

CSF control and ASF preparedness in wild boar in Japan

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Timeline of the CSF/ASF related events

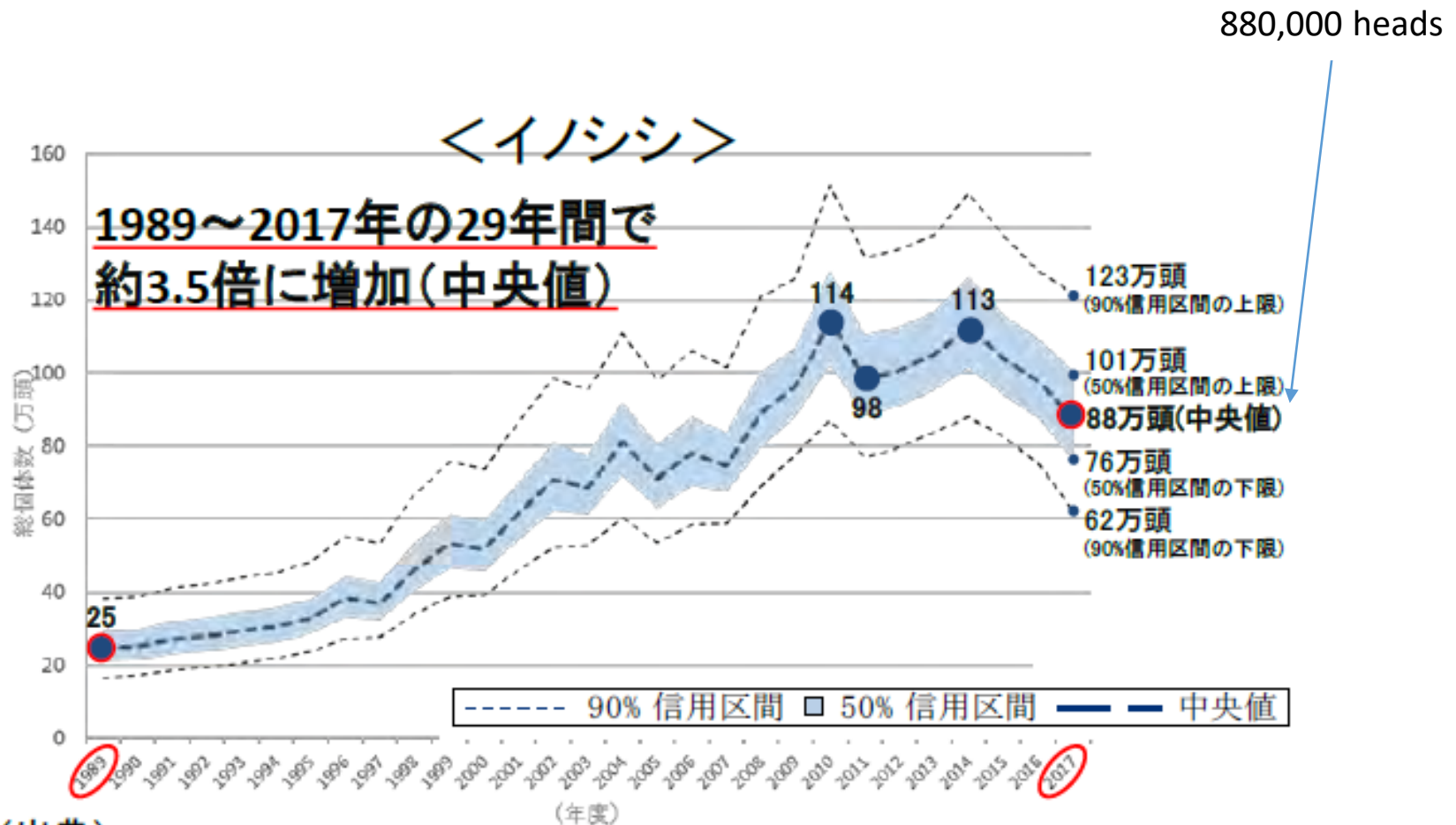
- 2018.8 First **ASF** outbreak in Asia(China)
- 2018.9 For the first time in 26 years, **CSF** outbreak in domestic pig in Gifu prefecture, Japan
- 2018.9 **CSF** outbreak in wild boar
- 2019.3 Start **CSF** oral vaccination wild boar
- 2019.10 Start preventive **CSF** vaccination for pigs
- 2020.3 Amend Act on domestic animal infectious disease control
- 2020.4 For domestic pig, 58 **CSF** outbreaks in 8 prefectures, and 2,185 cases in 12 prefectures for wild boar. No **ASF** case for domestic pig and wild boar in Japan

Wild boar population in Japan



Forests cover about 25 million hectares, which accounts for 2/3 of the national land. About 40% of forests are planted forests.

