introductory Biology of Amphibians and Reptiles* (Third ed.): Academic Press.

Zentelis, R. & Lindenmayer, D. (2015). Bombing for biodiversity – enhancing conservation values of Military Training Areas. *Conserv. Lett.*, doi: 10.1111/conl.12155.

Appendix A. Conservation Status Summary (Federal, State, and NatureServe [2017]) of herpetofauna species confirmed or potentially present on military sites examined during this project. Species are arranged alphabetically by common name. **An asterisk after a species common name indicates that only those military sites where a species is confirmed or potentially present and State-endangered or –threatened is reported.**

Common Name (Scientific Name)	Federal Status	State Status	NatureServe Status	Number of DoD Sites Species Confirmed Present	DoD Sites Confirmed Present by Military Service	DoD Sites Unconfirmed and Potentially Present by Military Service
Agassiz's Desert Tortoise ( <i>Gopherus agassizii</i> )	Threatened	Threatened-CA	G3	8	<b>Air Force:</b> Edwards AFB; Nellis AFB/Creech AFB/Nevada Test and Training Range <b>Army:</b> Floyd Edsall Training Center; Fort Irwin <b>Marine Corps:</b> MCAGCC Twentynine Palms; MCAS Yuma (Barry M. Goldwater Range); MCLB Barstow <b>Navy:</b> NAWS China Lake	<b>Marine Corps:</b> MCAS Yuma (Chocolate Mountain Aerial Gunnery Range)
Alabama Red-Bellied Cooter ( <i>Pseudemys alabamensis</i> )	Endangered	Endangered-MS	G1	0		<b>Navy:</b> NAS Whiting Field (NOLF Evergreen, NOLF Wolf)
Alameda Striped Racer ( <i>Coluber lateralis euryxanthus</i> )	Threatened	Threatened-CA	G2	0		<b>Army:</b> Parks Reserve Force Training Area
Alligator Snapping Turtle ( <i>Macrochelys temminckii</i> )	Under Review or Petitioned	Endangered-IL, IN Threatened-TX	G3	15	<b>Air Force:</b> Barksdale AFB; Little Rock AFB; Moody AFB; Tyndall AFB <b>Army:</b> Fort Benning; Fort Chaffee; Fort Polk; Red River Army Depot; Robinson Maneuver Training Center <b>Navy:</b> NAS JRB NOLA; NAS Pensacola (Main Base; NOLF Bronson Field; Saufley Field NETPDTG); NAS Whiting Field; NCBC Gulfport (Western Maneuver Area)	<b>Air Force:</b> Eglin AFB; Hurlburt Field; Maxwell AFB <b>Army:</b> Camp Beauregard Training Site; Camp Gruber Maneuver Training Center; Camp McCain; Camp Minden Training Center; Camp Villere; McAlester AAP; Pine Bluff Arsenal <b>Navy:</b> NAS Meridian (Joe Williams Field; McCain Field; Searay Target Range); NAS Whiting Field (NOLF Evergreen, NOLF Site 8-A)
Amargosa Toad ( <i>Anaxyrus nelsoni</i> )	None	None	G2	0		<b>Air Force:</b> Nellis AFB/Creech Air Force Base/Nevada Test and Training Range
American Alligator ( <i>Alligator mississippiensis</i> )	Similarity of Appearance-Threatened	Threatened-LA, NC, SC	G5	46	<b>Air Force:</b> Avon Park AFR; Barksdale AFB; Cape Canaveral AFS; Eglin AFB; Homestead ARB; Hurlburt Field; Joint Base Charleston (Weapons Station); MacDill AFB; Moody AFB; Patrick AFB; Robins AFB; Shaw AFB/Poinsett Electronic Combat Range; Tyndall AFB <b>Army:</b> Camp Beauregard Training Site; Camp Blanding Joint Training Center; Camp Shelby Joint Forces Training Center; Camp Villere; Fort Benning; Fort Jackson; Fort Polk; Fort Rucker; Fort Stewart; McCrady Training Center; Military Ocean Terminal Sunny Point; Pine Bluff Arsenal; Red River Army Depot; Redstone Arsenal <b>Marine Corps:</b> MCAS Beaufort; MCAS Cherry Point; MCB Camp Lejeune; MCLB Albany; MCRD Parris Island; MCSF Blount Island; Townsend Bombing Range <b>Navy:</b> NAS Jacksonville; NAS JRB NOLA; NAS	<b>Air Force:</b> Dare County Range; Jacksonville Air National Guard; Maxwell AFB; McEntire Joint NGB <b>Army:</b> Camp Minden Training Center; Fort Gordon <b>Navy:</b> NAS Corpus Christi; NAS Jacksonville (OLF Whitehouse; Rodman Bombing Target Range); NAS Kingsville (Main Base, NALF Orange Grove); NAS Meridian (Joe Williams Field, McCain Field, Searay Target Range); NAS Whiting Field (NOLF Site 8-A); Naval Station Mayport (Greenfield Plantation, Ribault Bay Village Housing)

					Key West; NAS Kingsville (McMullen Range Complex); NAS Pensacola (Saufley Field NETPDTC, Main Base, NOLF Bronson Field); Naval Station Mayport (Main Base, Naval Fuel Depot); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NAVSUBASE Kings Bay; NCBC Gulfport (Western Maneuver Area)	
American Crocodile ( <i>Crocodylus acutus</i> )	Threatened	Threatened-FL	G2	2	<b>Air Force:</b> Homestead ARB <b>Navy:</b> NAS Key West	
Arizona Toad ( <i>Anaxyrus microscaphus</i> )	Under Review or Petitioned	None	G3	1	<b>Army:</b> Camp Navajo	<b>Army:</b> Floyd Edsall Training Center
Arroyo Toad ( <i>Anaxyrus californicus</i> )	Endangered	None	G2	5	<b>Army:</b> Fort Hunter Liggett <b>Marine Corps:</b> MCAS Camp Pendleton; MCB Camp Pendleton <b>Navy:</b> Naval Base Coronado (Remote Training Site Warner Springs); NWS Seal Beach (Fallbrook Detachment)	<b>Army:</b> Camp Roberts Training Site MTC
Atlantic Saltmarsh Snake ( <i>Nerodia clarkii taeniata</i> )	Threatened		T1	1	<b>Air Force:</b> Cape Canaveral AFS	
Austin Blind Salamander ( <i>Eurycea waterlooensis</i> )	Endangered	Endangered-TX	G1	0		<b>Army:</b> Camp Mabry
Barbour's Map Turtle ( <i>Graptemys barbouri</i> )	Under Review or Petitioned	Threatened-FL, GA	G2	1	<b>Army:</b> Fort Benning	
Barking Treefrog* ( <i>Hyla gratiosa</i> )	None	Endangered-MD, DE Threatened-VA	G5	0		<b>Army:</b> Fort Lee <b>Navy:</b> JEB Little Creek-Fort Story (Fort Story, Little Creek); NAS Oceana (Main Base, Dam Neck Annex)
Bezy's Night Lizard ( <i>Xantusia bezyi</i> )	None	None	G2	0		<b>Air Force:</b> Gila River Air Force Space Surveillance Station
Big Bend Black-headed Snake ( <i>Tantilla cucullata</i> )	None	Threatened-TX	G3	0		<b>Air Force:</b> Laughlin AFB
Black Pinesnake ( <i>Pituophis melanoleucus lodingi</i> )	Threatened	Endangered-MS	T2	1	<b>Army:</b> Camp Shelby Joint Forces Training Center	
Black-knobbed Map Turtle ( <i>Graptemys nigrinoda</i> )	Under Review or Petitioned	Endangered-MS	G3	0		<b>Air Force:</b> Columbus AFB; Maxwell AFB <b>Navy:</b> NAS Whiting Field (NOLF, Evergreen, NOLF Wolf)
Black-spotted Newt ( <i>Notophthalmus meridionalis</i> )	None	Threatened-TX	G1	1	<b>Navy:</b> NAS Kingsville (McMullen Range Complex)	<b>Navy:</b> NAS Corpus Christi (Main Base, NOLF Canbaniss, NOLF Goliad); NAS Kingsville (Main Base, NALF Orange Grove)
Blainville's Horned Lizard ( <i>Phrynosoma blainvillii</i> )	None	None	G3	12	<b>Air Force:</b> Travis AFB; Vandenberg AFB <b>Army:</b> Fort Hunter Liggett; Camp Roberts Training Site MTC <b>Marine Corps:</b> MCAS Miramar; MCB Camp	<b>Air Force:</b> Pillar Point AFS; San Diego Air Force Space Surveillance Station <b>Army:</b> Camp San Luis Obispo; Parks Reserve Force Training Area; Presidio Of Monterey/Fort ORD

Blanchard's Cricket Frog* ( <i>Acris blanchardi</i> )	None	Endangered- WI, MN Threatened- MI	G5	1	Pendleton <b>Navy:</b> Naval Base Coronado (Camp Michael Monsoor; Camp Morena; Naval Outlying Landing Field Imperial Beach; Remote Training Site Warner Springs; Silver Strand Training Complex North); NWS Seal Beach (Fallbrook Detachment) <b>Army:</b> Fort Custer Training Center	<b>Navy:</b> Naval Base San Diego (Chollas Heights Housing Area, Eucayptus Ridge Housing Area, Howard Gillmore Housing Area, Mission Gorge Recreational Facility, Murphy Canyon Housing Area); NRTF Dixon
Blanding's Turtle ( <i>Emydoidea blandingii</i> )	Under Review or Petitioned	Endangered- IL, IN, ME, MO, NH Threatened- IA, MA, MN, NY, OH	G4	8	<b>Air Force:</b> New Boston AFS <b>Army:</b> Arden Hills Army Training Site; Camp Grayling Joint Maneuver Center; Camp Ripley; Devens Reserve Forces Training Area; Fort Custer Training Center; Fort Drum; Fort McCoy	<b>Air Force:</b> Cape Cod AFS; Hanscom AFB; Offutt AFB; Otis Air National Guard; Westover Air Reserve Base <b>Army:</b> Bog Brook Training Site; Camp Curtis Guild; Camp Perry Training Site; Hollis Training Site; Iowa Army Ammunition Plant; New Hampshire Army National Guard Training Site; Pembroke Regional Training Institute <b>Navy:</b> Naval Station Great Lakes
Blue Spiny Lizard ( <i>Sceloporus cyanogenys</i> )	None	None	G3	0		<b>Navy:</b> NAS Kingsville (Main Base, McMullen Range Complex, NALF Orange Grove) <b>Army:</b> Picatinny Arsenal
Blue-spotted Salamander* ( <i>Ambystoma laterale</i> )	None	Endangered- CT (diploid populations) , IA, NJ, OH, PA	G5	0		<b>Navy:</b> NAVSUBASE New London (Admiral Fife Recreational Area, Beaverdam Brook Wetland, Main Base)
Bog Turtle ( <i>Glyptemys muhlenbergii</i> )	Threatened	Endangered- CT, DE, GA, MA, NJ, NY, PA, VA Threatened- MD, NC, SC, TN	G3	2	<b>Air Force:</b> Joint Base McGuire-Dix-Lakehurst <b>Army:</b> Carlisle Barracks	<b>Air Force:</b> Warren Grove Air National Guard <b>Army:</b> Aberdeen Proving Ground; Picatinny Arsenal; West Point Military Reservation <b>Navy:</b> NWS Earle
Brazos River Watersnake ( <i>Nerodia harteri</i> )	None	Threatened- TX	G2	0		<b>Army:</b> Fort Walters
Broad-striped Dwarf Siren ( <i>Pseudobranchius striatus striatus</i> )	None	None	G2	0		<b>Marine Corps:</b> MCLB Albany; Townsend Bombing Range <b>Navy:</b> NAVSUBASE Kings Bay
Brown-backed Salamander ( <i>Eurycea aquatic</i> )	None	None	G3	0		<b>Army:</b> Catoosa Training Site
California Legless Lizard ( <i>Anniella pulchra</i> )	None	None	G3	12	<b>Air Force:</b> Vandenberg AFB <b>Army:</b> Camp Roberts Training Site MTC; Camp San Luis Obispo; Fort Hunter Liggett; Parks Reserve Force Training Area; Presidio Of Monterey/Fort ORD <b>Navy:</b> NAS Lemoore; Naval Weapons Station Seal Beach; NAVBASE Ventura County (Point Mugu; Port Hueneme); NAWS China Lake; NSA Monterey (Dunes/Research)	<b>Army:</b> Fort Hunter Liggett; Parks Reserve Force Training Area; Presidio Of Monterey/Fort ORD <b>Navy:</b> NAS Lemoore; NAVBASE Ventura County (Point Mugu, Port Hueneme)

California Red-legged Frog ( <i>Rana draytonii</i> )	Threatened	None	G2	6	<b>Air Force:</b> Pillar Point AFS; Vandenberg AFB <b>Army:</b> Military Ocean Terminal Concord; Parks Reserve Force Training Area; Camp San Luis Obispo <b>Navy:</b> NSA Monterey (Point Sur)	<b>Air Force:</b> Beale AFB; Travis AFB <b>Army:</b> Camp Roberts Training Site MTC; Fort Hunter Liggett; Presidio Of Monterey/Fort ORD <b>Navy:</b> NWS Seal Beach (Fallbrook Detachment)
California Tiger Salamander ( <i>Ambystoma californiense</i> )	Endangered (CA- Santa Barbara and Sonoma Co.) and Threatened (Central California)	Threatened-CA	G2	4	<b>Air Force:</b> Travis AFB <b>Army:</b> Military Ocean Terminal Concord; Fort Hunter Liggett; Parks Reserve Force Training Area	<b>Air Force:</b> Pillar Point AFS; Vandenberg AFB <b>Army:</b> Camp Roberts Training Site MTC; Camp San Luis Obispo; Presidio Of Monterey/Fort ORD <b>Navy:</b> NRTF Dixon
Cascade Caverns Salamander ( <i>Eurycea latitans</i> )	Under Review or Petitioned	Threatened-TX	G3	1	<b>Air Force:</b> Joint Base Antonio	
Cascades Frog ( <i>Rana cascadae</i> )	Under Review or Petitioned	None	G3	1	<b>Navy:</b> NRTF Jim Creek	
Chamberlain's Dwarf Salamander ( <i>Eurycea chamberlaini</i> )	Under Review or Petitioned	None	G4	2	<b>Army:</b> Fort Bragg <b>Marine Corps:</b> MCAS Cherry Point	<b>Army:</b> Camp Butner (Main Base, Snow Camp Training Site); Fort Benning; Fort Gordon; Fort Jackson; Fort Rucker; McCrady Training Center <b>Marine Corps:</b> MCB Camp Lejeune <b>Navy:</b> NAS Whiting Field (NOLF Evergreen)
Chiricahua Leopard Frog ( <i>Lithobates chiricahuensis</i> )	Threatened	None	G2	0		<b>Army:</b> Fort Huachuca
Colorado Checkered Whiptail ( <i>Aspidoscelis neotesselata</i> )	None	None	G3	2	<b>Army:</b> Fort Carson (Main Base; Pinon Canyon Maneuver Site)	<b>Air Force:</b> Cheyenne Mountain Air Force Station; Peterson AFB; Schriever Air Force Base; US Air Force Academy <b>Army:</b> Pueblo Chemical Depot
Colorado Fringe-toed Lizard ( <i>Uma notata</i> )	None	None	G3	3	<b>Marine Corps:</b> MCAS Yuma (Barry M. Goldwater Range) <b>Navy:</b> NAF El Centro (Range 2510, 2512)	<b>Army:</b> Yuma Proving Grounds
Comal Blind Salamander ( <i>Eurycea tridentifera</i> )	Under Review or Petitioned	Threatened-TX	G1	0		<b>Air Force:</b> Joint Base Antonio
Concho Watersnake ( <i>Nerodia paucimaculata</i> )	Delisted due to Recovery	None	G2	0		<b>Air Force:</b> Goodfellow AFB
Cope's Gray Treefrog* ( <i>Hyla chrysoscelis</i> )	None	Endangered-NJ	G5	0		<b>Air Force:</b> Joint Base McGuire-Dix-Lakehurst; Warren Grove Air National Guard
Copperhead* ( <i>Agkistrodon contortrix</i> )	None	Endangered-IA, MA	G5	0		<b>Air Force:</b> Westover Air Reserve Base
Cow Knob Salamander ( <i>Plethodon punctatus</i> )	None	None	G3	0		<b>Navy:</b> NWS Yorktown (Sugar Grove-Leased Operations Area)
Crawfish Frog* ( <i>Lithobates areolatus</i> )	None	Endangered-IA, IN	G4	1	<b>Army:</b> Jefferson Proving Grounds	<b>Navy:</b> NSA Crane

