



Animal and Plant Health Inspection Service
U.S. DEPARTMENT OF AGRICULTURE

Greece

APHIS report on the review of foot-and-mouth disease,
classical swine fever, swine vesicular disease, and African swine fever

Veterinary Services
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1. Executive summary

The United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), with collaboration of the Canadian Food Inspection Agency (CFIA), has conducted a review of the European Union (EU) animal health statuses for four transboundary animal diseases affecting swine: foot-and-mouth disease (FMD), classical swine fever (CSF), swine vesicular disease (SVD), and African swine fever (ASF). APHIS currently recognizes the Hellenic Republic of Greece (Greece) as free of FMD and SVD, and as low risk for CSF as part of the APHIS-defined European CSF region. APHIS currently considers ASF to exist in parts of the EU, including an area in northern Greece where the EU has established an area of increased ASF surveillance. APHIS recognizes EU zoning decisions for ASF rather than the ASF status of individual EU Member States, including Greece. APHIS concurrently reviewed the status of the EU ASF zoning and reported its findings in a separate overarching review of the European Commission (EC) emergency response framework for zoning decisions for ASF. ASF is discussed in this report in reference to swine health disease programs, the control and prevention of foreign animal diseases in Greece, and the EU regionalization (zoning) decisions for the control of ASF.

The objective of this review is to determine whether or not conditions in Greece justify maintaining its animal health statuses for the above diseases. The review consisted of a document review and a site visit in Greece conducted September 16 to 20, 2019 to verify and complement information relevant to the factors APHIS considers when recognizing the animal health status of a region.

For this review, APHIS analyzed information provided by Greece's Ministry of Rural Development and Food (MRDF), Directorate General of Veterinary Services (DGVS), and the regional and local veterinary authorities; as well as on the observations made by the APHIS/CFIA team on the site visit; information available on the websites of the EC and the World Organization for Animal Health (OIE); and other publicly available information.

Based on the above, APHIS found no evidence that FMD, CSF and SVD are present in Greece. APHIS considers the area of increased ASF surveillance (a Part I area in accordance with EU ASF zoning practices) established by the EU in northern Greece to be ASF-affected and the remainder of Greece to be a region where ASF is not known to exist.¹

APHIS concludes that Greece conducts sufficient control measures to prevent entry of FMD, CSF and SVD and to reduce the likelihood of entry of ASF, and, in the event of a hazard incursion, Greece is capable of detecting the hazard and containing its spread relying in part on the financial commitment of the EC for staffing and resources. Furthermore, APHIS found Greece's ASF preparedness and monitoring to be sufficient to ensure prompt detection of potential incursion of ASF into the country. In addition, Greece has demonstrated a history of promptly reporting disease events and taking appropriate measures to prevent their export to third countries, as it demonstrated with its recent detection of ASF. APHIS is satisfied with the prompt notification of this ASF outbreak and concludes that Greece responded quickly and effectively to contain and control this outbreak in accordance with the EU framework for ASF.

¹ APHIS considers any Part I area, established by the EU or any EU Member State because of detection of ASF in domestic or feral swine, to be ASF-affected in accordance with Title 9, United States Code of Federal Regulations, Section 94.8 (9 CFR 94.8), paragraph (a)(1)(iii).

APHIS finds that Greece's veterinary infrastructure has been constrained by resource limitations resulting in staffing shortages on the national, regional and local levels. However, APHIS concludes that Greece leverages its available resources to ensure critical animal disease control activities remain functioning while the country moves towards filling critical vacancies in its veterinary services as it recovers from its recent financial crisis. It is also important to note that the EC stepped in and provided necessary financial resources to assist Greece during this time, especially to enhance Greece's capacity to respond to ASF.

In consideration of the favorable review of Greece's animal health statuses, APHIS concludes that current conferred statuses and import mitigations for FMD, CSF, and SVD are appropriate. APHIS recommends that recognition of these statuses be maintained until the next APHIS review or until a change in Greece's animal health status is reported. APHIS' conclusions about EU ASF zoning are discussed in a separate overarching EU ASF report.

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3. Abbreviations

ADNS	Animal Disease Notification System of the European Union
APHIS	Animal and Plant Health Inspection Service
ASF	African swine fever
BIP	border inspection post
CCA	central competent authority for animal health
CFIA	Canadian Food Inspection Agency
CSF	classical swine fever
CVED	Common Veterinary Entry Document
DGVS	Directorate General of Veterinary Services
ELISA	enzyme-linked immunosorbent assay
EC	European Commission
EU	European Union
EURL	EU Reference Laboratory
FMD	foot and mouth disease
ILCT	Inter-Laboratory Comparison Test
LDCC	Local Disease Control Center
MRDF	Ministry of Rural Development and Food
NDCC	National Disease Control Center
NRL	National Reference Laboratory
OIE	World Organization for Animal Health
RCA	regional competent authority for animal health
REVM	Regional Rural Economy and Veterinary Medicine
SVD	swine vesicular disease
TAD	transboundary animal disease
TRACES	Trade Control and Expert System
WAHIS	OIE's World Animal Health Information System

4. Introduction

The United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) regulates the importation of animals and animal products into the United States to guard against the introduction and spread of transboundary animal diseases. In support of this goal, APHIS prohibits or otherwise restricts the importation of animals and animal products from regions that APHIS either does not recognize as free of foot-and-mouth disease (FMD), classical swine fever (CSF), and swine vesicular disease (SVD), among other diseases, or recognizes as affected with African swine fever (ASF). These four highly contagious viral diseases are exotic to the United States, and FMD, CSF and ASF are among the OIE listed diseases of concern for international trade [1-4].

Currently, APHIS recognizes the Hellenic Republic of Greece (Greece) as free of FMD and SVD [5]. APHIS also includes Greece in the APHIS-defined European CSF region, a region considered by APHIS to be low risk for CSF and composed of twenty-five EU Member States (all except Bulgaria and Romania), the United Kingdom, Switzerland and Lichtenstein. APHIS currently considers ASF to exist in parts of the EU, including an area in northern Greece where the EU has established an area of increased ASF surveillance [6].

Periodically, APHIS reviews the APHIS-recognized animal health statuses of foreign regions to determine whether the conditions in the region support the continuation of APHIS' recognition of those statuses [7]. Consistent with regulations in Title 9 of the Code of Federal Regulations Part 92 (9 CFR 92) [8], APHIS conducted a review of the EU's animal health statuses for four transboundary animal diseases that affect swine: FMD, CSF, SVD, and ASF. APHIS conducted this review with the collaboration of the Canadian Food Inspection Agency (CFIA). As part of this EU review, APHIS selected Greece as one of thirteen EU Member States that APHIS considers representative of the EU.² This document is the report of findings and conclusions specific to Greece; findings and conclusions specific to the other twelve Member States are provided in individual reports and overall findings and conclusions regarding recognition of the APHIS-defined European CSF region and EU zoning decisions for ASF are provided in separate APHIS review reports for those two animal health statuses.

In order to evaluate whether conditions in Greece continue to support its recognitions by APHIS for FMD, CSF, SVD and ASF, APHIS collected and analyzed information relevant to the factors used to conduct evaluations to establish initial animal health statuses as described in 9 CFR Section 92.2 [9]. These factors allow APHIS to establish a comprehensive representation of Greece's veterinary infrastructure, livestock demographics, livestock movement, surveillance programs, disease control capabilities, and emergency response systems for the specified hazards. APHIS evaluated the information in order to determine that Greece meets the following overarching standards:

- The hazards are unlikely to be present in Greece at the time of this review, except for ASF in the region in northern Greece zoned by the EC for increased ASF surveillance;
- The hazards are unlikely to infect or contaminate the commodity being exported from Greece to the United States due to countermeasures taken by the Greek veterinary authorities; and,

² On February 1, 2020, the United Kingdom withdrew from the EU, leaving twenty-seven EU Member States remaining.

- If Greece has an incursion, it will be rapidly detected, the United States and/or the OIE will be promptly notified, and all necessary actions will be taken to prevent the introduction of the hazards into the United States through exportation of commodities infected with or contaminated by the hazards.

The review consisted of a document review and a site visit in Greece from September 16 to 20, 2019 to verify and complement all information APHIS collected and analyzed relevant to the factors used to conduct evaluations to establish initial animal health statuses. APHIS collected information from Greece through use of a standardized questionnaire developed for APHIS animal health status reviews. Additional information regarding the establishment of an area of increased ASF surveillance and the single ASF outbreak in northern Greece was provided to APHIS by the EC. All information was collected from records of Greece's Ministry of Rural Development and Food (MRDF), Directorate General of Veterinary Services (DGVS), veterinary authorities of Greece's thirteen administrative regions, the EC, the OIE, and other publicly available information. All information and data gathered during and after the site visit, along with observations by the APHIS/CFIA site visit team are incorporated into this review report.

The results of this review are expected to inform APHIS management decisions regarding the FMD, CSF, and SVD statuses of Greece; the status of EU zoning for ASF; and whether to amend restrictions on the importation of relevant commodities from Greece.

5. Scope of the review

The scope of this review of Greece covers FMD, CSF, and SVD status, and ASF zoning. All four diseases affect swine. Acknowledging that FMD affects other cloven-hoofed mammals such as cattle, sheep, and goats; this review is focused on swine, as part of a larger APHIS evaluation of the swine health statuses of EU Member States. The hazards under consideration in this review are the viruses that cause FMD, CSF, SVD, and ASF.

A note on the expansion of scope of the review to include ASF: When the review was initiated, ASF had never been reported in Greece, although ASF outbreaks were occurring in domestic swine and wild boar in other parts of the EU, including the neighboring EU Member State of Bulgaria [13]. Although APHIS initially focused its review of Greece on FMD, CSF and SVD, it collected information on Greece's ASF preparedness and monitoring activities. In November 2019, the EU established an area of increased ASF surveillance in northern Greece due to its proximity to recent detection of ASF in Bulgaria. A few months later, on February 5, 2020, Greece detected an ASF outbreak in a domestic swine holding in Visaltia, in the Region of Central Macedonia, in northern Greece. The EU provided APHIS with additional information regarding these events. EU zoning for ASF in Greece occurred after the APHIS/CFIA team completed its site visit, so no on-site verification occurred in Greece; however, verification by APHIS/CFIA was conducted in other ASF-affected EU Member States. A description of Greece's ASF preparedness and monitoring activities, ASF zoning and controls are described in this report and are considered in a separate report on APHIS' review of its recognition of EU zoning decisions for ASF. Accordingly, the scope of this review was expanded to include ASF.

6. Status of hazards under review in Greece

APHIS maintains a list of animal health statuses of regions on the [APHIS website](#). APHIS considers Greece to be free of FMD and SVD. APHIS considers Greece to be low risk for CSF as part of the APHIS-defined European CSF region.³ The last outbreak of FMD in Greece occurred in 2000; CSF last occurred in 1985; SVD last occurred in 1979; and a single outbreak of ASF occurred in February 2020 [10, 11-13]. The OIE recognizes Greece as FMD free where vaccination is not practiced [1].

Routine vaccination for FMD, CSF and SVD is prohibited in Greece and no vaccine is available for ASF [10]. Emergency vaccination for FMD and CSF is permitted only under exceptional circumstances to prevent disease spread and only in accordance with established official disease eradication regulations.