Wild boar population in Japan



(出典)

「全国のニホンジカ及びイノシシの個体数推定等の結果について(令和元年度)」(環境省)

Figure: Wild boar population(2017) in Japan (Ministry of Environment, Japan)

Wild boar population in Japan

イノシシ分布域(メッシュ数)

自然環境保全基礎調査

1978年のみ確認(33)

1978年と2003年の両方で確認(4857)

2003年に新たに確認(1836)

捕獲位置情報等による分布拡大状況

2011年に新たに確認(1735)

目撃情報等による分布拡大状況

2014年に新たに確認(577)

<https://www.env.go.jp/press/100922.html>

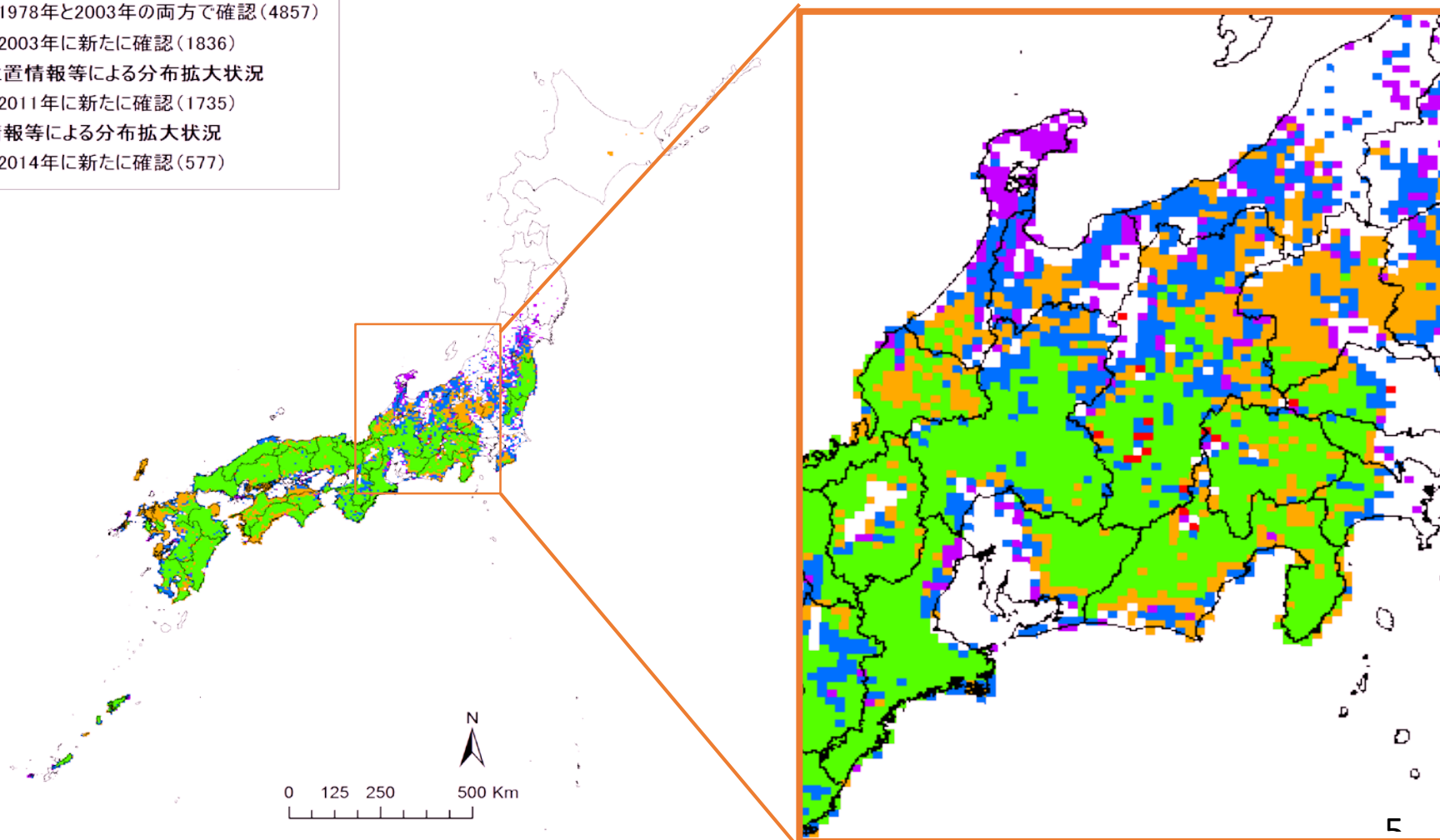
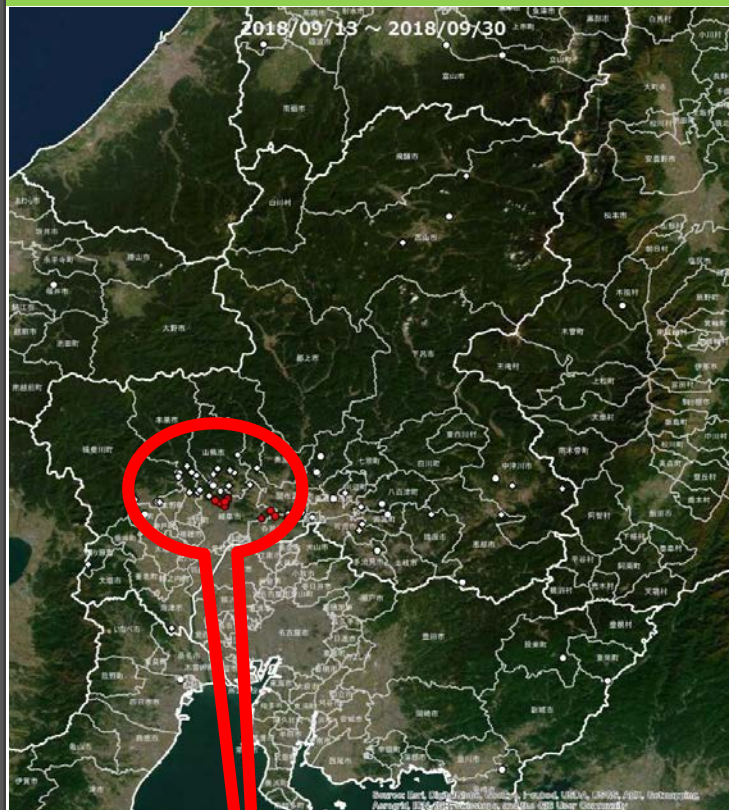
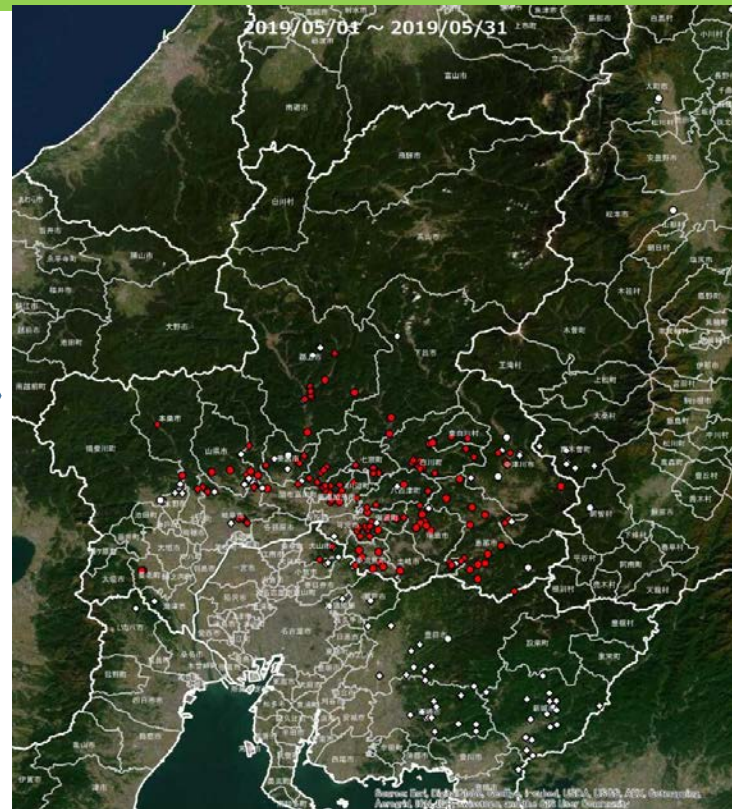


Figure: Wild boar population(2014) in Japan (Ministry of Environment, Japan)

