

# Wild Pig Forum

## September 22, 2022, 9:00 a.m.

### Background Materials and Online Resources

This document provides background information for a **Wild Pig Forum** being held by the California Fish and Game Commission and California Department of Fish and Wildlife (CDFW). The forum will explore wild pig impacts including wildlife health, ecosystem health, and economics, and will include discussion of potential solutions for addressing those impacts.

*The information presented in these background materials is provided as a public service, but is neither a legal interpretation nor a statement of policy by the California Fish and Game Commission or CDFW. Inclusion of or reference to any specific information does not imply endorsement of that information.*

#### Background Materials

1. [Fish and Game Code “wild pig” excerpts](#), extracted September 19, 2022
2. [ASF Preparedness Efforts in Feral Swine](#), dated April 1, 2021, U.S. Department of Agriculture (USDA) presentation regarding African swine flu
3. [Wildlife Incident Report Summary](#), CDFW
4. [U.S. Department of Agriculture flyer on swine fever](#), dated May 2020
5. [Pig take report \(2015-2019\)](#), dated September 19, 2022, CDFW
6. [Wild pig depredations by county \(2015-2019\)](#), dated September 19, 2022, CDFW

#### Other Online Resources

- [CDFW Wild Pig Management Program webpage](#)
- [CDFW Guide to Hunting Wild Pigs in CA \(PDF\)](#)
- [CDFW Guidelines for Wild Pig Depredation webpage](#)
- [CDFW Wildlife Incident Reporting System -- Reporting Pig Depredation webpage](#)
- [CDFW Human-Wildlife Conflicts Program webpage](#) (click the Wild Pig tab)

# California Fish and Game Code

## Excerpts that Include Reference to “Wild Pig”

*Extracted September 19, 2022*

### Fish and Game Code

**Division 4. Birds and Mammals [3000 - 4903] (Division 4 enacted by Stats. 1957, Ch. 456)**

**Part 1. Provisions Generally Applicable to Both [3000 - 3480] (Part 1 enacted by Stats. 1957, Ch. 456)**

**Chapter 1. General Provisions [3000 - 3087] (Chapter 1 enacted by Stats. 1957, Ch. 456)**

**Article 2. Hunting Licenses [3031 - 3040] (Article 2 enacted by Stats. 1957, Ch. 456)**

- 3031.2.** (a) In addition to Section 3031, and notwithstanding Section 3037, the department shall issue lifetime hunting licenses under this section. A lifetime hunting license authorizes the taking of birds and mammals anywhere in this state in accordance with the law for purposes other than profit for the life of the person to whom issued unless revoked for a violation of this code or regulations adopted under this code. A lifetime hunting license is not transferable. A lifetime hunting license is valid for one year from July 1 through June 30 and may be renewed annually, regardless of any lapse of the license, at no additional cost to the licensee. A lifetime hunting license does not include any special tags, stamps, or fees.
- (b) A lifetime hunting license may be issued to residents of this state, as follows:
- (1) To a person 62 years of age or over, upon payment of a base fee of three hundred sixty-five dollars (\$365).
  - (2) To a person 40 years of age or over, and less than 62 years of age, upon payment of a base fee of five hundred forty dollars (\$540).
  - (3) To a person 10 years of age or over, and less than 40 years of age, upon payment of a base fee of six hundred dollars (\$600).
  - (4) To a person less than 10 years of age, upon payment of a base fee of three hundred sixty-five dollars (\$365).
- (c) Upon payment of a base fee of four hundred forty-five dollars (\$445), a person holding a lifetime hunting license shall be issued annually one deer tag application pursuant to subdivision (a) of Section 4332 and five wild pig tags pursuant to Section 4654. Lifetime privileges issued pursuant to this subdivision are not transferable.
- (d) Upon payment of a base fee of two hundred ten dollars (\$210), a person holding a lifetime hunting license shall be entitled annually to the privileges afforded to a person holding a state duck stamp or validation issued pursuant to Section 3700.1 and an upland game bird stamp or validation issued pursuant to Section 3682.1. Lifetime privileges issued pursuant to this subdivision are not transferable.
- (e) Nothing in this section requires a person less than 16 years of age to obtain a license to take birds or mammals except as required by law.

- (f) Nothing in this section exempts an applicant for a license from meeting other qualifications or requirements otherwise established by law for the privilege of sport hunting.
- (g) The base fees specified in this section are applicable commencing January 1, 2004, and shall be adjusted annually thereafter pursuant to Section 713.
- (h) The commission shall adjust the amount of the fees specified in subdivisions (b), (c), and (d), as necessary, to fully recover, but not exceed, all reasonable administrative and implementation costs of the department and the commission relating to those licenses.

*(Amended by Stats. 2017, Ch. 26, Sec. 7. (SB 92) Effective June 27, 2017.)*

## **Fish and Game Code**

### **Division 4. Birds and Mammals [3000 - 4903] (Division 4 enacted by Stats. 1957, Ch. 456)**

#### **Part 1. Provisions Generally Applicable to Both [3000 - 3480] (Part 1 enacted by Stats. 1957, Ch. 456)**

#### **Chapter 1. General Provisions [3000 - 3087] (Chapter 1 enacted by Stats. 1957, Ch. 456)**

#### **Article 2. Hunting Licenses [3031 - 3040] (Article 2 enacted by Stats. 1957, Ch. 456)**

- 3040.** (a) Notwithstanding Section 3031, the director shall, no later than July 1, 2023, designate two days per year as "Free Hunting Days." The department shall publish the exact dates of the free hunting days in annual publications of the department regarding current hunting regulations.
- (b) (1) During a free hunting day, a California resident may hunt if accompanied by a hunter who meets all of following requirements:
    - (A) Holds a valid hunting license issued by the State of California.
    - (B) Is at least 21 years of age.
    - (C) Accompanies only one unlicensed hunter in the field at a time.
  - (2) An unlicensed hunter shall participate in the free hunting days for only one license year, and shall complete a hunter education course approved by the department and register with the department, or an agent of the department, before participating in a free hunting day. While engaged in hunting activities, an unlicensed hunter and the licensed supervising hunter shall remain in close visual and verbal contact with each other at all times so that the licensed hunter is able to provide adequate direction and immediately assume control of a firearm or other legal method of take used by the unlicensed hunter at any time.
  - (c) The department shall issue a free registration for free hunting days to any California resident who submits to the department all of the information required to issue an annual California hunting license and provides evidence of completing a course in hunter education as required in paragraph (3) of subdivision (a) of Section 3050. The

free hunting day registration shall be valid from the date specified on the registration through the remainder of the license year for which the registration is issued.

- (d) An unlicensed hunter who participates in a free hunting day shall have in their possession all of the following:
  - (1) A registration to hunt on free hunting days for that license year issued by the department pursuant to subdivision (c).
  - (2) Any required tags or report cards.
  - (3) Any required federal entitlements.
  - (4) Any required entry permits.
- (e) An unlicensed hunter participating in free hunting days shall take only resident and migratory game birds, resident small game mammals, fur-bearing mammals, nongame mammals, and wild pigs with a wild pig tag.
- (f) An unlicensed hunter participating in free hunting days shall not apply for any draw or lottery to obtain any tag, reservation, or other hunting opportunity.
- (g) An unlicensed hunter hunting pursuant to this section is subject to all of the limitations, restrictions, conditions, statutes, rules, and regulations applicable to the holder of a valid hunting license, except all of the following:
  - (1) The requirement to possess a valid hunting license pursuant to Section 3031.
  - (2) The requirement to possess an upland game bird hunting validation pursuant to Section 3682.1.
  - (3) The requirement to possess a state duck hunting validation pursuant to Section 3700.1.
- (h) An unlicensed hunter, who is 12 years of age or older, in possession of a registration to hunt on free hunting days may purchase one wild pig tag pursuant to Section 4652.
- (i)
  - (1) The department may adopt additional minimum requirements and restrictions for a licensed hunter or an unlicensed hunter participating in a free hunting day pursuant to this section.
  - (2) The department may adopt emergency regulations to implement this section in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. The adoption of these regulations is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public peace, health and safety, and general welfare. Notwithstanding Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code, an emergency regulation adopted by the department, or any amendments to it made by the department pursuant to this section, shall stay in effect until revised by the department.
- (j)
  - (1) On or before July 1, 2022, the department shall develop a plan to implement this section. The plan shall include, at a minimum, all of the following:
    - (A) A description of the scope of the emergency regulations necessary to implement this section.



- (B) A description of the steps the department will take to implement this section.
  - (C) An estimate of the total costs to the department to implement this section.
  - (D) Identification of the source of the funds, including fees paid by hunters, necessary to implement this section.
- (2) The estimate of the total costs to the department identified in subparagraph (C) of paragraph (1) shall include, but is not limited to, the costs of pursuing emergency regulations, updating existing or developing new hunting outreach materials for the free hunting days, any necessary revision to the Automated License Data System, and use of any department resources necessary to conduct the free hunting days.
  - (3) The department shall provide the plan required by paragraph (1) to the relevant legislative policy and budget committees and post the plan on its internet website.

*(Amended by Stats. 2021, Ch. 413, Sec. 1. (AB 804) Effective January 1, 2022.)*

## **Fish and Game Code**

### **Division 4. Birds and Mammals [3000 - 4903] (Division 4 enacted by Stats. 1957, Ch. 456)**

#### **Part 3. Mammals [3950 - 4903] (Part 3 enacted by Stats. 1957, Ch. 456)**

#### **Chapter 1. Game Mammals [3950 - 3961] (Chapter 1 added by Stats. 1957, Ch. 1972)**

**3950.** (a) Game mammals are: deer (genus *Odocoileus*), elk (genus *Cervus*), prong-horned antelope (genus *Antilocapra*), wild pigs, including feral pigs and European wild boars (genus *Sus*), black and brown or cinnamon bears (genus *Euarctos*), mountain lions (genus *Felis*), jackrabbits and varying hares (genus *Lepus*), cottontails, brush rabbits, pigmy rabbits (genus *Sylvilagus*), and tree squirrels (genus *Sciurus* and *Tamiasciurus*).

(b) Nelson bighorn sheep (subspecies *Ovis canadensis nelsoni*) are game mammals only for the purposes of sport hunting described in subdivision (b) of Section 4902.

*(Amended (as amended by Stats. 1991, Ch. 998, Sec. 1) by Stats. 1992, Ch. 1370, Sec. 8. Effective October 27, 1992)*

**3953.** (a) The Big Game Management Account is hereby established within the Fish and Game Preservation Fund.

(b) Except as provided in Section 709, all revenues from the sale of antelope, elk, deer, wild pig, bear, and sheep tags, including any fundraising tags, shall be deposited in the Big Game Management Account to permit separate accountability for the receipt and expenditure of these funds. Within 30 days of the date of the sale, the selling nonprofit organization shall send the department 95 percent of the total auction sale price of the tag, with an itemized receipt showing the sale price and the 5-percent reduction retained by the nonprofit organization as a vendor's fee.

- (c) Funds deposited in the Big Game Management Account shall be available for expenditure upon appropriation by the Legislature to the department. These funds shall be expended solely for the purposes set forth in this section and Sections 3951 and 3952, and Chapter 5 (commencing with Section 450) of Division 1, Chapter 7 (commencing with Section 4650), and Chapter 11 (commencing with Section 4900), including acquiring land, completing projects, and implementing programs to benefit antelope, elk, deer, wild pigs, bear, and sheep, and expanding public hunting opportunities and related public outreach. Any land acquired with funds from the Big Game Management Account shall be acquired in fee title or protected with a conservation easement and, to the extent possible, be open or provide access to the public for antelope, elk, deer, wild pig, bear, or sheep hunting. The department may also use funds from the Big Game Management Account to pay for administrative and enforcement costs of the programs and activities described in this section. The amount allocated from the account for administrative costs shall be limited to the reasonable costs associated with administration of the programs and activities described in this section.
- (d) The department may make grants to, reimburse, or enter into contracts or other agreements, as defined in subdivision (a) of Section 1571, with nonprofit organizations for the use of the funds from the Big Game Management Account to carry out the purposes of this section, including related habitat conservation projects.
- (e) An advisory committee, as determined by the department, that includes interested nonprofit organizations that have goals and objectives directly related to the management and conservation of big game species and primarily represent the interests of persons licensed pursuant to Section 3031 shall review and provide comments to the department on all proposed projects funded from the Big Game Management Account to help ensure that the requirements of this section have been met. The department shall post budget information and a brief description on an Internet Web site for all projects funded from the Big Game Management Account.
- (f) Big game projects authorized pursuant to this section are not subject to Part 2 (commencing with Section 10100) of Division 2 of the Public Contract Code or Article 6 (commencing with Section 999) of Chapter 6 of Division 4 of the Military and Veterans Code.
- (g) The department shall maintain the internal accountability necessary to ensure compliance with the collection, deposit, and expenditure of funds specified in this section.

*(Amended by Stats. 2014, Ch. 467, Sec. 3. (AB 2105) Effective January 1, 2015.)*

## **Fish and Game Code**

**Division 4. Birds and Mammals [3000 - 4903] (*Division 4 enacted by Stats. 1957, Ch. 456*)**

**Part 3. Mammals [3950 - 4903] (*Part 3 enacted by Stats. 1957, Ch. 456*)**

**Chapter 3. Nongame Mammals and Depredators [4150 - 4190] (*Heading of Chapter 3 amended by Stats. 1971, Ch. 1470*)**

**Article 2. Depredators [4180 - 4190] (*Article 2 enacted by Stats. 1957, Ch. 456*)**

- 4180.** (a) Except as provided for in Section 4005, fur-bearing mammals that are injuring property may be taken at any time and in any manner in accordance with this code or regulations made pursuant to this code. Raw furs, as defined in Section 4005, that are taken under this section, shall not be sold.
- (b) Traps used pursuant to this section shall be inspected and all animals in the traps shall be removed at least once daily. The inspection and removal shall be done by the person who sets the trap or the owner of the land where the trap is set or an agent of either.

*(Amended by Stats. 2007, Ch. 285, Sec. 78. Effective January 1, 2008.)*

- 4180.1.** It is unlawful to use snares, hooks, or barbed wire to remove from the den, or fire to kill in the den, any immature depredator mammal.

Nothing in this section shall prohibit the use of fire-ignited gas cartridges or other products registered or permitted under the Federal Insecticide, Rodenticide, and Fungicide Act (7 U.S.C. 135 et seq.).