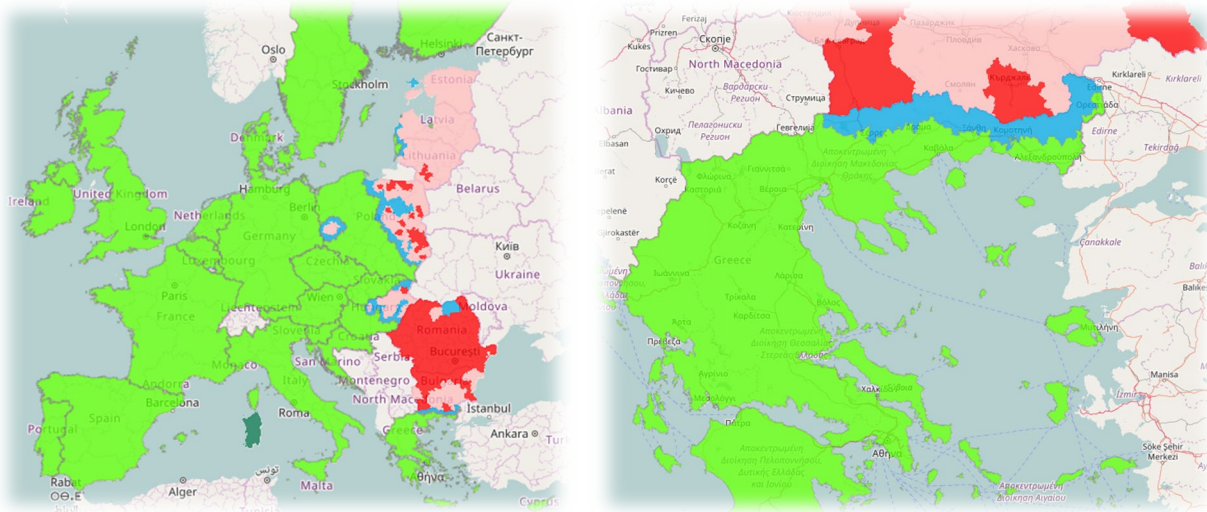
During the period from initiation of this review, December 2018, until November 28, 2019, Greece had not established any restricted zones related to the detection of ASF. However, on Nov. 28, 2019 in accordance to [Commission Decision 2014/709/EU](#), the EU regionalized Greece for ASF by establishing a Part I area in northern Greece along its border with Bulgaria (*see Figure 1*) [14]. This Part I area was not established because of detection of ASF in Greece, rather it was established as an area of increased ASF surveillance due to its proximity to ASF cases detected in Bulgaria. APHIS considers this Part I area to be ASF-affected in accordance with its recognition of any restricted zone in the EU established by the EU or any EU Member State because of detection of ASF in domestic or feral swine as being ASF-affected [5].⁴

On February 5, 2020, Greece detected ASF on a backyard domestic pig farm (32 pigs in total) in the Region of Central Macedonia, located approximately 13 km outside of the Part I area (*see Figure 2*). Greece immediately implemented control measures in accordance with their ASF Contingency Plan, including the establishment of protection and surveillance zones (collectively referred to as the control area) in accordance with Article 9, Commission Directive 2002/60/EC [15]. The EU designated this control area to be ASF-affected [16]. Greece successfully resolved the outbreak and lifted the control area. Likewise, on April 6, 2020 the EU removed it from its list of ASF-affected areas [6].⁵ During the period of February 5 to April 6, 2020, APHIS considered the control area to be ASF-affected. Presently in accordance with APHIS' recognition of EU ASF zoning decisions, APHIS continues to consider the Part I area to be ASF-affected and the remainder of Greece to be a region where ASF is not known to exist (*see Figure 3*) [5, 17]. APHIS considered Greece's ASF zoning requirements in its separate overarching review of the EC emergency response framework for zoning decisions for ASF.

³ APHIS-defined European CSF region includes: Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Ireland, Slovakia, Slovenia, Spain, Sweden, Switzerland, and United Kingdom. The importation of pork, pork products, and swine from the APHIS-defined European CSF region is subject to restrictions specified in 9 CFR 94.31. In addition, swine semen imported from the APHIS-defined European CSF region is subject to restrictions specified in 9 CFR 98.38.

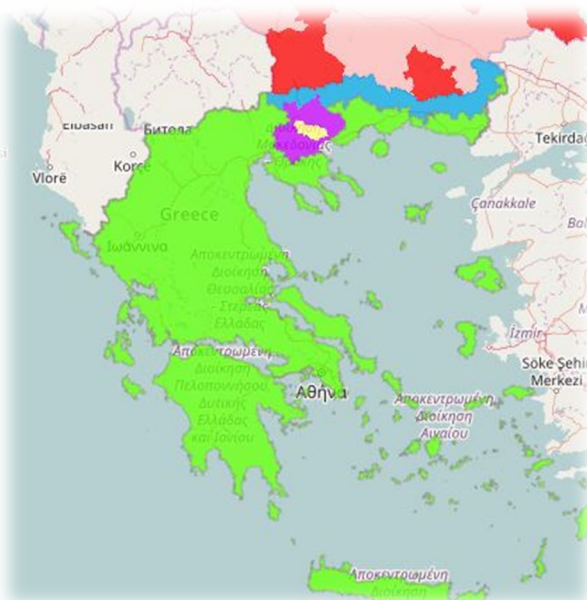
⁴ APHIS considers Part I areas to be ASF-affected in accordance with our regulation Title 9, United States Code of Federal Regulations, Section 94.8 (9 CFR 94.8), paragraph (a)(1)(iii).

⁵ The EU lists areas under restriction for ASF in the Annex to Commission Decision 2014/709/EU [6].



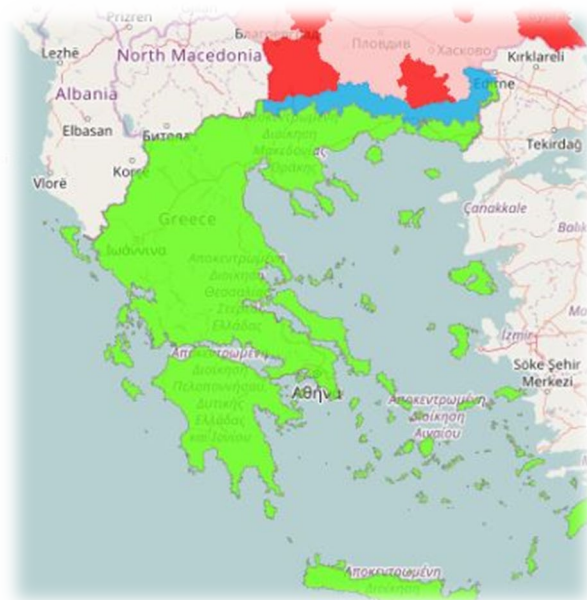
Legend: lime green = unrestricted; blue = Part I area (increased ASF surveillance); pink = Part II area (ASF detected in wild boar); red = Part III area (ASF detected in both domestic swine and wild boar); dark green = Part IV area (ASF endemic area)

Figure 1: EU zoning for ASF, as of November 28, 2019 (current zoning map may be found [HERE](#)) [14]



Legend: lime green = unrestricted; blue = Part I area (increased ASF surveillance); pink = Part II area (ASF detected in wild boar); red = Part III area (ASF detected in both domestic swine and wild boar); dark green = Part IV area (ASF endemic area); yellow = protection zone; purple = surveillance zone

Figure 2: EU zoning for ASF, as of April 3, 2020 prior to lifting of Greece ASF control area [16]



Legend: lime green = unrestricted; blue = Part I area (increased ASF surveillance); pink = Part II area (ASF detected in wild boar); red = Part III area (ASF detected in both domestic swine and wild boar); dark green = Part IV area (ASF endemic area)

Figure 3: EU zoning for ASF, as of April 15, 2020 after lifting of Greece ASF control area [6]

7. Likelihood of hazard entry into Greece

Greece is located at the southern tip of the Balkan Peninsula. It shares land borders with non-EU countries (Albania in the northwest, The Republic of North Macedonia in the north and Turkey in the northeast) and Bulgaria (an EU Member state in the north). The Aegean Sea lies to the east of the mainland, the Ionian Sea to the west, the Cretan Sea and the Mediterranean Sea to the south. Greece includes a large number of islands of which 227 are inhabited. Over eighty percent of Greece is mountainous. Although mountainous, Greece is not considered to have natural barriers isolating it from the adjacent countries where there is a common land border. The seas are considered to be a natural barrier for the portion of Greece with a coastline.

Greece is exposed to potential entry of transboundary animal disease agents through international trade of animals and animal products through both legal and illegal pathways and international movement of passengers. In addition, there is potential entry exposure through intra-Community movement of commodities and passengers, as well as movement of wildlife whenever disease agents are present in neighboring countries or other EU Member States (Bulgaria currently reports outbreaks of ASF in both wild boar and domestic swine). APHIS collected information on Greece's veterinary infrastructure, including legal authority for the animal health activities and organizational structure of the veterinary services; livestock demographics and traceability; and movement controls for animals and animal products to determine the effectiveness of measures to prevent incursions of the hazards under evaluation.

7.1 Veterinary authority and infrastructure

Legal authority for animal health activities

Greece is an EU Member State and required to implement European Parliament and the Council adopted regulations. The regulations and decisions of EU institutions (EU Parliament, EU Council and Commission) are legally binding for all Member States of the EU and hence also for Greece. The EU Directives must be transposed into national legislation in order to be legally binding.

The EU measures for FMD are laid down in Council Directive 2003/85/EC which Greece harmonized into national legislation by Presidential Decree 32/2007. Greece's contingency plan for FMD is implemented through Ministerial Decision 258618/2008 which imposes mandatory notification of suspicion of disease and authorizes disease control measures, including emergency management operations; depopulation and indemnification; animal movement controls; and prohibition of FMD vaccination except for emergency vaccination during an outbreak when authorized by the government of Greece. Greece harmonizes Council Directive 91/68/EEC in Presidential Decree 242/2005 for live trade of sheep and goats [10, 18].

In the EU, CSF is a notifiable disease according to Council Directive 82/894/EEC which was transposed into national legislation of Greece by Ministerial Decision 276914/2003 (National Contingency Plan against CSF). This legislation also transposes the CSF control requirements included in Council Directive 2001/89/EC (as amended), including emergency management operations; depopulation and indemnification; animal movement controls; and prohibition of CSF vaccination except for emergency vaccination during an outbreak when authorized by the government of Greece which are included in the CSF contingency plan. Ministerial Decision 288/2007/2019 authorizes a surveillance program for both CSF and SVD [10, 18].

Council Directive 92/119/EEC provides for general measures to control certain animal diseases and specific measures relating to SVD. Greece transposes these measures in Ministerial Decision 258933/2008 (National Contingency Plan against Specific Diseases including SVD) and Presidential Decree 138/1995. These measures also impose mandatory notification requirements for suspicion of SVD [10, 18].

Additional provisions authorizing on-farm inspection, surveillance, and animal identification and farm registration are implemented through a series of national regulations: Royal Decree 26/3/1936; Presidential Decree 133/1992; Law 4235/2014; and Ministerial Decisions 297286/2005, 4349/135471/2017, 2473/9813/2018, 30/3430/2015, and 3339/117339/2016 [10, 18].

In January 2014, ASF was introduced into the EU and it has continued to spread primarily in the wild boar population, although outbreaks in domestic swine have been detected in several Member States. The primary legislation providing for the prevention and control of ASF in domestic swine and wild boar in the EU is Council Directive 2002/60/EC. The ASF regionalization measures imposed by the EU are provided in Commission Implementing Decision 2014/709/EU (as last amended) [15]. Greece transposes EU Directive 2002/60/EC into its national legislation through Presidential Decree 56/2005. ASF is a notifiable disease in Greece by Presidential Decree 133/1992 and Ministerial Decision 260918/2009 provides the National Contingency Plan for ASF [18].

