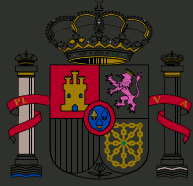


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WEST NILE CURRENT SITUATION, NATIONAL SURVEILLANCE PROGRAM AND FUTURE OF THE DISEASE IN SPAIN



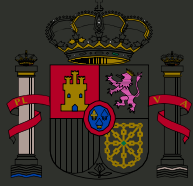
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WNV NATIONAL SURVEILLANCE PROGRAM IN SPAIN (I)

- Surveillance (“EVITAR NET” framework) since 2001 (Doñana, Delta del Ebro) → 30% seroprevalence in some species in Doñana
- Surveillance program implemented since 2007
- During mosquitoes activity period: March-April until October-November
- Two surveillance levels:
 - birds, mosquitoes
 - horses



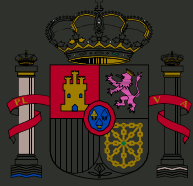


WNV NATIONAL SURVEILLANCE PROGRAM IN SPAIN (II)

- Target areas: criteria
 - Density of migratory birds
 - Density of mosquitoes or optimal conditions
 - Proximity to endemic areas
 - Proximity to outbreaks
 - Previous data of seroprevalence

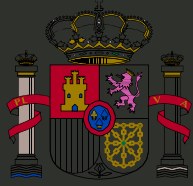
- 4 main areas:
 - Wetlands in North of Catalonia
 - Ebro's Delta
 - Doñana National Park
 - Wetlands in Mediterranean Basin: Valencia, Murcia and Balearic Islands





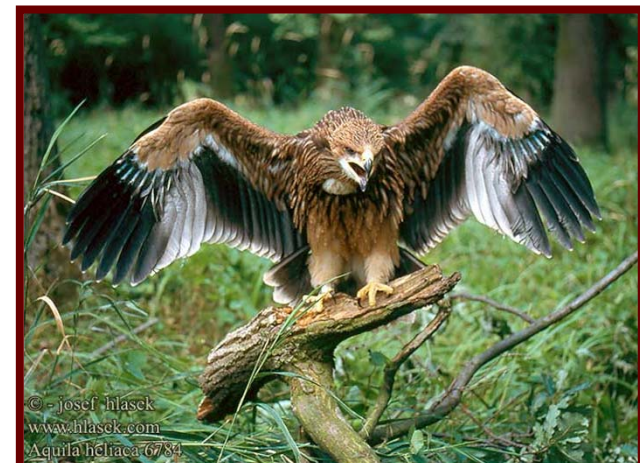
WNV NATIONAL SURVEILLANCE PROGRAM IN SPAIN (III)

	Passive Surveillance	Active Surveillance	Note	Intervention Zone
Wild birds	<ul style="list-style-type: none"> <input type="checkbox"/> Abnormal mortalities <input type="checkbox"/> Sampling (brain, heart, kidney, blood, CSF) 	Risk based sampling	Objective: 1. Seroconversion and viral circulation detection. 2. Virus identification <input type="checkbox"/> Recovery centers <input type="checkbox"/> Zoos nearby <input type="checkbox"/> Killed game animals <input type="checkbox"/> AI samples, other procedures (banding)	a) Wetlands: <input type="checkbox"/> Doñana <input type="checkbox"/> Ebro's Delta <input type="checkbox"/> North of Catalonia <input type="checkbox"/> Mediterranean wetlands: Valencia, Murcia, Balearic Islands. b) Wetlands nearby equine holdings.
Mosquitoes		<ul style="list-style-type: none"> <input type="checkbox"/> Traps positioning <input type="checkbox"/> Virus research <input type="checkbox"/> Mosquitoes population dynamic research 	Objective: 1. Mosquitoes population dynamics 2. Fortnightly sampling	
Horses	<ul style="list-style-type: none"> <input type="checkbox"/> Clinical symptoms <input type="checkbox"/> Sentinels <input type="checkbox"/> Sampling (blood, brain, heart, kidney, CSF) 	Sampling in risk areas in case of epidemic wave		



NATIONAL SURVEILLANCE PROGRAM OUTCOME

- 5740 birds and 860 horses tested (2008-2010) m2
- In recent years WNV antibodies have been detected in migratory birds in centre and south Spain (10%)
- Virus isolated in migratory birds: 4 eagles and 1 stork