*(Added by Stats. 1979, Ch. 701.)*

- 4181.** (a) Except as provided in Section 4181.1, any owner or tenant of land or property that is being damaged or destroyed or is in danger of being damaged or destroyed by elk, bear, bobcat, beaver, wild pig, wild turkeys, or gray squirrels may apply to the department for a permit to kill the animals. Subject to the limitations in subdivisions (b) and (d), the department, upon satisfactory evidence of the damage or destruction, actual or immediately threatened, shall issue a revocable permit for the taking and disposition of the animals under regulations adopted by the commission. The permit shall include a statement of the penalties that may be imposed for a violation of the permit conditions. Animals so taken shall not be sold or shipped from the premises on which they are taken except under instructions from the department. An iron-jawed or steel-jawed or any type of metal-jawed trap shall not be used to take any bear or bobcat pursuant to this section. Poison of any type shall not be used to take any gray squirrel or wild turkey pursuant to this section. The department shall designate the type of trap to be used to ensure the most humane method is used to trap gray squirrels. The department may require trapped squirrels to be released in parks or other nonagricultural areas. It is unlawful for any person to violate the terms of any permit issued under this section.
- (b) The permit issued for taking bears or bobcats pursuant to subdivision (a) shall contain the following facts:
- (1) Why the issuance of the permit was necessary.
  - (2) What efforts were made to solve the problem without killing the bears or bobcats.
  - (3) What corrective actions should be implemented to prevent a reoccurrence.
- (c) With respect to wild pigs, the department shall provide an applicant for a depredation permit to take wild pigs or a person who reports taking wild pigs pursuant to subdivision (b) of Section 4181.1 with written information that sets forth available options for wild pig control, including, but not limited to, depredation permits, allowing periodic access to licensed hunters, and holding special hunts authorized

pursuant to Section 4188. The department may maintain and make available to these persons lists of licensed hunters interested in wild pig hunting and lists of nonprofit organizations that are available to take possession of depredated wild pig carcasses.

(d) With respect to elk, the following procedures shall apply:

- (1) Before issuing a depredation permit pursuant to subdivision (a), the department shall do all of the following:
  - (A) Verify the actual or immediately threatened damage or destruction.
  - (B) Provide a written summary of corrective measures necessary to immediately alleviate the problem.
  - (C) Determine the viability of the local herd, and determine the minimum population level needed to maintain the herd.
  - (D) Ensure the permit will not reduce the local herd below the minimum.
  - (E) Work with affected landowners to develop measures to achieve long-term resolution while maintaining viability of the herd.
- (2) After completing the statewide elk management plan pursuant to Section 3952, the department shall use the information and methods contained in the plan to meet the requirements of subparagraphs (C), (D), and (E) of paragraph (1).

*(Amended by Stats. 2019, Ch. 766, Sec. 7. (AB 1254) Effective January 1, 2020.)*

- 4181.1.** (a) Any bear that is encountered while in the act of inflicting injury to, molesting, or killing, livestock may be taken immediately by the owner of the livestock or the owner's employee if the taking is reported no later than the next working day to the department and the carcass is made available to the department.
- (b) Notwithstanding Section 4652, any wild pig that is encountered while in the act of inflicting injury to, molesting, pursuing, worrying, or killing livestock or damaging or destroying, or threatening to immediately damage or destroy, land or other property, including, but not limited to, rare, threatened, or endangered native plants, wildlife, or aquatic species, may be taken immediately by the owner of the livestock, land, or property or the owner's agent or employee, or by an agent or employee of any federal, state, county, or city entity when acting in his or her official capacity. The person taking the wild pig shall report the taking no later than the next working day to the department and shall make the carcass available to the department. Unless otherwise directed by the department and notwithstanding Section 4657, the person taking a wild pig pursuant to this subdivision, or to whom the carcass of a wild pig taken pursuant to this subdivision is transferred pursuant to subdivision (c), may possess the carcass of the wild pig. The person in possession of the carcass shall make use of the carcass, which may include an arrangement for the transfer of the carcass to another person or entity, such as a nonprofit organization, without compensation. The person who arranges this transfer shall be deemed to be in compliance with Section 4304. A violation of this subdivision is punishable pursuant to Section 12000. It is the intent of the Legislature that nothing in this subdivision shall be interpreted to authorize a person to take wild pigs pursuant to this subdivision in violation of a state statute or regulation or a local zoning or other ordinance that is adopted pursuant to other provisions of law and that restricts the discharge of firearms.

- (c) The department shall make a record of each report made pursuant to subdivision (a) or (b) and may have an employee of the department investigate the taking or cause the taking to be investigated. The person taking a wild pig shall provide information as deemed necessary by the department. Upon completion of the investigation, the investigator may, upon a finding that the requirements of this section have been met with respect to the particular bear or wild pig taken under subdivision (a) or (b), issue a written statement to the person confirming that the requirements of this section have been met. The person who took the wild pig may transfer the carcass to another person without compensation.
- (d) Notwithstanding Section 4763, any part of any bear lawfully possessed pursuant to this section is subject to Section 4758.
- (e) Nothing in this section prohibits federal, state, or county trappers from killing or trapping bears when the bears are killing or molesting livestock, but no iron-jawed or steel-jawed or any type of metal-jawed trap shall be used to take the bear, and no person, including employees of the state, federal, or county government, shall take bear with iron-jawed or steel-jawed or any type of metal-jawed traps.

*(Amended by Stats. 1997, Ch. 481, Sec. 2. Effective January 1, 1998.)*

**4181.2.** For the purposes of this article relating to damage caused by wild pigs, “damage” means loss or harm resulting from injury to person or property. The department shall develop statewide guidelines to aid in determining the damage caused by wild pigs. The guidelines shall consider various uses of the land impacted by pigs.

*(Added by Stats. 1997, Ch. 481, Sec. 3. Effective January 1, 1998.)*

## **Fish and Game Code**

### **Division 4. Birds and Mammals [3000 - 4903] *(Division 4 enacted by Stats. 1957, Ch. 456)***

#### **Part 3. Mammals [3950 - 4903] *(Part 3 enacted by Stats. 1957, Ch. 456)***

#### **Chapter 7. Wild Pigs [4650 - 4657] *(Heading of Chapter 7 amended by Stats. 1991, Ch. 998, Sec. 3)***

**4650.** Wild pigs, as used in this chapter, means free-roaming pigs not distinguished by branding, ear marking, or other permanent identification methods.

*(Repealed and added by Stats. 1991, Ch. 998, Sec. 5.)*

**4651.** (a) The department shall prepare a plan for the management of wild pigs. Under the plan, the status and trend of wild pig populations shall be determined and management units shall be designated within the state. The plan may establish pig management zones to address regional needs and opportunities. In preparing the plan, the department shall consider available, existing information and literature relative to wild pigs.

(b) The plan may include all of the following:

- (1) The distribution and abundance of wild pigs, as described in Section 3950.

- (2) A survey of range conditions.
- (3) Recommendations for investigations and utilization of wild pigs.
- (4) Encouraging mitigation of depredation by sport hunting pursuant to this chapter.
- (5) Live trapping and relocation of wild pigs to areas suitable and accessible to mitigation of depredation, with the consent of the landowner and after prior consultation with adjacent landowners who, in the department's opinion may be impacted, pursuant to this chapter.

*(Amended by Stats. 1997, Ch. 481, Sec. 4. Effective January 1, 1998.)*

**4652.** It is unlawful to take any wild pig, except as provided in Section 4181, without first procuring a tag authorizing the taking of that wild pig in accordance with this chapter.

*(Amended by Stats. 2007, Ch. 285, Sec. 91. Effective January 1, 2008.)*

**4653.** The department may determine the design and type of information to be included on the wild pig tag and prescribe the procedures for the issuance and use of the tag.

*(Amended by Stats. 2007, Ch. 285, Sec. 92. Effective January 1, 2008.)*

- 4654.** (a) Any resident of this state, 12 years of age or older, who possesses a valid hunting license, may procure the number of wild pig tags corresponding to the number of wild pigs that may legally be taken by one person during the license year upon payment of a base fee of fifteen dollars (\$15), for each wild pig tag.
- (b) Any nonresident, 12 years of age or older, who possesses a valid California nonresident hunting license, may procure the number of wild pig tags corresponding to the number of wild pigs that may legally be taken by one person during the license year upon payment of a base fee of fifty dollars (\$50), for each wild pig tag.
- (c) The base fees specified in this section are applicable to the 2004 license year, and shall be adjusted annually thereafter pursuant to Section 713.

*(Amended by Stats. 2003, Ch. 741, Sec. 9. Effective January 1, 2004.)*

**4655.** Wild pig tags are valid only during that portion of the current hunting license year in which wild pigs may be taken or possessed in any area of the state.

*(Amended by Stats. 2007, Ch. 285, Sec. 93. Effective January 1, 2008.)*

**4656.** Revenues received pursuant to this chapter shall be deposited in the Big Game Management Account established in Section 3953. These funds shall be available for expenditure by the department as set forth in Section 3953. The department shall maintain all internal accounting measures necessary to ensure that all restrictions on these funds are met.

*(Amended by Stats. 2010, Ch. 408, Sec. 11. (SB 1058) Effective January 1, 2011.)*

**4657.** The holder of a wild pig tag shall keep the tag in his or her possession while hunting wild pig. Before the taking of any wild pig, the holder of a wild pig tag, except for wild pig tags issued through the Automated License Data System, shall legibly write or otherwise affix his or her hunting license number to the wild pig tag. Upon the killing of any wild pig, the date of the kill shall be clearly marked by the holder of the tag on both

parts of the tag. Before transporting the pig, a tag shall be attached to the carcass by the holder of the tag. The holder of the wild pig tag shall immediately, upon harvesting a pig, notify the department in a manner specified by the commission.

*(Amended by Stats. 2007, Ch. 285, Sec. 94. Effective January 1, 2008.)*

- 4188.** (a) If a landowner or tenant applies for a permit under Section 4181 for wild pigs or wild turkeys, or under Section 4181.5 for deer, the department shall notify the landowner or tenant about available options for allowing access by licensed hunters, including, but not limited to, access authorized pursuant to Article 3 (commencing with Section 1570) of Chapter 5 of Division 2 to control wild pigs, wild turkeys, and deer.
- (b) The commission, in lieu of a permit as described in subdivision (a), and with the consent of, or upon the request of, the landowner or tenant, under appropriate regulations, may authorize the issuance of permits to persons holding valid hunting licenses to take wild pigs, wild turkeys, or deer in sufficient numbers to stop the damage or threatened damage. Before issuing permits to licensed hunters, the department shall investigate and determine the number of permits necessary, the territory involved, the dates of the proposed hunt, the manner of issuing the permits, and the fee for the permit.

*(Amended by Stats. 2004, Ch. 480, Sec. 2. Effective January 1, 2005.)*

## **Fish and Game Code**

### **Division 7. Refuges [10500 - 10932] (Division 7 enacted by Stats. 1957, Ch. 456)**

#### **Chapter 1. Refuges and Other Protected Areas [10500 - 10741] (Chapter 1 enacted by Stats. 1957, Ch. 456)**

##### **Article 2. Special Provisions for Given Areas [10650 - 10667] (Article 2 enacted by Stats. 1957, Ch. 456) 10652**

- 10652.** In the Mt. Tamalpais Game Refuge, no threatened, endangered, or fully-protected birds or mammals may be taken under any permit issued by the department.

Except for wild pigs, it is unlawful to take any bird or mammal under a permit issued by the department unless the person possessing the permit is accompanied by a member of the commission, a deputy of the department, or a sheriff or deputy sheriff of Marin County.

*(Amended by Stats. 1987, Ch. 1180, Sec. 1.)*

# ASF Preparedness Efforts in Feral Swine



California African Swine Fever Working Group

April 1, 2021







# Feral Swine Disease Surveillance

Dr. Vienna Brown

# Current Feral Swine National Surveillance

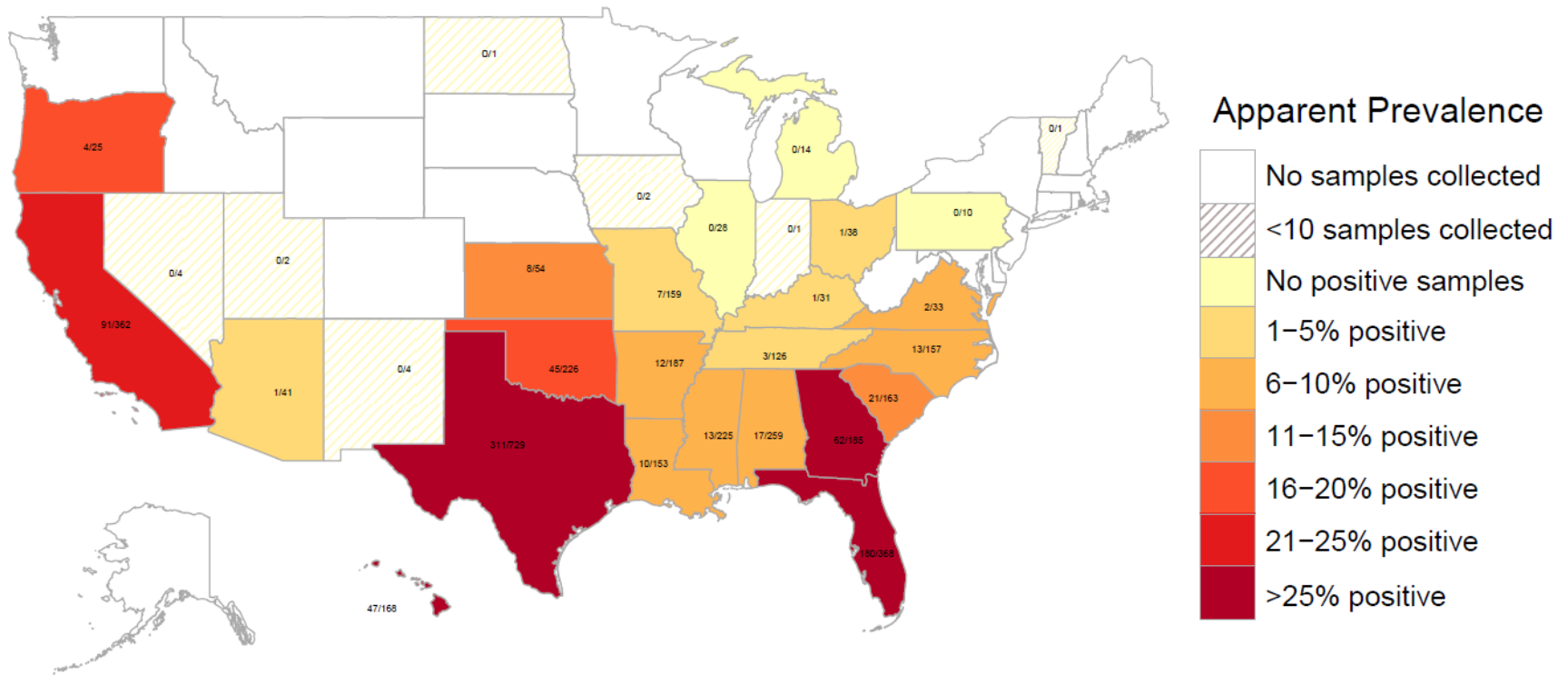
- Three diseases of national concern:
  - Classical swine fever (CSF)
  - Swine brucellosis (SB)
  - Pseudorabies (PRV)
- Collect  $\geq 2,800$  samples from feral swine across the U.S.
- Targeted surveillance with samples dispersed over space and time, counties prioritized
  - Existing feral swine populations
  - Domestic hog production
  - Landfills
- Apparent seroprevalence