Following the Oct. 24, 2019 detection of ASF in Bulgaria near its border with Greece, Greece implemented special ASF control and surveillance measures via Joint Ministerial Decision 3067/297195/2019 [20]. Greece's Ministry of Environment and Energy introduced specific ASF measures for wild boar through Ministerial Decision 71418/545/2019 (regulation of wild boar populations) and Ministerial Decision 71082/539/2019 (hunting regulation) [20].

Greece issued a new Ministerial Decision following the ASF detection on February 5, 2020, which provided definitions for various pig farms categories and established the minimum biosecurity requirements for each category [21]. Furthermore, this Decision imposed strict penalties on the owners of pig farms for noncompliance regarding identification/registration and biosecurity requirements. Greece based its Decision on the EU's *Working Document on the Strategic approach to the management of African Swine Fever for the EU* which outlines the EC's broad strategies to limit the spread of ASF in the EU (SANTE/7113/2015 - Rev 11) [19].

Organizational structure of the veterinary services

Within the Government of Greece, the Ministry of Rural Development and Food (MRDF), has the overall responsibility for the organization and implementation of control systems for food and feed safety, animal health, animal welfare and plant health. The Ministry of Health and the Ministry of the Interior and Administrative Reconstruction share responsibility for these control systems. The Ministries are primarily responsible for policy coordination, while implementation of controls is delegated to regional level authorities [10].

The MRDF, DGVS is the central competent authority (CCA) for animal health and is responsible for the regulatory structure for animal health programs and activities, including control of animal disease outbreaks, national surveillance and vaccination programs, national laboratories, national emergency contingency plans, control and eradication programs; national oversight of animal health, animal identification and traceability; and control of import, export and intracommunity

trade of animals and animal products. The MRDF organizational chart may be viewed [HERE](#). DGVS communicates directly with EU and international competent authorities on matters regarding animal health control [10, 18].

DGVS is comprised of five Directorates and one Division:

- Directorate of Animal Welfare, Veterinary Drugs and Veterinary Applications
- Directorate of Animal Health
- Directorate of Veterinary Public Health
- Directorate of Veterinary Center of Athens
- Directorate of Veterinary Center of Thessaloniki
- Planning and Coordination of Laboratory Testing Division

The Directorate of Animal Welfare, Veterinary Drugs and Veterinary Applications is responsible for implementation of legislation on animal welfare, identification and farm registration, artificial insemination, veterinary medicines and residues. It is composed of four departments:

- Department of Livestock and Laboratory Animal Welfare
- Department of Pet Animals and Other Animal Welfare
- Department of Identification and Registration of Animals and Artificial Insemination
- Department of Veterinary Medicines and Residues

The Directorate of Animal Health is responsible for the coordination and planning of animal health programs, contingency planning and control/eradication activities for epizootic disease outbreaks, assisting local authorities or managing large outbreaks spanning multiple regional units. It has the following departments:

- Department of Imports-Exports and Intracommunity Trade of Live Animals and of Products of Animal Origin
- Department of Infectious and Parasitic Diseases
- Department of Zoonoses
- Department of Avian Pathology, Aquatic Animals, Bees and Other Animals' Pathology
- Departments of border inspection posts (BIP) of Piraeus (including BIP of Piraeus, BIP of Athens National Airport and BIP of Astakos-Aetoloacarnania)
- Department of BIP of Thessaloniki (including BIPs of Thessaloniki Port, Thessaloniki Macedonia Airport, Evzonoï of Kilkis, Kakavia of Ioannina, Neos Kafkasos in Florina)
- Department of BIP of Evros

Greece is administratively subdivided into 13 regions, which are further subdivided into 74 regional units and 325 municipalities (*see Figure 4*) [10].



Figure 4 – Regions of Greece [10]

Each region has a Directorate General of Regional Rural Economy and Veterinary Medicine (REVM). The REVM is the regional competent authority (RCA) and is responsible for implementation of animal health programs at the regional level with policy guidance from DGVS. In general, a REVM is further organized into:

- Directorate of Rural Economy, which includes a Department of Plant and Animal Production;
- Directorate of Veterinary Medicine, referred to as the Regional Unit's Veterinary Services, which includes a Department of Animal Health, Department of Veterinary Public Health, and a Department of Veterinary Support, Drugs, Applications and Animal Health; and
- Directorates of Rural Economy and Veterinary Medicine, which include Departments of Veterinary Medicine, one for each regional unit in the region to serve as the local competent authority.

The Directorates General REVM are responsible for implementation of relevant controls for animal health, food and feed, and animal welfare. Their responsibilities include implementation in their regional units' vaccination programs; passive and active surveillance programs; actions described in National Contingency Plans in the event of suspicion or confirmation of disease outbreaks; and certification of animals and animal products [10, 18].

Greece has a total of nine BIPs approved by the EU, of which there are four land border crossings (one with Albania, two with the Republic of North Macedonia, and one with Turkey), two at airports and three at seaports [10].

Resources for the veterinary services

In Greece, the MRDF and the Ministry of Financial Affairs agree on an annual budget to fund measures for eradication, control and monitoring of animal diseases and zoonoses, as well as for emergency animal disease response. The total annual budgets for the last three years were 22,361,000 Euros (US\$24.12 million) in 2016; 23,000,000 Euros (US\$24.81 million) in 2017; and 24,000,000 Euros (US\$25.89 million) in 2018 [18].

Expenditures for certain animal disease response countermeasures are funded through a cost sharing program between Greece and the EU. Eligible costs are covered by the EC at a rate of between 50-100% with the balance funded by Greece. These grants are contingent upon the Member State complying with all applicable EU legislation [10, 18]. These costs include:

- depopulation of animals culled as part of an animal disease control measure, including indemnification to compensate the owner for the animal's value;
- vaccination programs (e.g. purchase, storage, distribution, and inoculation);
- cleaning and disinfection of holdings and equipment exposed to a disease agent associated with an animal disease outbreak;
- education and training programs to raise public awareness about animal disease outbreaks;
- supporting veterinary services (central, regional, and local levels) with the supplies necessary to respond to animal disease outbreaks; and
- Costs associated with surveillance activities, including sampling and testing.

DGVS, as well as regional and local veterinary services, are understaffed with many vacancies at all levels of government. This situation necessitates strategic prioritization of official duties and activities. The APHIS/CFIA team observed and discussed this issue at national, regional, and local levels during the site visit. At the central MRDF, for example, there are 33 filled positions and 31 vacant positions. The shortage of staff has been a pervasive issue dating back to 2004 and confirmed by EU audits on the animal health system. It was further impacted by the economic recession that occurred around 2010 [11, 18].

During the site visit, DGVS explained that it has an approved action plan to increase staffing levels and has received funding from the EC to staff certain critical official veterinary positions involved in activities related to ASF preparedness and emergency response. Due to ASF in neighboring Bulgaria, the EU has funded 46 temporary veterinary personnel to work along the borders of Greece with countries of increased ASF-risk or that were ASF-affected, including Bulgaria, informing farmers and backyard holdings about ASF, biosecurity measures, farm registration, reporting of sick animals, and concerns related to wild boar populations. Additionally, there is a plan to hire 46 permanent employees to fill positions at the central level, BIPs, and laboratories. Over the next 3 years, there are plans to hire 180 veterinarians to fill regional and regional unit positions throughout Greece.

7.2 Livestock demographics and traceability

Livestock demographics

The agricultural sector in Greece remains an important sector of economic activity and employment for Greece, with exports of agricultural products accounting for one third of total exports. Greece's financial crisis affected all areas of the economy, including agriculture. Thus,

agricultural output has steadily declined from 17 percent of gross domestic product (GDP) in the early 1990s to 4.1 percent today [22].

Greece imports significantly more food than it exports, and its main trading partners are other EU Member States. Greece's top agricultural food imports include cheese, US\$430 million (377.2 million Euros); beef, US\$281 million (246.5 million Euros); pork, US\$259 million (227.2 million Euros); and food preparations, US\$198 million (173.7 million Euros); whereas olive oil, US\$636 million (557.9 million Euros); cheese, US\$521 million (457.0 million Euros); and olives, US\$514 million (450.9 million Euros) dominate Greece's agricultural exports, followed by cotton, US\$397 million (348.2 million Euros); sea bream, US\$292 million (256.1 million Euros); and canned peaches US\$264 million (231.6 million Euros) [22].

Agriculture in Greece is characterized by small holdings. Lower agricultural productivity in Greece, compared to other EU Member States, is correlated to the smaller average-size of holdings [22]. Most swine holdings are commercial rather than backyard (*see Figure 5*) [18]. During the site visit, DGVS officials explained to the APHIS/CFIA team that Greece does not classify a backyard holding based on a defined number of pigs; however, pig owners are allowed to keep up to four pigs for personal use [23]. The relative density and distribution of swine holdings and wild boar densities in Greece are illustrated in **Appendix A** [18].

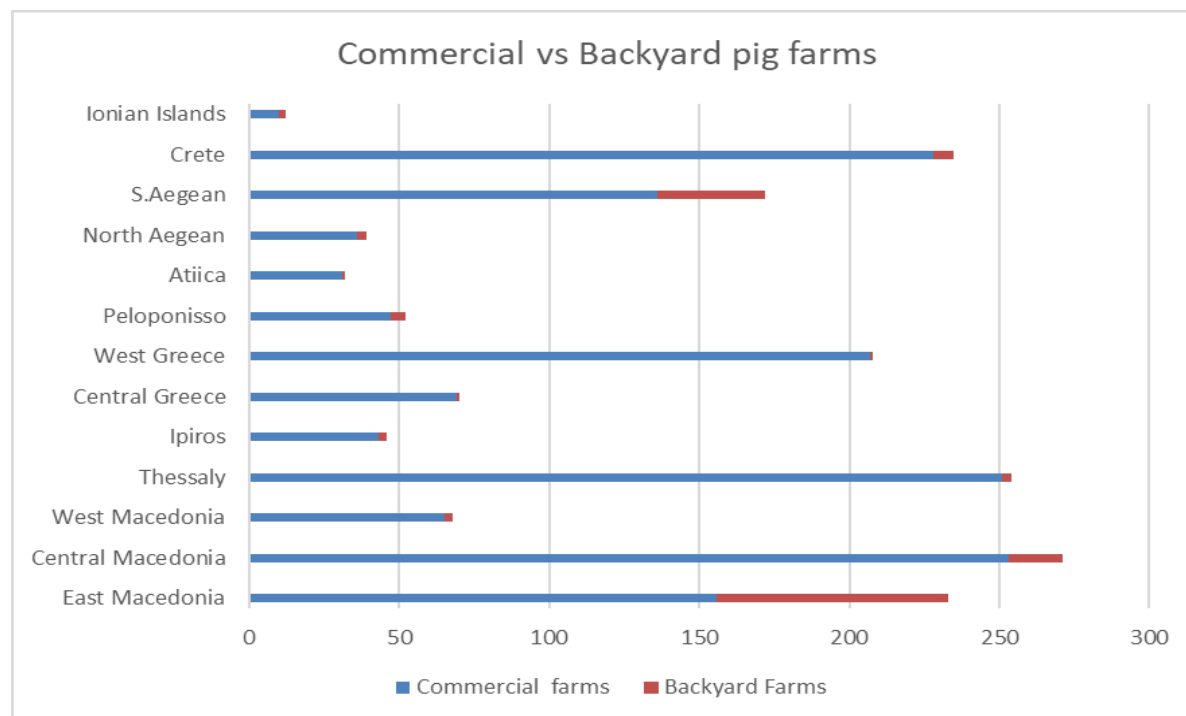


Figure 5: Swine farms by production type - commercial versus backyard [18]

In 2018, the domestic swine population of Greece was 458,876 pigs on a total of 1,993 holdings. Of the total, there were 570 holdings that had 10 or less pigs (total of 810 pigs on these 570 holdings). There were 98 holdings that are considered to be backyard swine holdings, with a total population of 802 pigs [11]. The most recent figures from 2019 show Greece's swine population was 507,468 pigs on 1,534 holdings, which included 62,302 sows, 2,822 boars (male breeding

pigs) and 442,344 fattening pigs [24]. In Greece, there are a total of 138 slaughterhouses for ungulates that in 2018 slaughtered 1,187,260 pigs to produce 75,633 tons of pork [25].