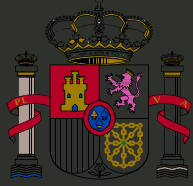


Diapositiva 5

m2

añadimos los 600 sueros de la investigación???

malvarezf; 12/05/2011

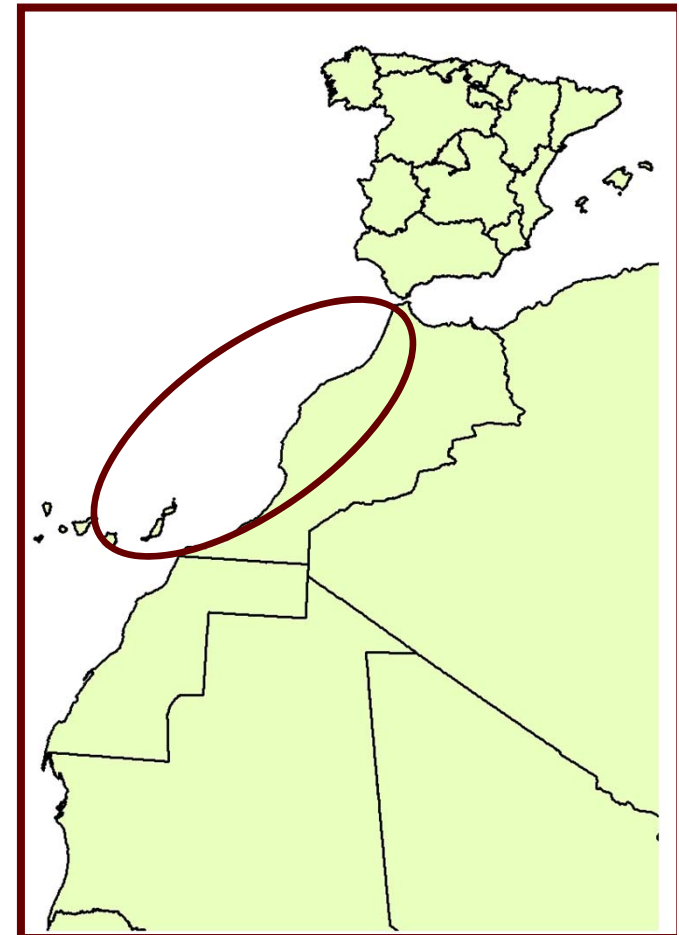


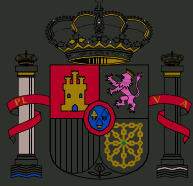
WEST NILE IN SPAIN 2010 (I)

Notified outbreaks in Morocco
in August 2010



Surveillance reinforcement in
Spain





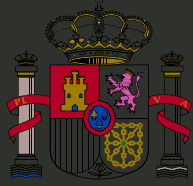
WEST NILE IN SPAIN 2010 (II)

- Primary outbreak
(clinical suspicion in
horses): Jerez de la
Frontera, Campiña.
CÁDIZ

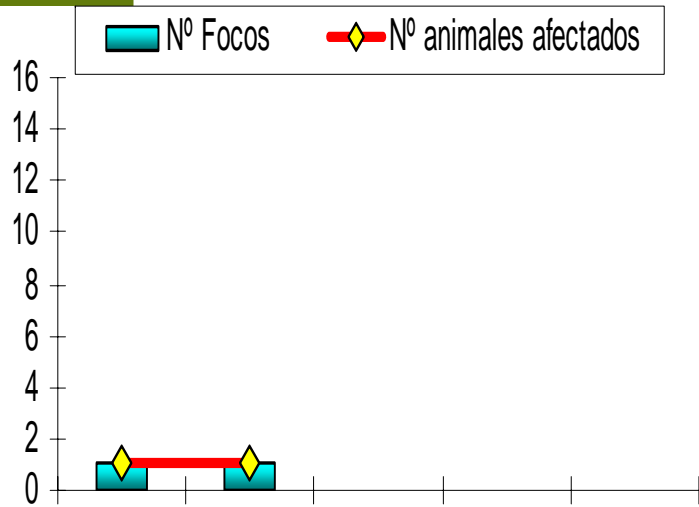
10/9/2010

- Diagnostic:
 - IgM ELISA
 - RT-PCR





2nd week (30 August- 6 September)