Year	Disease	Total samples tested	Total samples positive	Percent positive
2020	CSF	4,013	0	0
	PRV	4,003	978	24.4
	SB	3,994	408	10.2
2019	CSF	3,537	0	0
	PRV	3,503	798	22.8
	SB	3,476	199	5.7
2018	CSF	2,868	0	0
	PRV	3,002	558	18.6
	SB	3,000	186	6.2
2017	CSF	2,997	0	0
	PRV	2,979	530	17.8
	SB	2,955	207	7.0

# Nationwide Seroprevalence – PRV

## Pseudorabies Apparent Seroprevalence

Aggregate Fiscal Year 2020



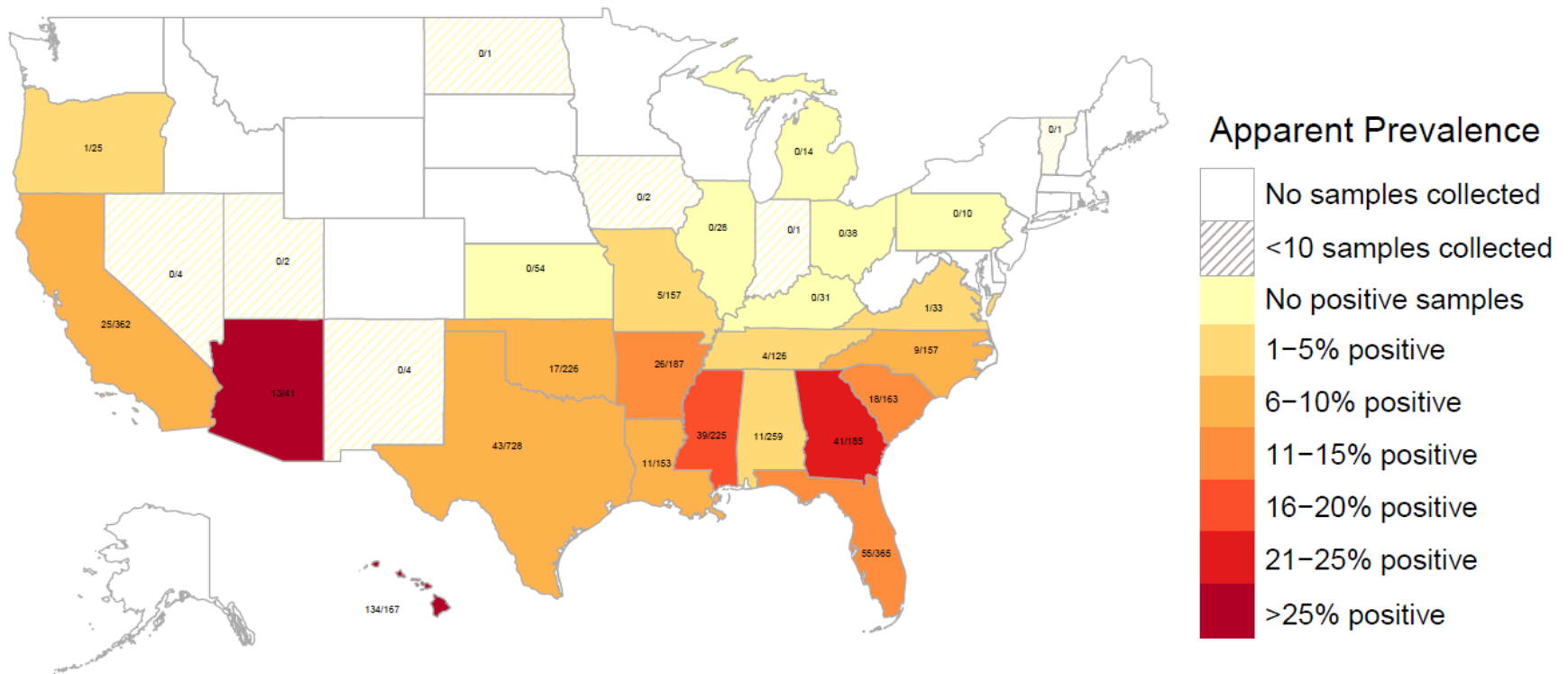
Source: National Feral Swine Damage Management Program



# Nationwide Seroprevalence – SB

## Swine Brucellosis Apparent Seroprevalence

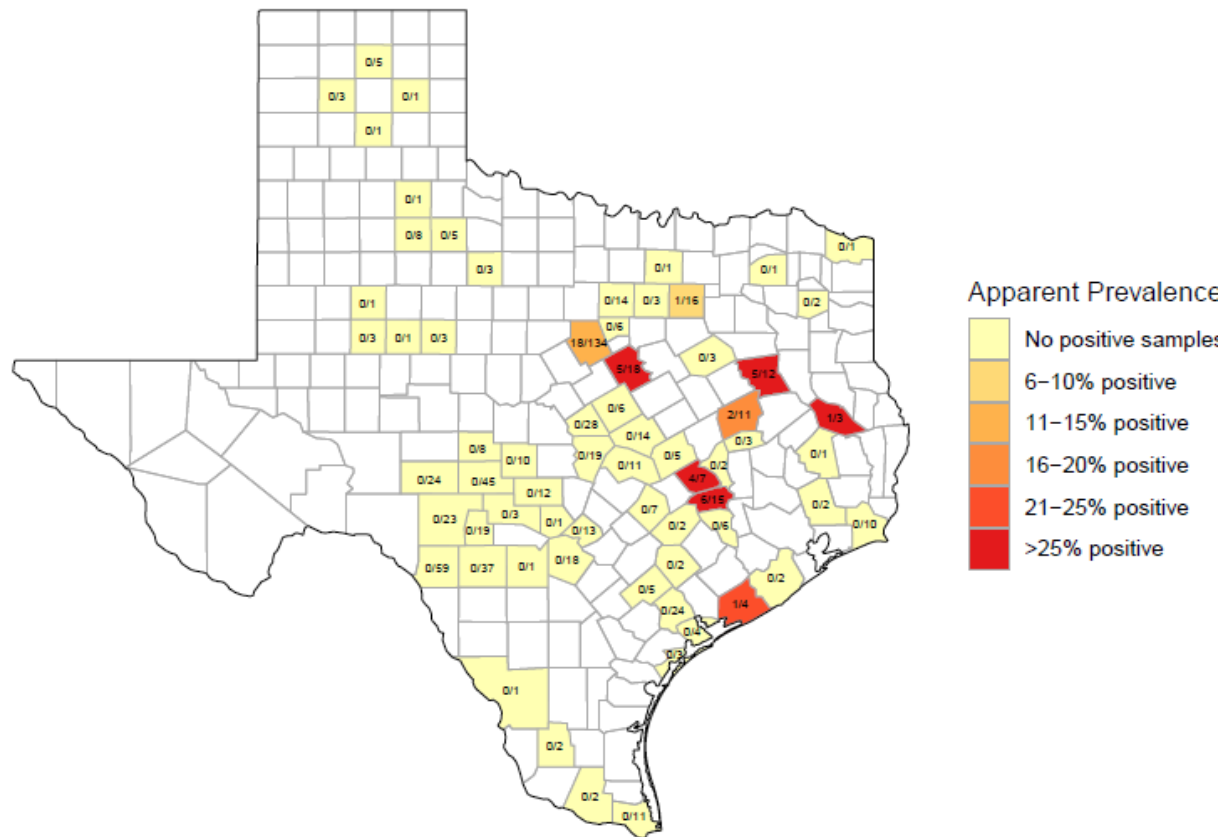
Aggregate Fiscal Year 2020



Source: National Feral Swine Damage Management Program

# Endemic Disease Surveillance Efforts – SB

Swine Brucellosis Apparent Seroprevalence – Texas  
 Aggregate Fiscal Year 2020



# Morbidity and Mortality Surveillance – African Swine Fever

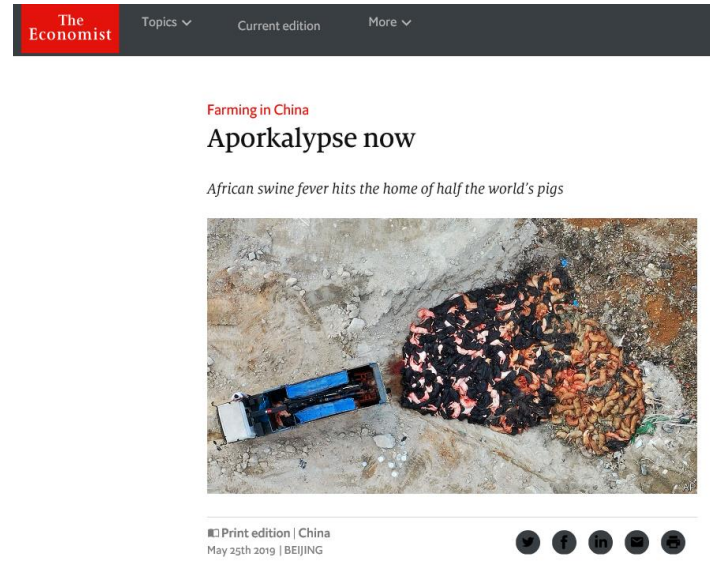
Procedure Manual for African Swine Fever Surveillance

## Wildlife Services' African Swine Fever in Feral Swine Surveillance Procedures Manual




Photo credit: J.D. Bailey

**Fiscal Year 2019 (FY19)**



The Economist  
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Farming in China  
**Aporkalypse now**  
*African swine fever hits the home of half the world's pigs*



Print edition | China  
May 25th 2019 | BEIJING

- Rolled out in FY19
- Morbidity and mortality surveillance
  - 11 cases reported
    - In 7 different states
    - 6 FAD investigations – all negative



# African Swine Fever Surveillance – Case Study

- Mississippi – April 2020
- Lone boar = poor body condition, hoof lesion on right front limb
- Contacted State Director and the NFSP and NWDP
- Contacted VS AVIC, sent photo
- Animal was found to have an embedded constrictive band of plastic around hoof
- Samples not sent forward for FADi, as per VS AVIC guidance
- Carcass incinerated at Mississippi State University Diagnostic Lab





# National Feral Swine Surveillance – FY21

- Predicated as a foreign animal disease surveillance system, particularly focused on classical swine fever (CSF), African swine fever (ASF), and foot-and-mouth disease (FMD)
  - Surveillance approach
    - Active – CSF
    - Morbidity and mortality – ASF
    - Active observational surveillance – FMD
  - Risk factors:
    - Introduction risks: airline passenger cargo, landfills, seaports of entry
    - Host risks: domestic livestock populations, feral swine populations
  - Easily updated to address emerging threats
  - Integrates monitoring of production diseases – PRV, SB
  - 1% detection rate: sample size ~6,000



# ASF Control Efforts

Dr. Sarah Bevins

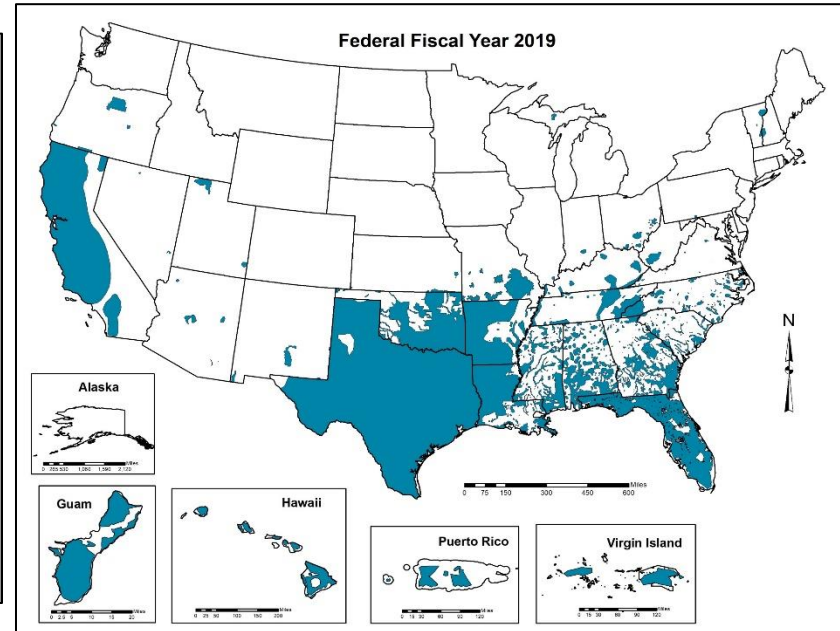
# African Swine Fever



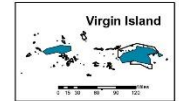
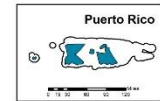
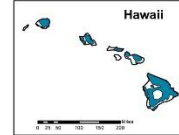
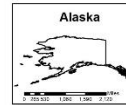
Official reports of African Swine Fever  
in domestic pigs, by region

**2020**

Data sources: <http://empres-fao.org/ajsws3j/>, [www.oie.int](http://www.oie.int) (as at 3/30/2019)  
Official communication



Federal Fiscal Year 2019



# ASF and U.S. Feral Swine

- Issues associated with a foreign animal disease outbreak in feral swine
  - Control and management of pathogen in free-ranging species difficult
  - Complicates eradication in domestic swine
  - Comprehensive data is often lacking in wildlife species



## Size of Infected Zone and Control Area

- Establish infected zone surrounding all ASF positive carcasses plus 2-3x the home range size
- GPS collars → home range size
- Home range estimates vary
  - Location
  - Resources