To gain an understanding of livestock production in Greece, the APHIS/CFIA team visited several regions in northern and western Greece to interview local veterinary officials and owners of swine holdings, as well as a slaughterhouse, a rendering plant, and an assembly center. As an example, the livestock populations of the Region of Epirus and the Region of East Macedonia and Thrace are described in **Tables 1 and 2**.

Table 1: Region of Epirus – livestock population [26]

Species	Number of animals	Number of holdings
Bovine	78,622	1,392
Sheep and goats	787,739	7,005
Swine	15,557	83

Table 2: Region of East Macedonia and Thrace – livestock population [23]

Species	Number of animals	Number of holdings
Bovine	25,000	850
Sheep and goats	185,000	1,100
Swine		
- <i>Intensive commercial</i>	12,812	5
- <i>Semi-intensive</i>	132 (including 26 sows)	1
- <i>Small holdings</i>	427	25
- <i>Backyard holdings</i>	187	46 (includes 21 with only 1 pig)
Total swine	13,537	77

During the site visit local officials explained that backyard swine owners typically buy piglets from local commercial farms in August or September, fatten the pigs and then slaughter them in December.

Holding registration and animal identification

Greece requires that all backyard and commercial holdings be registered in accordance with EU regulations. The owner of the holding applies for a registration license from the local competent authority. As part of the approval process, the holding is visited by local or regional veterinary officials to verify compliance with basic biosecurity standards, such as perimeter fencing, tire bath for vehicles, and foot baths at the entry point. If satisfactory, the registration license is approved and the holding is assigned a 12-digit identification number that is unique to that holding [10, 11].

All swine holdings must maintain a farm registry that records data for all swine movements onto and off of the farm. Annually, the holding reports a census of pigs that are on the holding during the month of December. This information is entered into the web-based National Database for registered holdings (referred to as the “Completed Information Veterinary System”) [10].

Greece requires that all swine are identified before they reach three months of age or before leaving the holding of origin. Breeding swine (sows and boars) are identified with ear tags in each ear to identify the country of origin, regional unit, the holding of origin, and a unique number for the pig. This identification information is maintained in the holding register and entered into the Electronic National Database within 10 days of assigning it to the pig. Fattening

pigs are identified with either ear tags on the left ear or tattoos which identify only the country and holding of origin. This information is also recorded in the holding register and entered into the Electronic National Database within 30 days of assignment. There are no national identification requirements for captive wild boars. Greece also imposes animal identification programs for cattle (individually identified) and sheep/goats (holding of birth identification) [10, 11].

The APHIS/CFIA site visit team visited two commercial swine holdings; an animal assembly center (approved for sheep and goats); and an ungulate slaughterhouse and were able to verify the integrity of the registration and traceability system in operation.

7.3 Movement of animals and animal products

Domestic and intra-Community movement controls for animals and animal products

Greece has an organized, effective system for documentation, traceability, and movement control for animals and animal products. Movements of live animals are documented through a paper system of movement certificates, maintained by the producer and the destination holding (in holding registry logs), and through the electronic National Database for registered holdings and the National Slaughterhouse Database, both online network systems operated by MRDF.

For live animal movements, documentation requirements are dependent on the purpose of the movement. For movement of swine to the slaughterhouse within the same region, only the “Producer Declaration for Food Chain” document is required. The “Producer Declaration for Food Chain” document contains data on the holding of origin, information on the animals (species, age, number, identification) and the registry data on the transport vehicle. It also verifies the sanitary status of the holding, disease status of the animals, and information related to food safety, such as names and dates of administered drugs (including vaccines) and the withdrawal times. This document is required to admit animal shipments into the slaughterhouse. Movements to slaughter (including data on the holding of origin) are recorded in the National Slaughterhouse Database.

For swine movement to the slaughterhouse in another region within Greece, the “Sanitary Certificate to Swine Slaughter,” issued by the regional official veterinarian and animal identification (ear tag or tattoo) is required in addition to the “Producer Declaration for Food Chain” document described above. The sanitary certificate contains data on the holding of origin, the shipment, the sanitary status of the animals, and data on the slaughter establishment. The certificate is signed and stamped by the official veterinarian. Additionally, the official veterinarian is present at loading to verify the clinical health of animals, the cleanliness of the transport vehicle and to ensure general animal welfare concerns are adequately addressed. Movements to slaughter (including data on the holding of origin) are recorded in the National Slaughterhouse Database. During the visit to Xanthi, Region of East Macedonia, the APHIS/CFIA team examined records at both the regional veterinary unit office and the commercial farm visited and was able to verify the traceability of this process.

Movement of swine between holdings follow a similar movement documentation process; sales and purchases are recorded in the holding registry log by the producer and reported to the National Database within 30 days of the movement.

For the movement of bovine, in addition to the health certificate and individual identification described above, a bovine passport is issued for each animal, containing data on the holding of

birth, individual identification, and movement history. The passport accompanies the animal through each movement and updated accordingly by the destination holding. This information is then inputted into the National Database by the producer or the National Slaughterhouse Database within 7 days of the movement.

As a member of the EU, Greece is part of the European single market allowing, among other things, the free movement of commodities, including animals and animal products between Member States. Intra-Community movements are not subject to additional movement controls or inspection requirements by the veterinary authority of other Member States at border checkpoints or elsewhere.

Intra-Community movements of animals and animal products must be accompanied and certified by the Trade Control and Expert System or [TRACES](#) document issued by an official veterinarian of the holding of origin. TRACES is the EC's online management tool to record the movements of animals, products of animal and non-animal origin, feed and plants transiting EU countries or imported from outside the EU, in order to ensure the safety of food and public health.

Commodities, in most cases, are accompanied by health certificates or commercial documents and the competent authorities may issue these documents online through TRACES. Usage of TRACES aims to facilitate trade, speed up administrative procedures and improve the management of health threat risks, as well as combat fraud and improve the safety of the food chain and animal health [27].

As part of the European single market, intra-Community movement of animals and products are not subject to document or physical inspection at land border checkpoints, ports of entry, seaports or airports when shipments move between two Member States. To decrease the likelihood of spread of highly contagious animal diseases among EU Member States, intra-Community movement of animals and animal products is only authorized when animals or their products come from holdings that are in compliance with pertinent legislative requirements (both EU and Member State) and are authorized and registered by the competent authorities from the Member State of origin. In accordance to Council Directive 2008/73/EC, Member States must develop, update and make available the list of authorized holdings, as well as national reference laboratories and other designated laboratories in compliance with EU legislative requirements. Livestock movements must also adhere to other EU legislation, namely, the Directives with specific animal health requirements for intra-Community trade of cattle, sheep, goats, and swine. These include Directives 97/12/EC, 98/46/EC, 98/99/EC, 2000/15/EC, and 2000/20/EC.

In its ASF regionalization legislation (Commission Implementing Decision 2014/709/EU), the EU established requirements for the cleaning and disinfection (C&D) of vehicles which have been used for the transport of pigs, pork or pork products originating from holdings located within the areas listed in the Annex to that Decision (APHIS considers these areas to be ASF-affected). The EU Member State must ensure that all vehicles used for this purpose undergo C&D immediately following each use and that the vehicle operator must carry in the vehicle proof of C&D [19].

The intra-Community trade of animals and products to and from Member States (as well as non-EU trade) is summarized in the [TRACES annual reports](#).

Importation of animals and animal products from third countries

Greece predominantly trades live animals and animal products with EU Member States. For third country imports (imports from a country that is not an EU Member State) of live animals from 2016 - 2018, small consignments of swine were imported from Canada. Live cattle or small ruminants were not imported from third countries for the reported time period [10, 28]. For third country imports of animal products from 2016 – 2018, small consignments of fresh or chilled bovine meat were imported from Argentina, Botswana, Chile and Namibia; frozen bovine meat was imported from Botswana, Argentina, Brazil, Namibia, New Zealand, North Macedonia, and the United States; and fresh, chilled or frozen meat of sheep and goats was imported from New Zealand, North Macedonia, Chile, and Argentina [28]. Pork intestinal casings were imported from Albania in 2016 [11]; other pork products were not imported from third countries for the reported time period [28].

For importation of animals and animal products from third countries, Greece follows [EU Directive 2004/68/EC](#) as well as [Commission Regulation \(EU\) No. 206/2010](#), which establishes a list of third countries or parts of third countries where sanitary and phytosanitary certification conditions are approved for imports into the EU of live animals and their products. To be authorized as an approved third country for imports, the interested third country must send an official request form and the required information to EC's [Directorate General for Health and Food Safety \(DG SANTE\)](#) – Directorate for Audits and Analysis (what was previously known as the Food and Veterinary Office, FVO). DG SANTE reviews the information and performs an audit inspection visit to the country. If the evaluation is satisfactory, the country will be listed as an approved third country partner for importation of the specified commodity.

For importation of animals and animal products, the animal health requirements are set out in specific Commission Decisions. [Commission Decision 2007/275/EC](#) lists the animals and products to be subject to controls at BIPs under the main legislative import controls of [Council Directive 91/496/EEC](#) and [Council Directive 97/78/EC](#). These pieces of legislation set out the veterinary legislative requirements for consignments of live animals and animal-origin products to import into or transit through the EU Member States. For live pigs, additional requirements can be found [HERE](#). Import requirements for [bovines](#) and [sheep/goats](#) from third-countries are also laid out. For meat products, additional requirements can be found [HERE](#).

In general, imports of animals and animal products must be accompanied by the following documentation:

- Common Veterinary Entry Document (CVED)
- Import health certificate
- Other documents such as the commercial invoice, bill of lading or air waybill, and diagnostic laboratory reports

In Articles 3 and 5 of Council Directive 97/78/EC, it states the requirement for the official veterinary service to provide a certificate confirming that veterinary checks have been carried out. This certificate is known as a CVED. The certificate is produced via the TRACES system. The certificates must only be signed by the official veterinary service - it is not acceptable for the certificate to be signed by other officers. Each certificate will be assigned a serial number by TRACES. The official veterinary service must retain copies of the CVEDs and original third country health certificates or health documents accompanying consignments for 3 years.

The import health certificate must be signed by an official veterinarian of the competent authority of the exporting third country guaranteeing that the conditions for import into the EU

have been met. Upon arrival and entry to the EU, the animals and animal products with their accompanying certificates must be verified and checked by official veterinarians at a designated BIP. Further checks on the animals may also be carried out at the final destination.

At designated BIPs, an official veterinarian performs an inspection consisting of:

- **Document checks** are performed on 100% of consignments by the official veterinarian. The official veterinarian verifies information on the import health certificate, including verifying the goods come from an authorized country and establishment, and other documentation per Commission Regulation (EU) No. 206/2010.
- **Identity checks** are performed on 100% of consignments by the official veterinarian. For products, the official veterinarian verifies proper identification of the transport vehicle (e.g., seal on shipping container) as well as visually inspecting labeling and number of packages and/or containers. For each consignment of live animals, the official veterinarian confirms the individual identification of at least 10% of the animals or at least 10 animals representative of the shipment. The identity check confirms the mechanism for traceability to the exporting country and the holding of origin.
- **Physical checks** are performed on a percentage of consignments per national sampling plans, Council Directives 97/78/EC and 91/496/EEC, suspicion/non-conformities/animal health or welfare concerns, or notifications via TRACES. For products, the official veterinarian verifies the integrity of goods via sensory examination, labeling, testing of temperature or pH, and other laboratory diagnostic tests for residues, pathogenic agents, and contaminants. Laboratory examinations of products are conducted based on risk analysis of previous diagnostic testing results, product type, volume and frequency imported at the BIP, and any relevant EU legislation. Live animals are examined for clinical signs of disease, animal welfare compliance, and, for a certain percentage, blood sampling for diagnostic testing.