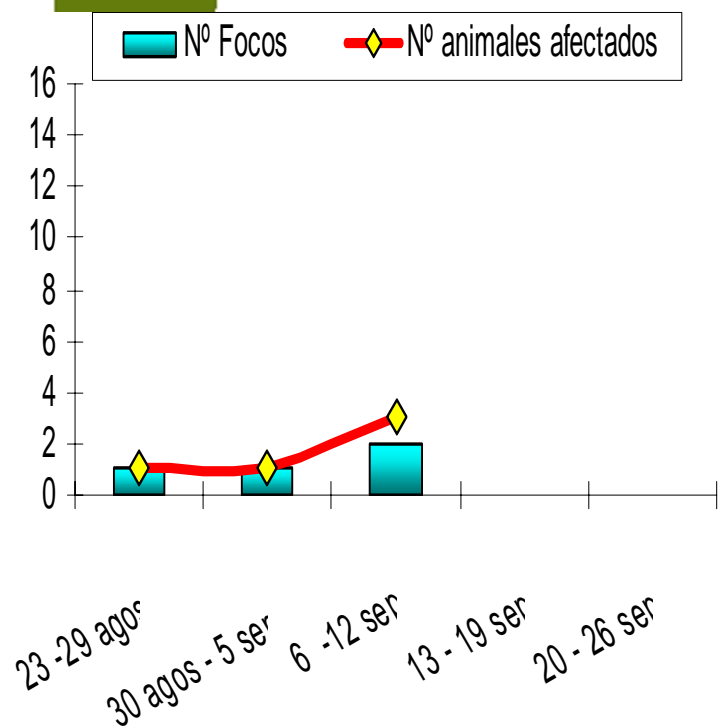
23 -29 ago
30 ago - 5 sep
6 -12 sep
13 - 19 sep
20 - 26 sep