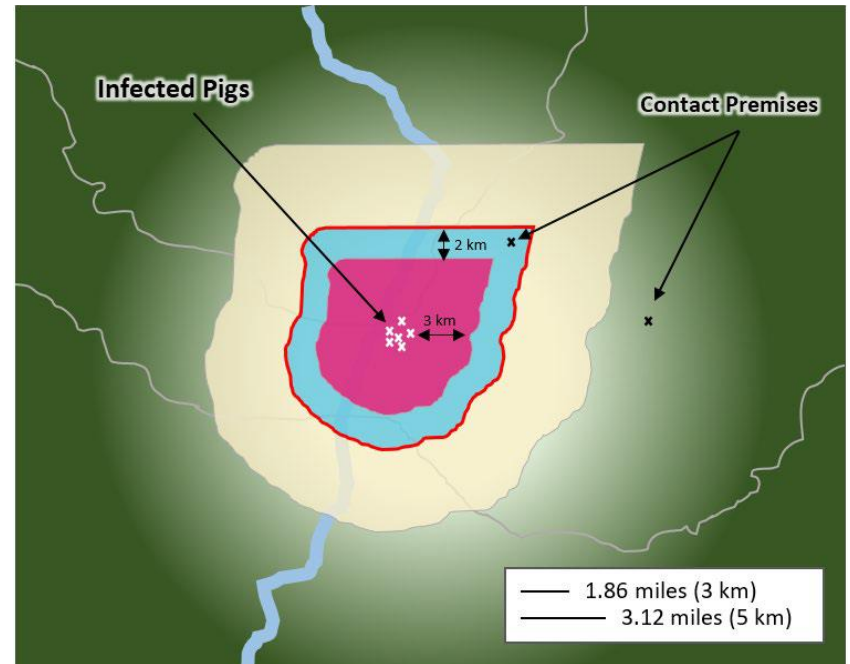
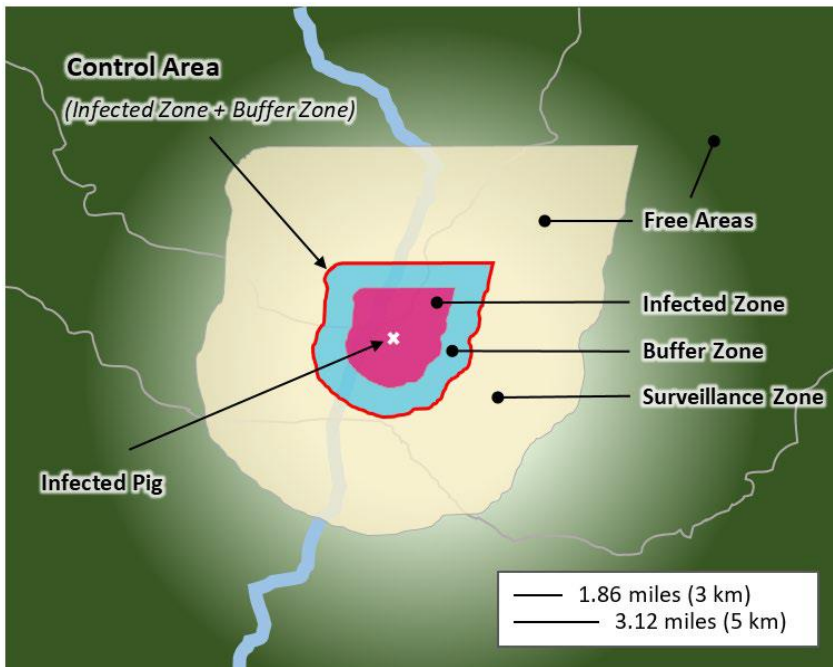


# Feral Swine Home Range Size



- Average monthly home range size  $3.4 \text{ km}^2$ 
  - Corresponding radius  $\approx 1 \text{ km}$
  - Infected zone 2-3x
  - Infected zone radius =  $3 \text{ km}$
- Larger movements do occur
  - Range  $1 \text{ km}^2 - 58 \text{ km}^2$
  - Corresponding radius  $\approx 0.5 - 4.2 \text{ km}$
- Contact is uncommon between feral swine that are more than  $2 \text{ km}$  apart on the landscape

# African Swine Fever Response Zones



## Management Actions

- In the event of an ASF detection in feral swine
  - Put area of control in place
- Determine extent of spread
  - Adjust area of control as needed to encompass positive animals
- Carcass detection and removal
  - Up to 50% of ASF transmission in wild boar can be carcass-based
- Feral swine population reduction
- Testing





# Overall Approach



- Home range estimates used to determine infected zone size
  - Minimum
  - On-the-ground surveillance → may increase infected zone size
  - Can use additional location-specific data if available
- Balance
  - Area of control large enough to encompass highest risk

# Wildlife Services' Options for Feral Swine Management in an ASF Outbreak

Dr. Tom Gidlewski

## Goal

- International experience suggest that establishment of ASF in feral swine is a worse case scenario
  - Prevention if at all possible
  - Elimination if necessary
    - Invasive non-native species

# APHIS National Feral Swine Damage Management Program

- Response to damage and disease threat posed by expanding feral swine population
  - 2014 Congressional appropriation
  - Collaborative, national program
  - Administered by USDA APHIS

## Considerations

- Perturbation of infected feral swine
  - Effects of aerial removal on daily movements and home range fidelity
- Carcass removal
- Depopulation techniques
- Size of the individual home range
- Individual animal disbursement
- Trans-border movements with MX along the Rio Grande or Canadian border

## Response

- Wildlife Services
  - Over 1,800 employees throughout the U.S.
  - National Wildlife Disease Program
    - 31 disease biologists
      - Highly trained
      - Mobile
      - Experienced
  - Feral Swine Specialists
    - 36 throughout the U.S.
    - Feral swine management experts

# Response

- Tools
  - Camera surveillance
  - Drone surveillance
  - Helicopter surveillance and shooting
  - Live traps
    - Real time cameras and remote trap door closure
  - Snares
  - Judas pigs
  - Decoy pigs
  - Fencing
  - Sharpshooters

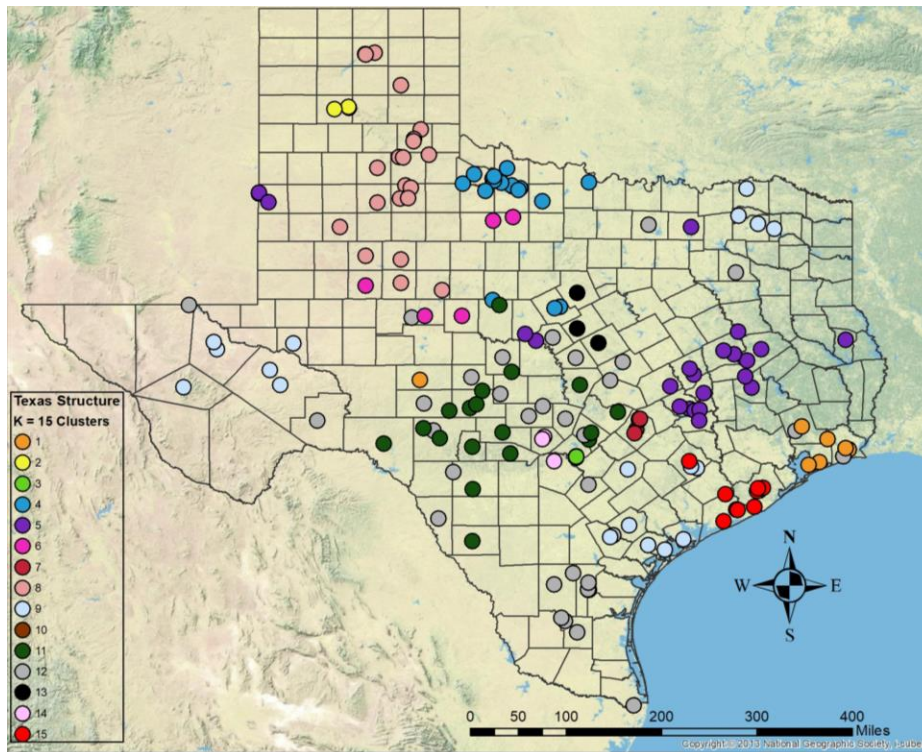
## Response

- Sharpshooters
  - Night vision
  - Bait
- Toxicants
  - Sodium nitrite
  - Warfarin
- Potential tools
  - Hog hunting dogs
  - Carcass detector dogs

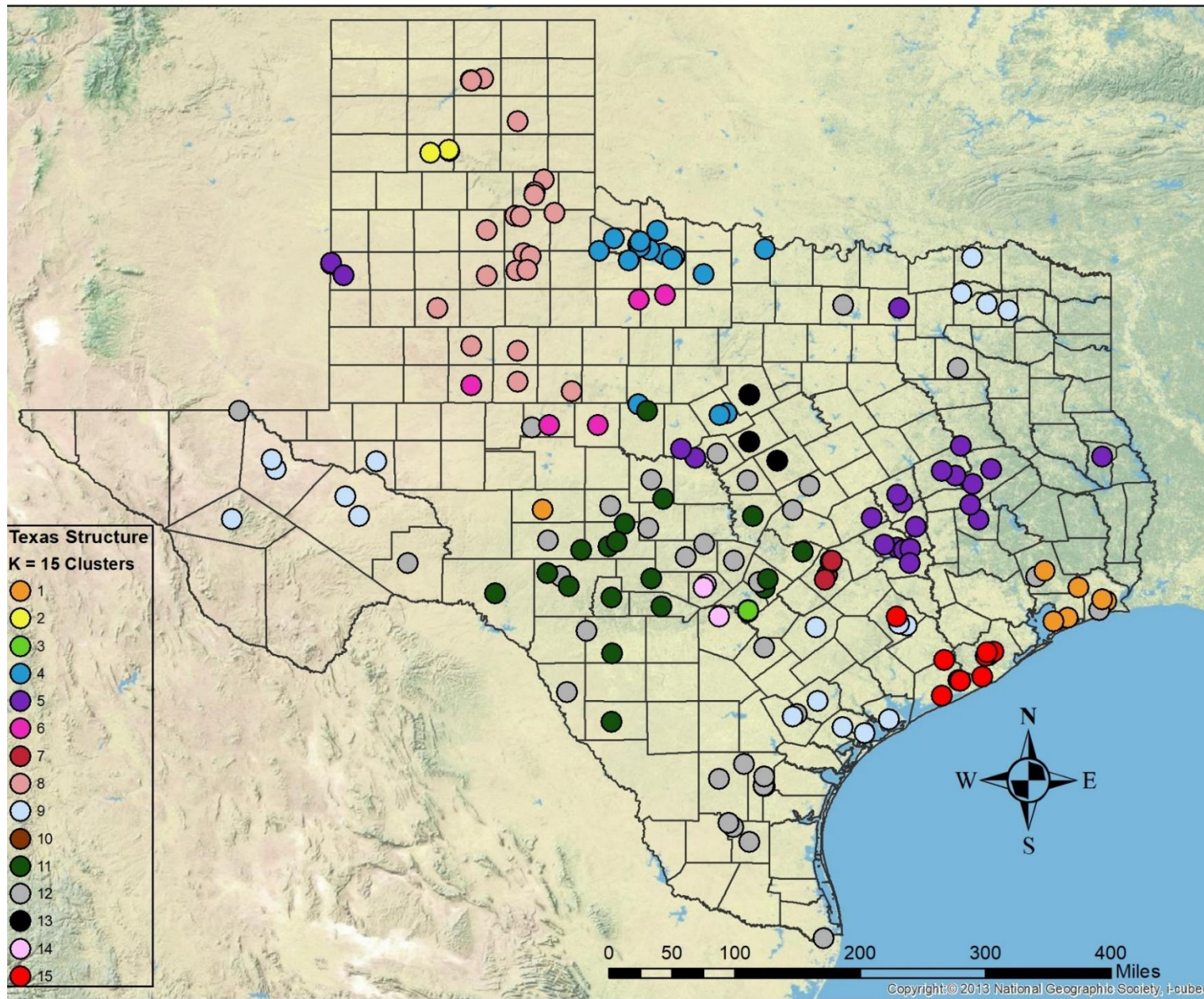


# Biology of U.S. Wild Pigs

## Genetic map of TX



- Genetics in some locations indicate isolated populations (MO, KS, FL)
- Genetics in TX more homogenous, indicating more mixing
- Some geographic features appear to be genetic barriers (large crop areas)
- Some features (rivers and lagoons) not effective barriers





# Removal Control Methods



- Aerial shooting (where habitat allows) >90% removal in 3 successive flights
- Ground shooting (including night shooting, dog searches) effective at both high and very low densities
- Trapping can be 100% effective for individual family sounders, less effective for large landscape and solitary boars
- Snaring individual removals at important points - solitary boars

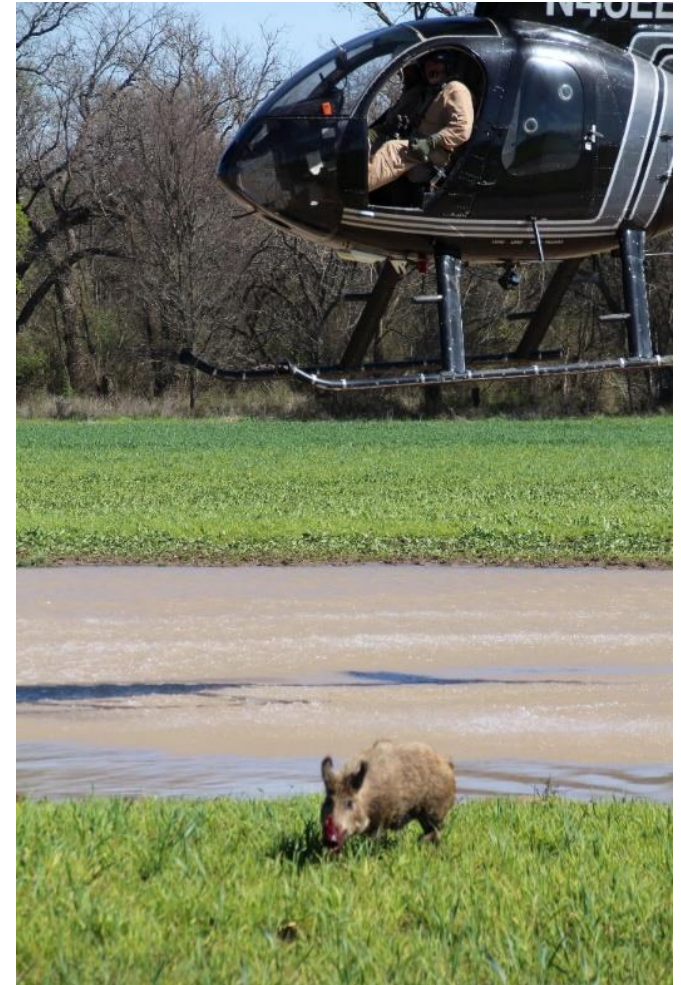
# Management Considerations

- Fencing
- Carcass removal/disposal
- Movement management (live pigs, hunter harvest)
- Scavenger management (roost hazing)



## Logistical Considerations

- Availability of aircraft
- Availability of ammunition (non-lead availability/ procurement limitations)
  - 2.5 rounds / pig
- Land access
- Legal status of wild pigs
- Fence maintenance































JAGER PRO S 04/05/15 19:20:07 057°F P5



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017°F P5



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JAGER PRO M 01/22/15 14:35:55 ☉ 041°F P5



# Unwelcome Visitor





ATT Horn mtn-IPC

1/4

18KB/s

2000-01-04 11:58:53 AM



Live Feed 1

ATT Horn mtn-IPC

2000-01-02 09:47:29 PM



Live Feed 1





## Challenges with Trapping

- No hogs, very few hogs or “there today gone tomorrow”
- Landowners like hogs or don’t like the government or both
- Hogs are trap shy
- Abundance of naturally available food
- Hard to access property (bad roads, flooding, etc.) or intermittent land access (hunting season)
- No cellular signal
- Sabotage (damaging equipment, shooting hogs, disturbing the area)



















# Opportunistic Shooting











11/02/09 05:05 PM JEFF HOG



# Night Shooting























# Hog Dogs





# Judas Pig





# Judas Pig





# Decoy Hog









# State, Federal, and Tribal Partners













# WS' Emergency Response and Mobilization

Dennis Kohler



# Wildlife Services' Emergency Response

- Requires
  - Dedicated personnel and equipment
  - Training
  - Interagency communication and cooperation
  - Flexibility
  - Coordination