Desert Massasauga ( <i>Sistrurus catenatus edwardsii</i> )	Under Review or Petitioned	None	T3	3	<b>Air Force:</b> Holloman AFB; Kirtland AFB <b>Army:</b> White Sands Missile Range	<b>Army:</b> Fort Bliss <b>Navy:</b> NAS Kingsville
Diamond-backed Watersnake* ( <i>Nerodia rhombifer</i> )	None	Threatened-IA	G5	0		<b>Army:</b> Iowa Army Ammunition Plant
Dusky Gopher Frog ( <i>Lithobates sevosus</i> )	Endangered	Endangered-LA, MS	G1	0		<b>Air Force:</b> Arnold AFB
Dusty Hog-nosed Snake ( <i>Heterodon gloydi</i> )	None	None	G3	0		<b>Air Force:</b> Dyess AFB
Eastern Coralsnake* ( <i>Micrurus fulvius</i> )	None	Endangered-NC	G5	1	<b>Marine Corps:</b> MCB Camp Lejeune	<b>Air Force:</b> Pope AFB; Seymour-Johnson AFB (Fort Fisher Recreation Area) <b>Army:</b> Military Ocean Terminal Sunny Point
Eastern Cornsnake* ( <i>Pantherophis guttatus</i> )	None	Endangered-DE, NJ	G5	1	<b>Navy:</b> Joint Base McGuire-Dix-Lakehurst	<b>Air Force:</b> Warren Grove Air National Guard <b>Navy:</b> NWS Earle
Eastern Diamond-backed Rattlesnake ( <i>Crotalus adamanteus</i> )	Under Review or Petitioned	Endangered-NC	G4	25	<b>Air Force:</b> Avon Park AFR; Eglin AFB; Hurlburt Field; Joint Base Charleston (Weapons Station); MacDill AFB <b>Army:</b> Camp Blanding Joint Training Center; Camp Shelby Joint Forces Training Center; Fort Benning; Fort Rucker; Fort Stewart <b>Marine Corps:</b> MCAS Beaufort; MCB Camp Lejeune; MCLB Albany; MCRD Parris Island; MCSF Blount Island; Townsend Bombing Range <b>Navy:</b> NAS Jacksonville (Main Base, Pinecastle Range); NAS Key West; NAS Pensacola ( Main Base, NOLF Bronson Field, Saufley Field NETPDTC); NAS Whiting Field (OLF Holley); Naval Station Mayport ( Naval Fuel Depot); NAVSUBASE Kings Bay	<b>Air Force:</b> Cape Canaveral AFS; Homestead ARB; Jacksonville Air National Guard; Moody AFB; Patrick AFB; Seymour-Johnson AFB (Fort Fisher Recreation Area); Tyndall AFB <b>Army:</b> Military Ocean Terminal Sunny Point <b>Marine Corps:</b> MCAS Cherry Point <b>Navy:</b> NAS Jacksonville (OLF Whitehouse, Rodman Bombing Target Range); NAS Whiting Field (Main Base, NOLF Evergreen, NOLF Harold, NOLF Pace, NOLF Santa Rosa, NOLF Site 8-A, NOLF Spencer, NOLF Wolf, Naval Station Mayport (Greenfield Plantation, Main Base, Ribault Bay Village Housing); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NSA Panama City
Eastern Glass Lizard* ( <i>Ophisaurus ventralis</i> )	None	Threatened-VA	G5	0		<b>Navy:</b> JEB Little Creek-Fort Story (Fort Story, Little Creek); NAS Oceana (Main Base, Dam Neck Annex)
Eastern Hog-nosed Snake* ( <i>Heterodon platirhinos</i> )	None	Endangered-NH Threatened-SD	G5	2	<b>Air Force:</b> New Boston AFS <b>Army:</b> Pembroke Regional Training Institute	<b>Army:</b> Austin Training Area
Eastern Indigo Snake ( <i>Drymarchon couperi</i> )	Threatened	Endangered-MA Threatened-FL, GA, TX	G3	9	<b>Air Force:</b> Avon Park AFR; Cape Canaveral AFS; Eglin AFB (extirpated); Homestead ARB; Hurlburt Field (extirpated); MacDill AFB; Moody AFB; Patrick AFB; Tyndall AFB (extirpated) <b>Army:</b> Camp Blanding Joint Training Center; Fort Stewart <b>Navy:</b> NAVSUBASE Kings Bay	<b>Air Force:</b> Jacksonville Air National Guard <b>Army:</b> Camp Shelby Joint Forces Training Center <b>Marine Corps:</b> Townsend Bombing Range <b>Navy:</b> NAS Jacksonville (Main Base, OLF Whitehouse, Rodman Bombing Target Range); NAS Key West; NAS Whiting Field (NOLF Harold, NOLF Pace, NOLF Santa Rosa, OLF Holley); Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility)

Eastern Massasauga ( <i>Sistrurus catenatus catenatus</i> )	Threatened	Endangered- IA, IN, MN, MO, NY, OH, PA, WI	G3	1	<b>Army:</b> Camp Grayling Joint Maneuver Center	
Eastern Narrow-mouthed Toad* ( <i>Gastrophryne carolinensis</i> )	None	Endangered- MD Threatened- IL, KS	G5	1	<b>Navy:</b> NAS Patuxent River (Main Base)	<b>Navy:</b> NAS Patuxent River (Webster Field)
Eastern Ribbonsnake ( <i>Thamnophis sauritus</i> )	Under Review or Petitioned (Lower Florida Keys Population)	Endangered- WI Threatened- IL	G5	1	<b>Navy:</b> NAS Key West	
Eastern Spadefoot* ( <i>Scaphiopus holbrookii</i> )	None	Endangered- CT, OH, RI Threatened- MA, PA	G5	1	<b>Army:</b> Letterkenny Army Depot	<b>Air Force:</b> Cape Cod AFS; Hanscom AFB; Otis Air National Guard; Westover Air Reserve Base <b>Navy:</b> NAVSUBASE New London (Admiral Fife Recreational Area, Beaverdam Brook Wetland, Main Base); NAVSTA Newport
Eastern Tiger Salamander* ( <i>Ambystoma tigrinum</i> )	None	Endangered- DE, MD, NJ, NY, VA Threatened- NC	G5	1	<b>Army:</b> Fort Bragg	<b>Air Force:</b> Pope AFB; Seymour-Johnson AFB <b>Marine Corps:</b> MCAS Cherry Point; MCB Camp Lejeune <b>Navy:</b> NWS Yorktown (Cheatham Annex, Main Base); Naval Support Facility Dahlgren (Mainside/Pumpkin Neck)
Escambia Map Turtle ( <i>Graptemys ernsti</i> )	Under Review or Petitioned	None	G2	3	<b>Navy:</b> NAS Pensacola (Main Base, NOLF Bronson Field, Saufley Field NETPDTC)	<b>Air Force:</b> Eglin AFB; Hurlburt Field <b>Navy:</b> NAS Whiting Field (NOLF Evergreen)
False Map Turtle* ( <i>Graptemys pseudogeographica</i> )	None	Threatened- SD	G5	0		<b>Army:</b> Austin Training Area
Flat-tailed Horned Lizard ( <i>Phrynosoma mcallii</i> )	None	None	G3	3	<b>Marine Corps:</b> MCAS Yuma (Barry M. Goldwater Range) <b>Navy:</b> NAF El Centro (Range 2510)	<b>Navy:</b> NAF El Centro (Range 2512)
Florida Bog Frog ( <i>Lithobates okaloosae</i> )	None	Threatened- FL	G2	2	<b>Air Force:</b> Eglin AFB <b>Navy:</b> NAS Pensacola (Saufley Field NETPDTC)	<b>Air Force:</b> Hurlburt Field <b>Navy:</b> NAS Whiting Field (OLF Holley)
Florida Brownsnake* ( <i>Storeria victa</i> )	None	Threatened- FL (Lower Keys population)	T1	1	<b>Navy:</b> NAS Key West	
Florida Pinesnake ( <i>Pituophis melanoleucus mugitus</i> )	Under Review or Petitioned	Threatened- FL	T3	6	<b>Air Force:</b> Avon Park AFR <b>Army:</b> Camp Blanding Joint Training Center; Fort Benning; Fort Gordon; Fort Rucker <b>Marine Corps:</b> Townsend Bombing Range	<b>Air Force:</b> Hurlburt Field; Joint Base Charleston (Weapons Station) <b>Marine Corps:</b> MCAS Beaufort; MCLB Albany <b>Navy:</b> Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NAVSUBASE Kings Bay

Florida Sand Skink ( <i>Plestiodon reynoldsi</i> )	Threatened	Threatened- FL	G2	0		<b>Air Force:</b> Avon Park AFR; Homestead ARB <b>Navy:</b> Naval Support Activity Orlando (LEFAC/Bugg Spring Facility)
Florida Scrub Lizard ( <i>Sceloporus woodi</i> )	Under Review or Petitioned	None	G2	1	<b>Air Force:</b> Avon Park AFR	<b>Air Force:</b> Cape Canaveral AFS; Homestead ARB; Patrick AFB <b>Navy:</b> NAS Jacksonville (Rodman Bombing Target Range); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility)
Florida Worm Lizard ( <i>Rhineura floridana</i> )	None	None	G3	1	<b>Air Force:</b> Avon Park AFR	<b>Air Force:</b> MacDill AFB <b>Army:</b> Camp Blanding Joint Training Center <b>Navy:</b> NAS Jacksonville (Rodman Bombing Target Range); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility)
Foothill Yellow-legged Frog ( <i>Rana boylei</i> )	Under Review or Petitioned	None	G3	1	<b>Army:</b> Fort Hunter Liggett	<b>Army:</b> Camp Roberts Training Site MTC; Camp San Luis Obispo; Presidio Of Monterey/Fort ORD
Four-toed Salamander* ( <i>Hemidactylium scutatum</i> )	None	Threatened- IL	G5	0	<b>Army:</b> Fort Stewart <b>Marine Corps:</b> Townsend Bombing Range	<b>Army:</b> Marseilles Training Site <b>Air Force:</b> Jacksonville Air National Guard; Joint Base Charleston; Robins AFB <b>Army:</b> Camp Blanding Joint Training Center
Frosted Flatwoods Salamander ( <i>Ambystoma cingulatum</i> )	Threatened	Endangered- SC Threatened- FL, GA	G2	2		<b>Marine Corps:</b> MCAS Beaufort <b>Navy:</b> NAS Jacksonville (Main Base, OLF Whitehouse); Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing); NAVSUBASE Kings Bay
Giant Gartersnake ( <i>Thamnophis gigas</i> )	Threatened	Threatened- CA	G2	0		<b>Air Force:</b> Beale AFB
Gila Monster* ( <i>Heloderma suspectum</i> )	None	Endangered- NM	G4	0		<b>Army:</b> Fort Bliss
Goode's Horned Lizard ( <i>Phrynosoma goodei</i> )	None	None	G3	1	<b>Marine Corps:</b> MCAS Yuma (Barry M. Goldwater Range) <b>Air Force:</b> Avon Park AFR; Eglin AFB; MacDill AFB; Shaw AFB/Poinsett Electronic Combat Range <b>Army:</b> Camp Blanding Joint Training Center; Fort Benning; Fort Bragg; Fort Stewart; McCrady Training Center; Military Ocean Terminal Sunny Point; Tullahoma Training Site	<b>Army:</b> Buckeye Training Area; Florence Military Reservation <b>Air Force:</b> Cape Canaveral AFS; Hurlburt Field; Jacksonville Air National Guard; Joint Base Charleston (Weapons Station); McEntire Joint NGB; Patrick AFB; Pope AFB; Seymour-Johnson AFB; Shaw AFB/Poinsett Electronic Combat Range; Tyndall AFB
Gopher Frog ( <i>Lithobates capito</i> )	Under Review or Petitioned	Endangered- SC Threatened- NC	G3	14	<b>Marine Corps:</b> MCB Camp Lejeune <b>Navy:</b> NAS Pensacola (Saufley Field NETPDTC); NAS Whiting Field (OLF Holley)	<b>Marine Corps:</b> MCAS Beaufort; MCLB Albany; Townsend Bombing Range <b>Navy:</b> NAS Jacksonville (Main Base, OLF Whitehouse, Rodman Bombing Target Range); NAS Pensacola (Main Base, NOLF Bronson Field); NAS Whiting Field (Main Base, NOLF Evergreen, NOLF Harold, NOLF Pace, NOLF Santa Rosa, NOLF Site 8-A); Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot,