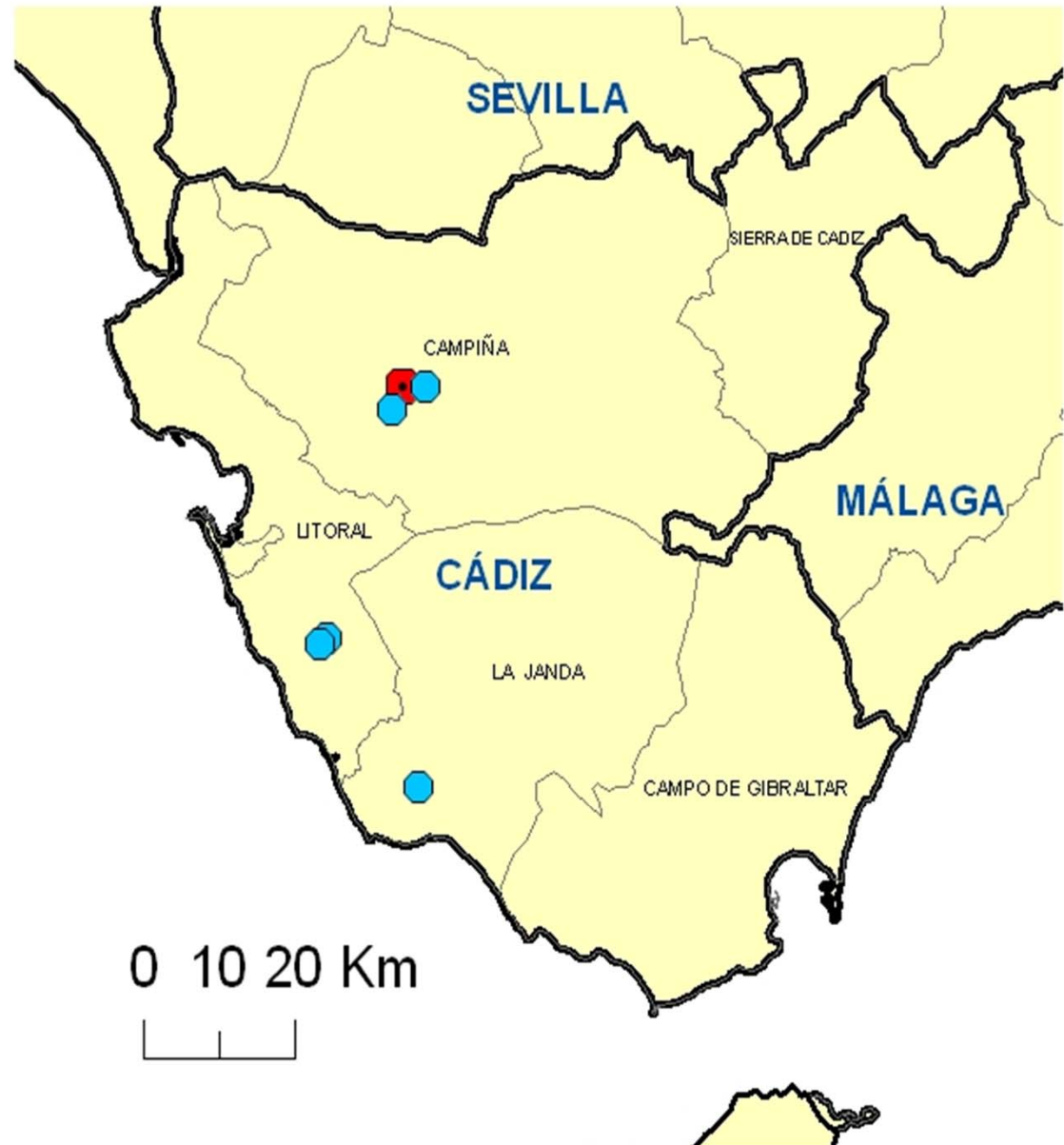
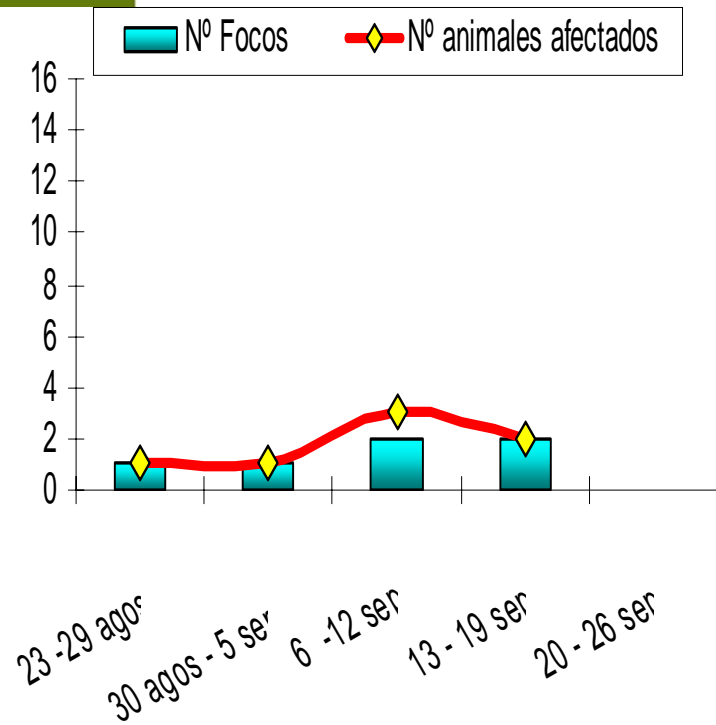
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3rd week (6- 12 September)