CSF spread in wild boar populations



**Gifu prefectures,
September 2018**



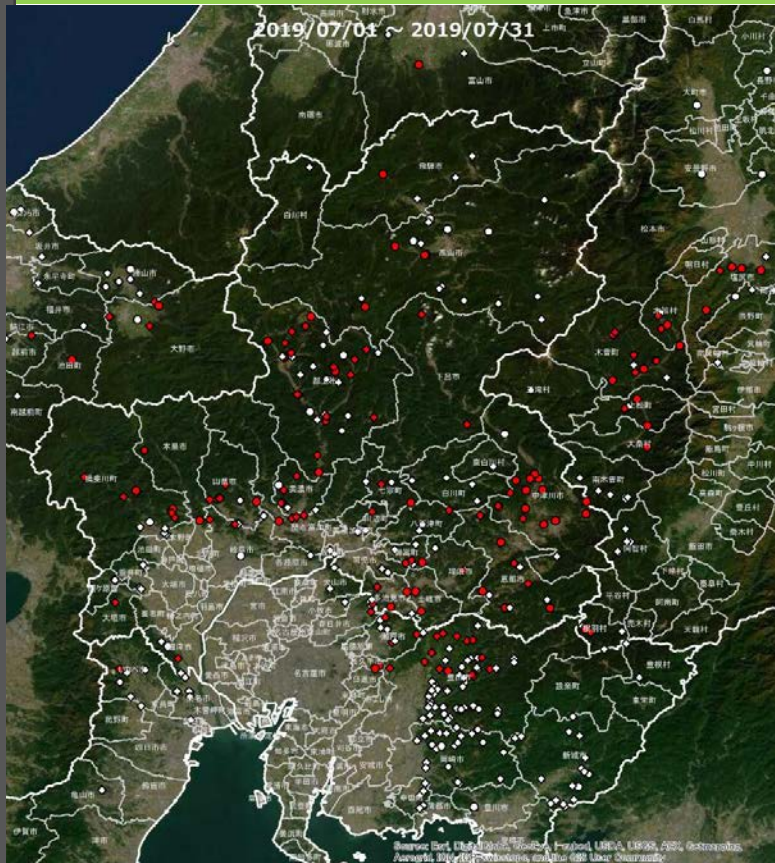
- PCR positive, dead
- ◆ PCR positive, captured
- PCR negative, dead
- ◇ PCR negative, captured

2 prefectures May 2019

0 12.5 25 50 km

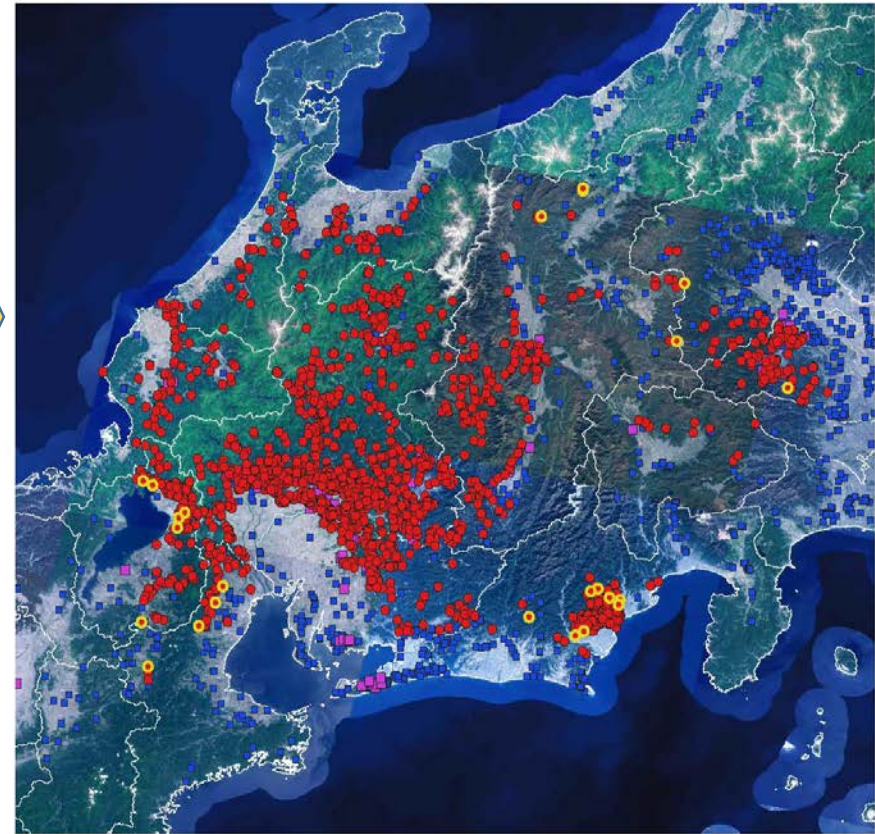
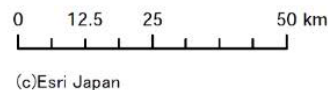
(c)Esri Japan

CSF spread in wild boar populations



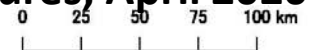
6 prefectures, July 2019

- PCR positive, dead
- ◆ PCR positive, captured
- PCR negative, dead
- ◇ PCR negative, captured