Gopher Tortoise ( <i>Gopherus polyphemus</i> )	Threatened (AL, LA, MS); Candidate (eastern population)	Endangered- MS, SC Threatened- FL, GA, LA	G3	27	<p><b>Air Force:</b> Avon Park AFR; Cape Canaveral AFS; Eglin AFB; Hurlburt Field; MacDill AFB; Moody AFB; Patrick AFB; Tyndall AFB</p> <p><b>Army:</b> Camp Blanding Joint Training Center; Camp Shelby Joint Forces Training Center; Fort Benning; Fort Gordon; Fort Rucker; Fort Stewart</p> <p><b>Marine Corps:</b> MCLB Albany; MCRD Parris Island; MCSF Blount Island</p> <p><b>Navy:</b> NAS Jacksonville (Main Base, OLF Whitehouse); NAS Pensacola (Main Base, Saufley Field NETPDTC, NOLF Bronson Field); NAS Whiting Field (Main Base, OLF Holley); Naval Station Mayport; Naval Support Activity Orlando ( Bugg Spring Facility); NAVSUBASE Kings Bay</p>	<p>Ribault Bay Village Housing); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NAVSUBASE Kings Bay; NSA Panama City</p> <p><b>Air Force:</b> Jacksonville Air National Guard</p> <p><b>Army:</b> Camp Villere</p> <p><b>Marine Corps:</b> MCAS Beaufort; Townsend Bombing Range</p> <p><b>Navy:</b> NAS Jacksonville (Rodman Bombing Target Range); NAS Whiting Field (NOLF Evergreen, NOLF Harold, NOLF Pace, NOLF Santa Rosa, NOLF Site 8-A, NOLF Spencer, NOLF Wolf); Naval Station Mayport (Greenfield Plantation, Naval Fuel Depot, Ribault Bay Village Housing); NSA Panama City</p>
Greater Short-horned Lizard* ( <i>Phrynosoma hernandesi</i> )	None	Threatened- TX	G5	0	<p><b>Army:</b> Redstone Arsenal</p>	<p><b>Army:</b> Fort Bliss</p>
Green Salamander ( <i>Aneides aeneus</i> )	Under Review or Petitioned	Endangered- IN, MD, MS, NC, OH Threatened- PA	G3	1		<p><b>Army:</b> Blue Grass Army Depot; Camp Dawson; Disney Training Center (Artemus)</p>
Green Sea Turtle ( <i>Chelonia mydas</i> )	Endangered and Threatened	Endangered- DE, FL, MS, OR, RI Threatened- CT, GA, HI, LA, MD, MA, NJ, NC, TX, SC, VA, WA	G3	8	<p><b>Air Force:</b> Cape Canaveral AFS; Eglin AFB; MacDill AFB; Patrick AFB; Tyndall AFB</p> <p><b>Marine Corps:</b> MCB Camp Lejeune; MCB Camp Pendleton</p> <p><b>Navy:</b> Naval Station Mayport</p>	<p><b>Air Force:</b> Patrick AFB</p> <p><b>Army:</b> Military Ocean Terminal Sunny Point</p> <p><b>Marine Corps:</b> MCAS Beaufort; MCSF Blount Island</p> <p><b>Navy:</b> NAS Corpus Christi (Main Base, NOLF Canbaniss); NAS Jacksonville; NAS JRB NOLA; NAS Key West; NAS Oceana (Dam Neck Annex); Naval Base Point Loma; Naval Station Mayport (Greenfield Plantation, Naval Fuel Depot, Ribault Bay Village Housing); NAVSUBASE Kings Bay; NS Norfolk (Craney Island; Main Base); NSA Panama City</p>
Gulf Saltmarsh Watersnake ( <i>Nerodia clarkii clarkii</i> )	None	None	T3	1	<p><b>Air Force:</b> Tyndall AFB</p> <p><b>Air Force:</b> Cape Canaveral AFS; Patrick AFB</p>	<p><b>Navy:</b> NAS Corus Christi (Main Base, NOLF Canbaniss, NOLF Waldron, Peary Place Transmitter Site); NAS JRB NOLA</p> <p><b>Air Force:</b> Patrick AFB</p> <p><b>Army:</b> Military Ocean Terminal Sunny Point</p> <p><b>Marine Corps:</b> MCAS Beaufort; MCB Camp Lejeune; MCSF Blount Island</p>
Hawksbill Sea Turtle ( <i>Eretmochelys imbricata</i> )	Endangered	Endangered- FL, GA ,HI, LA, MD, MA, MS, NC, NJ, NY, SC, TX, VA	G3	2		<p><b>Navy:</b> NAS Corpus Christi (Main Base, NOLF Canbaniss); NAS Jacksonville; NAS JRB NOLA; NAS Key West; NAS Pensacola (Saufley Field NETPDTC, Main Base, NOLF Bronson Field); Naval Base Coronado (Silver Strand Training Complex North); Naval Base Point Loma; Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing); NAVSUBASE Kings Bay; NS Norfolk (Craney Island; Main Base)</p>

Hellbender ( <i>Cryptobranchus alleganiensis</i> )	Under Review or Petitioned	Endangered-IL, IN, MD, MS, MO, OH Threatened-GA	G3	2	<b>Army:</b> Fort Campbell Military Reservation; Fort Leonard Wood	<b>Air Force:</b> Wright-Patterson AFB <b>Army:</b> Blue Grass Army Depot; Fort Knox; Radford Army Ammunition Plant (Main Base, New River Storage Unit); Redstone Arsenal
Houston Toad ( <i>Anaxyrus houstonensis</i> )	Endangered	Endangered-TX	G1	0	<b>Air Force:</b> Avon Park AFR <b>Army:</b> Fort Stewart	<b>Army:</b> Camp Swift  <b>Air Force:</b> Cape Canaveral AFS; Homestead ARB; Jacksonville Air National Guard; Joint Base Charleston (Weapons Station); MacDill AFB; Moody AFB; Patrick AFB
Island Glass Lizard ( <i>Ophisaurus compressus</i> )	None	None	G3	2		<b>Marine Corps:</b> MCAS Beaufort; MCRD Parris Island; MCSF Blount Island; Townsend Bombing Range <b>Navy:</b> NAS Jacksonville (Main Base, OLF Whitehouse, Rodman Bombing Target Range); Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot)
Kemp's Ridley Sea Turtle ( <i>Lepidochelys kempii</i> )	Endangered	Endangered-DE, CT, FL, GA, LA, MA, ME, MD, MS, NJ, NC, RI, SC, TX Threatened-CT	G1	8	<b>Air Force:</b> Cape Canaveral AFS; Eglin AFB; MacDill AFB; Patrick AFB; Tyndall AFB <b>Navy:</b> NAS Oceana (Dam Neck Annex); NAS Patuxent River (Bloodsworth Island Bombing Range; Main Base)	<b>Air Force:</b> Patrick AFB <b>Army:</b> Military Ocean Terminal Sunny Point <b>Marine Corps:</b> MCAS Beaufort; MCB Camp Lejeune; MCSF Blount Island <b>Navy:</b> NAS Key West; Naval Recreation Center Solomons; Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing); NS Norfolk (Craney Island; Main Base); NSA Panama City
Kern Plateau Slender Salamander ( <i>Batrachoseps robustus</i> )	Under Review or Petitioned	None	G3	0		<b>Navy:</b> NAWS China Lake
Key Ring-necked Snake ( <i>Diadophis punctatus acricus</i> )	Under Review or Petitioned	Threatened-FL	T1	0		<b>Navy:</b> NAS Key West
Kirtland's Snake ( <i>Clonophis kirtlandii</i> )	Under Review or Petitioned	Endangered-IN, MI, PA Threatened-IL, OH	G2	2	<b>Army:</b> Fort Knox; Jefferson Proving Grounds	<b>Air Force:</b> Selfridge ANGB; Wright-Patterson AFB <b>Army:</b> Camp Atterbury Joint Maneuver Training Center; Fort Custer Training Center; Joint Systems Manufacturing Center –Lima; Muscatatuck Urban Training Center <b>Navy:</b> NS Great Lakes; NSA Crane
Leatherback Sea Turtle ( <i>Dermochelys coriacea</i> )	Endangered	Endangered-CT, DE, FL, GA, HI, LA, ME, MD, MA, MS, NC, NJ, NY, OR, RI, SC, TX, WA	G2	8	<b>Air Force:</b> Cape Canaveral AFS; Eglin AFB; MacDill AFB; Tyndall AFB; Vandenberg AFB <b>Marine Corps:</b> MCB Camp Pendleton <b>Navy:</b> Naval Station Mayport; NAS Patuxent River	<b>Army:</b> Military Ocean Terminal Sunny Point <b>Air Force:</b> Patrick AFB <b>Marine Corps:</b> MCAS Beaufort; MCB Camp Lejeune; MCSF Blount Island <b>Navy:</b> NAS Corpus Christi (Main Base, NOLF Canbaniss); NAS Jacksonville; NAS JRB NOLA; NAS Key West; NAS Pensacola (Saufley Field NETPDTC, Main Base, NOLF Bronson Field); Naval Station Mayport (Greenfield Plantation, Naval Fuel Depot, Ribault Bay Village Housing); NAVSUBASE Kings Bay; NS Norfolk (Craney Island; Main Base); NWS Earle (Waterfront Area)

Lesser Siren* ( <i>Siren intermedia</i> )	None	Threatened-TX	G5	1	<b>Army:</b> Camp Maxey	<b>Army:</b> Camp Swift; Red River Army Depot <b>Navy:</b> NAS Corus Christi (Main Base, NOLF Canbaniss, NOLF Goliad)
Lesser Slender Salamander ( <i>Batrachoseps minor</i> )	Under Review or Petitioned	None	G1	0		<b>Army:</b> Camp San Luis Obispo
Lined Snake* ( <i>Tropidoclonion lineatum</i> )	None	Endangered-SD Threatened-IL	G5	0		<b>Army:</b> Austin Training Area
Loggerhead Sea Turtle ( <i>Caretta caretta</i> )	Endangered (North Pacific Ocean DPS) and Threatened (Northwest Atlantic Ocean DPS)	Endangered-DE, GA, MS, NJ Threatened-CT, FL, HI, LA, ME, MD, MA, NC, OR, RI, TX, SC, VA, WA	G3	16	<b>Air Force:</b> Cape Canaveral AFS; Eglin AFB; MacDill AFB; Patrick AFB; Tyndall AFB <b>Marine Corps:</b> MCB Camp Lejeune; MCB Camp Pendleton <b>Navy:</b> JEB Little Creek-Fort Story (Fort Story); NAS Oceana (Dam Neck Annex); NAS Key West; NAS Patuxent River (Bloodsworth Island Bombing Range, Main Base, Webster Field); NAS Pensacola (Main Base, NOLF Bronson Field); Naval Station Mayport (Main Base)	<b>Army:</b> Military Ocean Terminal Sunny Point <b>Air Force:</b> Patrick AFB <b>Marine Corps:</b> MCAS Beaufort; MCB Camp Lejeune; MCSF Blount Island <b>Navy:</b> NAS Corpus Christi (Main Base, NOLF Canbaniss); NAS JRB NOLA; NAS Pensacola (Saufley Field NETPDTC); Naval Recreation Center Solomons; Naval Station Mayport (Greenfield Plantation, Naval Fuel Depot, Ribault Bay Village Housing); NAVSUBASE Kings Bay; NS Norfolk (Crane Island; Main Base); NSA Panama City; NWS Yorktown
Long-tailed Salamander* ( <i>Eurycea longicauda</i> )	None	Threatened-KS, NJ	G5	0		<b>Army:</b> Picatinny Arsenal
Louisiana Pinesnake ( <i>Pituophis ruthveni</i> )	Proposed Threatened	Threatened-TX	G2	1	<b>Army:</b> Fort Polk	<b>Army:</b> Camp Beauregard Training Site
Louisiana Slimy Salamander ( <i>Plethodon kisatchie</i> )	None	None	G3	1	<b>Army:</b> Camp Beauregard Training Site	
Mabee's Salamander* ( <i>Ambystoma mabeei</i> )	None	Threatened-VA	G4	1	<b>Navy:</b> NWS Yorktown	<b>Navy:</b> NWS Yorktown (Cheatham Annex)
Marbled Salamander* ( <i>Ambystoma opacum</i> )	None	Endangered-MI, NH Threatened-MA	G5	0		<b>Air Force:</b> Cape Cod AFS; Hanscom AFB; New Boston AFS; Otis Air National Guard; Westover Air Reserve Base <b>Army:</b> Camp Edwards; Camp Curtis Guild; Devens Reserve Forces Training Area
Massasauga* ( <i>Sistrurus catenatus</i> )	Threatened ( <i>Sistrurus catenatus catenatus</i> )	Endangered-IA, IL, MN, MO, WI	G3	0		<b>Air Force:</b> Wright-Patterson AFB <b>Army:</b> Fort McCoy
Mimic Glass Lizard ( <i>Ophisaurus mimicus</i> )	None	None	G3	4	<b>Air Force:</b> Eglin AFB <b>Army:</b> Fort Stewart <b>Navy:</b> NAS Pensacola (Saufley Field NETPDTC); NAS Whiting Field (OLF Holley)	<b>Air Force:</b> Jacksonville Air National Guard; Joint Base Charleston (Weapons Station); Moody AFB; Seymour-Johnson AFB (Fort Fisher Recreation Area); Tyndall AFB <b>Army:</b> Camp Shelby Joint Forces Training Center; Fort Rucker; Military Ocean Terminal Sunny Point <b>Marine Corps:</b> MCAS Beaufort; MCAS Cherry Point; MCB Camp Lejeune; MCLB Albany; Townsend Bombing Range

Mississippi Diamond-backed Terrapin ( <i>Malaclemys terrapin pileata</i> )	None	None	G3	0		<b>Navy:</b> NAS Jacksonville (Main Base, OLF Whitehouse); NAS Pensacola (Main Base, NOLF Bronson Field); NAS Whiting Field (Main Base, NOLF Site 8-A, NOLF Wolf); Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing); NAVSUBASE Kings Bay <b>Navy:</b> NAS JRB NOLA
Mojave Fringe-toed Lizard ( <i>Uma scoparia</i> )	None	None	G3	4	<b>Army:</b> Fort Irwin; Yuma Proving Ground <b>Marine Corps:</b> MCAGCC Twentynine Palms; MCLB Barstow	<b>Air Force:</b> Edwards AFB <b>Navy:</b> NAWS China Lake
Mount Lyell Salamander ( <i>Hydromantes platycephalus</i> )	None	None	G2	0		<b>Marine Corps:</b> MCMWTC Bridgeport
Mud Salamander* ( <i>Pseudotriton montanus</i> )	None	Endangered-DE, PA Threatened-NJ, OH	G5	0		<b>Army:</b> Letterkenny Army Depot
Mudpuppy* ( <i>Necturus maculosus</i> )	None	Threatened-IA, IL	G5	0		<b>Navy:</b> NS Great Lakes <b>Army:</b> Iowa Army Ammunition Plant
Neuse River Waterdog ( <i>Necturus lewisi</i> )	Under Review or Petitioned	None	G2	0		<b>Air Force:</b> Seymour-Johnson AFB <b>Army:</b> Camp Butner <b>Marine Corps:</b> MCAS Cherry Point
North American Racer* ( <i>Coluber constrictor</i> )	None	Endangered, ME Threatened-NH, VT	G5	0		<b>Army:</b> New Hampshire Army National Guard Training Site; Pembroke Regional Training Institute
Northern Cat-eyed Snake* ( <i>Leptodeira septentrionalis</i> )	None	Threatened-TX	G5	0		<b>Navy:</b> NAS Corpus Christi (NOLF Waldron)
Northern Cricket Frog* ( <i>Acris crepitans</i> )	None	Endangered-NY, PA	G5	1	<b>Army:</b> Letterkenny Army Depot	<b>Army:</b> West Point Military Reservation
Northern Dwarf Siren* ( <i>Pseudobranchius striatus</i> )	None	Threatened-SC	G5	0		<b>Army:</b> Joint Base Charleston (Weapons Station)
Northern Leopard Frog* ( <i>Lithobates pipiens</i> )	None	Endangered-WA	G5	1	<b>Air Force:</b> Fairchild AFB	
Northern Map Turtle* ( <i>Graptemys geographica</i> )	None	Endangered-MD Threatened-KS	G5	0		<b>Army:</b> Fort Leavenworth
Northern Mexican Gartersnake ( <i>Thamnophis eques megalops</i> )	Threatened	Endangered-NM	T3	1	<b>Army:</b> Fort Huachuca	
Northern Pinesnake* ( <i>Pituophis melanoleucus melanoleucus</i> )	None	Threatened-NJ, TN	T4	5	<b>Air Force:</b> Arnold AFB; Joint Base McGuire-Dix-Lakehurst; Warren Grove Air National Guard <b>Army:</b> Fort Dix-UTES Facility; Tullahoma Training	<b>Army:</b> Fort Campbell Military Reservation; Milan Army Ammunition Plant; Milan Training Site; Tuckerton Armory; Smyrna Training Site