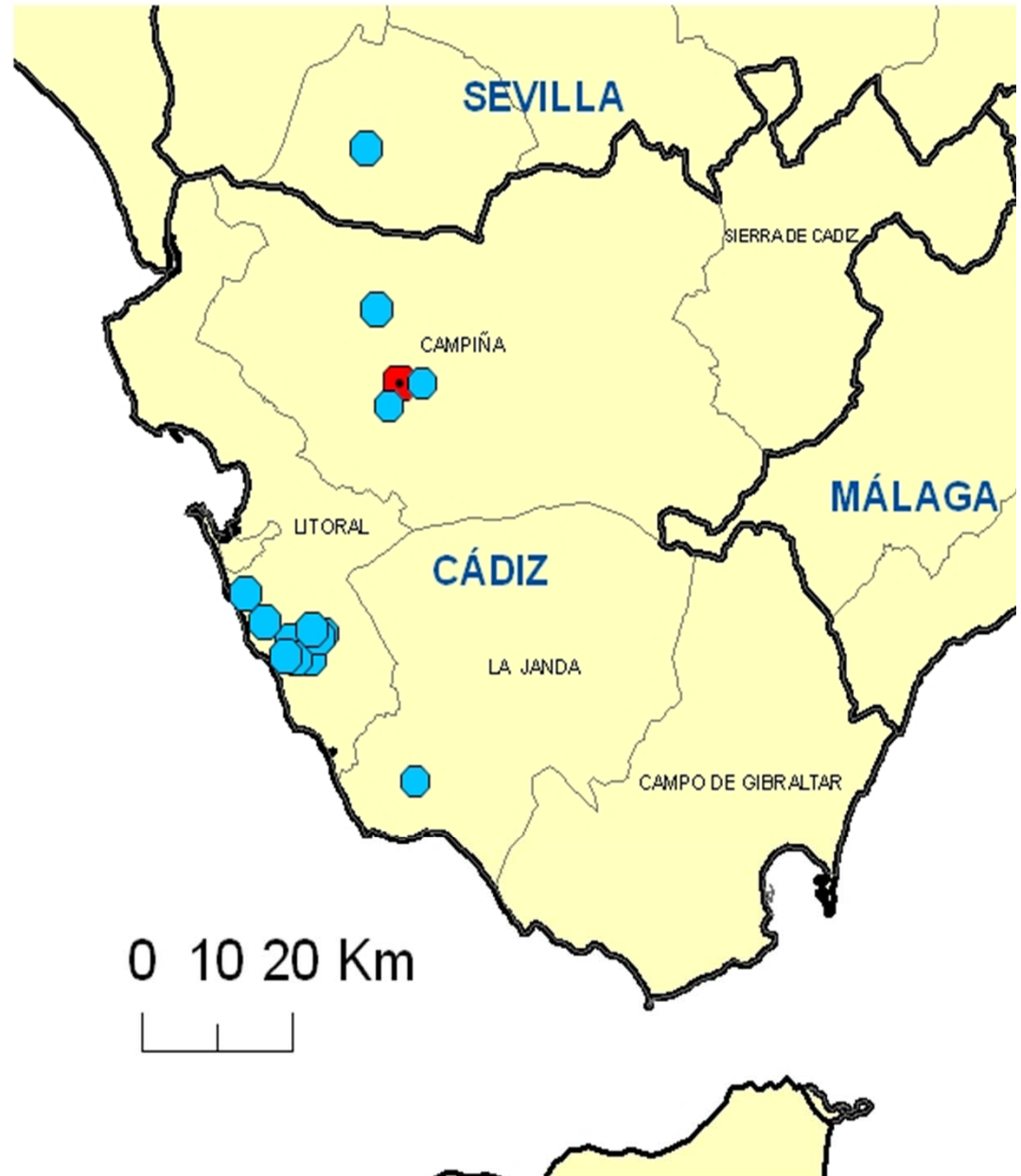
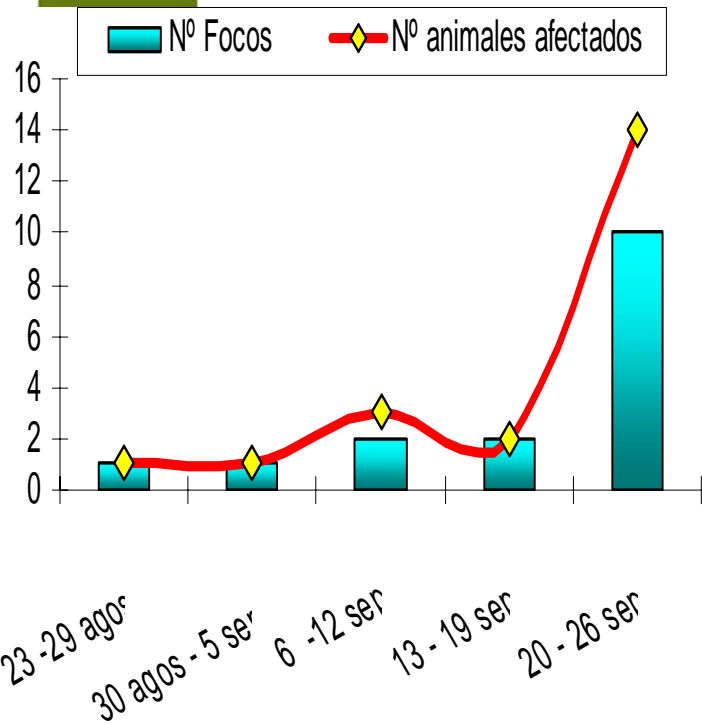