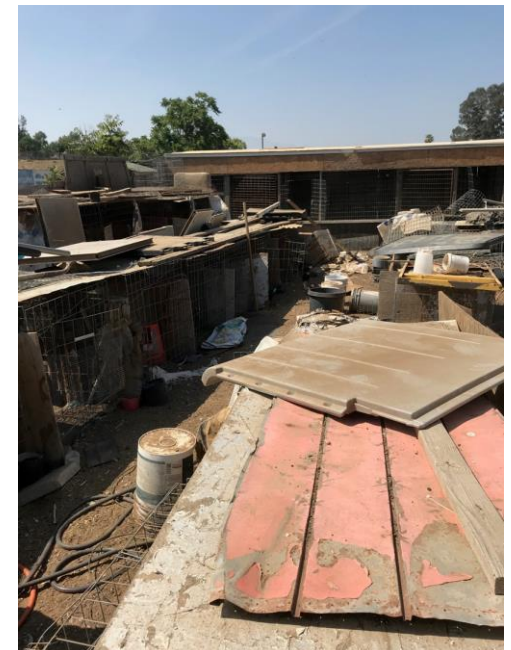






## WS' Emergency Response – vND

- vND emergency response
  - 2018 – 2020
- 121 deployments to SoCal
- 2,257 days deployed on site
- Over 24,500 poultry removed by firearms
- WDBs assisted multiple depopulation, surveillance, and diagnostic teams



# WS' Emergency Response – HPAI

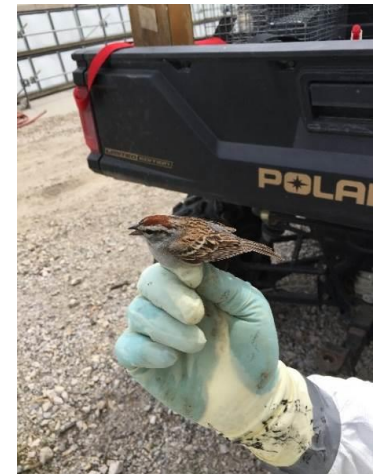


- HPAI emergency responses
  - Pacific Flyway states
    - 2014/2015
  - MN/IA 2015
  - IN 2016
  - AK 2016
  - TN 2017



# Wildlife Services' Emergency Response

- WS' personnel deployed for HPAI emergency response MN/IA
  - 90 received ROSS orders
  - 70 were deployed to MN or IA
- Some positions filled during deployment
  - Case managers
  - COR
  - Task force leaders for composting
  - Public Affairs specialist
  - Sharpshooter
  - Wildlife epidemiology team



# WS' Emergency Response – FL New World Screwworm



- USDA APHIS ARS
- USFWS
- State of Florida and Monroe County



## More Recent WS Animal Disease Responses

- SARS CoV-2
- vND Southern California
- FL New World Screwworm
- HPAI 2014-2018
  - Pacific Flyway
  - MN/IA
  - IN
  - TN/KY
  - AK HPAI Wild Bird Detection
  - MT HPAI Wild Bird Detection
- Indiana bTB
- Missouri LPAI
- MN LPAI
- MN CWD
- And others!!

# Virginia/Washington D.C. – Potomac River Oil Spill and Jet Fuel Spill

- Coast Guard
- EPA
- VA State Agencies
- MD State Agencies
- Tri-State Bird Rescue and Research





## More Recent WS' "Other" Responses

- Hurricanes
  - Maria
  - Irma
  - Harvey
  - Flourence
  - Lane
- Typhoons/Volcanoes/Insects/Fires
  - GU Mangkhut and Yutu
  - PA Spotted Lantern Fly
  - HI Kilauea Lava Flow
  - VA/NJ/AR Longhorn Tick
  - CA Wildfires 2017, 2019, 2020
  - OR Wildfires 2020
- Oil and Contaminant Spills
  - VA/DC Potomac River
  - Colorado Oil Spill
  - VA Oceana Jet Fuel Spill
  - IL Chicago River Oil Spill
  - MI Mackinaw Straights Contaminant Spill
  - AK Shuyak Island Oil Spill
  - MI La Salle Contaminants Spill

# Thank you!







# Questions and Discussion

# Wildlife Incident Report Summary

## WILD PIG

September 1, 2015 – June 30, 2017



Department of Fish and Wildlife  
Wildlife Branch  
Wildlife Health Laboratory



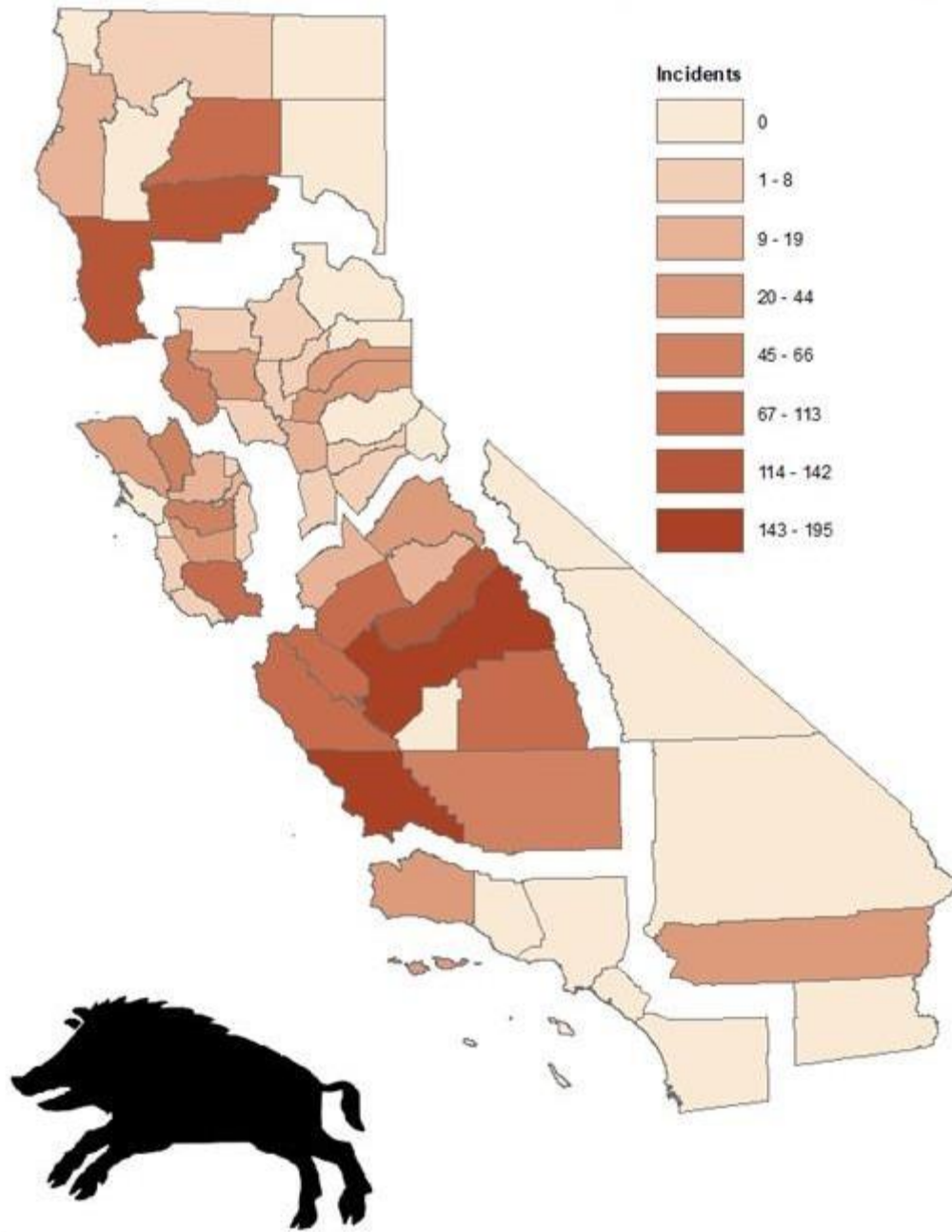
Wildlife Incident Reporting Summary: Wild Pig (*Sus scrofa*)  
(September 1, 2015-June 30, 2017)



Figure 1: CDFW Regions (Wildlife and Lands Management Programs)

Wildlife Incident Reporting Summary: Wild Pig (*Sus scrofa*)  
(September 1, 2015-June 30, 2017)

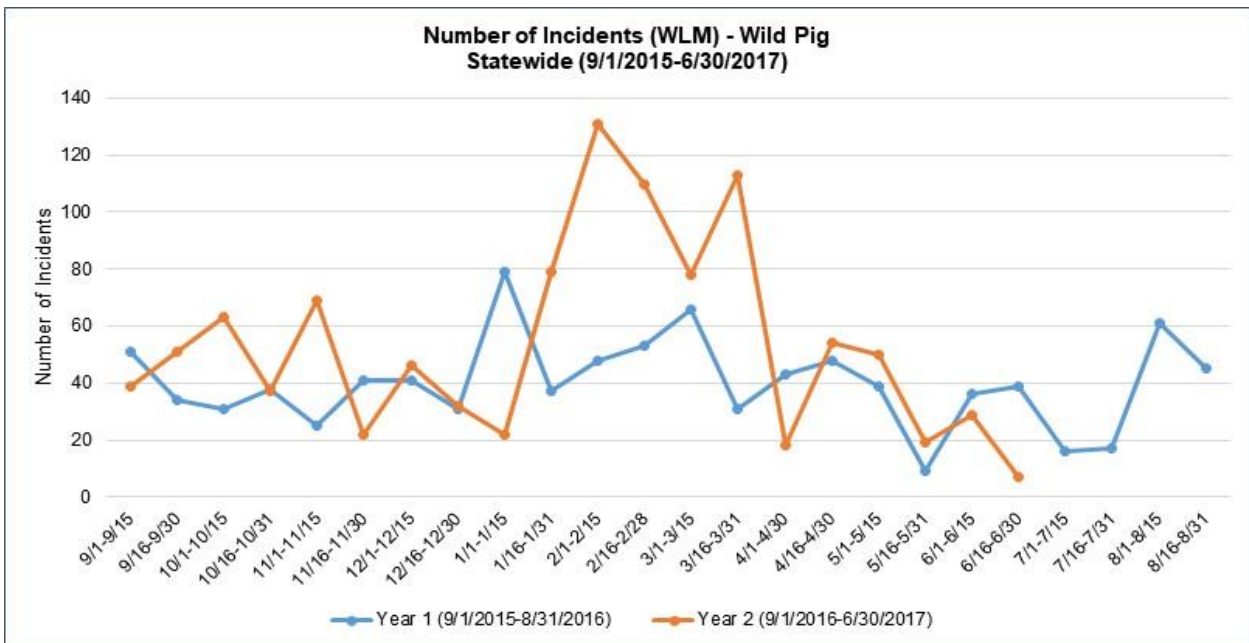
**Total Wild Pig Incidents Reported (9/1/15 to 6/30/2017)**



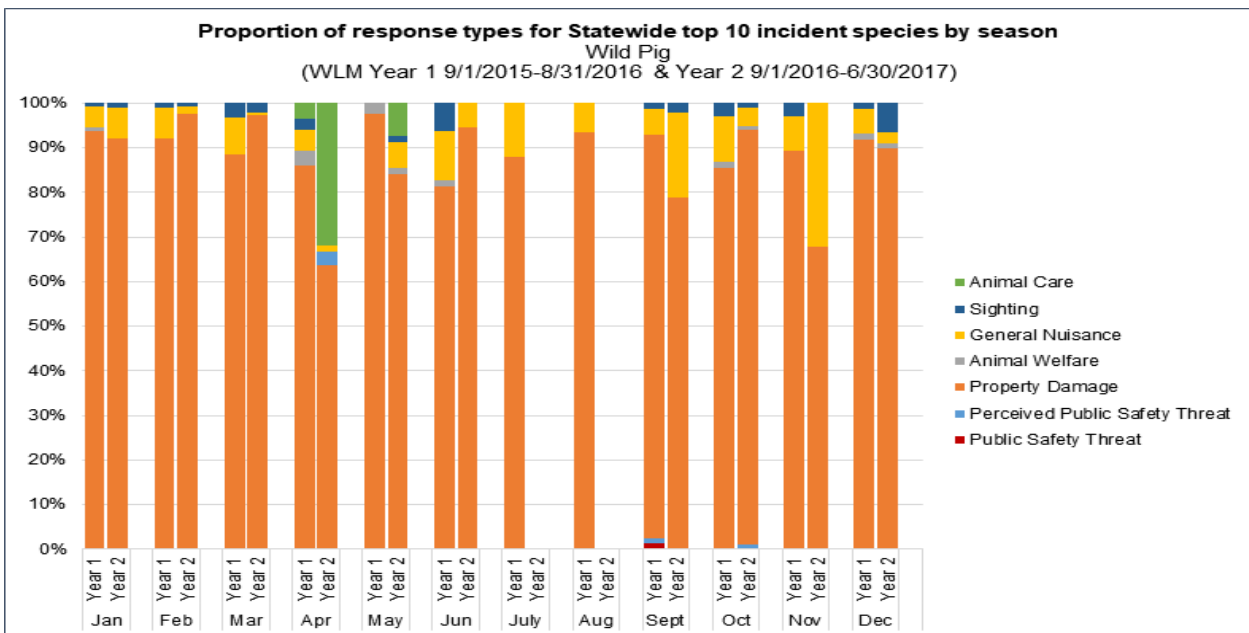
**Figure 2: Reported black bear incidents by county**



Wildlife Incident Reporting Summary: Wild Pig (*Sus scrofa*)  
 (September 1, 2015-June 30, 2017)