Northern Red-bellied Cooter ( <i>Pseudemys rubriventris</i> )	Under Review or Petitioned	Threatened-PA	G5	25	Site <b>Air Force:</b> Dare County Range; Joint Base Langley-Eustis (Fort Eustis); Joint Base McGuire-Dix-Lakehurst; Warren Grove Air National Guard <b>Army:</b> Aberdeen Proving Ground; Fort A.P Hill; Fort Belvoir; Fort Indiantown Gap; Maneuver Training Center-Fort Picket; <b>Marine Corps:</b> MCB Quantico <b>Navy:</b> JEB Little Creek-Fort Story (Little Creek, Fort Story); NALF Fentress; NAS Oceana (Dam Neck Annex, Main Base); NAS Patuxent River; Naval Recreation Center Solomons; Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); Naval Support Facility Dahlgren; NSA Northwest; NSF Carderock; NSF Indian Head; NWS Earle; NWS Yorktown (Cheatham Annex, Main Base)	<b>Navy:</b> NSA Midsouth Memphis <b>Air Force:</b> Joint Base Andrews <b>Army:</b> Adelphi Laboratory Center; Blossom Point Research Facility; Fort Detrick; Fort George G. Meade; Fort Lee; Sea Girt Navy: NAS Patuxent River (Bloodsworth Island Bombing Range, Webster Field); NRL Washington (Chesapeake Bay Detachment; Midway Research Center; Pomonkey Detachment); NS Norfolk (Craney Island, Main Base); NSA Annapolis
Oklahoma Salamander ( <i>Eurycea tynnerensis</i> )	Under Review or Petitioned	None	G3	0		<b>Army:</b> Camp Gruber Maneuver Training Center; Fort Leonard Wood
Olive Ridley Sea Turtle ( <i>Lepidochelys olivacea</i> )	Threatened	Threatened-HI	G3	1	<b>Marine Corps:</b> MCB Camp Pendleton (stranding event)	<b>Navy:</b> NAS Key West; Naval Weapons Station Seal Beach
One-toed Amphiuma ( <i>Amphiuma pholeter</i> )	Under Review or Petitioned	Endangered-MS	G3	0	<b>Air Force:</b> Eglin AFB	<b>Air Force:</b> Tyndall AFB <b>Army:</b> Camp Shelby Joint Forces Training Center <b>Navy:</b> NAS Pensacola (Saufley Field NETPDTC, Main Base, NOLF Bronson Field); NAS Whiting Field (Main Base, NOLF Site 8-A, NOLF Wolf, OLF Holley)
Oregon Spotted Frog ( <i>Rana pretiosa</i> )	Threatened	Endangered-WA	G2	1	<b>Army:</b> Joint Base Lewis-McCord	
Ornate Box Turtle* ( <i>Terrapene ornata</i> )	None	Endangered-IN, WI Threatened-IL, IA	G5	1	<b>Army:</b> Illinois Army National Guard (Sparta Training Area)	<b>Army:</b> Iowa Army Ammunition Plant
Panamint Alligator Lizard ( <i>Elgaria panamintina</i> )	Under Review or Petitioned	None	G3	1	<b>Navy:</b> NAWS China Lake	<b>Air Force:</b> Nellis AFB/Creech Air Force Base/Nevada Test and Training Range <b>Army:</b> Floyd Edsall Training Center
Pascagoula Map Turtle ( <i>Graptemys gibbonsi</i> )	Under Review or Petitioned	None	G2	0		<b>Army:</b> Camp Shelby Joint Forces Training Center
Pearl River Map Turtle ( <i>Graptemys pearlensis</i> )	None	None	G3	1	<b>Navy:</b> NCBC Gulfport (Western Maneuver Area)	
Pine Barrens Treefrog* ( <i>Hyla andersonii</i> )	None	Threatened-NJ, SC	G4	3	<b>Air Force:</b> Joint Base McGuire-Dix-Lakehurst; Warren Grove Air National Guard <b>Navy:</b> NWS Earle	<b>Air Force:</b> McEntire Joint NGB
Plain-bellied Watersnake* ( <i>Nerodia erythrogaster</i> )	None	Endangered-DE, IA, NM	G5	0		<b>Army:</b> Iowa Army Ammunition Plant

Plains Hog-nosed Snake* ( <i>Heterodon nasicus</i> )	None	Endangered-IA Threatened-IL	G5	0		<b>Army:</b> Iowa Army Ammunition Plant
Rainbow Snake* ( <i>Farancia erytrogramma</i> )	None	Endangered-MD, MS	G4	1	<b>Air Force:</b> Columbus AFB	<b>Army:</b> Blossom Point Research Facility
Regal Black-striped Snake* ( <i>Coniophanes imperialis</i> )	None	Threatened-TX	G4	0		<b>Navy:</b> NAS Corpus Christi (NOLF Waldron)
Reticulate Collared Lizard ( <i>Crotaphytus reticulatus</i> )	None	None	G3	1	<b>Navy:</b> NAS Kingsville (McMullen Range Complex)	
Reticulated Flatwoods Salamander ( <i>Ambystoma bishopi</i> )	Endangered	Endangered-FL Threatened-GA	G2	3	<b>Air Force:</b> Eglin AFB; Hurlburt Field <b>Navy:</b> NAS Whiting Field (OLF Holley)	<b>Air Force:</b> Tyndall AFB <b>Navy:</b> NAS Pensacola (Main Base; NOLF Bronson Field); NAS Whiting Field (Main Base, NOLF Site 8-A)
Rim Rock Crowned Snake ( <i>Tantilla oolitica</i> )	Under Review or Petitioned	Threatened-FL	G1	0		<b>Air Force:</b> Homestead ARB
Ringed Map Turtle ( <i>Graptemys oculifera</i> )	Threatened	Endangered-MS Threatened-LA	G2	1	<b>Navy:</b> NCBC Gulfport	
Rio Grande Cooter ( <i>Pseudemys gorzugi</i> )	Under Review or Petitioned	Threatened-NM	G3	0		<b>Air Force:</b> Laughlin AFB
Rough Greensnake* ( <i>Opheodrys aestivus</i> )	None	Endangered-PA	G5	0		<b>Army:</b> Fort Indiantown Gap
San Bernardino Ring-necked Snake ( <i>Diadophis punctatus modestus</i> )	None	None	T2	2	<b>Air Force:</b> March AFB <b>Navy:</b> NAVBASE Ventura County (Point Mugu)	
San Clemente Night Lizard ( <i>Xantusia riversiana reticulata</i> )	None	None	T1	1	<b>Navy:</b> Naval Base Coronado (San Clemente Island)	
San Francisco Gartersnake ( <i>Thamnophis sirtalis tetrataenia</i> )	Endangered	Endangered-CA	G2	0		<b>Air Force:</b> Pillar Point AFS
San Joaquin Coachwhip ( <i>Coluber flagellum ruddocki</i> )	None	None	T2	2	<b>Army:</b> Fort Hunter Liggett; Camp Roberts Training Site MTC	<b>Army:</b> Parks Reserve Force Training Area <b>Navy:</b> NAS Lemoore
San Nicolas Night Lizard ( <i>Xantusia riversiana riversiana</i> )	None	None	T1	1	<b>Navy:</b> NAVBASE Ventura County (San Nicolas Island)	
San Simeon Slender Salamander ( <i>Batrachoseps incognitus</i> )	None	None	G2	0		<b>Army:</b> Fort Hunter Liggett
Santa Lucia Mountains Slender Salamander ( <i>Batrachoseps luciae</i> )	None	None	G2	0		<b>Army:</b> Camp Roberts Training Site MTC; Camp San Luis Obispo; Fort Hunter Liggett; Presidio Of Monterey/Fort ORD
Savannah Slimy Salamander	None	None	G2	0		<b>Army:</b> Fort Gordon

( <i>Plethodon savannah</i> )		Endangered- DE, IN				
Scarletsnake* ( <i>Cemophora coccinea</i> )	None	Threatened- TX ( <i>Cemophora coccinea copei</i> )	G5	0		<b>Army:</b> Camp Maxey
Seepage Salamander ( <i>Desmognathus aeneus</i> )	None	None	G3	0		<b>Army:</b> Anniston Army Depot; Fort Benning; Fort McClellan Army National Guard Training Center
Sheep Frog* ( <i>Hypopachus variolosus</i> )	None	Threatened- TX	G5	0		<b>Navy:</b> NAS Corpus Christi (Main Base NOLF Canbaniss; NOLF Goliad); NAS Kingsville (Main Base; NALF Orange Grove)
Shenandoah Mountain Salamander ( <i>Plethodon virginia</i> )	None	None	G2	0		<b>Navy:</b> NWS Yorktown (Sugar Grove-Leased Operations Area)
Short-tailed Snake ( <i>Lampropeltis extenuata</i> )	Under Review or Petitioned	Threatened- FL	G3	1	<b>Air Force:</b> Avon Park AFR	<b>Air Force:</b> MacDill AFB; Tyndall AFB <b>Navy:</b> Naval Support Activity Orlando (LEFAC/Bugg Spring Facility)
Sierra Nevada Yellow-legged Frog ( <i>Rana sierrae</i> )	Endangered	Threatened- CA	G2	1	<b>Marine Corps:</b> MCMWTC Bridgeport	
Smooth Earthsnake* ( <i>Virginia valeriae</i> )	None	Endangered- MD ( <i>Virginia valeriae pulchra</i> )	G5	0		<b>Air Force:</b> Joint Base Andrews
Smooth Greensnake* ( <i>Opheodrys ventralis</i> )	None	Endangered- IN, OH	G5	2	<b>Air Force:</b> Wright-Patterson AFB <b>Army:</b> Camp Ravenna Joint Military Training Center	<b>Army:</b> Camp Perry Training Site
Sonoran Tiger Salamander ( <i>Ambystoma mavortium stebbinsi</i> )	Endangered	None	T1	1	<b>Army:</b> Fort Huachuca	
Southern Hog-nosed Snake ( <i>Heterodon simus</i> )	Under Review or Petitioned	Endangered- AL, MS Threatened- GA, SC	G2	11	<b>Air Force:</b> Moody AFB; Shaw AFB/Poinsett Electronic Combat Range <b>Army:</b> Fort Benning; Fort Bragg; Fort Gordon; Fort Stewart; McCrady Training Center <b>Marine Corps:</b> MCB Camp Lejeune <b>Navy:</b> NAS Pensacola (Main Base, NOLF Bronson Field, Saufley Field NETPDTC)	<b>Air Force:</b> Cape Canaveral AFS; Eglin AFB; Hurlburt Field; Jacksonville Air National Guard; Joint Base Charleston (Weapons Station); MacDill AFB; McEntire Joint NGB; Patrick AFB; Pope AFB; Robins AFB; Seymour-Johnson AFB; Seymour-Johnson AFB (Fort Fisher Recreation Area); Tyndall AFB <b>Army:</b> Anniston Army Depot; Fort Jackson; Fort McClellan Army National Guard Training Center; Fort Rucker; Military Ocean Terminal Sunny Point <b>Marine Corps:</b> MCAS Beaufort; MCAS Cherry Point; MCLB Albany <b>Navy:</b> NAS Jacksonville (Main Base, OLF Whitehouse, Rodman Bombing Target Range); NAS Whiting Field (NOLF Harold, NOLF Pace, NOLF Santa Rosa, NOLF Site

						8-A, NOLF Wolf, OLF Holley); Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NAVSUBASE Kings Bay
Speckled Racer* ( <i>Drymobius margaritiferus</i> )	None	Threatened-TX	G5			<b>Navy:</b> NAS Corpus Christi (NOLF Canbaniss)
Spiny Softshell* ( <i>Apalone spinifera</i> )	None	Threatened-SC, VT	G5	0		<b>Air Force:</b> Ellsworth AFB; McEntire Joint NGB; Shaw AFB/Poinsett Electronic Combat Range <b>Army:</b> Austin Training Area; Fort Jackson; McCrady Training Center <b>Marine Corps:</b> MCAS Beaufort; MCRD Parris Island
Spot-tailed Earless Lizard ( <i>Holbrookia lacerata</i> )	Under Review or Petitioned	None	G3	1	<b>Air Force:</b> Laughlin AFB	<b>Air Force:</b> Goodfellow AFB; Joint Base Antonio <b>Army:</b> Camp Bowie
Spotted Turtle ( <i>Clemmys guttata</i> )	Under Review or Petitioned	Endangered-IL, IN, VT Threatened-ME, MI, NH, OH, SC	G5	37	<b>Air Force:</b> Dare County Range; Joint Base Langley-Eustis (Fort Eustis); Joint Base McGuire-Dix-Lakehurst; New Boston AFS; Otis Air National Guard; Warren Grove Air National Guard; Westover Air Reserve Base <b>Army:</b> Aberdeen Proving Ground; Blossom Point Research Facility; Camp Curtis Guild; Devens Reserve Forces Training Area; Fort A.P Hill; Fort Belvoir; Fort Bragg; Fort Drum; Fort Indiantown Gap; Fort Lee; Fort Stewart; Letterkenny Army Depot; Maneuver Training Center-Fort Picket; New Castle River Road Training Site; New Hampshire Army National Guard Training Site; Picatinny Arsenal; West Point Military Reservation <b>Marine Corps:</b> MCAS Beaufort; MCB Camp Lejeune; MCB Quantico <b>Navy:</b> JEB Little Creek-Fort Story (Fort Story); NALF Fentress; NAS Oceana (Dam Neck Annex, Main Base); NAS Patuxent River (Main Base, Webster Field); NSA Northwest; NSF Indian Head; NSF Dahlgren; NWS Yorktown (Cheatham Annex, Main Base)	<b>Air Force:</b> Cape Cod AFS; Hanscom AFB; Jacksonville Air National Guard; Joint Base Andrews; Joint Base Charleston (Weapons Station); McEntire Joint NGB; Moody AFB; Niagara Fall Air Reserve Station; Pope AFB; Robins AFB; Selfridge ANGB; Seymour-Johnson AFB (Fort Fisher Recreation Area, Main Base); Shaw AFB/Poinsett Electronic Combat Range; Wright-Patterson <b>Army:</b> Auburn Training Site; Bangor IAP ANGB; Bangor Training Site; Bog Brook Training Site; Brunswick Training Site; Camp Edwards; Camp Grayling Joint Maneuver Center; Camp Smith Training Site; Carlisle Barracks; Fort Custer Training Center; Fort George G. Meade; Fort Gordon; Fort Jackson; Gardiner Training Site; Hollis Training Site; McCrady Training Center; Military Ocean Terminal Sunny Point; Pembroke Regional Training Institute; Plymouth Training Site <b>Marine Corps:</b> MCAS Cherry Point; MCLB Albany; Townsend Bombing Range <b>Navy:</b> JEB Little Creek-Fort Story (Little Creek); NAS Jacksonville (Main Base, OLF Whitehouse, Rodman Bombing Target Range); NAS Patuxent River (Bloodsworth Island Bombing Range); Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NAVSTA Newport; NAVSUBASE Kings Bay; NAVSUBASE New London (Admiral Fife Recreational Area, Beaverdam Brook Wetland, Main Base); NRL Washington (Chesapeake Bay Detachment, Midway Research Center, Pomonkey Detachment); NS Norfolk (Craney Island, Main Base); NSA Annapolis; NSF Carderock; NWS Earle
Streamside Salamander ( <i>Ambystoma barbouri</i> )	Under Review or Petitioned	None	G4	3	<b>Army:</b> Blue Grass Army Depot; Fort Knox; Jefferson Proving Grounds	<b>Air Force:</b> Wright-Patterson AFB <b>Army:</b> Eastern Kentucky Training Site; Muscatatuck Urban Training Center; Smyrna Training Site
Striped Newt	Candidate	Threatened-	G2	2	<b>Army:</b> Fort Stewart; Camp Blanding Joint Training	<b>Marine Corps:</b> MCLB Albany; Townsend Bombing Range