4th week (13- 19 September)





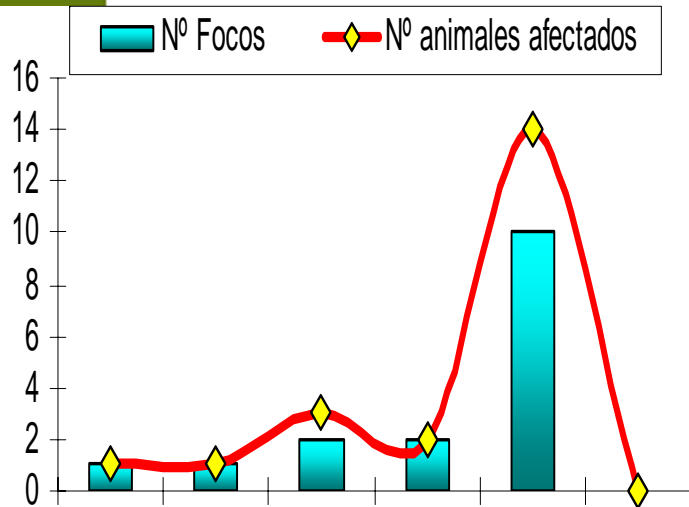
5th week (20- 26 September)



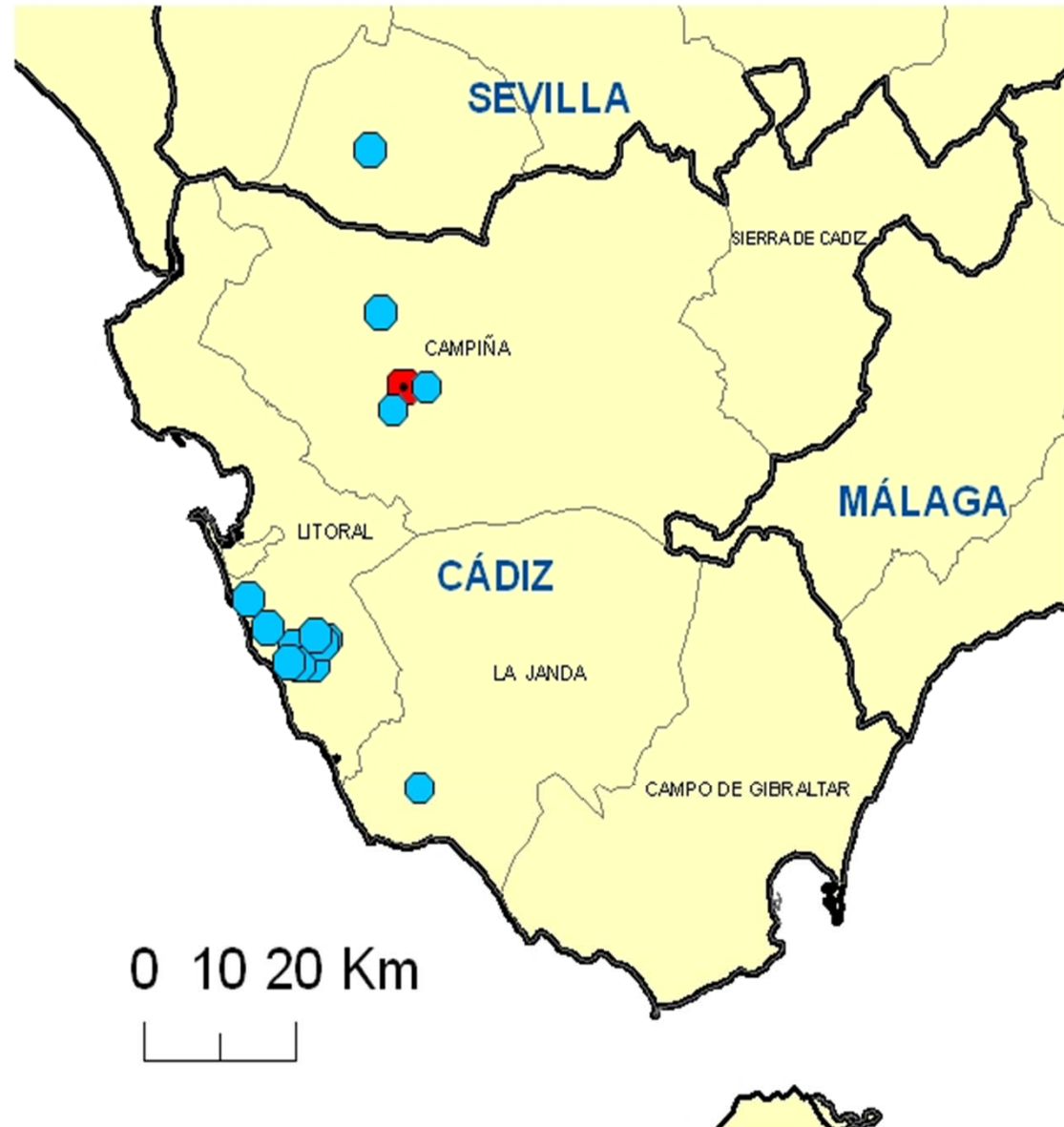


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6th week (27 September–3 October)



23-29 ago
30 ago - 5 sep
6-12 sep
13-19 sep