12 prefectures, April 2020

- PCR検査
- PCR陽性
 - PCR陽性 (更新)
 - 発生農場
 - 農場



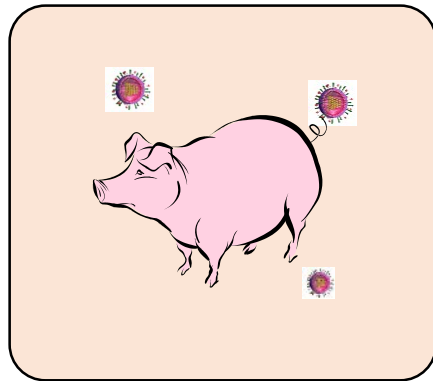
出典: 地理院タイルデータソース: Landsat8画像 (GSI, TSIC, GEO Grid/AIST), Landsat8画像 (courtesy of the U.S. Geological Survey), 海底地形 (GEBCO)。

CSF and ASF control in wild boar -Pathway of introduction into pig holding-

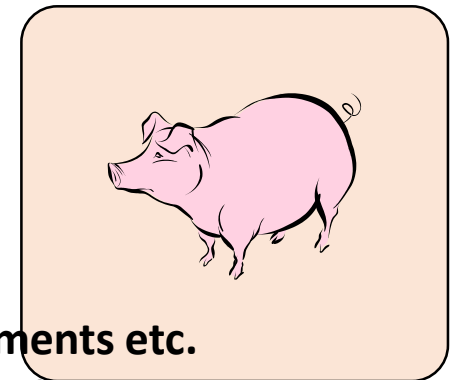
➤ Probable pathways of CSFV introduction into pig holdings



- Direct contact with wild boar
- Wild birds
- Movement of vehicle, human (such as hunters)



- Movement of pigs
- Movement of vehicle, human, implements etc.
- Wild animals such as cats and wild birds



Report on CSF epidemiological investigation (interim report)

<https://www.maff.go.jp/j/syouan/douei/csf/pdf/index-281.pdf> (available in Japanese)

CSF and ASF control in wild boar population is the key to prevent diseases in domestic pigs

CSF and ASF control in wild boar

-Control measures-

Countermeasures for wild boars

1 Intensive hunting and surveillance

CSF

ASF

- Veterinary authorities designated the Intensive hunting area where the affected wild boars were confirmed.
- Wild boars are being hunted intensively by hunting traps and shooting in the area. Proper disposal of carcass
- Veterinary authorities enhanced surveillance in the area where the CSF affected wild boars were confirmed.