<i>(Notophthalmus perstriatus)</i>		GA			Center	<b>Navy:</b> NAS Jacksonville (Rodman Bombing Target Range); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NAVSUBASE Kings Bay <b>Army:</b> Redstone Arsenal; Smyrna Training Site
Tennessee Cave Salamander <i>(Gyrinophilus palleucus)</i>	Under Review or Petitioned	Threatened-GA, TN	G2	0		
Texas Horned Lizard* <i>(Phrynosoma cornutum)</i>	None	Threatened-TX	G5	12	<b>Air Force:</b> Dyess AFB; Goodfellow AFB; Joint Base Antonio; Laughlin AFB; Sheppard AFB <b>Army:</b> Camp Bowie; Camp Mabry; Camp Maxey; Fort Bliss; Fort Hood; Fort Walters <b>Navy:</b> NAS Kingsville (McMullen Range Complex)	<b>Army:</b> Camp Swift; Red River Army Depot <b>Navy:</b> NAS Corpus Christi (Main Base, NOLF Canbaniss, NOLF Goliad, NOLF Waldron, Peary Place Transmitter Site); NAS Kingsville (Main Base, NALF Orange Grove)
Texas Lyresnake* <i>(Trimorphodon vilkinsonii)</i>	None	Threatened-TX	G4	1	<b>Army:</b> Fort Bliss	
Texas Salamander <i>(Eurycea neotenes)</i>	Under Review or Petitioned	None	G1	1	<b>Air Force:</b> Joint Base Antonio (Camp Bullis Training Annex)	<b>Air Force:</b> Laughlin AFB
Texas Scarletsnake <i>(Cemophora coccinea lineri)</i>	None	Threatened-TX	G2	0		<b>Navy:</b> NAS Corpus Christi (Main Base, NOLF Canbaniss, NOLF Waldron, Peary Place Transmitter Site)
Texas Tortoise* <i>(Gopherus berlandieri)</i>	None	Threatened-TX	G4	4	<b>Air Force:</b> Joint Base Antonio (Camp Bullis Training Annex) <b>Navy:</b> NAS Corpus Christi; NAS Kingsville (Main Base, McMullen Range Complex)	<b>Air Force:</b> Laughlin AFB <b>Navy:</b> NAS Corpus Christi (NOLF Canbaniss, NOLF Goliad); NAS Kingsville (NALF Orange Grove)
Timber Rattlesnake* <i>(Crotalus horridus)</i>	None	Endangered-CT, IN, MA, NH, NJ, OH, VT, VA Threatened-IL, MN, NY, TX	G4	8	<b>Air Force:</b> Joint Base McGuire-Dix-Lakehurst; Warren Grove Air National Guard <b>Army:</b> Picatinny Arsenal; West Point Military Reservation <b>Marine Corps:</b> MCB Quantico <b>Navy:</b> NALF Fentress; NSA Crane; NSA Northwest	<b>Air Force:</b> Joint Base Antonio <b>Army:</b> Camp Maxey; Camp Smith Training Site; Camp Swift; Fort Dix-UTES Facility; Fort Hood; Muscatatuck Urban Training Center; Tuckerton Armory <b>Navy:</b> NAS Corpus Christi, NRL Washington
Tucson Shovel-nosed Snake <i>(Chionactis occipitalis klauberi)</i>	None	None	G3	0		<b>Air Force:</b> Davis-Monthan AFB
Webster's Salamander <i>(Plethodon websteri)</i>	None	Endangered-SC	G3	0		<b>Air Force:</b> Maxwell AFB <b>Army:</b> Anniston Army Depot; Fort Benning; Fort McClellan Army National Guard Training Center
Western Chicken Turtle <i>(Deirochelys reticularia miaria)</i>	Under Review or Petitioned	Endangered-MO	T5	3	<b>Air Force:</b> Tinker AFB <b>Army:</b> Camp Shelby Joint Forces Training Center; Red River Army Depot	<b>Air Force:</b> Little Rock AFB <b>Army:</b> Pine Bluff Arsenal
Western Massasauga <i>(Sistrurus catenatus tergeminus)</i>	None	None	T3	1	<b>Air Force:</b> Holloman AFB; Kirtland AFB <b>Army:</b> Fort Sill; Kansas Army National Guard Training Range Salina; White Sands Missile Range	<b>Air Force:</b> Goodfellow AFB; McConnell AFB; Peterson AFB; Schriever Air Force Base; Sheppard AFB; US Air Force Academy <b>Army:</b> Camp Bowie; Fort Bliss; Fort Carson (Pinon Canyon Maneuver Site); Fort Riley; Fort Walters; Pueblo Chemical Depot <b>Navy:</b> NAS Corpus Christi (NOLF Goliad, NAS Kingsville)

Western Pond Turtle ( <i>Actinemys marmorata</i> )	Under Review or Petitioned	Endangered-WA	G3	11	<p><b>Air Force:</b> Beal AFB; Edwards AFB; Travis AFB  <b>Army:</b> Camp Roberts Training Site MTC; Camp San Luis Obispo; Fort Hunter Liggett; Military Ocean Terminal Concord  <b>Marine Corps:</b> MCB Camp Pendleton  <b>Navy:</b> Naval Base Coronado (Remote Training Site Warner Springs); NAVBASE Ventura County (Point Mugu); NWS Seal Beach (Fallbrook Detachment)</p>	<p><b>Air Force:</b> March ARB; Pillar Point AFS  <b>Army:</b> Joint Base Lewis-McCord; Oregon Army National Guard (Camp Adair); Parks Reserve Force Training Area; Presidio Of Monterey/Fort ORD; Sierra Army Depot  <b>Marine Corps:</b> MCAS Camp Pendleton; MCAS Miramar; MCLB Barstow  <b>Navy:</b> Manchester Fuel Depot; NAS Whidbey Island (Ault Field, Seaplane Base); Naval Base Kitsap (Camp McKean, Camp Wesley Harris, NBK Bangor, NBK Jackson Park Housing Complex and Naval Hospital Bremerton, NBK Keyport, Toandos Peninsula, Zelatched Point); NAVBASE Ventura County (Port Hueneme); NRTF Dixon</p>
Western Spadefoot ( <i>Spea hammondi</i> )	Under Review or Petitioned	None	G3	10	<p><b>Air Force:</b> Vandenberg AFB  <b>Army:</b> Camp Roberts Training Site MTC; Fort Huachuca; Fort Hunter Liggett  <b>Marine Corps:</b> MCAS Camp Pendleton; MCAS Miramar; MCB Camp Pendleton  <b>Navy:</b> NAS Lemoore; Naval Base Coronado (Remote Training Site, Warner Springs); NWS Seal Beach (Fallbrook Detachment)</p>	<p><b>Air Force:</b> Beale AFB; March ARB; Travis AFB  <b>Army:</b> Camp San Luis Obispo; Presidio Of Monterey/Fort ORD  <b>Navy:</b> Naval Base Coronado (Camp Michael Monsoor); Naval Base San Diego (Chollas Heights Housing Area, Mission Gorge Recreational Facility, Murphy Canyon Housing Area); Naval Weapons Station Seal Beach; NRTF Dixon</p>
Western Wormsnake* ( <i>Carphophis vermis</i> )	None	Threatened-IA	G5	0	<p><b>Air Force:</b> New Boston AFS  <b>Army:</b> Camp Grayling Joint Maneuver Center; Devens Reserve Forces Training Area; Fort Belvoir; Fort Drum; Fort Indiantown Gap; Fort McCoy; Franklin Armory; Letterkenny Army Depot; Pembroke Regional Training Institute; Picatinny Arsenal; West Point Military Reservation</p>	<p><b>Army:</b> Iowa Army Ammunition Plant  <b>Air Force:</b> Cape Cod AFS; Hanscom AFB; Joint Base Andrews; Joint Base McGuire-Dix-Lakehurst; Otis Air National Guard; Warren Grove Air National Guard; Westover Air Reserve Base  <b>Army:</b> Aberdeen Proving Ground; Adelphi Laboratory Center; Auburn Training Site; Bangor IAP ANGB; Bangor Training Site; Blossom Point Research Facility; Bog Brook Training Site; Brunswick Training Site; Camp Smith Training Site; Carlisle Barracks; Caswell Training Site; Fort George G. Meade; Gardiner Training Site; Hollis Training Site; New Hampshire Army National Guard Training Site; Plymouth Training Site</p>
Wood Turtle ( <i>Glyptemys insculpta</i> )	Under Review or Petitioned	Endangered-IA Threatened-MN, NJ, VA, WI	G3	12		<p><b>Navy:</b> Great Pond Outdoor Adventure Center; NAVSTA Newport; NCTAMSLANT DET Cutler (High Frequency Site, Very Low Frequency Site); NSF Carderock; NWS Earle</p>
Yellow Mud Turtle* ( <i>Kinosternon flavescens</i> )	None	Endangered-IL, IA, MO	G5	0		<p><b>Navy:</b> Naval Station Great Lakes</p>
Yosemite Toad ( <i>Anaxyrus canorus</i> )	Threatened	None	G2	1	<p><b>Marine Corps:</b> MCMWTC Bridgeport</p>	
Yuman Fringe-toed Lizard ( <i>Uma rufopunctata</i> )	Under Review or Petitioned	None	G3	2	<p><b>Air Force:</b> Luke AFB (Barry M. Goldwater Range – East)  <b>Marine Corps:</b> MCAS Yuma (Barry M. Goldwater Range)</p>	<p><b>Army:</b> Yuma Proving Ground  <b>Marine Corps:</b> MCAS Yuma</p>

Appendix B. Non-native and Native Transplant Herpetofauna Confirmed or Potentially Present on DoD Properties (2017). Species Arranged Alphabetically by Common Name. Confirmed and Potential Locations for Native Transplant Species Only Include Those Military Sites Where They Were Outside Their Natural Range.

Species	Confirmed Location/s	Potential Location/s
<p><b>African Clawed Frog</b> <i>(Xenopus laevis)</i></p>	<p><b>Air Force:</b> Edwards Air Force Base (AFB) <b>Marine Corps:</b> MCAS Miramar <b>Navy:</b> Naval Base Coronado (Naval Outlying Landing Field Imperial Beach); Naval Base San Diego (Mission Gorge Recreational Facility); NAVBASE Ventura County (Port Hueneme, Point Mugu)</p>	<p><b>Air Force:</b> Davis-Monthan; San Diego Air Force Space Surveillance Station <b>Navy:</b> NAVBASE San Diego (Naval Medical Center San Diego); NWS Seal Beach (Fallbrook Detachment)</p>
<p><b>American Bullfrog</b> <i>(Lithobates catesbeianus)</i></p>	<p><b>Air Force:</b> Beale AFB; Edwards AFB; Little Rock AFB; Travis AFB; Vandenberg AFB <b>Army:</b> Camp Guernsey Training Site; Camp Navajo; Camp Roberts Training Site MTC-H; Camp San Luis Obispo; Dugway Proving Ground; Fort Carson; Fort Carson (Main Base and Pinon Canyon Maneuver Site); Fort Huachuca; Fort Hunter Liggett; Joint Base Lewis-McCord; Oregon Army National Guard (Camp Adair, Camp Rilea); Yakima Training Center <b>Marine Corps:</b> MCAS Miramar; MCB Camp Pendleton; MCLB Barstow <b>Navy:</b> NAF El Centro; NAS Fallon (Dixie Meadows, Dixie Valley Settlement Area, Main Base); NAS Lemoore; Naval Base Coronado (Naval Outlying Landing Field, Imperial Beach; Remote Training Site Warner Springs); Naval Base Kitsap (NBK Bangor); Naval Base San Diego (Mission Gorge Recreational Facility); NAWS China Lake; NWS Seal Beach (Fallbrook Detachment, NORCO/Corona)</p>	<p><b>Air Force:</b> Buckley AFB; Cheyenne Mountain Air Force Station; Davis-Monthan; Fairchild AFB (Main Base, Clear Lake Recreation Area); Hill AFB (Little Mountain Test and Training Range, Main Base, Utah Test and Training Range); Luke AFB; March ARB; Nellis AFB/Creech Air Force Base/Nevada Test and Training Range; Peterson AFB; Pillar Point AFS; San Diego Air Force Space Surveillance Station; Schriever Air Force Base; U.S. Air Force Academy <b>Army:</b> Buckeye Training Area; Camp Murray; Camp Williams; Florence Military Reservation; Fort Bliss; Hawthorne Army Depot; Military Ocean Terminal Concord; Nevada Army National Guard (Stead Training Site); Orchard Training Site; Parks Reserve Force Training Area; Presidio Of Monterey/Fort ORD; Pueblo Chemical Depot; Sierra Army Depot; Yuma Proving Ground <b>Marine Corps:</b> MCAGCC Twentynine Palms; MCAS Camp Pendleton; MCAS Yuma (Barry M. Goldwater Range West) <b>Navy:</b> NRTF Jim Creek; Manchester Fuel Depot; NAS Fallon (Horse Creek, Range B-16, Range B-19); NAS Whidbey Island (Ault Field, Seaplane Base); Naval Base Coronado (Camp Michael Monsoor, Camp Morena); Naval Base Kitsap (Bremerton, Camp Mckean, Camp Wesley Harris, NBK Jackson Park Housing Complex and Naval Hospital Bremerton, NBK Keyport, Toandos Peninsula, Zelatched Point); Naval Base San Diego (Naval</p>