Animals and animal products are refused if the shipment does not pass the above inspection or is not in compliance with [Commission Regulation \(EU\) No. 206/2010](#). After a positive laboratory result for animal products, in accordance with Council Directive 97/78/EC, the next 10 consignments from the establishment are subject to mandatory examination and testing; this continues until 10 consecutive negative laboratory results are confirmed. Refused products are destroyed, treated/transformed, or re-exported to the country of origin. Refused consignments are classified and treated as Category I or II animal by-products. Destruction or treatment of such products must be carried out at approved animal by-product establishments and arrive under sealed containment accompanied by the CVED and commercial import documentation. Live animals may be quarantined, destroyed, or re-exported to the country of origin. If refused, the CVED and other import documents are invalidated in TRACES. Notifications of refused shipments are recorded in TRACES to prevent attempts to re-enter at other BIPs in the EU. If considered necessary, an import ban against the country or importer could be issued.

A complete description of EU legislation and transposed Greek legislation regarding veterinary border control can be found [HERE](#).

The list of approved BIPs in Greece and the types of commodities approved for entry can be found in [Commission Decision 2009/821/EC](#). Greece has nine BIPs that are approved to receive consignments of animal commodities that could harbor the causative agents for the diseases under review: Peplos, Evzoni, Neos Kafkasos, and Kakavia along land borders (road or railway); Thessaloniki, Piraeus, and Astkos at sea ports; and Athens and Thessaloniki international

airports. *See Appendix B* for map of the BIPs in Greece. The APHIS/CFIA team visited BIPs at Peplous and Piraeus during this review.

Transit controls

Transit across EU Member States of products moving between third countries is allowed under EU legislation, provided that there are no import restrictions on the source country. The conveyances are sealed at the point of origin in the third country, although officials at the point of departure from that country can break and replace the seal for inspection purposes. Customs officers, from the EU Member State where the BIP is located, record the seal number and break the seal upon arrival at the BIP point of entry. The products in transit undergo the same checks as imported consignments, but no further unloading or alteration of the cargo is allowed while in the EU. A veterinary inspection seal and customs seal are applied at the entry BIP for transit, a route plan is approved, and a specific exit point is designated. The BIP at the point of exit is notified of the transit shipment, records the exit, and sends confirmation back to the BIP at the point of entry when the vehicle leaves the country [10, 29].

Live-haul trucks, personal vehicles and baggage, swill feeding and international catering waste

In addition to the movement of animals and animal products, other vulnerable entry pathways for the diseases under review include contaminated livestock vehicles, animal-origin commodities carried into the country via personal vehicles and passenger baggage, feeding improperly cooked food waste to swine, and improper disposal of international catering waste. The EU and Greece have preventive mechanisms in place for these entry pathways.

The EU has established legislation on the cleaning and disinfection (C&D) of empty livestock transport vehicles returning from ASF-affected third countries and regions of third countries. The requirements are described in [Commission Implementing Decision 2013/426/EU](#) (and subsequent amendments). All returning empty livestock transporting vehicles from ASF-affected regions in Annex I of the Decision are checked at the BIP by the official competent authority. Member States must require that drivers of livestock vehicles from third countries provide verification to the official competent authority of the Member State at the BIP that the interior of the vehicle and any equipment in contact with animals as well as the driver's protective clothes/boots used during unloading have been cleaned and disinfected after the last unloading of animals. If the cleaning and disinfection is deemed satisfactory by the official authority at the BIP, the official issues a C&D certificate and the vehicle may proceed to customs control and clearance. If deemed unsatisfactory, the official authority may refuse entry of the livestock vehicle and/or send the vehicle to a place designated by the official authority to undergo C&D.

At the time of this status review, Annex I of [Commission Implementing Decision 2013/426/EU](#) listed the following third country regions: Belarus, Moldova, Russia, Serbia and Ukraine. None of these regions border the territory of Greece. Thus, there are currently no EU- or national-level C&D certification requirements for the C&D of livestock vehicles entering Greece from third countries. Livestock vehicles from third countries to Greece (Albania, for example), must be cleaned and disinfected prior to loading animals in Greece. There is no official certification system; rather, the truck driver is aware that the truck must arrive cleaned and disinfected and, if requested, the truck driver must produce the C&D invoice from the washing station to the producer and/or regional official veterinarian to confirm C&D was performed. The disinfectant is typically noted on the invoice as well as date and location of the washing station. Although truck drivers are registered and receive required training about livestock hauling, including

proper C&D procedures, this is a self-regulatory system with no official certification or regulatory oversight [23]. The APHIS team visited the BIP Peplos which is at the land border crossing between Greece and Turkey. Movement of live swine or ruminants through this BIP from Turkey into the EU is not allowed due to Turkey's FMD-status. BIP Peplos is not authorized by the EU to accept live animal imports or transit, so therefore, no animal transport vehicles, loaded or unloaded, pass through this BIP [23]. As a precaution, BIP Peplos is equipped with two tire baths to disinfect the tires of all vehicles, one for cars and motorcycles and another for trucks, although at the time of the visit one of tire baths was under repair.

For in-country movement of livestock vehicles, transport vehicles, including feed delivery trucks, are expected to arrive cleaned and disinfected. Again, there is no official certification system; however, if requested, the truck driver must produce the C&D invoice from the washing station to the producer and/or regional official veterinarian to confirm C&D was performed. If the truck does not appear clean, the producer or the official veterinarian can refuse entry and require the truck to be cleaned and disinfected before returning for loading. Prior to entering, many holdings enforce biosecurity measures for vehicles. Trucks must drive through spray stations and/or tire baths before entering the clean zone of the holding. Trucks enter and exit through specified gates; drivers wear appropriate personal protective equipment; and direct contact with the animals is limited or prohibited. On some holdings, the producer does not allow livestock vehicles to enter the holding; rather, the producer uses his own truck to transport animals from the holding to the livestock vehicle parked at the main road [23].

For non-commercial goods from third countries carried in personal vehicles and passenger baggage, the official veterinary services follow procedures in [Commission Regulation \(EC\) 206/2009](#). This regulation lays down rules concerning the introduction of personal consignments of animal-origin products in personal luggage, personal vehicles, or items sent to private persons ordered via mail, telephone or internet. Personal consignments of meat, meat products, milk and milk products are not permitted from outside the EU other than Andorra, the Faeroe Islands, Greenland, Iceland, Liechtenstein, Norway, San Marino and Switzerland. Thus, personal consignments of animal-origin products are subject to inspection and seizure by the official veterinary services or other enforcement officials of the BIP. The Animal Health Directorate is in close collaboration with customs authorities who are responsible for the inspection of personal luggage. At BIP Peplos, it was explained to the APHIS/CFIA team that a high percentage, though not 100%, of passenger baggage is inspected by customs officials. Procedures are in place to update animal health information and for the disposal of the seized animal-origin products. The Animal Health Directorate provides training to the airport handlers and port operators. Transport officials at airports, seaports, travel agencies and postal services make travelers and customers aware of the prohibited materials in the Regulation by providing the information (posters) in Annexes III and IV of [Commission Regulation \(EC\) 206/2009](#) [10].

To further prevent introduction and spread of animal diseases, the ban on feeding food waste to swine in the EU and disposal of international catering waste from cruise ships, airports, etc. is regulated by the [Commission Regulation \(EC\) No. 1069/2009](#) and [Commission Regulation \(EU\) 142/2011](#). Swill feeding or garbage feeding to swine is prohibited in Greece. International catering waste from cruise ships and airports is destroyed as Category I materials. The regulation of international catering waste is the responsibility of the regional or local veterinary unit. International catering waste is stored in dedicated, covered, leak-proof containers and prominently labeled as "Category I – for disposal only". Waste is disposed of by burial in

authorized landfills or by incineration in approved plants. Typically, private companies are contracted to handle the waste and seized goods in accordance to [Commission Regulation \(EC\) No. 1069/2009](#) and [Commission Regulation \(EU\) 142/2011](#). It is the responsibility of the regional or local veterinary units to audit and inspect disposal documentation, incineration plants, and waste handling procedures of the private companies that handle the waste [11, 23].

Collectively, the measures described in this section are in place to control and prevent incursions and spread of animal diseases that can be transmitted through animal-origin products.

8. Hazard detection, response and notification

8.1 Disease detection and diagnostic laboratory support

Compulsory notification

In Greece, it is compulsory for livestock owners, farm workers, transporters, private veterinarians, and official veterinarians to immediately notify suspicion of FMD, CSF, SVD, and ASF to either the local authority or the RCA [10, 11]. This is mandated by the National Contingency Plans for all diseases (*see Section 7.1*), in accordance with [EU Directive 82/894/EEC](#). The RCA notifies the DGVS, then conducts an investigation on the farm. If a notifiable disease is confirmed by the National Reference Laboratory, then DGVS activates the National Disease Control Centre (NDCC) and notifies the OIE of any outbreaks of FMD, CSF, SVD or ASF within 24 hours. In addition, DGVS enters this information into the European Union's Animal Disease Notification System (ADNS) and notifies neighboring countries as well.

Diagnostic laboratory support

Under the authority of MRDF, the Hellenic National Reference Laboratories (NRL) for FMD, CSF, SVD, and ASF are responsible for carrying out diagnostic procedures in accordance with the OIE Manual of Diagnostic Tests. These laboratories, located within the Department of Molecular Diagnostics, FMD, Viral, Rickettsial & Exotic Diseases of the Athens Veterinary Center, Athens, are the only authorized laboratories in Greece for the diagnosis of FMD, CSF, SVD and ASF [10].

The average time between sample collection and reporting polymerase chain reaction (PCR) results is two to three days (one to two days for transportation of the sample to the laboratory and one to two days for diagnostic testing in the laboratory). Results for molecular characterization (sequencing and bioinformatics), as confirmatory testing for PCR, are usually obtained within ten days after samples are received by the laboratory. Results for indirect immunoperoxidase test, as confirmation of ELISA for detection of immune response for ASF, are usually obtained in two days.

The Hellenic NRL reports FMD, CSF, SVD, and ASF test results to the DGVS and to the Veterinary Services of the regional unit from where the sample is derived. Laboratory test results for suspect cases and active and passive surveillance laboratory data for the four diseases are also annually reported to the appropriate EU Reference Laboratory (EURL).

The Hellenic NRL participates annually in the inter-laboratory comparison test (ILCT) for CSF organized by the EURL for CSF at the Institute of Virology, University of Veterinary Medicine in Hannover, Germany. The EC requires all NRLs of EU Member States to participate in the

ILCT. The Hellenic NRL has demonstrated proficiency with CSF serological and virological diagnostic methodology, meeting the standards of the EURL. The ELISA method for antibody detection against the CSF virus in blood serum originating from swine performed in the Hellenic NRL is accredited. The procedures in place to ensure continued proficiency in diagnostic procedures are in accordance with ISO/IEC 17025:2005 [10].

In addition, the Hellenic NRL annually undergoes proficiency testing for both FMD and SVD, organized by the EURL for FMD at the Pirbright Institute in Surrey, United Kingdom. Annual proficiency testing for FMD and SVD are required of all Member State NRLs by the EC. The Hellenic NRL has demonstrated proficiency with FMD and SVD serological and virological diagnostic methodology, meeting the standards of the EURL [10].