2 Applying oral (bait) vaccination

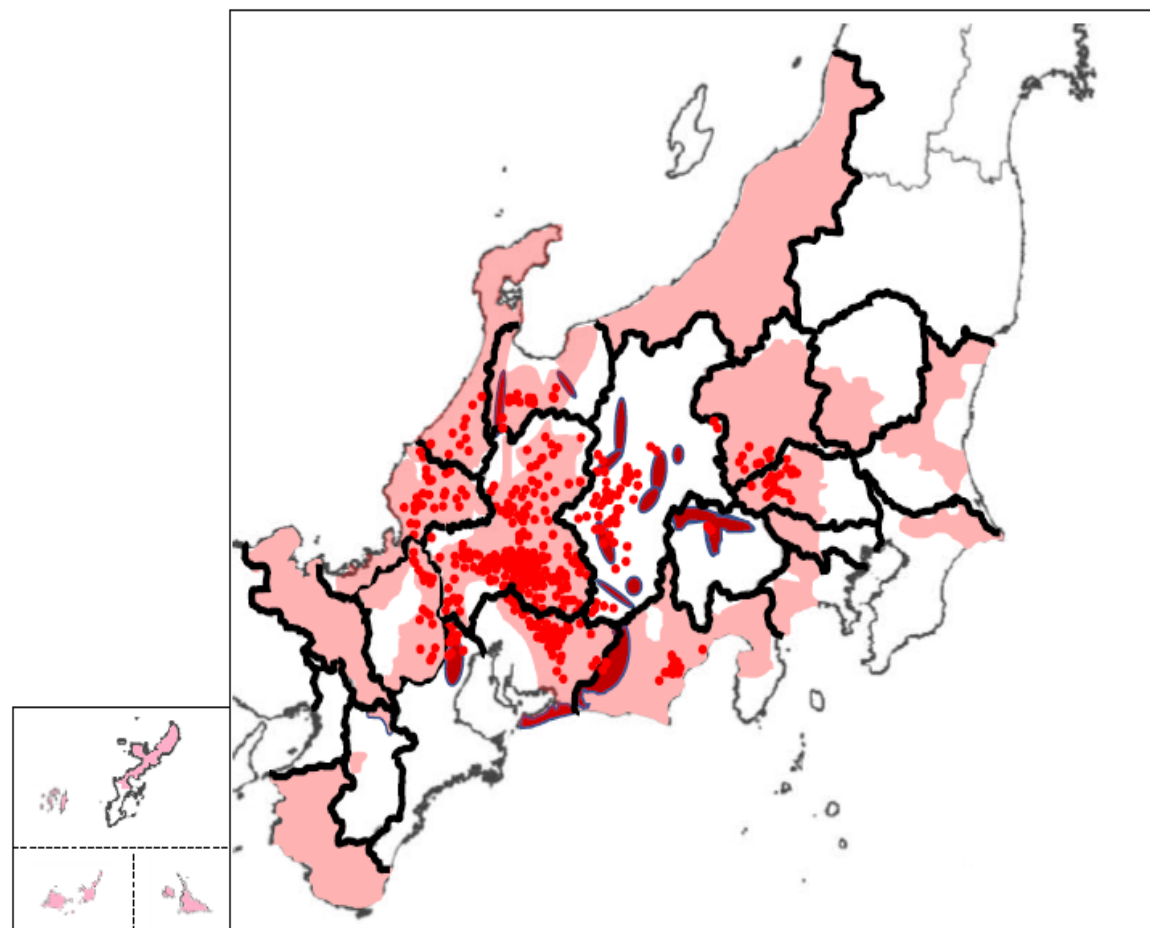
CSF

- Oral vaccine (bait vaccine) have been applied to wild boars in selected prefectures where CSF positive cases have been found in wild boars and surrounding prefectures.
- Vaccination belts are being established in both east and west Japan.
- For the effective establishment of the vaccination belt, MAFF are closely working with relevant agencies including Ministry of Environment, National Police Agency, Fire and Disaster Management Agency and Ministry of Defense.