		Medical Center San Diego); Naval Magazine Indian Island; Naval Surface Warfare Center Acoustic Research Detachment Bayview; Naval Weapons Station Seal Beach; NAVBASE Ventura County (Point Mugu); NRTF Dixon
<b>Bark Anole</b> ( <i>Anolis distichus</i> )	<b><u>Air Force:</u></b> Homestead ARB	
<b>Black and White Tegu</b> ( <i>Tupinambis merianae</i> )	<b><u>Air Force:</u></b> Homestead ARB	
<b>Boa Constrictor</b> ( <i>Boa constrictor</i> )	<b><u>Marine Corps:</u></b> MCRD Parris Island (pet release)	<b><u>Air Force:</u></b> Cape Canaveral AFS; Patrick AFB
<b>Brahminy Blindsnake</b> ( <i>Ramphotyphlops braminus</i> )	<b><u>Air Force:</u></b> Homestead ARB <b><u>Navy:</u></b> NAS Key West	<b><u>Marine Corps:</u></b> MCLB Albany <b><u>Navy:</u></b> NAS Pensacola (Main Base, NOLF Bronson Field); NAS Whiting Field (NOLF Site 8-A)
<b>Brown Anole</b> ( <i>Anolis sagrei</i> )	<b><u>Air Force:</u></b> Avon Park AFR; Eglin AFB; Homestead ARB <b><u>Army:</u></b> Camp Blanding Joint Training Center; Snake Creek Training Site <b><u>Marine Corps:</u></b> MCSF Blount Island <b><u>Navy:</u></b> NAS Jacksonville; NAS JRB NOLA; Naval Station Mayport; (Main Base, Naval Fuel Depot)	<b><u>Air Force:</u></b> Cape Canaveral AFS; Hurlburt Field; Jacksonville Air National Guard; Joint Base Antonio; Patrick AFB; Tyndall AFB <b><u>Army:</u></b> Camp Mabry; Camp Villere; Fort Stewart <b><u>Marine Corps:</u></b> MCLB Albany <b><u>Navy:</u></b> NAS Jacksonville (OLF Whitehouse, Rodman Bombing Target Range); NAS Kingsville; Naval Station Mayport (Greenfield Plantation, Ribault Bay Village Housing); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NAVSUBASE Kings Bay; NSA Panama City
<b>Brown Basilisk</b> ( <i>Basiliscus vittatus</i> )	<b><u>Air Force:</u></b> Homestead ARB	
<b>Burmese Python</b> ( <i>Python molurus bivittatus</i> )	<b><u>Air Force:</u></b> Homestead ARB	
<b>Cane Toad</b> ( <i>Rhinella marina</i> )	<b><u>Air Force:</u></b> Avon Park AFR; Homestead ARB	<b><u>Air Force:</u></b> Tyndall AFB <b><u>Navy:</u></b> NAS Key West
<b>Coqui</b> ( <i>Eleutherodactylus coqui</i> )		<b><u>Air Force:</u></b> Homestead ARB
<b>Cuban Treefrog</b>	<b><u>Air Force:</u></b> Avon Park AFR; Homestead ARB; MacDill	<b><u>Air Force:</u></b> Cape Canaveral AFS; Jacksonville Air National

<p><i>(Osteopilus septentrionalis)</i></p>	<p>AFB <b>Marine Corps:</b> MCSF Blount Island</p>	<p>Guard; Patrick AFB; Tyndall AFB <b>Army:</b> Camp Blanding Joint Training Center; Fort Stewart <b>Navy:</b> NAS Jacksonville (Main Base, OLF Whitehouse, Rodman Bombing Target Range); NAS Key West; Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NSA Panama City</p>
<p><b>Green Iguana</b> <i>(Iguana iguana)</i></p>	<p><b>Air Force:</b> Homestead ARB <b>Navy:</b> NAs Key West</p>	
<p><b>Greenhouse Frog</b> <i>(Eleutherodactylus planirostris)</i></p>	<p><b>Air Force:</b> Avon Park AFR; Eglin AFB; Homestead ARB; MacDill AFB <b>Army:</b> Camp Blanding Joint Training Center <b>Marine Corps:</b> MCSF Blount Island <b>Navy:</b> NAS Jacksonville (OLF Whitehouse); NAS JRB NOLA; NAS Key West</p>	<p><b>Air Force:</b> Cape Canaveral AFS; Hurlburt Field; Jacksonville Air National Guard; Patrick AFB; Tyndall AFB <b>Army:</b> Camp Villere; Fort Stewart <b>Marine Corps:</b> MCAS Beaufort; MCLB Albany; Townsend Bombing Range <b>Navy:</b> NAS Jacksonville (Main Base, Rodman Bombing Target Range); NAS Whiting Field (NOLF Wolf); Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NAVSUBASE Kings Bay; NSA Panama City</p>
<p><b>Indo-Pacific House Gecko</b> <i>(Hemidactylus garnotii)</i></p>	<p><b>Air Force:</b> Avon Park AFR; Homestead ARB, MacDill AFB</p>	<p><b>Air Force:</b> Jacksonville Air National Guard <b>Marine Corps:</b> MCSF Blount Island <b>Navy:</b> NAS Jacksonville (Main Base, OLF Whitehouse, Rodman Bombing Target Range); Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing); NSA Panama City</p>
<p><b>Knight Anole</b> <i>(Anolis equestris)</i></p>	<p><b>Air Force:</b> Homestead ARB</p>	<p><b>Air Force:</b> Cape Canaveral AFS; Patrick AFB</p>
<p><b>Mediterranean Gecko</b> <i>(Hemidactylus turcicus)</i></p>	<p><b>Air Force:</b> Eglin AFB; Homestead ARB; Joint Base Antonio; Nellis AFB/Creech Air Force Base/Nevada TTR; Sheppard AFB; Tinker AFB <b>Army:</b> Camp Maxey; Camp Shelby Joint Forces Training Center; Camp Swift; Florence Military Reservation; Fort Hood; Fort Polk; White Sands Missile</p>	<p><b>Air Force:</b> Avon Park AFR; Barksdale AFB; Davis-Monthan; Dobbins ARB; Dyess AFB; Edwards AFB; Goodfellow AFB; Hurlburt Field; Jacksonville Air National Guard; Joint Base Charleston (Weapons Station); Laughlin AFB; Luke AFB (Barry M. Goldwater Range – East, Main Base); Maxwell AFB; Moody AFB</p>

	<p>Range; Yuma Proving Ground</p> <p><b>Marine Corps:</b> MCLB Albany; MCRD Parris Island</p> <p><b>Navy:</b> NAS Corpus Christi; NAS Jacksonville; NAS JRB NOLA; NAS Kingsville (McMullen Range Complex); NAS Pensacola (Saufley Field NETPDTC); Naval Station Mayport (Naval Fuel Depot)</p>	<p><b>Army:</b> Buckeye Training Area; Camp Beauregard Training Site; Camp Blanding Joint Training Center; Camp Bowie; Camp Mabry; Floyd Edsall Training Center; Fort Bliss; Fort Stewart; Pine Bluff Arsenal; Red River Army Depot</p> <p><b>Marine Corps:</b> Chocolate Mountain Aerial Gunnery Range; MCAS Yuma (Barry M. Goldwater Range West, Main Base); MCLB Barstow; MCSF Blount Island; Townsend Bombing Range</p> <p><b>Navy:</b> NAS Corpus Christi; NAS Corpus Christi (NOLF Canbaniss, NOLF Waldron, Peary Place Transmitter Site); NAS Jacksonville (OLF Whitehouse, Rodman Bombing Target Range); NAS Kingsville (Main Base, NALF Orange Grove); NAS Pensacola (Center for Information Dominance Corry Station, Main Base, NOLF Bronson Field); NAS Whiting Field (NOLF Site 8-A, NOLF Wolf); Naval Station Mayport (Greenfield Plantation, Main Base, Ribault Bay Village Housing); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NAVSUBASE Kings Bay; NS Norfolk (Craney Island, Main Base)</p>
<p><b>Mudpuppy</b> (<i>Necturus maculosus</i>)</p>		<p><b>Army:</b> Gardiner Training Site</p>
<p><b>Nile monitor</b> (<i>Varanus niloticus</i>)</p>	<p><b>Air Force:</b> Homestead ARB</p>	
<p><b>Northern Leopard Frog</b> (<i>Lithobates pipiens</i>)</p>		<p><b>Marine Corps:</b> MCMWTC Bridgeport</p>
<p><b>Puerto Rican Crested Anole</b> (<i>Anolis cristatellus cristatellus</i>)</p>	<p><b>Air Force:</b> Homestead ARB</p>	
<p><b>Red-eared Slider</b> (<i>Trachemys scripta elegans</i>)</p>	<p><b>Air Force:</b> Beale AFB; Homestead ARB; Joint Base Langley-Eustis; Vandenberg AFB; Wright-Patterson AFB</p> <p><b>Army:</b> Aberdeen Proving Ground; Fort Belvoir; Fort Custer Training Center; Fort Hunter Liggett; Fort Indiantown Gap; Fort Lee; Muscatatuck Urban Training Center; West Point Military Reservation</p>	<p><b>Air Force:</b> Cape Canaveral AFS; Cape Cod AFS; Davis-Monthan; Hanscom AFB; Jacksonville Air National Guard; Joint Base Andrews; Joint Base McGuire-Dix-Lakehurst; Kirtland AFB; Luke AFB; Niagara Fall Air Reserve Station; Otis Air National Guard; Patrick AFB; Pillar Point AFS; Pope AFB; San Diego Air Force Space; Surveillance Station; Selfridge ANGB; Seymour-Johnson AFB (Main Base, Fort Fisher Recreation Area); Travis AFB; Tyndall AFB; Warren Grove Air National Guard;</p>

	<p><b><u>Marine Corps:</u></b> MCAS Miramar; MCB Camp Pendleton</p> <p><b><u>Navy:</u></b> JEB Little Creek-Fort Story (Little Creek); NAS Jacksonville; NAS Patuxent River (Main Base); Naval Base Coronado (Naval Outlying Landing Field, Imperial Beach); Naval Weapons Station Seal Beach; NAVBASE Ventura County (Point Mugu, Port Hueneme); NSA Monterey (Main Grounds); NSA Northwest Annex; NSA Panama City; NSF Indian Head; NWS Seal Beach (Fallbrook Detachment, NORCO/Corona); NWS Yorktown (Main Base, Cheatham Annex)</p>	<p>Westover Air Reserve Base</p> <p><b><u>Army:</u></b> Adelphi Laboratory Center; Blossom Point Research Facility; Camel Tracks Training Site; Camp Edwards; Camp Roberts Training Site MTC-H; Camp San Luis Obispo; Camp Murray; Camp Smith Training Site; Devens Reserve Forces Training Area; Disney Training Center (Artemus); Fort Bliss; Fort Detrick; Fort George G. Meade; Fort Huachuca; Joint Base Lewis-McCord; Military Ocean Terminal Sunny Point; Military Ocean Terminal Concord; Parks Reserve Force Training Area; Picatinny Arsenal; Presidio Of Monterey/Fort ORD; Sea Girt</p> <p><b><u>Marine Corps:</u></b> MCAS Camp Pendleton; MCAS Cherry Point; MCB Camp Lejeune; MCB Quantico</p> <p><b><u>Navy:</u></b> Naval Base San Diego (Mission Gorge Recreational Facility); JEB Little Creek-Fort Story (Fort Story); Joint Base Anacostia-Bolling; Manchester Fuel Depot; NALF Fentress; NAS Jacksonville (OLF Whitehouse, Rodman Bombing Target Range); NAS Patuxent River (Bloodsworth Island Bombing Range, Webster Field); National Maritime Intelligence Center; Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NRL Washington (Chesapeake Bay Detachment, Pomonkey Detachment, Midway Research Center); NS Newport ; NS Norfolk; NSA Annapolis; NSF Carderock; NWS Earle</p>
<p><b>Reef Gecko</b> <i>(Sphaerodactylus notatus)</i></p>		<p><b><u>Air Force:</u></b> Altus AFB; Gila River Air Force Space Surveillance Station; Nellis AFB/Creech Air Force Base/Nevada Test and Training Range</p>
<p><b>Rio Grande Chirping Frog</b> <i>(Eleutherodactylus cystignathoides)</i></p>	<p><b><u>Army:</u></b> Camp Swift</p>	<p><b><u>Army:</u></b> Camp Bowie</p>
<p><b>Rio Grande Leopard Frog</b> <i>(Lithobates berlandieri)</i></p>		<p><b><u>Air Force:</u></b> Luke AFB</p> <p><b><u>Army:</u></b> Cam Mabry; Camp Swift; Yuma Proving Ground;</p> <p><b><u>Marine Corps:</u></b> Chocolate Mountain Aerial Gunnery Range; MCAS Yuma (Barry M. Goldwater Range West)</p> <p><b><u>Navy:</u></b> NAF El Centro (Main Base, Parachute Drop Zone -Range</p>

		2510, Target 103-Range 2510)
<b>Rough-tailed Gecko</b> ( <i>Cyrtopodion scabrum</i> )	<b><u>Air Force:</u></b> Luke AFB (Barry M. Goldwater Range – East); Nellis AFB	<b><u>Army:</u></b> Florence Military Reservation <b><u>Marine Corps:</u></b> MCAS Yuma
<b>San Diego Alligator Lizard</b> ( <i>Elgaria multicarinata webbii</i> )	<b><u>Navy:</u></b> NAVBASE Ventura County (San Nicolas Island)	
<b>Common Snapping Turtle</b> ( <i>Chelydra serpentina</i> )	<b><u>Air Force:</u></b> Edwards AFB <b><u>Marine Corps:</u></b> MCB Camp Pendleton	<b><u>Air Force:</u></b> Luke AFB <b><u>Army:</u></b> Camp San Luis Obispo
<b>Spectacled Caiman</b> ( <i>Caiman crocodilus</i> )	<b><u>Air Force:</u></b> Homestead ARB	
<b>Spiny Softshell</b> ( <i>Apalone spinifera</i> )	<b><u>Air Force:</u></b> Beale AFB <b><u>Marine Corps:</u></b> MCB Camp Pendleton <b><u>Navy:</u></b> NWS Seal Beach (Defense Fuel Support Point San Pedro)	<b><u>Air Force:</u></b> Davis-Monthan; Joint Base McGuire-Dix-Lakehurst; Luke AFB; Vandenberg AFB; Warren Grove Air National Guard <b><u>Marine Corps:</u></b> MCAS Yuma (Barry M. Goldwater Range) <b><u>Navy:</u></b> NAF El Centro; NWS Earle
<b>Texas Horned Lizard</b> ( <i>Phrynosoma cornutum</i> )		<b><u>Air Force:</u></b> Eglin AFB; Jacksonville Air National Guard <b><u>Marine Corps:</u></b> MCSF Blount Island <b><u>Navy:</u></b> NAS Jacksonville (Main Base, OLF Whitehouse, Rodman Bombing Target Range); NAS Pensacola (Main Base, NOLF Bronson Field, Saufley Field NETPDTC); NAS Whiting Field (NOLF Site 8-A, NOLF Wolf); Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing)
<b>Tropical House Gecko</b> ( <i>Hemidactylus mabouia</i> )	<b><u>Air Force:</u></b> Homestead ARB	
<b>West African Red-headed Agama</b> ( <i>Agama agama africana</i> )	<b><u>Air Force:</u></b> Homestead ARB	
<b>Western Painted Turtle</b> ( <i>Chrysemys picta belli</i> )	<b><u>Air Force:</u></b> Edwards AFB	<b><u>Marine Corps:</u></b> MCAS Miramar; MCB Camp Pendleton <b><u>Navy:</u></b> NWS Seal Beach (Fallbrook Detachment)
<b>Barred Tiger Salamander</b> ( <i>Ambystoma mavortium</i> )	<b><u>Army:</u></b> Fort Hunter Liggett	<b><u>Army:</u></b> Presidio Of Monterey/Fort ORD



<b>Yellow-bellied Slider</b> <i>(Trachemys scripta scripta)</i>	<b><u>Army:</u></b> Fort Indiantown Gap <b><u>Marine Corps:</u></b> MCB Camp Pendleton	
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Appendix C. Venomous Herpetofauna Species Confirmed or Potentially Present on DoD Properties (2017). Species Arranged Alphabetically by Common Name.