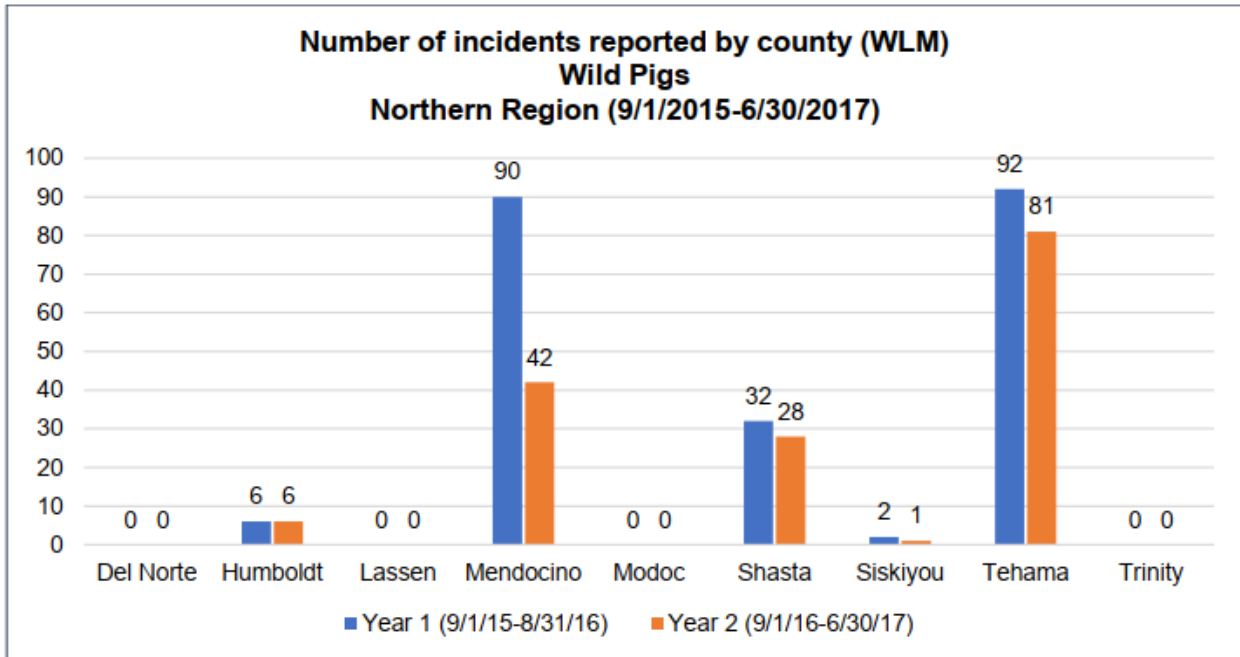


**Figure 3: Temporal comparison of statewide number of HWC incidents involving wild pigs in 2015-2017**

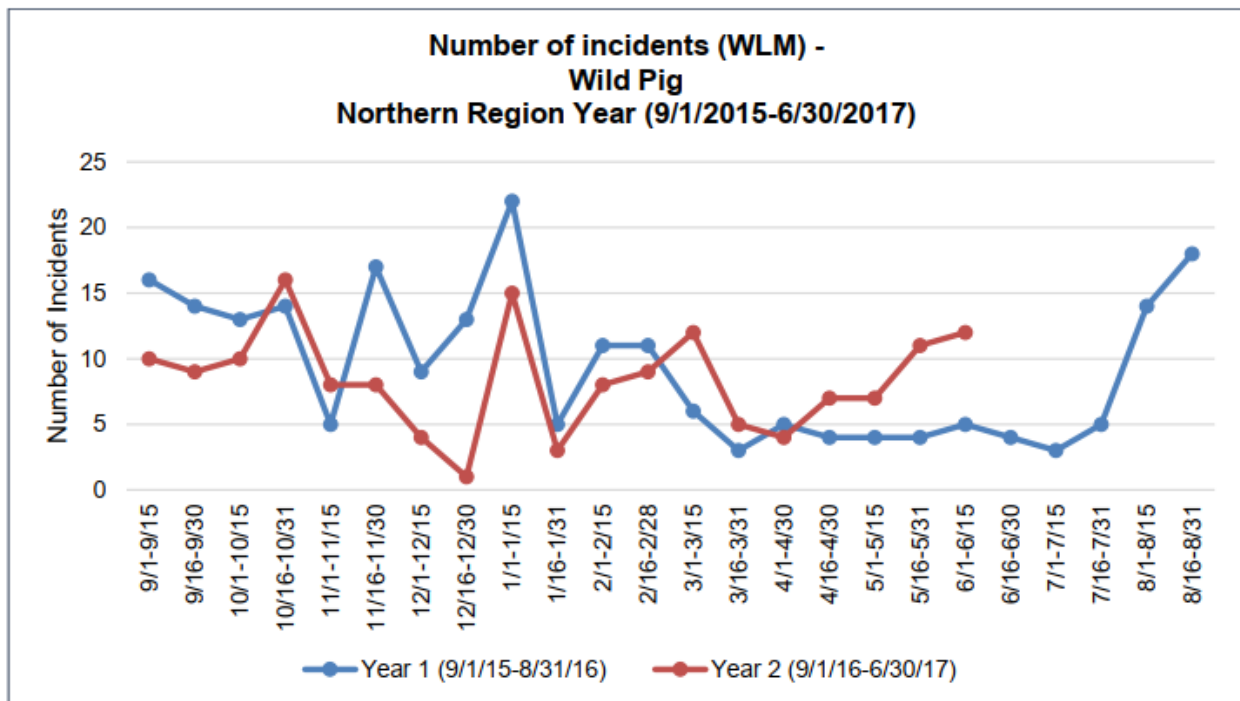


**Figure 4: Temporal comparison of the proportion of response types by CDFW staff to all statewide incidents involving wild pigs from 2015-2017**

Wildlife Incident Reporting Summary: Wild Pig (*Sus scrofa*)  
 (September 1, 2015-June 30, 2017)



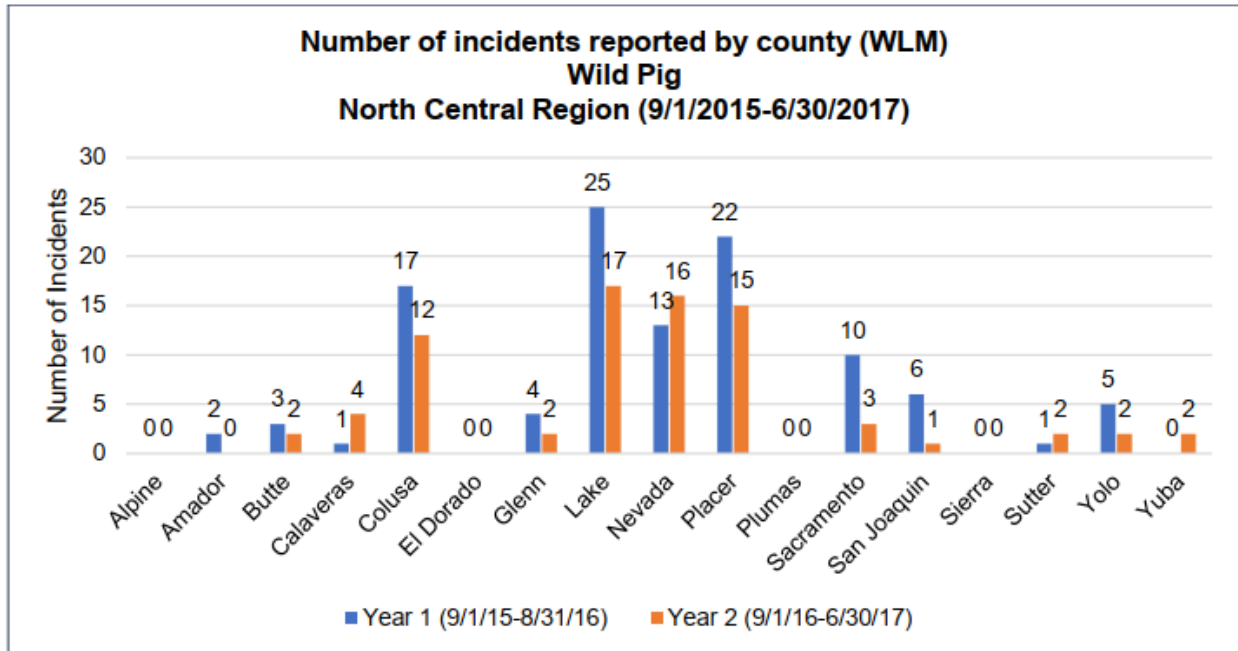
**Figure 5: Temporal comparison of the number of HWC incidents involving wildpigs in Northern Region counties in 2015-2017**



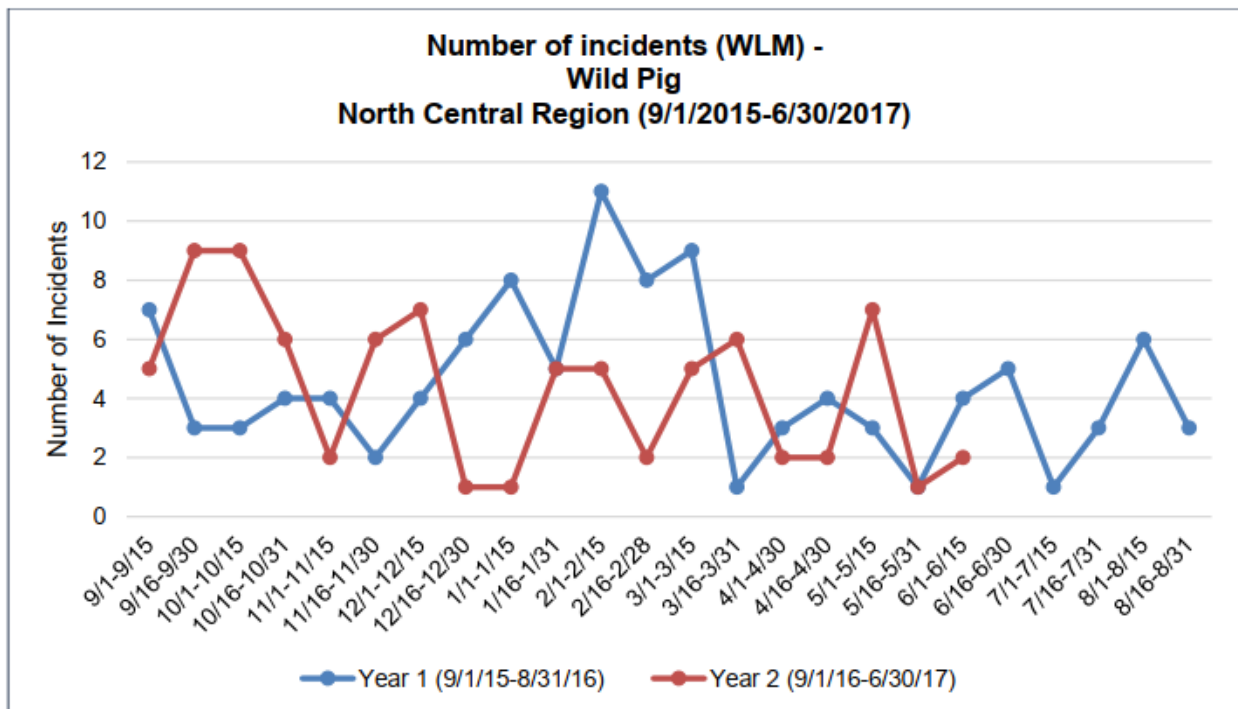
**Figure 6: Temporal comparison of the number of HWC incidents involving wildpigs in the Northern Region in 2015-2017**



Wildlife Incident Reporting Summary: Wild Pig (*Sus scrofa*)  
 (September 1, 2015-June 30, 2017)

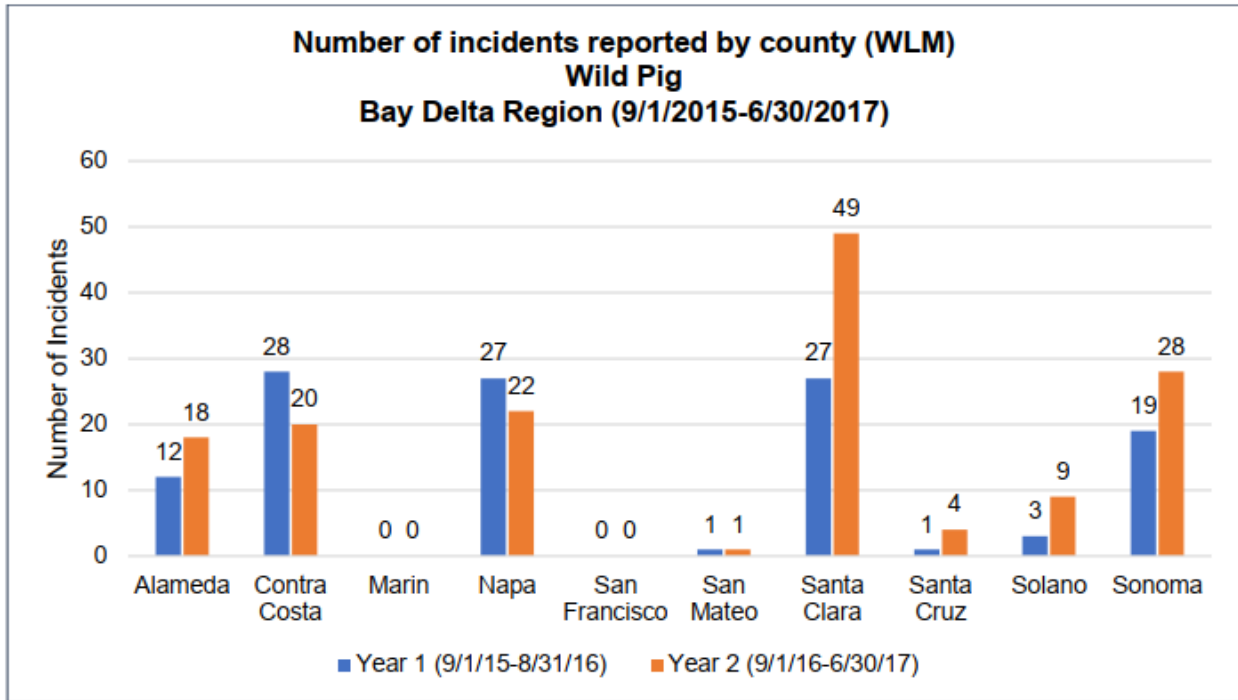


**Figure 7: Temporal comparison of the number of HWC incidents involving wildpigs in North Central Region counties in 2015-2017**