Passive Surveillance

Passive surveillance is dependent upon prompt notification of suspicion or confirmation of disease. During the three-year period under APHIS review (2016-2018), there were no suspected cases of FMD, CSF or SVD reported and no positive test results obtained as a result of routine laboratory testing [10]. On February 3, 2020, DGVS was notified by the RCA of Central Macedonia of suspicion of disease on a backyard pig farm located in Serres. ASF was laboratory confirmed on February 5, 2020 [12]. This notification resulted in Greece's first detection of the disease. Since detection of ASF in February 2020 until April 1, 2020, regional veterinary authorities collected samples from 31 pigs (16 live and 15 dead) for passive surveillance in the control area; all results were negative [21].

Greece monitors wild boar for ASF. In 2018, five wild boar (hunted and found dead) and three captive (farmed) wild boar were sampled; all test results were negative. As of November 12, 2019, seven wild boar found dead, four hunted wild boar, three backyard pigs, and 3 free range pigs were sampled for ASF. All results were negative [18, 20]. In 2020, Greece increased the incentives offered to hunters and game keepers to report findings of dead wild boar carcasses. Greece is considering extending this incentive program to the general public. Since the February 5, 2020 ASF detection until April 1, 2020, only one dead wild boar had been found. It was negative for ASF [21].

Active Surveillance

Greece conducts active surveillance programs for FMD, CSF, and SVD. During the site visit, DGVS officials stated that Greece anticipated starting an active ASF surveillance program in a 20-km-wide, high risk zone along the border with Bulgaria. This would be in addition to enhancing its ASF passive surveillance conducted in the northern part of the country near Bulgaria [23].

On November 28, 2019, the EU regionalized a zone in northern Greece along its border with Bulgaria as a Part I area (area of increased ASF surveillance) in accordance with [Commission Decision 2014/709/EU](#) which stipulates countermeasures for ASF (*see Figure 1*). In accordance with this Decision, Greece is obligated to conduct ASF tests as a requirement for pigs to move out of this zone, along with other countermeasures [14, 17].

Following the detection of ASF on February 5, 2020, Greece conducted active ASF surveillance in the protection and surveillance zones established in Serres and Thessaloniki Regional Units, in accordance with provisions in Articles 10 and 11 of Council Directive 2002/60/EC [15]. All ASF

testing conducted prior to lifting of the protection and surveillance zones produced negative results. Greece's response to this outbreak are described in more detail in **Section 8.2**.

For CSF and SVD, serum samples were collected from swine and tested to detect antibodies to the CSF and SVD viruses using the enzyme-linked immunosorbent assay (ELISA) method. The sampling scheme includes collection of samples from reproductive sows and boars on all pig farms; imported pigs from third countries (sampling 30% of all consignments, with 10% of the animals per consignment, and collected at the BIP upon entry); and fattening pigs from slaughterhouses of Regional Units of Ioannina, Preveza, Drama, Evia, Rethymno, Arkadia, Korinthia, Lakonia (sampling numbers were based on herd size). In addition, serum samples were taken from every wild boar brought to the slaughterhouse. All samples were tested for CSF and a portion tested for SVD. All test results were negative [18].

During the site visit, Greek authorities informed the APHIS/CFIA team that the staffing shortage contributed to most regional units falling short of collecting target sample numbers [23]. The number of samples tested in recent years are summarized in **Table 3**. While staffing shortages in Greece are a challenge, APHIS considers Greece's nationwide active CSF surveillance program to be ancillary to its passive CSF surveillance program, as CSF has not been reported in Greece since 1985. APHIS concludes that Greece's passive CSF surveillance program to be consistent with EU guidance for CSF surveillance and sufficient to ensure detection if CSF were to be introduced. However, APHIS recognizes the complementary value of targeted active CSF surveillance in areas of higher risk for disease introduction and would consider it to be a more prudent use of available resources than general nationwide active CSF surveillance.

Table 3: Active surveillance for CSF [30]

CSF surveillance		Actual	Target	Percentage Completed
2017	Slaughter	2,010	5,358	37.5%
	Sows	911	12,723	7.2%
	Boars	100	2,303	4.3%
	total samples	3,021	all results negative	
2018	Slaughter	1,460	5,220	28.0%
	Sows	472	12,723	3.7%
	Boars	56	2,303	2.4%
	total samples	1,988	all results negative	
2019 (partial year data)	Slaughter	686	5,220	13.1%
	Sows	252	12,723	2.0%
	Boars	19	2,303	0.8%
	total samples	957	all results negative	

Greece currently conducts two active surveillance programs for FMD, the Transboundary Animal Disease Program (TAD or "Four Exotic Diseases" program) and the FMD-TRACE Project [10, 18].

The TAD program is an active surveillance program for four transboundary animal diseases in high risk areas. The four diseases are FMD, lumpy skin disease, peste des petits ruminants (PPS),

and sheep and goat pox (SGP). The EC partially funds the TAD program which began in November 2017. TAD program involves serological surveillance for FMD and PPR in small ruminants, and clinical surveillance for FMD in bovines and SGP in small ruminants. The program is implemented in high risk areas of East Macedonia and Thrace, in Central Macedonia and on the Greek islands in close proximity to Turkey (*see Figure 6*).

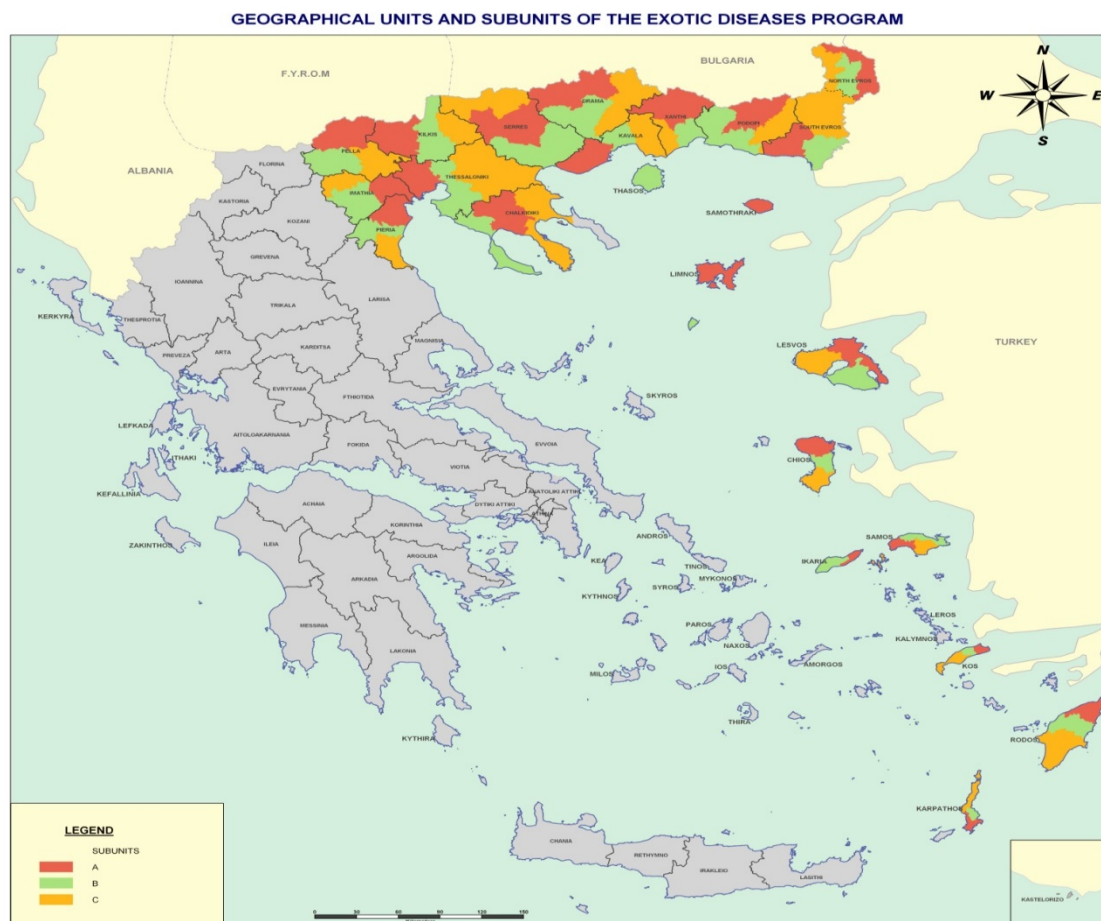


Figure 6: TAD program high risk areas [18]

This program involves 13 regional units and 8 islands. TAD is designed to detect the prevalence of the disease at a level of 20% with 95% confidence. The sampling scheme targets clinical examinations in a minimum of 15 herds per month, with a minimum of 20 animals being examined in each of the regional units (300 clinical examinations/month/regional unit). Four serum samples are collected from each holding i.e. 60 samples per month from each regional unit. An exception is made for some islands where the number of herds and animals is low. For the period from November 2017 through June 2019, a total of 87,775 clinical examinations were conducted on sheep and goats and 70,434 clinical examinations on cattle. For that same period, a total of 17,656 serological samples were tested for FMD and PPR [18].

The second active FMD surveillance program is referred to as the FMD-Thrace Project and targets surveillance in the Regional Unit of Evros. The FMD-Thrace Project is partially funded

by the EU, through the European Commission for the Control of Foot-and-Mouth Disease (EuFMD) program and by the Food and Agriculture Organization (FAO) of the United Nations, in cooperation with Bulgarian and Turkish Veterinary Authorities [10, 18].

The Regional Unit of Evros is considered to be a high-risk area for the introduction of FMD into Greece due to its geographical location adjacent to Turkey. For the purpose of this project, Evros is divided into 5 district sub-regions. The project includes serological surveillance of sheep, goats, and pigs, and clinical examinations of cattle. Surveillance is conducted quarterly each year.

Laboratory data from active and passive surveillance are annually reported to the EU Reference lab for FMD.

8.2 Disease response

Greece has been free of FMD, CSF, and SVD for many years, and prior to February 5, 2020, had never detected ASF in the country. Greece's response strategies for controlling and eradicating these diseases are outlined in contingency plans for each disease [10, 11]. The legal authority for these contingency plans is described in **Section 7.1**.

Other than the recent response to ASF, which is described below, Greece has not in recent years had to respond to the other diseases under review (FMD, CSF, and SVD). Greece did, however, respond to outbreaks of lumpy skin disease in 2017, for which Greece detected and eradicated. During the site visit, DGVS officials discussed with the APHIS/CFIA team details regarding their emergency response activities which led to successful eradication of the disease.

In general, when there is a notifiable disease outbreak in Greece, a NDCC is activated at the national level in DGVS. The NDCC operates in conjunction with Local Disease Control Centers (LDCC), which are activated at the regional unit level [10]. The NDCC is staffed by employees of the MRDF, who are called upon when the NDCC is activated. A National Group of Experts are available to be called upon during an emergency disease response, as are the staff of the Hellenic NRL. The NDCC coordinates the national support for the response and communicates with the EC, EU Member States, the OIE and competent authorities of third countries. An LDCC, in cooperation with the NDCC and other LDCCs, is responsible for implementing disease response activities within its regional unit in accordance to the national contingency plans.