To prevent the spreading of CSF affected wild boars, MAFF is implementing countermeasures in cooperation with relevant ministries and stakeholders.

Measures against CSF and ASF in wild boar

-Intensive hunting and capturing-



Intensive capturing areas (22 prefectures)

Defense line for intensive hunting/capturing

CSF positive cases in wild boar

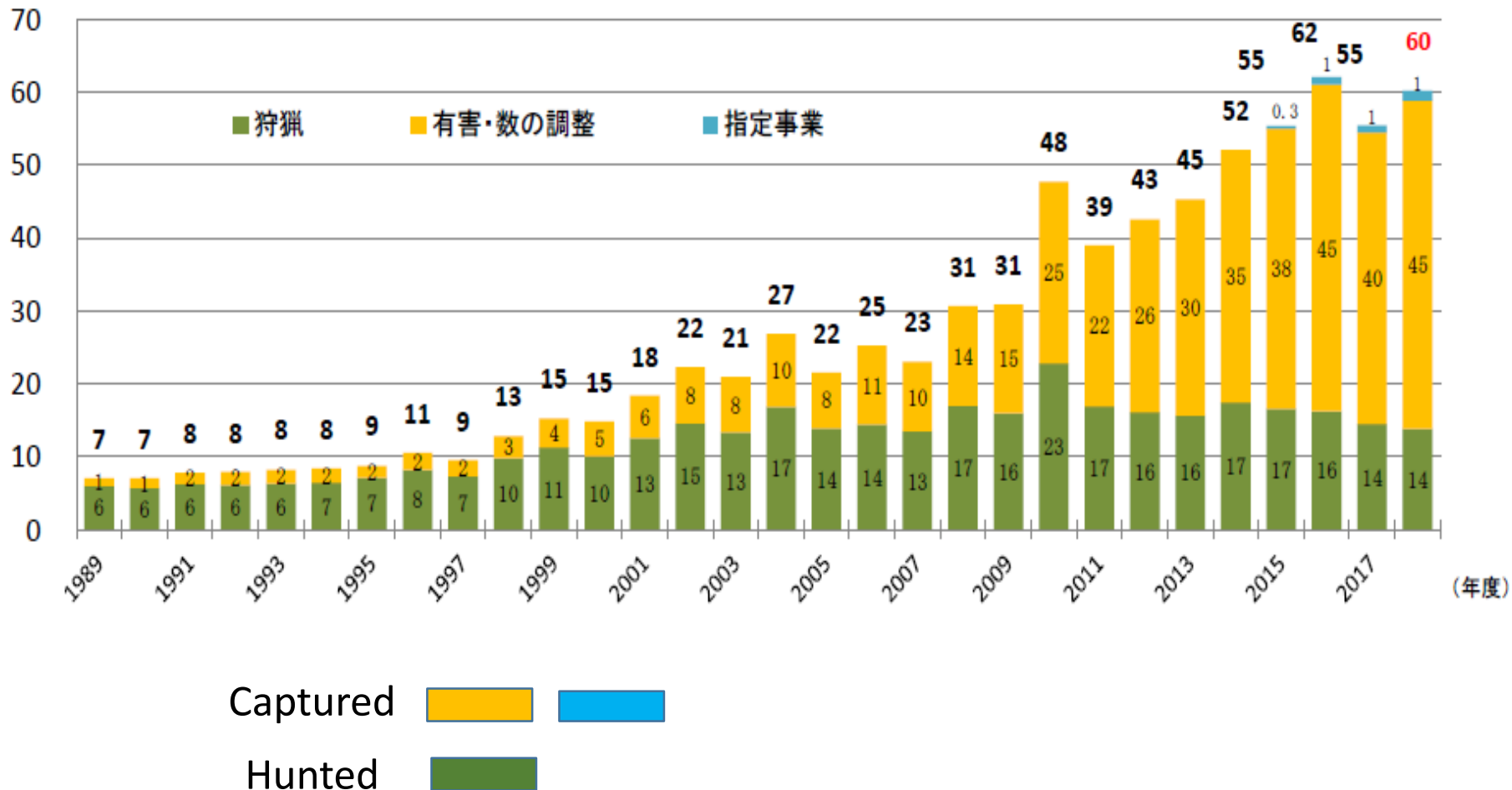
※ 捕獲重点エリア設定都府県（22都府県）
岐阜県、愛知県、三重県、滋賀県、福井県、
石川県、富山県、長野県、静岡県、茨城県、
栃木県、群馬県、埼玉県、千葉県、東京都、
神奈川県、新潟県、山梨県、京都府、
奈良県、和歌山県、沖縄県