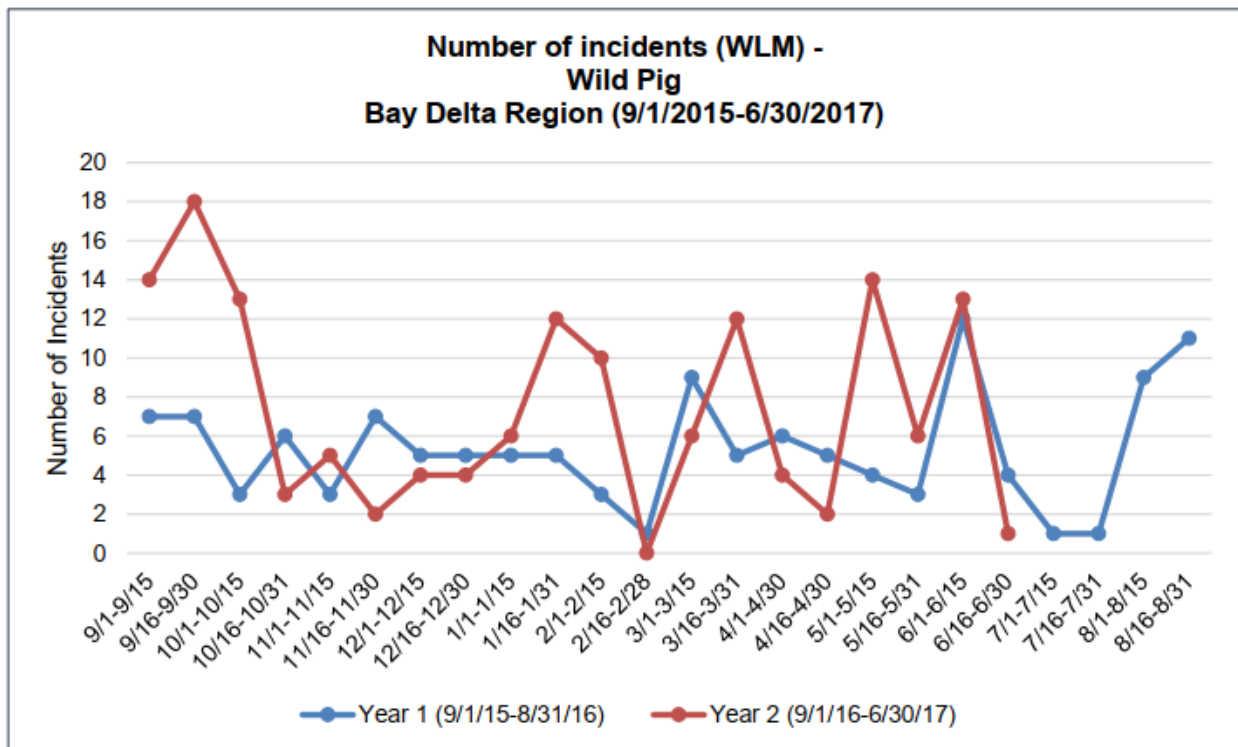


**Figure 8: Temporal comparison of the number of HWC incidents involving wildpigs in the North Central Region in 2015-2017**

Wildlife Incident Reporting Summary: Wild Pig (*Sus scrofa*)  
 (September 1, 2015-June 30, 2017)



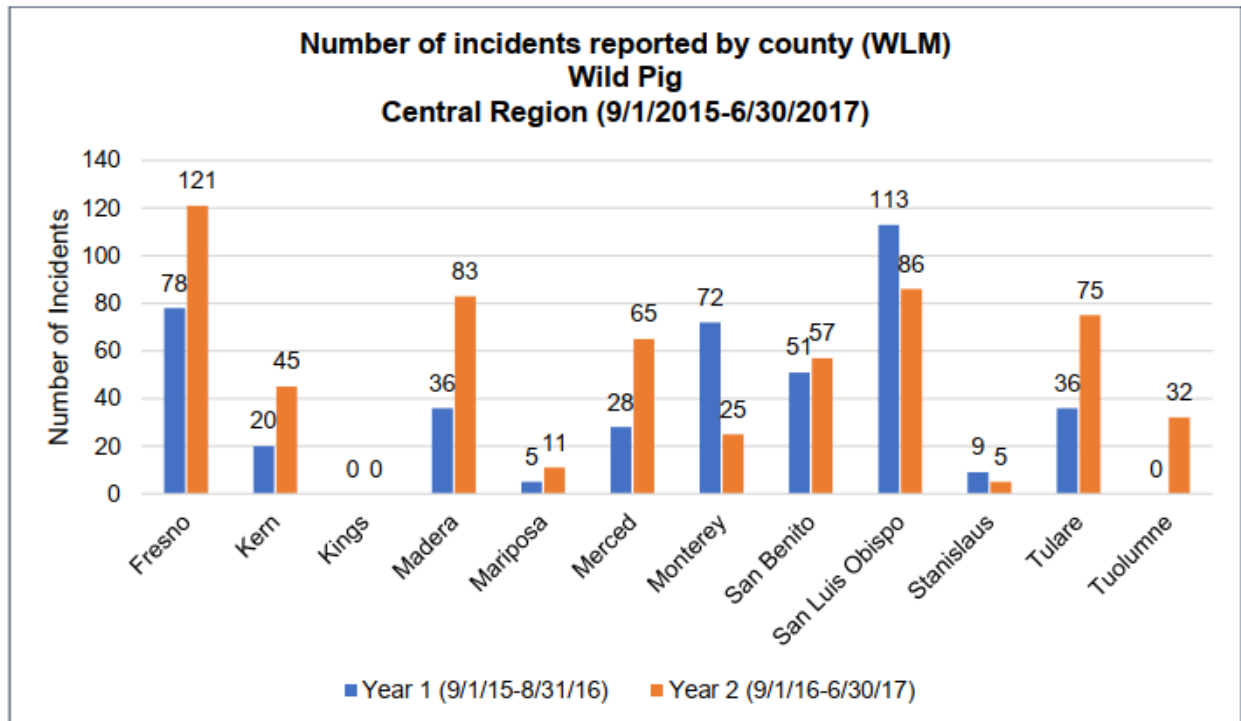
**Figure 9: Temporal comparison of the number of HWC incidents involving wildpigs in Bay Delta Region counties in 2015-2017**



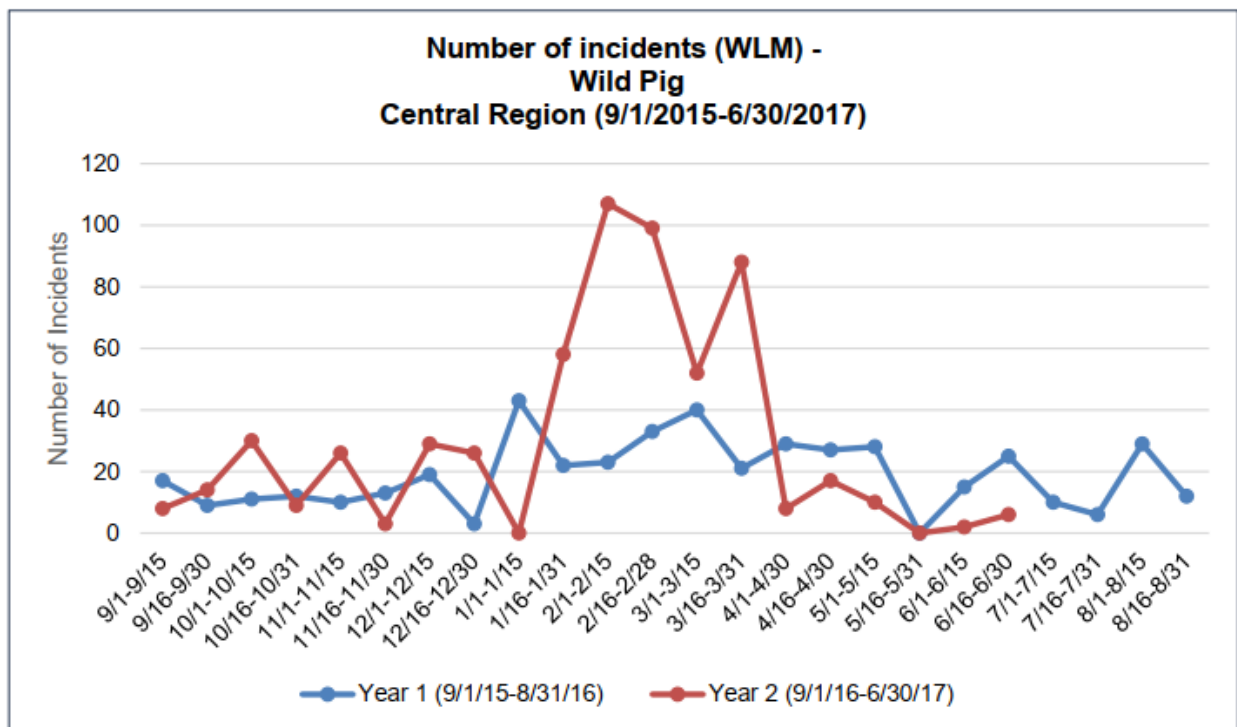
**Figure 10: Temporal comparison of the number of HWC incidents involving wildpigs in the Bay Delta Region in 2015-2017**



Wildlife Incident Reporting Summary: Wild Pig (*Sus scrofa*)  
 (September 1, 2015-June 30, 2017)

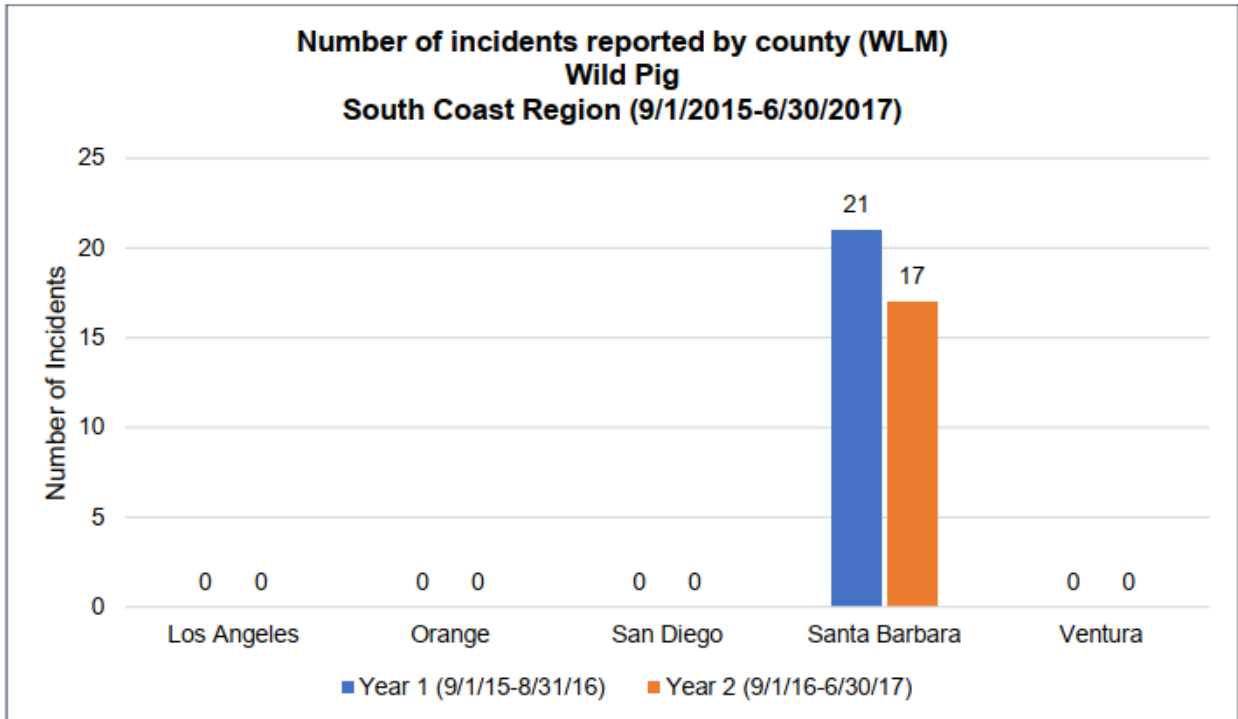


**Figure 11: Temporal comparison of the number of HWC incidents involving wild pigs in Central Region counties in 2015-2017**

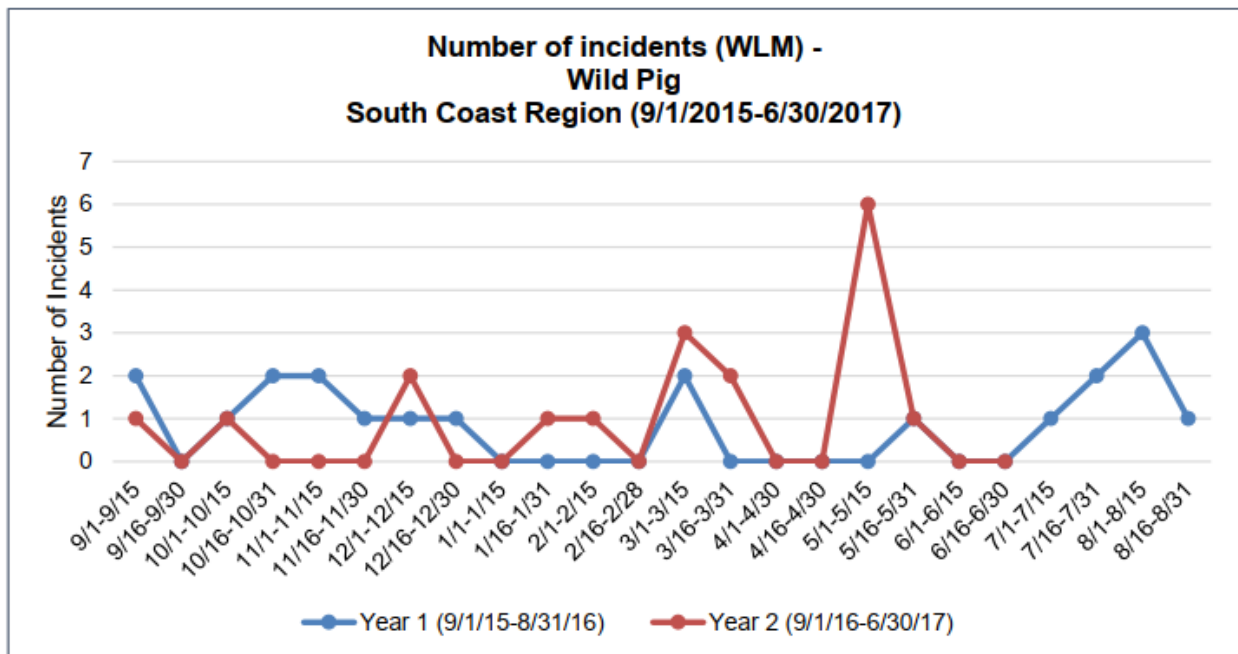


**Figure 12: Temporal comparison of the number of HWC incidents involving wildpigs in the Central Region in 2015-2017**

Wildlife Incident Reporting Summary: Wild Pig (*Sus scrofa*)  
 (September 1, 2015-June 30, 2017)