ASF awareness and preparedness activities

In response to detection of ASF in Bulgaria, Greece implemented specific countermeasures to enhance early detection in wild boar, and to reduce the risk of disease introduction and spread into domestic swine populations [18, 20]. Implementation is focused in a Zone of Intensified Surveillance within 50 km of the border with Bulgaria, which is beyond the originally planned, pre-detection, 20 km zone previously mentioned. This zone is comprised of the Regional Units of Evros, Rodopi, Xanthi, Drama and Serres. These countermeasures include:

- Recruiting and hiring 44 (46 authorized) veterinarians to temporarily bolster official emergency response staff;
- Conducting enhanced passive surveillance, including sampling all wild boars found dead, and pigs and hunted wild boar exhibiting ASF-compatible clinical signs;

- Visiting swine holdings, including backyard farms, to conduct census and biosecurity audits; verification of animal identification and holding registration; clinical examinations of all pigs prior to movement; and individual briefing of all pig holders to raise awareness about ASF and biosecurity;
- Prohibiting the free wandering of pigs outside of the containment barrier;
- Imposing requirements for biosecurity on pig holdings;
- Restricting the trade/exchange of pigs for personal use;
- Modifying hunting regulations to reduce the wild boar population;
- Providing education, training and awareness campaigns targeting pig farmers, hunter groups, forestry services, and other government service personnel; and
- Pre-positioning emergency disease response resources in the area.

Biosecurity standards for pig farms include requiring that pigs are kept within a fenced area; control on the entry and exit of animals; use of clean clothes; proper waste disposal; disinfection of vehicles entering the premises; limitation on visitors; insect and rodent control; regular use of ectoparasitic preparations on animals; covered storage of animal feed; prohibition on feeding catering waste, raw pork, pork products, or wild boar meat; prohibition of hunters from entering or bringing their equipment, clothing and footwear into a pig holding; and prohibition of wild boar carcasses or meat being brought onto pig holdings.

Greece also has conducted activities to educate hunters and enhance hunting biosecurity. Greece has produced and distributed pamphlets, brochures and posters to educate hunters about ASF, as well as providing training and education programs to hunter groups.

Hunting licenses are issued by the Ministry of the Environment and Energy subject to compliance with hunting laws and regulations. Hunters are obliged to notify regional unit veterinary authorities when they find a sick or dead pig in the forest. There is also a prohibition on the disposal of carcass or offal of wild boar in the open (burial is required). Carcasses of hunted wild boar belong to the hunter and must be used for personal consumption. Greece does not have slaughter plants that process wild boar meat. To encourage reporting, Greece offers an incentive program which awards 50 euros to hunters who report dead carcasses and agree to bury the carcass after sample collection.

In general, the APHIS/CFIA team observed there to be a high level of awareness and preparation for ASF throughout Greece.

ASF outbreak detection and response

A backyard pig farmer, concerned by the death of one of thirty-two pigs (five breeding pigs, fourteen fattening pigs, and thirteen piglets), collected samples from a dead fattening pig and submitted them to the Veterinary School of the Aristotle University of Thessaloniki for pathological analysis. His backyard pig holding was located in the village of Nikokleia village in the Municipality of Visaltia, Regional Unit of Serres, Region of Central Macedonia, approximately 13 km outside of the Part I zone (*see Figure 2*). The veterinary pathologist included ASF in the differential diagnosis and informed the Thessaloniki LDCC. Official veterinarians of the Thessaloniki LDCC collected and submitted samples to the NRL for ASF in Athens on February 3, 2020, after notifying the Serres LDCC and the NDCC of ASF suspicion. The NRL confirmed ASF on February 5, 2020 [12, 13, 21].

Upon the report of ASF suspicion, the Serres LDCC immediately implemented interim movement control measures and initiated an epidemiological investigation. Following confirmation, the LDCCs of Serres and Thessaloniki implemented additional control measures in accordance with Council Directive 2002/60/EC and Greece's ASF Contingency Control Plan, restricting movement of swine and swine products and conducting epidemiological investigations and surveillance. Initially, protection and surveillance zones, with 3 km and 10 km radii respectively, were established around the affected pig holding. In cooperation with the competent unit of DG SANTE, Greece later refined the boundaries of these zones to conform to appropriate geopolitical boundaries in both the Regional Units of Serres and Thessaloniki. The affected pig holding was quarantined; the remaining pigs were sampled, culled and their carcasses disposed; and the pig holding was cleaned and disinfected. Samples from several culled pigs were ELISA-antibody positive for ASF, possibly indicating that infection had been present on the pig holding before being noticed [21].

In accordance with Articles 10 and 11, Commission Directive 2002/60/EC [15], Greek officials identified and visited all pig holdings within the protection zone (total of 42) to conduct clinical inspections and collect samples for ASF surveillance. Similarly, in the surveillance zone, all pig holdings (total of 156) were identified, visited, clinical inspection conducted, and samples collected from a statistical representative number of farms. As of April 1, 2020, no additional pig holdings (except the single affected backyard pig holding) in the protection and surveillance zones have tested positive for ASF (total of 1,749 samples tested) or exhibited clinical signs of ASF infection [21].⁶

During the visits, Greek officials verified compliance with holding registration and animal identification requirements, finding only one pig holding lacking the required registration, which is now being processed.

Following ASF detection, Greek officials convened a meeting of the National Expert Team on ASF, representatives of the Hellenic Hunting Confederation, and the Ministry of Environment and Energy to develop strategies for ASF surveillance and management of wild boar populations in the control area. As a result, special wild boar hunting missions were conducted in Serres and Thessaloniki Regional Units in an effort to reduce the wild boar population and to obtain samples for ASF surveillance. During the period of February 6 to April 1, 2020, a total of 35 wild boar were shot and samples taken for active ASF surveillance. Additionally, samples were obtained for passive ASF surveillance from a single wild boar carcass that was found in the surveillance area.. All samples from wild boar tested negative [21].

As previously described in **Section 7.1**, Greece issued a new Ministerial Decision following the ASF detection on February 5, 2020, which provided definitions for various pig farms categories, established the minimum biosecurity requirements for each category, and imposed strict penalties for noncompliance.

From the epidemiological investigation, the official veterinarians of the Serres LDCC were not able to definitively establish an epidemiological link between the affected holding and a known ASF outbreak. Furthermore, the investigators found no evidence of ASF infection in either the local wild boar population or in other domestic swine in the control area; however, the hypothesis that transmission occurred through wild boar cannot be excluded considering the

⁶ Additional sample collection and testing is planned, as can be best scheduled in consideration of COVID-19 pandemic personnel safety concerns.

limited available surveillance data in wild boar. Although the exact source of exposure is unknown, based on these findings the investigators concluded that this outbreak, which was restricted to only a single pig holding, was most likely due to human factors. Specifically, the investigators concluded there was a strong possibility that the pigs had been exposed by eating contaminated kitchen leftovers discarded into the olive grove where the fattening pigs had been allowed to graze since January 5, 2020. The investigators noted that workers at a greenhouse located next to the olive grove regularly visited their country of origin which is ASF affected. The investigators postulated that these workers transported contaminated pig meat or pig meat products back to Greece following the Christmas holidays, and threw ASF-contaminated leftover food to the pigs [21].

Based on the results of the epidemiological investigation and ASF surveillance completed in accordance with Commission Directive 2002/60/EC, Greece and the EU lifted the associated control area on April 6, 2020 [6, 21]. APHIS is satisfied with the prompt notification of this ASF outbreak and concludes that Greece responded quickly and effectively to resolve the outbreak in accordance with the EU framework for ASF.

8.3 Reporting history

Compulsory reporting to competent veterinary authorities for the diseases under review is mandatory in Greece, as previously described. Disease reporting is the responsibility of livestock owners, producers, farm workers, private and official veterinarians, and transporters in Greece. Upon confirmation of a primary disease outbreak, DGVS immediately notifies the EC and the other EU Member States (in accordance with EU Directive 82/894/EEC) and the notification is posted in the EC's ADNS.

Greece is an active member of the OIE and immediately reports notifiable disease outbreaks to the OIE (within 24 hours in accordance with the OIE Terrestrial Animal Health Code), as it demonstrated with its February 5, 2020 detection of ASF [12]. OIE immediately posts online information about the outbreak event in its World Animal Health Information System (WAHIS) which is publicly available. In addition to the immediate notifications, Greece has a consistent history of submitting biannual reporting of hazards. Information in OIE's WAHIS indicates Greece has promptly reported the animal health status of the country to OIE since at least 1996, the earliest available online reporting information [1].

8.4 Export controls

Per [Commission Decision 93/444/EC](#), the export of live animals, animal products and by-products to third countries requires an export health certificate. The shipment is accompanied by a certificate conforming to the requirements of the third country of destination with data verified by the competent veterinary authority. In Greece, export health certificates are issued by the official veterinarian of the local veterinary unit. The BIP is not involved in the export process. Approved or private veterinarians are not authorized to issue export certificates [10, 25].

For the export of animals and animal products from Greece, the official veterinarian of the local veterinary units is responsible for certifying the animal health requirements of the third country of destination. Once a certificate model has been negotiated and agreed upon through MRDF, the export certificates are published on the official website of MRDF. Informational circulars with instructions on export procedures are issued by the Animal Health Directorate of MRDF to inform all the local veterinary units, accordingly, of changes or amendments to the export

protocol. In some cases, export certificates harmonized among the Member States may be issued through TRACES. The export certificates are signed and stamped by the local official veterinarian. For many export agreements, there is a list of the names and sample signatures of the official veterinarians approved to perform the required checks and sign the certificates. These lists are provided to the countries of export; notification of any modifications to the list is communicated when updated.

The APHIS/CFIA team visited an assembly center in Kavala that was approved by the EU for the export of cattle, sheep and goats; however, this assembly center has not exported live animals in the last four years. There are no assembly centers in Greece approved for swine. When the Kavala assembly center was in operation, consignments of cattle or sheep and goats were brought to the assembly, held for 24 hours before being loaded on ships for export. While at the assembly center, the animals were examined by local veterinary officials who issued an international health certificate, in accordance with bilateral trade agreements [23].

Currently, Greece does not have any eligible products or approved establishments for export to the United States [31]. For the animals and animal products susceptible to the diseases under review, Greece has not exported any such commodities to the United States [28].

9. Conclusions and recommendations

In this review, APHIS found no evidence that FMD, CSF, and SVD are present in Greece. APHIS considers the Part I area established by the EU in northern Greece to be ASF-affected and the remainder of Greece to be a region where ASF is not known to exist.

APHIS concludes that Greece conducts sufficient control measures to prevent entry of FMD, CSF, and SVD, and to reduce the likelihood of entry of ASF. In the event of a hazard incursion, Greece is capable of detecting the hazard and containing its spread, relying in part on the financial commitment of the EC for staffing and resources. Furthermore, APHIS found Greece's ASF preparedness and monitoring to be sufficient to ensure prompt detection of potential incursion of ASF into the country. In addition, Greece has demonstrated a history of promptly reporting disease events and taking appropriate measures to prevent their export to third countries, as it demonstrated with its recent detection of ASF. APHIS is satisfied with the prompt notification of this ASF outbreak and concludes that Greece responded quickly and effectively to contain and control this outbreak in accordance with the EU framework for ASF.

APHIS finds that Greece's veterinary infrastructure has been constrained by resource limitations resulting in staffing shortages on the national, regional and local levels. However, APHIS concludes that Greece leverages its available resources to ensure critical animal disease control activities remain functioning while the country moves towards filling critical vacancies in its veterinary services as it recovers from its recent financial crisis. It is also important to note that the EC stepped in and provided necessary financial resources to assist Greece during this time, especially to enhance Greece's capacity to respond to ASF.

In consideration of the favorable review of Greece's animal health statuses, APHIS concludes that current conferred statuses and import mitigations for FMD, CSF, and SVD are appropriate. APHIS recommends that recognition of these statuses be maintained until the next APHIS review or until a change in Greece's animal health status is reported. APHIS' conclusions about EU ASF zoning are discussed in a separate overarching EU ASF report.