Species	Confirmed Location/s	Potential Location/s
<p><b>Arizona Black Rattlesnake</b> (<i>Crotalus cerberus</i>)</p>	<p><b><u>Navy:</u></b> Naval Observatory Flagstaff Station</p>	<p><b><u>Army:</u></b> Camp Navajo</p>
<p><b>Black-tailed Rattlesnake</b> (<i>Crotalus molossus</i>)</p>	<p><b><u>Air Force:</u></b> Kirtland AFB; Luke AFB (Barry M. Goldwater Range-East) <b><u>Army:</u></b> Buckeye Training Area; Fort Bliss; Fort Huachuca; White Sands Missile Range <b><u>Marine Corps:</u></b> Yuma Proving Ground</p>	<p><b><u>Air Force:</u></b> Gila River Air Force Space Surveillance Station; Holloman AFB; JB San Antonio; Laughlin AFB; Luke AFB (Main Base) <b><u>Army:</u></b> Camel Tracks Training Site; Camp Navajo; Florence Military Reservation; Yuma Proving Ground (Maine Base)</p>
<p><b>Copperhead</b> (<i>Agkistrodon contortrix</i>)</p>	<p><b><u>Air Force:</u></b> Arnold AFB; Barksdale AFB; Columbus AFB; Dare County Range; JB Charleston (Weapons Station); JB San Antonio; Little Rock AFB; Robins AFB; Shaw AFB/Poinsett Electronic Combat Range; Tinker AFB <b><u>Army:</u></b> Aberdeen Proving Ground; Camp Atterbury Joint Maneuver Training Center; Camp Beauregard Training Site; Camp Gruber Maneuver Training Center; Camp Maxey; Camp McCain; Camp Shelby Joint Forces Training Center; Camp Swift; Camp Villere; Catoosa Training Site; Fort A.P Hill; Fort Belvoir; Fort Benning; Fort Bragg; Fort Campbell Military Reservation; Fort Chaffee; Fort Gordon; Fort Hood; Fort Indiantown Gap; Fort Jackson; Fort Knox; Fort Leavenworth; Fort Lee; Fort Leonard Wood; Fort McClellan Army National Guard Training Center; Fort Polk; Fort Riley; Fort Rucker; Fort Sill; Fort Stewart; Fort Walters; Jefferson Proving Grounds Letterkenny Army Depot; McAlester AAP; McCrady Training Center; Milan Army Ammunition Plant;</p>	<p><b><u>Air Force:</u></b> Dobbins ARB; Dyess AFB; Eglin AFB; Goodfellow AFB; Hurlburt Field; JB Andrews; Laughlin AFB; Maxwell AFB; McEntire Joint NGB; Pope AFB; Seymour-Johnson AFB (Fort Fisher Rec. Area); Sheppard AFB; Westover ARB; Whiteman AFB <b><u>Army:</u></b> Anniston Army Depot; Blossom Point Research Facility; Blue Grass Army Depot; Camp Bowie; Camp Butner (Snow Camp Training Site); Camp Clark Training Site; Camp Dawson; Camp Mabry; Camp Minden Training Center; Camp Sherman Joint Training Center; Camp Smith Training Site; Disney Training Center (Artemus); Eastern Kentucky Training Site; Fort George G. Meade; Iowa Army Ammunition Plant; Military Ocean Terminal Sunny Point; Muscatatuck Urban Training Center; Pine Bluff Arsenal; Redstone Arsenal; Smyrna Training Site <b><u>Marine Corps:</u></b> MCLB Albany; Townsend Bombing Range <b><u>Navy:</u></b> JEB Little Creek-Fort Story (Little Creek); NAS Corpus Christi (NOLF Goliad); NAS Oceana (Dam Neck Annex); NAS Patuxent River (Bloodsworth Island Bombing Range); NAS</p>

	<p>Milan Training Site; Picatinny Arsenal; Radford Army Ammunition Plant (Main Base); Radford Army Ammunition Plant (New River Storage Unit); Red River Army Depot; Redstone Arsenal; Robinson Maneuver Training Center; Tullahoma Training Site; Wendell H Ford Regional Training Center; West Point Military Reservation</p> <p><b>Marine Corps:</b> MCAS Beaufort; MCAS Cherry Point; MCB Camp Lejeune; MCB Quantico</p> <p><b>Navy:</b> JEB Little Creek-Fort Story (Fort Story); NALF Fentress; NAS JRB NOLA; NAS Meridian (Joe Williams Field, McCain Field, Searay Target Range); NAS Oceana; NAS Patuxent River (Main Base, Webster Field); NAS Pensacola (Main Base, NOLF Bronson Field); Naval Support Facility Dahlgren (Mainside, Pumpkin Neck); NS Norfolk (Craney Island); NSA Crane; NSA Midsouth Memphis; NSA Northwest; NSF Indian Head; NWS Yorktown (Cheatham Annex, Main Base, Yorktown Fuel Depot)</p>	<p>Whiting Field (NOLF Evergreen, NOLF Site 8-A, NOLF Wolf); NAVSUBASE New London (Admiral Fife Recreational Area, Beaverdam Brook Wetland, Main Base); NRL Washington (Chesapeake Bay Detachment, Midway Research Center, Pomonkey Detachment); NS Norfolk; NSA Annapolis; NSF Carderock; NWS Yorktown (Sugar Grove-Leased Operations Area)</p>
<p style="text-align: center;"><b>Cottonmouth</b> (<i>Agkistrodon piscivorus</i>)</p>	<p><b>Air Force:</b> Avon Park AFR; Barksdale AFB; Columbus AFB; Dare County Range; Eglin AFB; Hurlburt Field; Joint Base Charleston (Weapons Station); Little Rock AFB; Moody AFB; Robins AFB; Shaw AFB/Poinsett Electronic Combat Range; Sheppard AFB</p> <p><b>Army:</b> Camp Beauregard Training Site; Camp Blanding Joint Training Center; Camp Gruber Maneuver Training Center; Camp Maxey; Camp McCain; Camp Shelby Joint Forces Training Center; Camp Villere; Fort Benning; Fort Bragg; Fort Chaffee; Fort Gordon; Fort Jackson; Fort Lee; Fort Leonard Wood; Fort McClellan Army National Guard Training Center; Fort Polk; Fort Rucker; Fort Sill; Fort Stewart; Fort Walters; McAlester AAP; McCrady Training Center; Milan Army Ammunition Plant;</p>	<p><b>Air Force:</b> Cape Canaveral AFS; Dobbins ARB; Goodfellow AFB; Homestead ARB; Jacksonville Air National Guard; Joint Base Antonio; MacDill AFB; Maxwell AFB; McEntire Joint NGB; Patrick AFB; Pope AFB; Seymour-Johnson AFB (Fort Fisher Recreation Area)</p> <p><b>Army:</b> Anniston Army Depot; Camp Bowie; Camp Mabry; Camp Minden Training Center; Camp Swift; Milan Training Site; Pine Bluff Arsenal; Redstone Arsenal; Wendell H Ford Regional Training Center</p> <p><b>Marine Corps:</b> MCSF Blount Island</p> <p><b>Navy:</b> JEB Little Creek-Fort Story (Little Creek); NAS Corpus Christi (Main Base, NOLF Canbaniss, NOLF Goliad, NOLF Waldron; Peary Place Transmitter Site); NAS Jacksonville (OLF Whitehouse, Rodman Bombing Target Range); NAS Whiting Field (NOLF Evergreen, NOLF Harold, NOLF Pace, NOLF Santa Rosa, NOLF Site 8-A, NOLF Spencer, NOLF</p>

	<p>Military Ocean Terminal Sunny Point; Red River Army Depot; Robinson Maneuver Training Center</p> <p><b>Marine Corps:</b> MCAS Beaufort; MCAS Cherry Point; MCB Camp Lejeune; MCLB Albany; Townsend Bombing Range</p> <p><b>Navy:</b> JEB Little Creek-Fort Story (Fort Story); NAS Jacksonville; NAS JRB NOLA; NAS Key West; NAS Meridian (Joe Williams Field, McCain Field, Searay Target Range); NAS Oceana (Dam Neck Annex, NALF Fentress, Main Base); NAS Pensacola (Saufley Field NETPDTC, Main Base, NOLF Bronson Field); NAS Whiting Field; Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NAVSUBASE Kings Bay; NCBC Gulfport (Western Maneuver Area); NS Norfolk (Crane Island); NSA Midsouth Memphis</p>	<p>Wolf, OLF Holley); Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing); NS Norfolk; NSA Northwest; NWS Yorktown (Cheatham Annex, Main Base, Yorktown Fuel Depot)</p>
<p><b>Eastern Diamond-backed Rattlesnake</b> (<i>Crotalus adamanteus</i>)</p>	<p><b>Air Force:</b> Avon Park AFR; Eglin AFB; Hurlburt Field; Joint Base Charleston (Weapons Station); MacDill AFB</p> <p><b>Army:</b> Camp Blanding Joint Training Center; Camp Shelby Joint Forces Training Center; Fort Benning; Fort Rucker; Fort Stewart</p> <p><b>Marine Corps:</b> MCAS Beaufort; MCB Camp Lejeune; MCLB Albany; MCRD Parris Island; MCSF Blount Island; Townsend Bombing Range</p> <p><b>Navy:</b> NAS Jacksonville (Main Base, Pinecastle Range); NAS Key West; NAS Pensacola (Saufley Field NETPDTC, Main Base, NOLF Bronson Field); NAS Whiting Field (OLF Holley); Naval Station Mayport (Naval Fuel Depot); NAVSUBASE Kings Bay</p>	<p><b>Air Force:</b> Cape Canaveral AFS; Homestead ARB; Jacksonville Air National Guard; Moody AFB; Patrick AFB; Seymour-Johnson AFB (Fort Fisher Recreation Area); Tyndall AFB</p> <p><b>Army:</b> Military Ocean Terminal Sunny Point</p> <p><b>Marine Corps:</b> MCAS Cherry Point</p> <p><b>Navy:</b> NAS Jacksonville (OLF Whitehouse, Rodman Bombing Target Range); NAS Whiting Field (Main Base, NOLF Evergreen, NOLF Harold, NOLF Pace, NOLF Santa Rosa, NOLF Site 8-A, NOLF Spencer, NOLF Wolf, Naval Station Mayport (Greenfield Plantation, Main Base, Ribault Bay Village Housing); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility); NSA Panama City</p>
<p><b>Banded Gila Monster</b> (<i>Heloderma suspectum cinctum</i>)</p>	<p><b>Air Force:</b> Davis-Monthan; Gila River Air Force Space Surveillance Station; Luke AFB (Barry M. Goldwater Range – East)</p> <p><b>Army:</b> Florence Military Reservation; Fort Huachuca; Yuma Proving Ground</p>	<p><b>Air Force:</b> Luke AFB; Nellis AFB/Creech AFB/Nevada Test and Training Range</p> <p><b>Army:</b> Buckeye Training Area; Floyd Edsall Training Center; Fort Bliss</p> <p><b>Marine Corps:</b> MCAS Yuma (Chocolate Mountain Aerial</p>

	<b><u>Marine Corps:</u></b> MCAS Yuma (Barry M. Goldwater Range West)	Gunnery Range)
<b>Eastern Coralsnake</b> <i>(Micrurus fulvius)</i>	<b><u>Air Force:</u></b> Avon Park AFR; Homestead ARB; Joint Base Charleston–Weapons Station; Moody AFB <b><u>Army:</u></b> Camp Blanding Joint Training Center; Camp Shelby Joint Forces Training Center; Fort Benning; Fort Rucker; Fort Stewart <b><u>Marine Corps:</u></b> MCB Camp Lejeune <b><u>Navy:</u></b> NAS Whiting Field (OLF Holley)	<b><u>Air Force:</u></b> Cape Canaveral AFS; Eglin AFB; Hurlburt Field; Jacksonville ANG; MacDill AFB; McEntire Joint NGB; Patrick AFB; Pope AFB; Seymour-Johnson AFB (Fort Fisher Rec. Area); Shaw AFB/Poinsett Electronic Combat Range; Tyndall AFB <b><u>Army:</u></b> Anniston Army Depot; Camp Villere; Fort Bragg; Fort Gordon; Fort Jackson; Fort McClellan Army National Guard Training Center; McCrady Training Center; Military Ocean Terminal Sunny Point <b><u>Marine Corps:</u></b> MCAS Beaufort; MCLB Albany; MCRD Parris Island; MCSF Blount Island; Townsend Bombing Range <b><u>Navy:</u></b> NAS Jacksonville (OLF Whitehouse, Rodman Bombing Target Range); NAS Pensacola (Saufley Field NETPDT, Main Base, NOLF Bronson Field); NAS Whiting Field (Main Base, NOLF Evergreen, NOLF Harold, NOLF Pace, NOLF Santa Rosa, NOLF Site 8-A, NOLF Spencer, NOLF Wolf); Naval Station Mayport (Greenfield Plantation, Naval Fuel Depot, Ribault Bay Village Housing); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility)
<b>Massasauga</b> <i>(Sistrurus catenatus)</i>	<b><u>Air Force:</u></b> Holloman AFB; Kirtland AFB <b><u>Army:</u></b> Camp Grayling Joint Maneuver Center; Fort Sill; Kansas Army National Guard Training Range Salina; White Sands Missile Range	<b><u>Air Force:</u></b> Cheyenne Mountain Air Force Station; Goodfellow AFB; McConnell AFB; Offutt AFB; Peterson AFB; Schriever Air Force Base; Selfridge ANGB; Sheppard AFB; US Air Force Academy; Wright-Patterson <b><u>Army:</u></b> Camp Bowie; Fort Bliss, Fort Carson; Fort Custer Training Center; Fort McCoy; Fort Riley; Fort Walters; Iowa Army Ammunition Plant; Pueblo Chemical Depot <b><u>Navy:</u></b> NAS Corpus Christi (NOLF Goliad); NAS Kingsville
<b>Mojave Rattlesnake</b> <i>(Crotalus scutulatus)</i>	<b><u>Air Force:</u></b> Davis-Monthan; Edwards AFB; Luke AFB (Barry M. Goldwater Range – East); Nellis AFB/Creech AFB/Nevada Test and Training Range <b><u>Army:</u></b> Florence Military Reservation; Fort Bliss; Fort	<b><u>Air Force:</u></b> Gila River Air Force Space Surveillance Station; Holloman AFB; Luke AFB <b><u>Army:</u></b> Buckeye Training Area; Floyd Edsall Training Center <b><u>Marine Corps:</u></b> MCAS Yuma