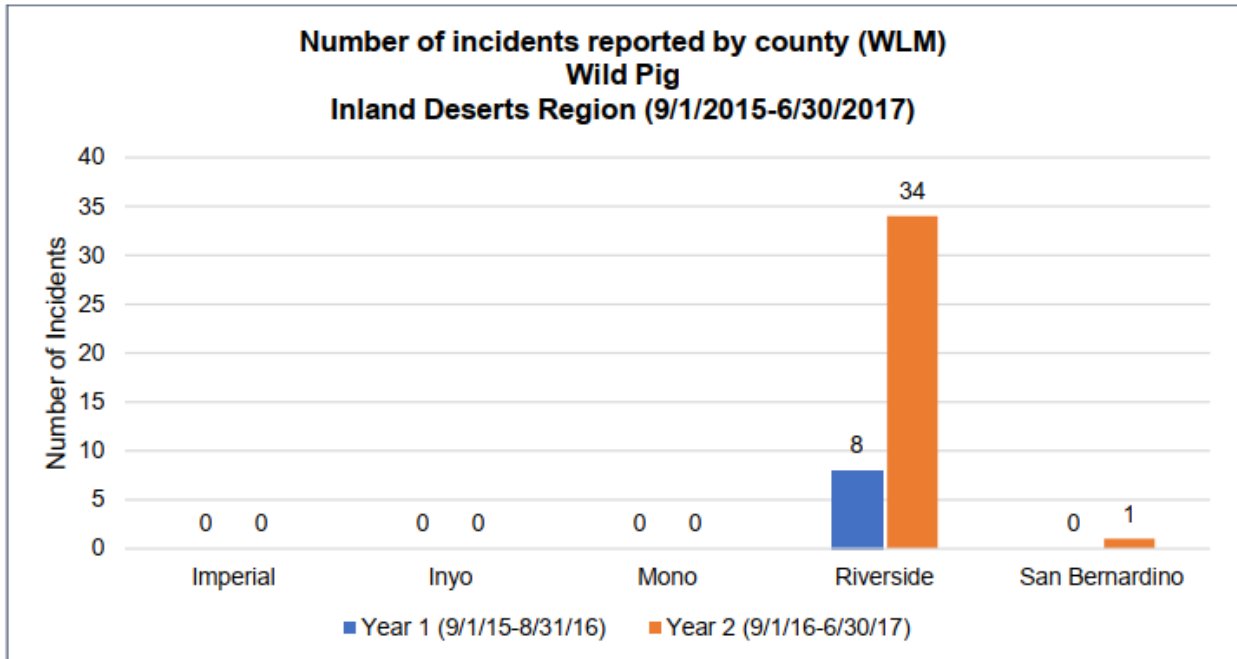
**Figure 13: Temporal comparison of the number of HWC incidents involving wildpigs in South Coast Region counties in 2015-2017**



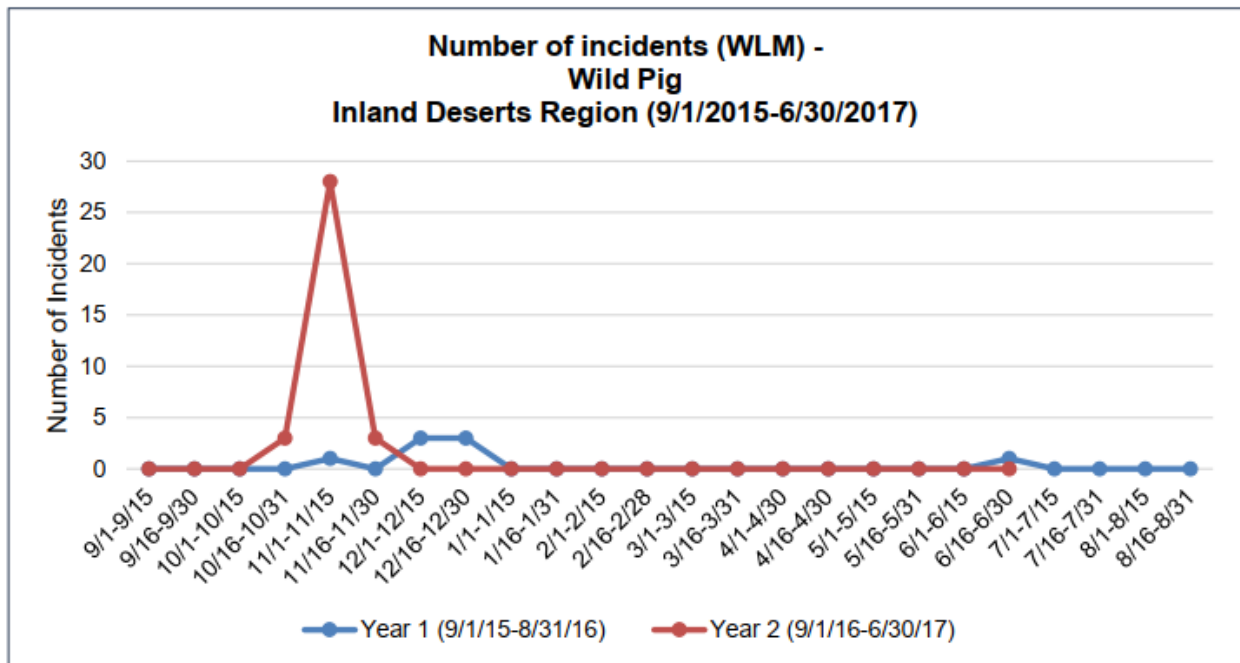
**Figure 14: Temporal comparison of the number of HWC incidents involving wildpigs in the South Coast Region in 2015-2017**



Wildlife Incident Reporting Summary: Wild Pig (*Sus scrofa*)  
 (September 1, 2015-June 30, 2017)

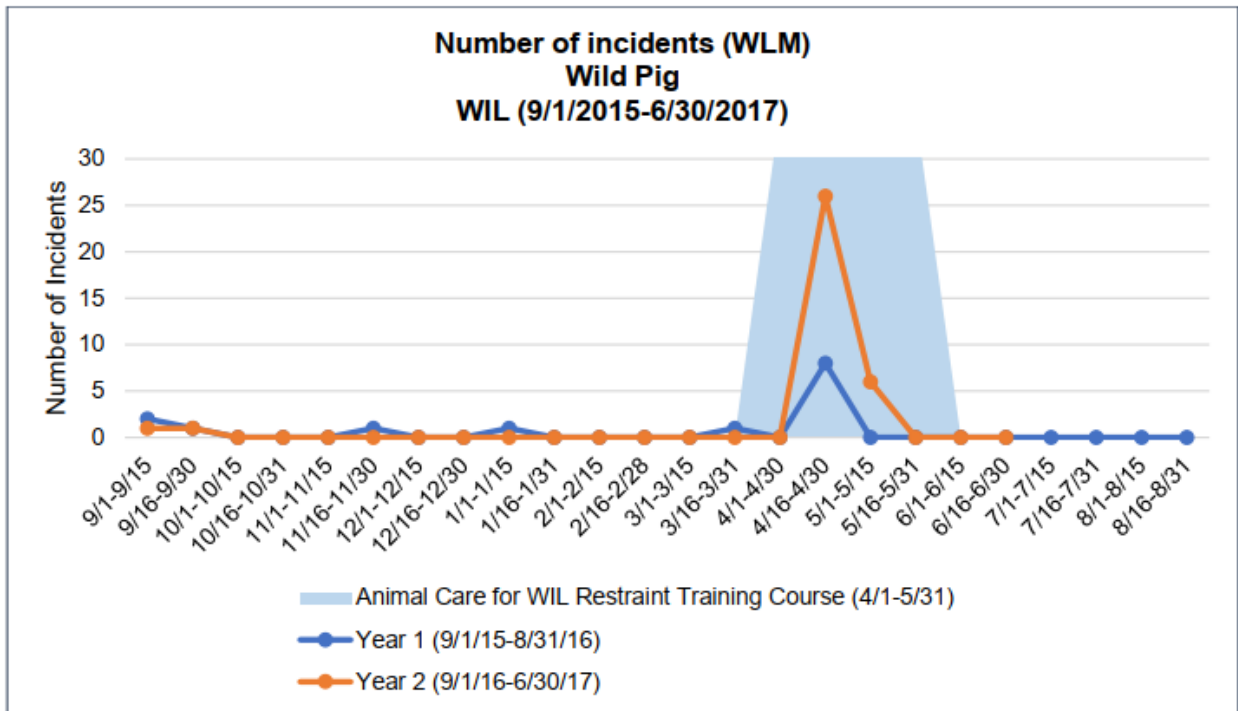


**Figure 15: Temporal comparison of the number of HWC incidents involving wildpigs in Inland Deserts Region counties in 2015-2017**



**Figure 16: Temporal comparison of the number of HWC incidents involving wildpigs in the Inland Deserts Region in 2015-2017**

Wildlife Incident Reporting Summary: Wild Pig (*Sus scrofa*)  
 (September 1, 2015-June 30, 2017)



**Figure 17: Temporal comparison of the number of HWC incidents involving wildpigs for the Wildlife Investigations Lab (WIL) in 2015-2017.**

NOTE: April 1- May 31 time period highlighted to reflect WIL Restraint Training Course for CDFW staff statewide.



United States Department of Agriculture

# AFRICAN SWINE FEVER

*African swine fever (ASF) is a viral disease that affects both domestic and wild pigs (feral swine). It spreads very quickly and kills most pigs that get it. ASF has never been found in the United States.*

*Humans cannot get ASF, but they can carry the virus on clothing, shoes, and equipment. An outbreak in the United States would have devastating economic effects on the swine industry.*

*Report dead feral swine- Visit CDFW website and type Mortality into the search. Select Mortality Reporting*



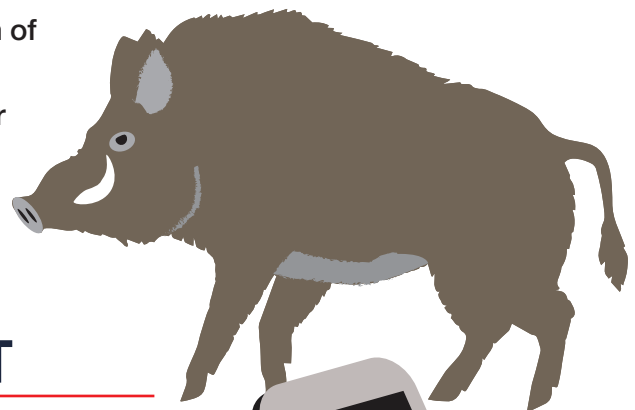
## Report Feral Swine

Feral swine can carry foreign animal diseases like ASF. While ASF has never been found in domestic or feral swine in the United States, there is no treatment or vaccine for it. That's why surveillance is very important. Help protect U.S. pigs by immediately reporting sick or dead feral swine.



### WHAT TO DO

- If you find 3 or more sick or dead feral swine with no obvious injury or cause of death, report it right away.
- Be sure to note the location of the sighting. Take Pictures
- Don't disturb the carcass or approach a sick animal.
- If safe to do so, check the area for any other sick or dead feral swine.



### HOW TO REPORT

Call the **USDA-APHIS Wildlife Services** program in your State at **1-866-4-USDA-WS** or **916-979-2681**

**Don't wait! Quick detection is essential to preventing the spread of ASF.**



**Help keep U.S. pigs free of this deadly disease!**  
**Need more info? [www.aphis.usda.gov](http://www.aphis.usda.gov)**

The U.S. Department of Agriculture is an equal opportunity provider, employer, and lender.

Animal and Plant Health Inspection Service  
Program Aid No. 2237-5 • Issued May 2020



Years	Permits Issued	Total Taken	Sum of # Authorized
2015	400	1873	148065
2016	450	1278	95068
2017	790	1135	339283
2018	850	2059	446919
2019	638	1219	304755
<b>Grand Total</b>	<b>3128</b>	<b>7564</b>	<b>1334090</b>

^WIR

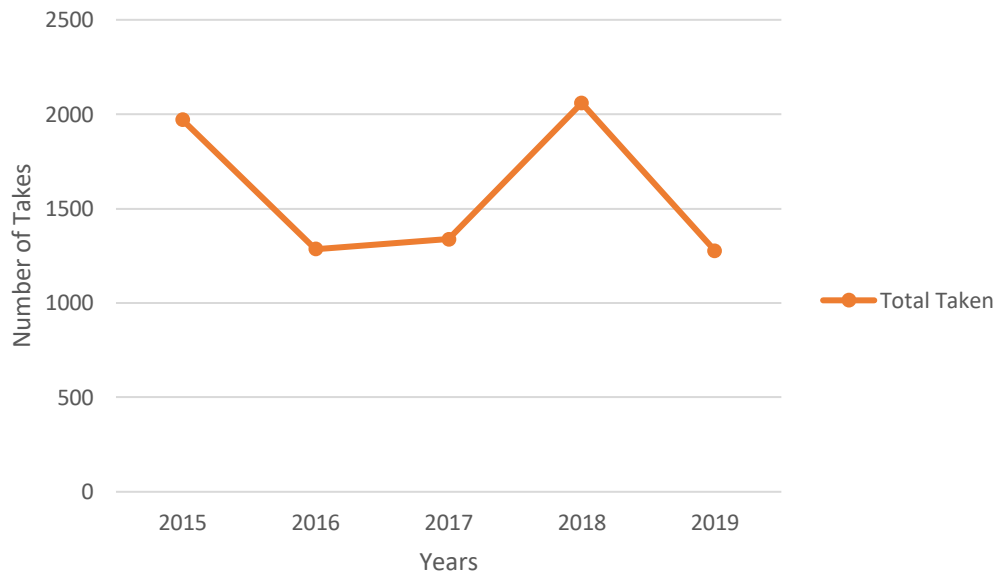
Years	Number of
2015	240
2016	235
2017	148
2018	1
2019	5
<b>Grand Total</b>	<b>629</b>

Years	Permits Issued	Total Authorized	Total Taken
2015	640	171628	1971
2016	685	117517	1285
2017	938	353431	1338
2018	851	447018	2059
2019	643	305201	1278
<b>Grand Total</b>	<b>3757</b>	<b>1394795</b>	<b>7931</b>

**Total Auth Total Taken**

23563	98
22449	7
14148	203
99	0
446	59
<b>60705</b>	<b>367</b>

Pig Depredation Take Data



California Department of Fish and Wildlife			
Wild Pig Depredations by County through June 30, 2022			
September 19, 2022			
<b>Wild Pig WIR Data (1/1/2016-6/30/2022)</b>			
<b>County</b>	<b>Number of Depredation WIR Reports</b>	<b>Number of Permits Issued</b>	<b>Number of Take Reported</b>
<b>Grand Total</b>	<b>4233</b>	<b>3624</b>	<b>6613</b>
Alameda	105	96	754
Amador	35	28	69
Butte	20	20	55
Calaveras	6	5	11
Colusa	88	85	78
Contra Costa	312	253	627
Del Norte	1	1	
El Dorado	2	2	
Fresno	133	123	20
Glenn	36	35	33
Humboldt	8	6	20
Kern	61	54	80
Kings	2	1	
Lake	199	171	165
Los Angeles	2	2	2
Madera	200	170	205
Mariposa	89	81	153
Mendocino	218	188	363
Merced	114	105	335
Monterey	466	380	688
Napa	160	133	170
Nevada	48	45	27
Placer	37	36	18
Riverside	8	2	
Sacramento	10	5	
San Benito	112	84	215



<b>County</b>	<b>Number of Depredation WIR Reports</b>	<b>Number of Permits Issued</b>	<b>Number of Take Reported</b>
San Bernardino	2	2	25
San Diego	3	3	
San Joaquin	23	23	251
San Luis Obispo	243	204	713
San Mateo	4	4	5
Santa Barbara	112	96	221
Santa Clara	243	185	404
Santa Cruz	8	7	2
Shasta	158	134	80
Siskiyou	18	16	
Solano	111	99	112
Sonoma	137	104	144
Stanislaus	15	14	135
Sutter	41	39	36
Tehama	417	382	315
Trinity	1	1	
Tulare	170	151	53
Tuolumne	8	7	22
Ventura	3	2	
Yolo	39	36	7
Yuba	5	4	