20-26 sep
27 sep-3 oct



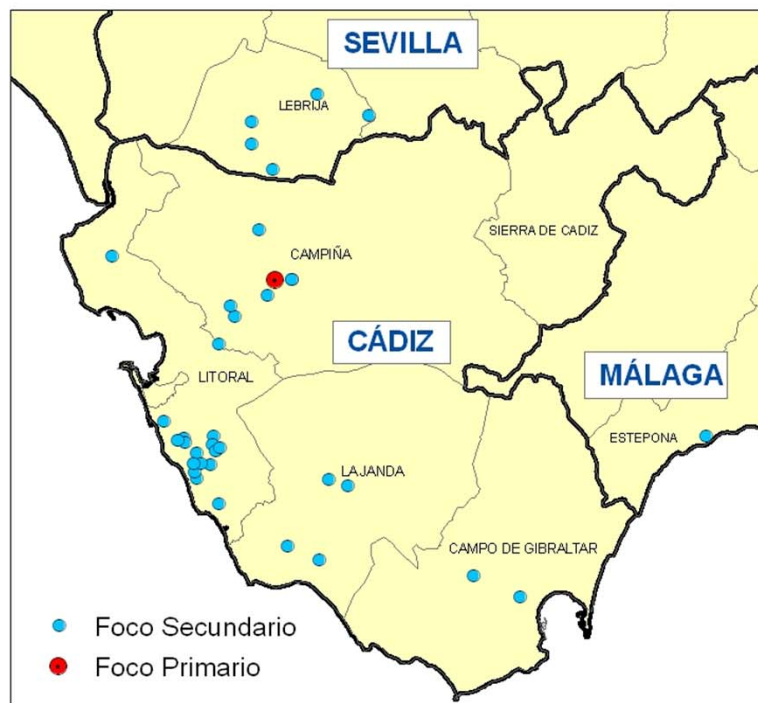


(3 October-13 December)

Focos Fiebre del Nilo Occidental. 15 de enero 2011

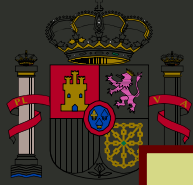


Provincia	Total
Cádiz	30
Málaga	1
Sevilla	5
Total	36



■ 2 cases in humans (CÁDIZ)