	<p>Huachuca; Fort Irwin; Yuma Proving Ground</p> <p><b>Marine Corps:</b> MCAGCC Twentynine Palms; MCAS Yuma (Barry M. Goldwater Range); MCLB Barstow</p> <p><b>Navy:</b> NAWS China Lake</p>	
<p><b>Panamint Rattlesnake</b> (<i>Crotalus stephensi</i>)</p>	<p><b>Army:</b> Hawthorne Army Depot</p> <p><b>Navy:</b> NAWS China Lake</p>	<p><b>Air Force:</b> Nellis AFB/Creech AFB/Nevada Test and Training Range</p> <p><b>Army:</b> Floyd Edsall Training Center</p> <p><b>Navy:</b> Naval Base Coronado (Camp Morena)</p>
<p><b>Prairie Rattlesnake</b> (<i>Crotalus viridis</i>)</p>	<p><b>Air Force:</b> Cannon AFB/Melrose AFR; Ellsworth AFB; Fairchild AFB; Holloman AFB; Kirtland AFB; Malmstrom AFB; Peterson AFB; US Air Force Academy</p> <p><b>Army:</b> Camp Guernsey Training Site; Fort Bliss; Fort Carson (Main Base, Pinon Canyon Maneuver Site); Limestone Hills Training Area; Lovell Training Area; Sheridan Training Area; White Sands Missile Range</p>	<p><b>Air Force:</b> Buckley AFB; Cheyenne Mountain Air Force Station; Dyess AFB; Fairchild AFB (Clear Lake Recreation Area); Francis E. Warren; Gila River Air Force Space Surveillance Station; Goodfellow AFB; Schriever AFB; Sheppard AFB</p> <p><b>Army:</b> Camel Tracks Training Site; Fort William H. Harrison; Lander Training Area; Pueblo Chemical Depot; West Camp Rapid Training Area</p>
<p><b>Pigmy Rattlesnake</b> (<i>Sistrurus miliarius</i>)</p>	<p><b>Air Force:</b> Avon Park AFR; Eglin AFB; Homestead ARB; Hurlburt Field; MacDill AFB</p> <p><b>Army:</b> Camp Blanding Joint Training Center; Camp Gruber Maneuver Training Center; Camp Shelby Joint Forces Training Center; Camp Villere; Fort Benning; Fort Bragg; Fort Gordon; Fort Jackson; Fort Polk; Fort Stewart; McCrady Training Center</p> <p><b>Marine Corps:</b> MCAS Cherry Point; MCB Camp Lejeune; Townsend Bombing Range</p> <p><b>Navy:</b> NAS Pensacola (Saufley Field NETPDTC, Main Base, NOLF Bronson Field); Naval Station Mayport; NAVSUBASE Kings Bay; NSA Panama City</p>	<p><b>Army:</b> Anniston Army Depot; Camp Beauregard Training Site; Camp Minden Training Center; Fort Chaffee; Fort McClellan Army National Guard Training Center; Fort Rucker; Iowa Army Ammunition Plant; McAlester AAP; Military Ocean Terminal Sunny Point; Pine Bluff Arsenal; Redstone Arsenal; Robinson Maneuver Training Center</p> <p><b>Marine Corps:</b> MCAS Beaufort; MCLB Albany; MCSF Blount Island</p> <p><b>Navy:</b> NAS Jacksonville (Main Base, OLF Whitehouse; Rodman Bombing Target Range); NAS JRB NOLA; NAS Meridian (Joe Williams Field, McCain Field, Searay Target Range); NAS Whiting Field (Main Base, NOLF Evergreen, NOLF Harold, NOLF Pace, NOLF Santa Rosa, NOLF Site 8-A, NOLF Spencer, NOLF Wolf, OLF Holley); Naval Station Mayport (Greenfield Plantation, Naval Fuel Depot, Ribault Bay Village Housing); Naval Support Activity Orlando (LEFAC/Bugg Spring Facility)</p>

<p><b>Red Diamond Rattlesnake</b> (<i>Crotalus ruber</i>)</p>	<p><b><u>Air Force:</u></b> March ARB <b><u>Marine Corps:</u></b> MCAS Camp Pendleton; MCAS Miramar; MCB Camp Pendleton <b><u>Navy:</u></b> Naval Base Coronado (Camp Morena, Remote Training Site Warner Springs); Naval Base San Diego (Mission Gorge Recreational Facility); NWS Seal Beach (Fallbrook Detachment)</p>	<p><b><u>Navy:</u></b> Naval Base Coronado (Camp Michael Monsoor)</p>
<p><b>Ridge-nosed Rattlesnake</b> (<i>Crotalus willardi</i>)</p>	<p><b><u>Army:</u></b> Fort Huachuca</p>	
<p><b>Rock Rattlesnake</b> (<i>Crotalus lepidus</i>)</p>	<p><b><u>Army:</u></b> Fort Bliss; Fort Huachuca; White Sands Missile Range</p>	<p><b><u>Air Force:</u></b> Holloman AFB; Laughlin AFB</p>
<p><b>Sidewinder</b> (<i>Crotalus cerastes</i>)</p>	<p><b><u>Air Force:</u></b> Edwards AFB; Luke AFB (Barry M. Goldwater Range-East); Nellis AFB/Creech AFB/Nevada TTR <b><u>Army:</u></b> Buckeye Training Area; Florence Military Reservation; Fort Irwin; Yuma Proving Ground (Main Base) <b><u>Marine Corps:</u></b> MCAGCC Twentynine Palms; MCAS Yuma (Barry M. Goldwater Range, Chocolate Mountain Aerial Gunnery Range); MCLB Barstow <b><u>Navy:</u></b> NAF El Centro (Parachute Drop Zone -Range 2510, Target 101 -Range 2510, Target 103 -Range 2510, Target 68 -Range 2512, Target 95 -Range 2512); NAWS China Lake</p>	<p><b><u>Air Force:</u></b> Gila River Air Force Space Surveillance Station; Luke AFB (Main Base); <b><u>Army:</u></b> Floyd Edsall Training Center <b><u>Marine Corps:</u></b> MCAS Yuma (Main Base) <b><u>Navy:</u></b> NAF El Centro (Main Base)</p>
<p><b>Western Coralsnake</b> (<i>Micruroides euryxanthus</i>)</p>	<p><b><u>Air Force:</u></b> Gila River Air Force Space Surveillance Station; Luke AFB (Barry M. Goldwater Range-East) <b><u>Army:</u></b> Florence Military Reservation; Fort Huachuca; Yuma Proving Ground</p>	<p><b><u>Air Force:</u></b> Davis-Monthan; Luke AFB (Main Base) <b><u>Army:</u></b> Buckeye Training Area <b><u>Marine Corps:</u></b> MCAS Yuma (Barry M. Goldwater Range, Main Base)</p>
<p><b>Speckled Rattlesnake</b> (<i>Crotalus mitchellii</i>)</p>	<p><b><u>Air Force:</u></b> Luke AFB–Barry M. Goldwater Range-East <b><u>Army:</u></b> Buckeye Training Area; Fort Irwin; Yuma Proving Ground</p>	<p><b><u>Air Force:</u></b> Edwards AFB; Luke AFB (Main Base); Nellis AFB/Creech AFB/Nevada TTR <b><u>Army:</u></b> Edwards AFB; Floyd Edsall Training; Center; Hawthorne Army Depot</p>

	<p><b>Marine Corps:</b> MCAGCC; Twentynine Palms; MCAS Camp Pendleton; MCAS Miramar; MCAS Yuma (Barry M. Goldwater Range); MCB Camp Pendleton; MCLB Barstow</p> <p><b>Navy:</b> Naval Base Coronado (Camp Michael Monsoor, Remote Training Site Warner Springs); NWS Seal Beach (Fallbrook Detachment)</p>	<p><b>Marine Corps:</b> MCAS Yuma (Chocolate Mountain Aerial Gunnery Range)</p> <p><b>Navy:</b> NAF El Centro (Target 101-Range 2510)</p>
<p><b>Texas Coralsnake</b> (<i>Micrurus tener</i>)</p>	<p><b>Air Force:</b> JB San Antonio; Laughlin AFB</p> <p><b>Army:</b> Camp Beauregard Training Site; Fort Hood; Fort Polk</p> <p><b>Navy:</b> NAS Corpus Christi (Main Base); NAS Kingsville (Main Base)</p>	<p><b>Air Force:</b> Barksdale AFB</p> <p><b>Army:</b> Camp Maxey; Camp Minden Training Center; Camp Swift; Fort Walters</p> <p><b>Navy:</b> NAS Corpus Christi (NOLF Canbaniss, NOLF Goliad, NOLF Waldron, Peary Place Transmitter Site); NAS Kingsville (Main Base, McMullen Range Complex, NALF Orange Grove)</p>
<p><b>Tiger Rattlesnake</b> (<i>Crotalus tigris</i>)</p>	<p><b>Air Force:</b> Luke AFB (Barry M. Goldwater Range-East)</p> <p><b>Army:</b> Florence Military Reservation</p>	<p><b>Air Force:</b> Gila River Air Force Space Surveillance Station; Luke AFB (Main Base)</p> <p><b>Army:</b> Buckeye Training Area</p>
<p><b>Timber Rattlesnake</b> (<i>Crotalus horridus</i>)</p>	<p><b>Air Force:</b> Columbus AFB; Dare County Range; Joint Base McGuire-Dix-Lakehurst; Moody AFB; Robins AFB; Shaw AFB/Poinsett Electronic Combat Range; Warren Grove Air National Guard</p> <p><b>Army:</b> Camp Gruber Maneuver Training Center; Fort Benning; Fort Bragg; Fort Campbell Military Reservation; Fort Gordon; Fort Indiantown Gap; Fort Jackson; Fort Knox; Fort Leavenworth; Fort McClellan Army National Guard Training Center; Fort Polk; Fort Riley; Fort Rucker; Fort Stewart; Letterkenny Army Depot; McCrady Training Center; Picatinny Arsenal; Redstone Arsenal; West Point Military Reservation</p> <p><b>Marine Corps:</b> MCAS Beaufort; MCB Camp Lejeune; MCB Quantico; Townsend Bombing Range</p> <p><b>Navy:</b> NALF Fentress, NAS JRB NOLA, NAS Meridian (Joe Williams Field, McCain Field, Searay Target Range); NAVSUBASE Kings Bay; NSA</p>	<p><b>Air Force:</b> Barksdale AFB; Dobbins ARB; Eglin AFB; Jacksonville Air National Guard; Joint Base Antonio; Joint Base Charleston (Weapons Station); Little Rock AFB; Maxwell AFB; McEntire Joint NGB, Pope AFB; Seymour-Johnson AFB (Fort Fisher Recreation Area); Whiteman AFB</p> <p><b>Army:</b> Anniston Army Depot; Camp Beauregard Training Site; Camp Blanding Joint Training Center; Camp Butner; Camp Maxey; Camp McCain; Camp Minden Training Center; Camp Shelby Joint Forces Training Center; Camp Smith Training Site; Camp Swift; Fort Chaffee; Fort Dix-UTES Facility; Fort Hood; Fort Leonard Wood; Fort McCoy; McAlester AAP; Military Ocean Terminal Sunny Point; Muscatatuck Urban Training Center; Pine Bluff Arsenal; Redstone Arsenal; Robinson Maneuver Training Center; Tuckerton Armory</p> <p><b>Marine Corps:</b> MCAS Cherry Point; MCLB Albany</p> <p><b>Navy:</b> NAS Corpus Christi (NOLF Goliad); NAS Jacksonville (Main Base, OLF Whitehouse, Rodman Bombing Target Range); NAS Whiting Field (NOLF Evergreen, NOLF Wolf);</p>



	Crane; NSA Northwest	Naval Station Mayport (Greenfield Plantation, Main Base, Naval Fuel Depot, Ribault Bay Village Housing); NRL Washington (Midway Research Center); NWS Yorktown (Sugar Grove-Leased Operations Area)
<b>Twin-spotted Rattlesnake</b> <i>(Crotalus pricei)</i>	<b>Army:</b> Fort Huachuca	
<b>Western Diamond-backed Rattlesnake</b> <i>(Crotalus atrox)</i>	<p><b>Air Force:</b> Altus AFB; Davis-Monthan; Dyess AFB; Goodfellow AFB; Holloman AFB; Joint Base Antonio; Kirtland AFB; Laughlin AFB; Luke AFB (Barry M. Goldwater Range – East; Main Base); Sheppard AFB</p> <p><b>Army:</b> Buckeye Training Area; Camp Bowie; Camp Mabry; Camp Swift; Florence Military Reservation; Fort Bliss; Camp Gruber Maneuver Training Center; Fort Hood; Fort Huachuca; Fort Sill; Fort Walters; McAlester AAP; White Sands Missile Range; Yuma Proving Ground</p> <p><b>Marine Corps:</b> MCAS Yuma (Barry M. Goldwater Range; Chocolate Mountain Aerial Gunnery Range)</p> <p><b>Navy:</b> NAF El Centro (Main Base, Target 68-Range 2512, Target 95-Range 2512); NAS Corpus Christi (Main Base, Peary Place Transmitter Site); NAS Kingsville (Main Base, McMullen Range Complex, NALF Orange Grove)</p>	<p><b>Air Force:</b> Gila River Air Force Space Surveillance Station</p> <p><b>Army:</b> Camel Tracks Training Site; Fort Chaffee</p> <p><b>Marine Corps:</b> MCAS Yuma (Maine Base)</p> <p><b>Navy:</b> NAF El Centro (Parachute Drop Zone -Range 2510, Target 101 -Range 2510, Target 103 -Range 2510); NAS Corpus Christi (NOLF Canbaniss, NOLF Goliad, NOLF Waldron)</p>
<b>Western Rattlesnake</b> <i>(Crotalus oreganus)</i>	<p><b>Air Force:</b> Beale AFB; Hill AFB (Little Mountain Test and Training Range, Utah Test and Training Range); March ARB; Mountain Home AFB (Electronic Combat Site, Juniper Butte Range, Main Base, Saylor Creek Range, Small Arms Range); Nellis AFB/Creech Air Force Base/Nevada Test and Training Range; San Diego Air Force Space Surveillance Station; Travis AFB; Vandenberg AFB</p> <p><b>Army:</b> Biak Training Center; Camp Roberts Training Site MTC-H; Camp Williams; Dugway Proving</p>	<p><b>Air Force:</b> Hill AFB</p> <p><b>Army:</b> Camp San Luis Obispo; Floyd Edsall Training Center; Military Ocean Terminal Concord; Nevada Army National Guard (Stead Training Site); Parks Reserve Force Training Area; Presidio Of Monterey/Fort ORD; Sierra Army Depot</p> <p><b>Marine Corps:</b> MCMWTC Bridgeport</p> <p><b>Navy:</b> NAS Fallon (Dixie Meadows, Main Base, Range B-17); Naval Base San Diego (Naval Medical Center San Diego); NRTF Dixon</p>

	<p>Ground; Fort Hunter Liggett; Hawthorne Army Depot; Orchard Training Site; Tooele Army Depot; Yakima Training Center</p> <p><b>Marine Corps:</b> MCAS Camp; Pendleton; MCAS Miramar; MCB Camp Pendleton</p> <p><b>Navy:</b> NAS Fallon (Dixie Valley Highway, Dixie Valley Settlement Area, Horse Creek, Range B-16, Range B-19, Range B-20); NAS Lemoore; Naval Base Coronado (Camp Michael Monsoor, Camp Morena, Naval Outlying Landing Field Imperial Beach, Remote Training Site Warner Springs); Naval Base Point Loma; Naval Base San Diego (Mission Gorge Recreational Facility, Murphy Canyon Housing Area); Naval Weapons Systems Training Facility Boardman; NAVBASE Ventura County (Point Mugu); NAWS China Lake; NSA Monterey (NIROP Santa Cruz); NWS Seal Beach (Fallbrook Detachment)</p>	
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