Measures against CSF and ASF in wild boar

-Intensive hunting and capturing-

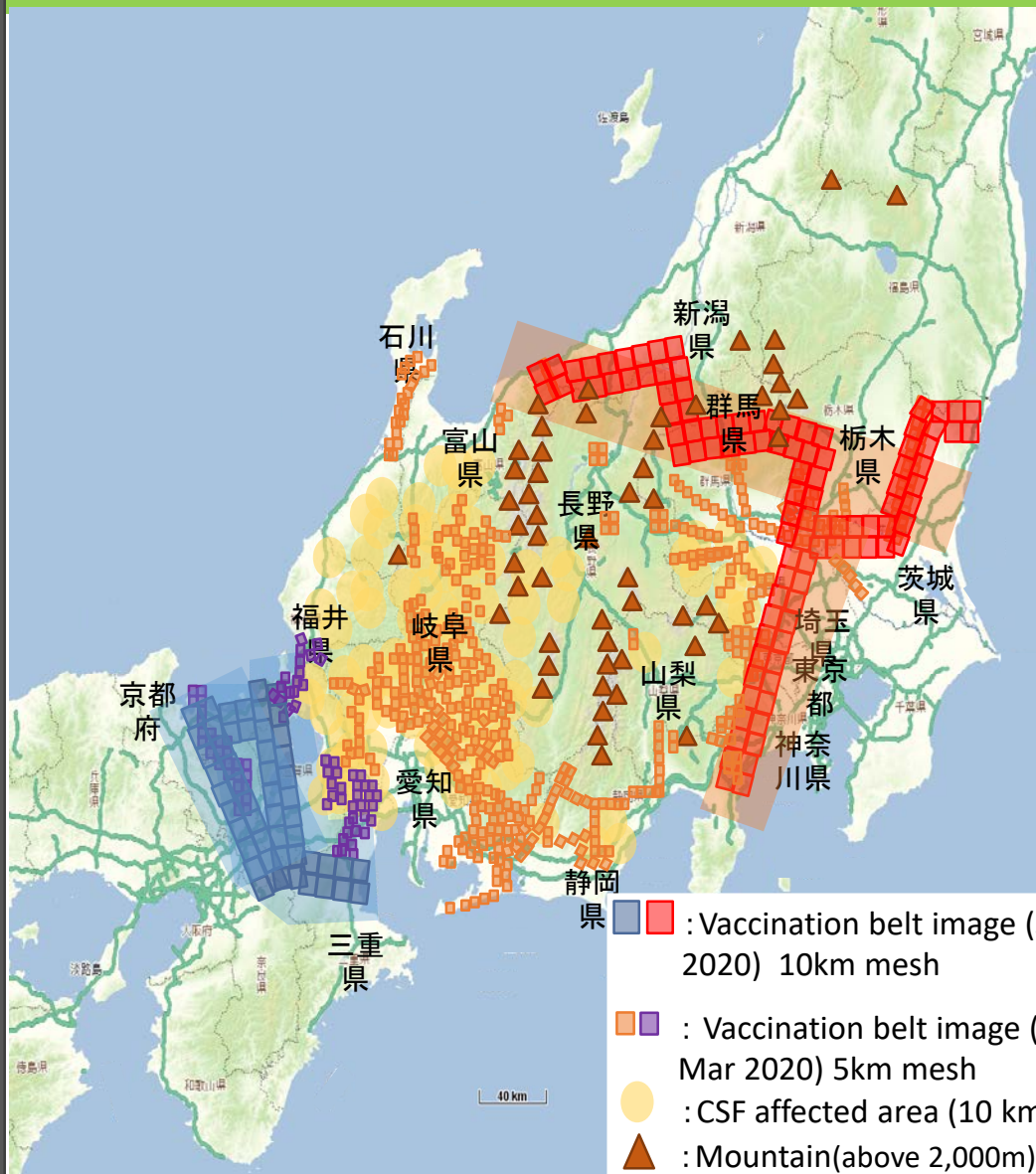
10000 head

The number of hunted and captured wild boar



Measures against CSF and ASF in wild boar

-Oral vaccination-



Oral vaccine (Size : 4cm × 4cm × 1.5cm)



Measures against CSF in wild boar

-Oral vaccination-

CSF Immune acquisition in wild boar in Aichi prefecture(tentative)

Time application	Numbers investigated(period)	Number of hogs without CSF Infection and with CSF antibody	Population immunity(%)
4 times	79 (2019/4/12 ~ 12/12)	55	70%
3 times	45 (2019/5/30 ~ 12/20)	28	62%
2 times	170 (2019/8/10 ~ 12/20)	35	21%
1 time	42 (2019/11/10 ~ 12/17)	3	7%

Time of oral vaccine dispersed against population immunity. As shown in the chart, the more vaccine dispersed, the higher the population immunity.

(<https://www.pref.aichi.jp/uploaded/attachment/318111.pdf>)

Measures against CSF and ASF in wild boar

-Measures to prevent disease introduction-

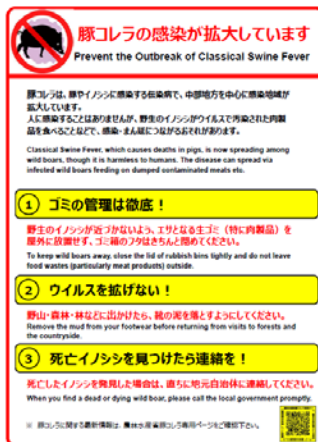
Strengthening on-farm biosecurity

Biosecurity standards based on the Act on Domestic Animal Infectious Diseases Control

- Establish sanitation control areas by physical boundaries(fences, walls)
- Installment of fences
- Disinfection on farm, vehicles and materials
- Change clothes, boots etc.



- Report when you find dead/weak wild boar
- Do not use wild boar meat in the CSF affected area(radius 10 km around CSF affected point)
- Do not enter pig farm for person who engaged to hunt or capture in CSF affected area
- Do not dump your food scraps in the forest, put them in the trash bin and close the lid



Notice for hunters and hikers from the Ministry of Environment

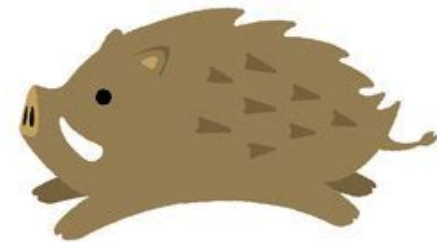


Notice posted on the bulletin board in the national park and at the reception of the camping cite



Challenges in control of CSF and ASF in wild boar

- Understanding habitat and ecology of wild boar population
- Enforcement of the most effective and efficient of strategy for CSF control measures (Hunting and capturing, Oral vaccination, Surveillance)
- Ensuring full implementation of biosecurity measures on farm
- Collaboration with multiple agencies and stakeholders



Strengthening preparedness for CSF and ASF

Amend Act on domestic animal infectious disease control(March 2020)

- (1) Enhancement of implementation of on-farm biosecurity
- (2) Provision of measures against disease in wild boar(Surveillance, oral vaccination, movement restriction etc.),
- (3) Provision of implementation of preventive culling in case of ASF outbreak in domestic pigs and ASF cases in wild boars
- (4) Strengthen the authority of AQS officer on border control
etc.

Thank you for your attention!