SUSCEPTIBLE ANIMALS (horses)	AFFECTED ANIMALS	DEAD ANIMALS
1001	45	8

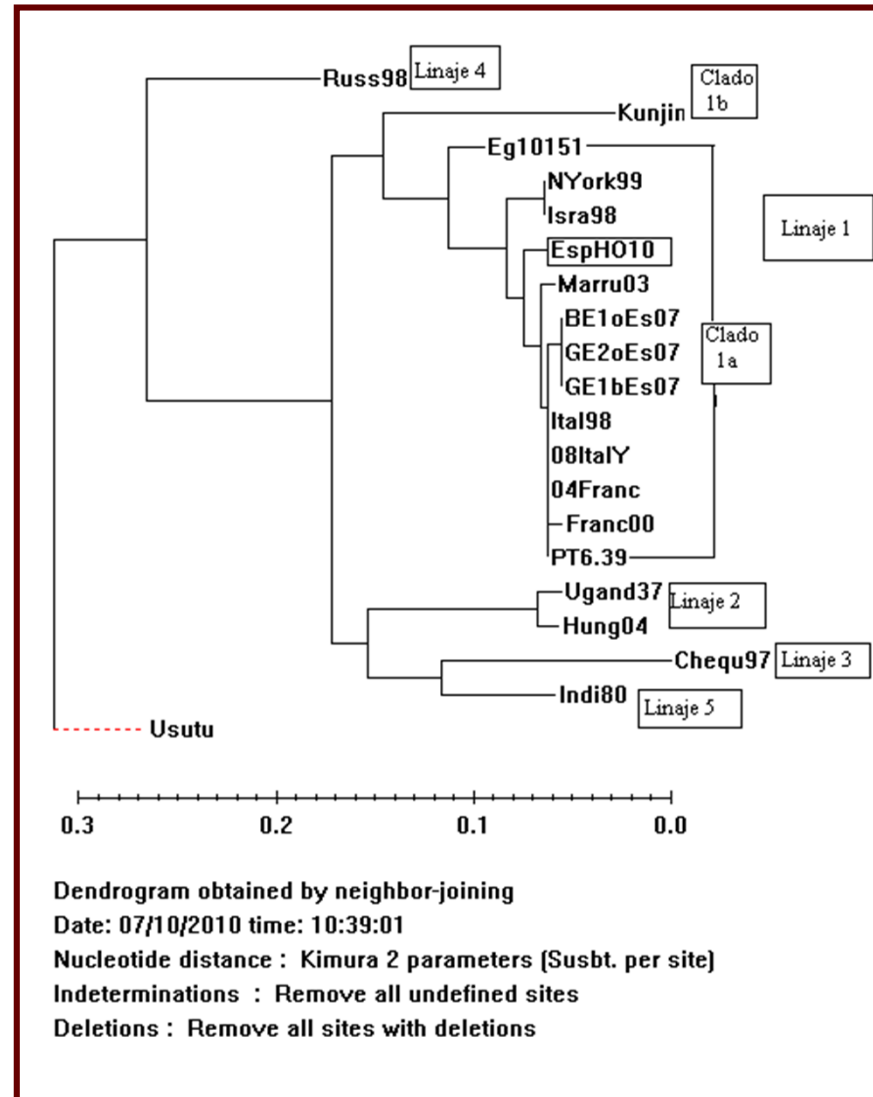


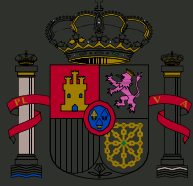
WEST NILE IN SPAIN 2010 (III)

Spain 2010
Lineage 1



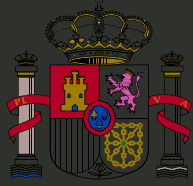
Relation to strains
from: France, Italy,
Portugal and Morocco
(2003-2009)





WEST NILE IN SPAIN 2010 (IV): IMPLEMENTED MEASURES

- ❑ Epidemiological research.
- ❑ Census and clinical examination of horses on farms.
- ❑ Vector control.
- ❑ Communication and coordination with Public Health Authorities.
- ❑ Surveillance reinforcement in horse holdings and wildlife in the affected areas and nearby.
- ❑ No market restrictions (OIE “dead end host”)
- ❑ Voluntary application of inactivated vaccine on horses (authorized by EU): equine census 30.000 in the affected area, vaccinated 12.000.



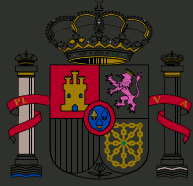
WEST NILE IN SPAIN: FUTURE OF THE DISEASE (I)

- Surveillance reinforcement in wetlands, affected areas and nearby.

- Horses
- Wildlife
- Human beings



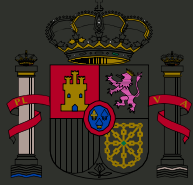
- Possibility of new outbreaks in 2011.
- Communication, collaboration and coordination with Public Health Authorities and Autonomous Regions Authorities.



WEST NILE IN SPAIN: FUTURE OF THE DISEASE (II)

- A virus circulation study (serology) has been undertaken in horses in the affected areas and nearby:
 - 600 samples
 - IgM ELISA
 - Outcome
- A WNV vaccination study on poultry is being carried out:
 - In partridge and pheasant
 - Inactivated complete virus vaccine
 - Protein from virus coat





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