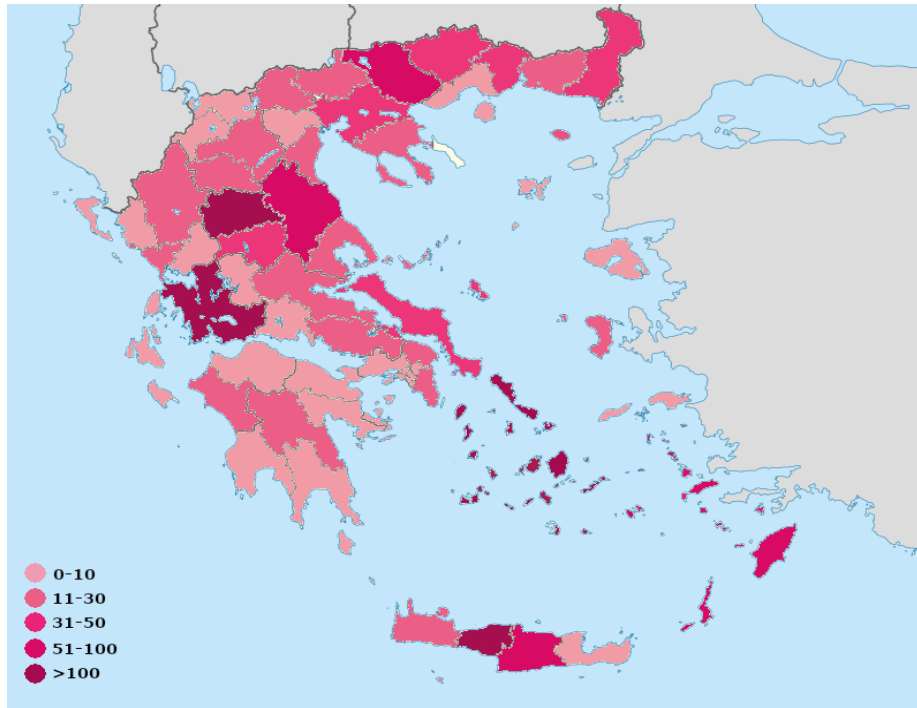
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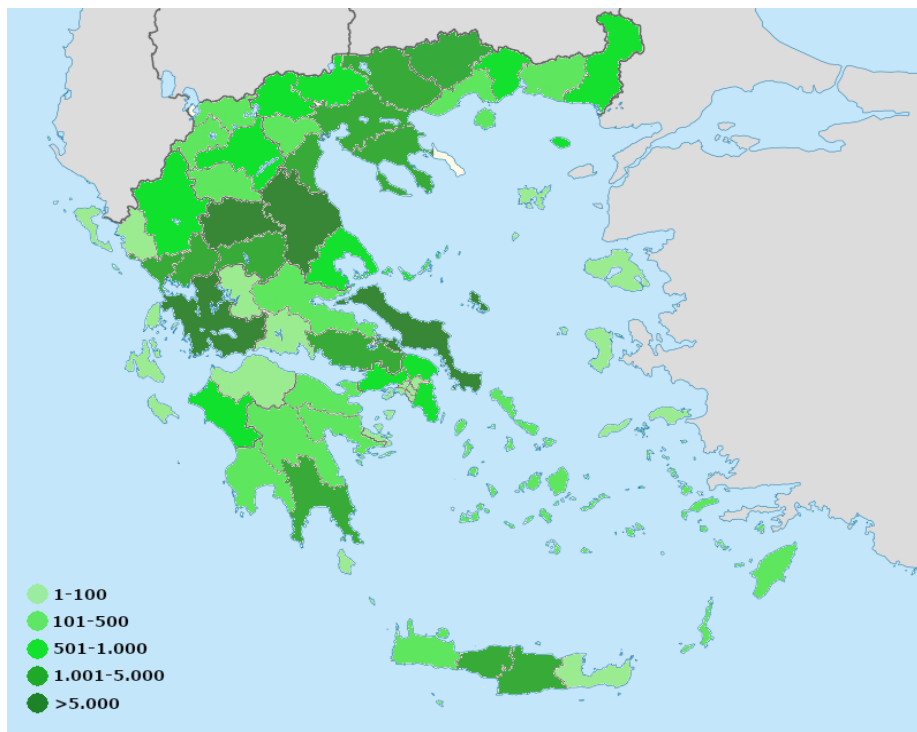
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11. Appendix A

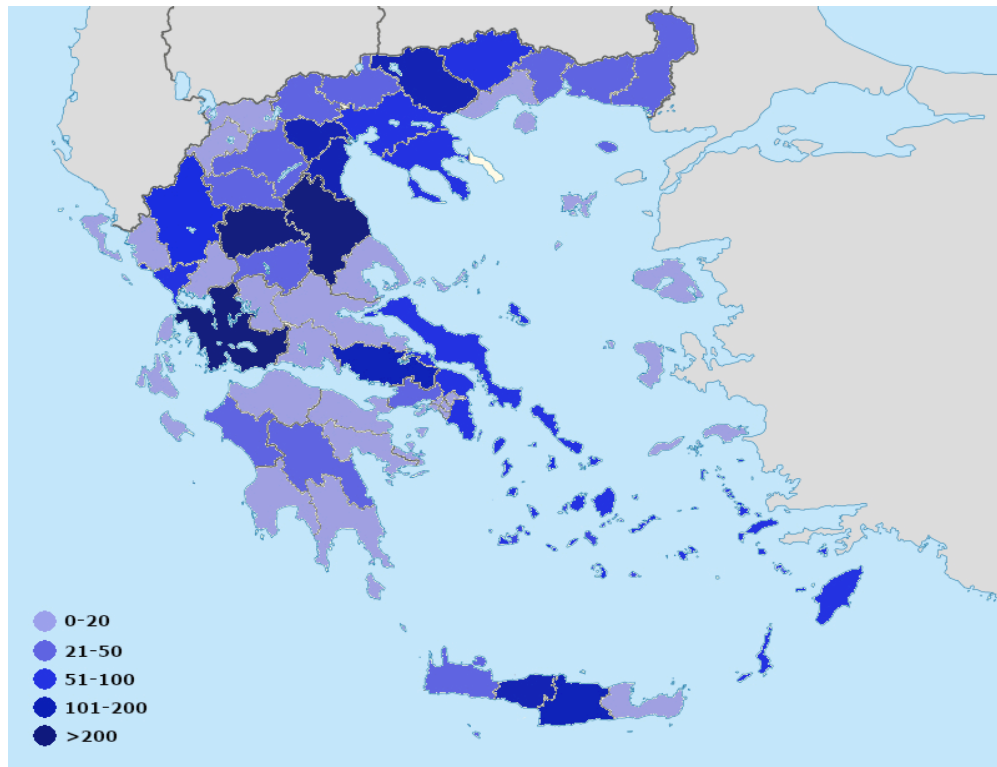
Density and distribution of swine and wild boar populations in Greece [18, 20]



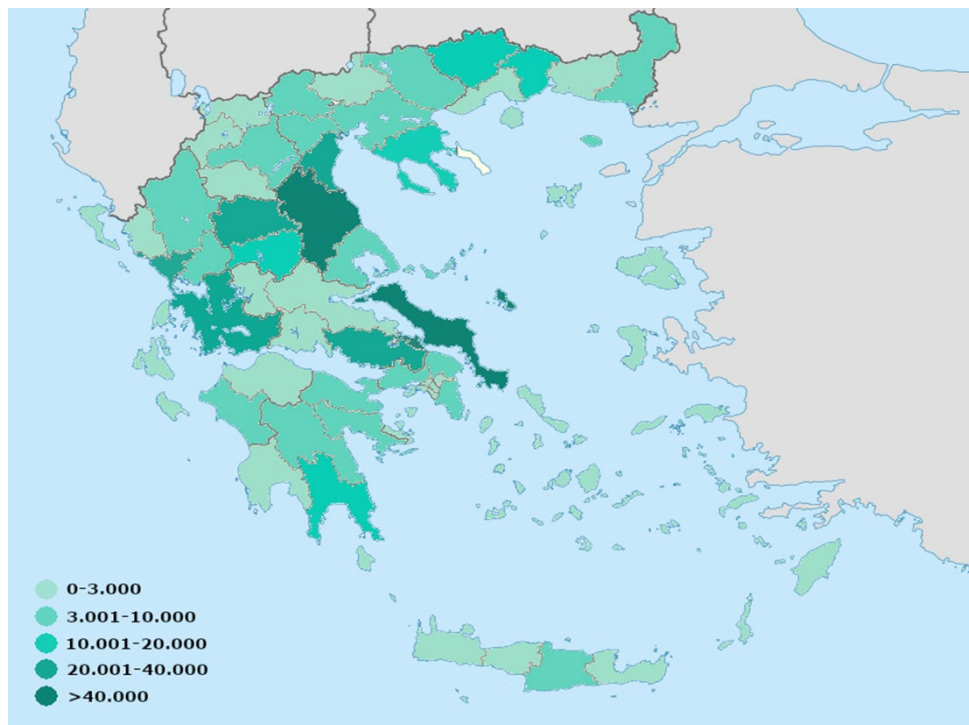
Pig farm density



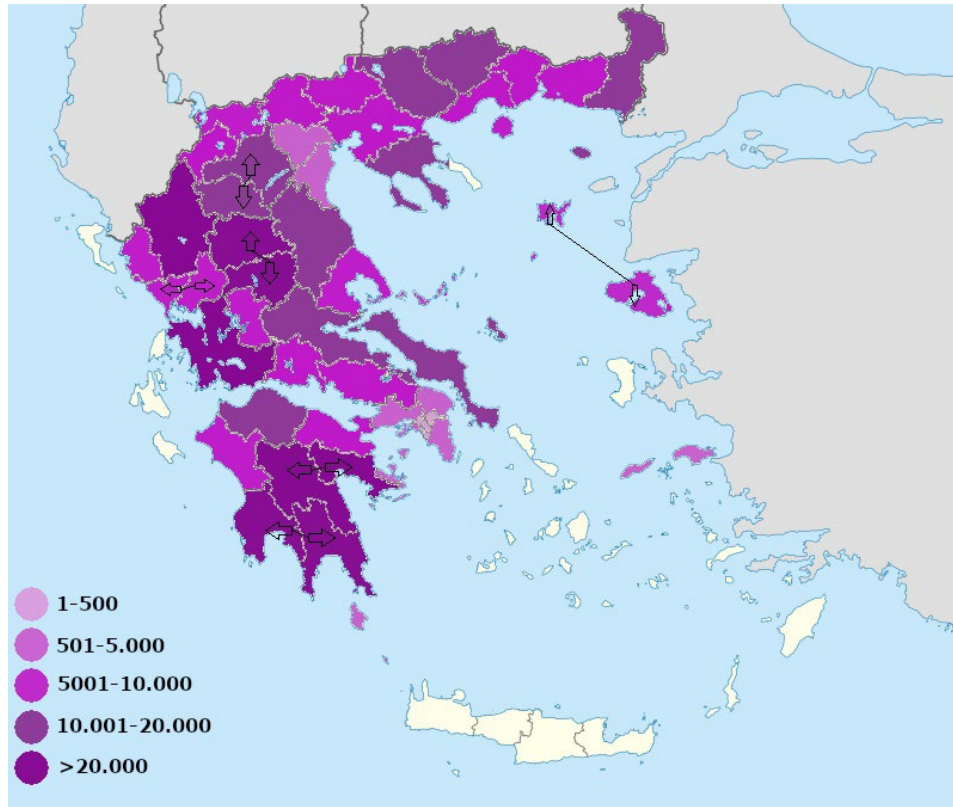
Swine density - sows



Swine density – breeding boars (farmed male adult pigs)



Swine density – other pig categories



Wild boar population density

12. Appendix B

Map of Border Inspection Posts in Greece [10]

