

# HIGHLY PATHOGENIC AVIAN INFLUENZA H5N1 IN KAZAKHSTAN



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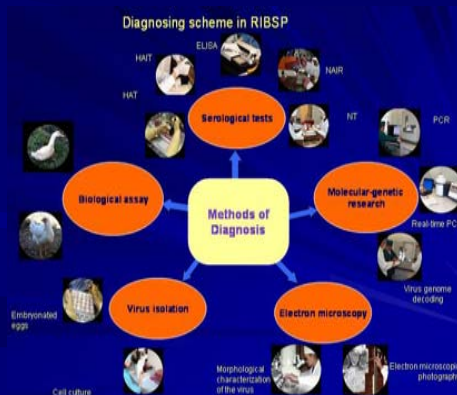
## RESULTS

## INTRODUCTION

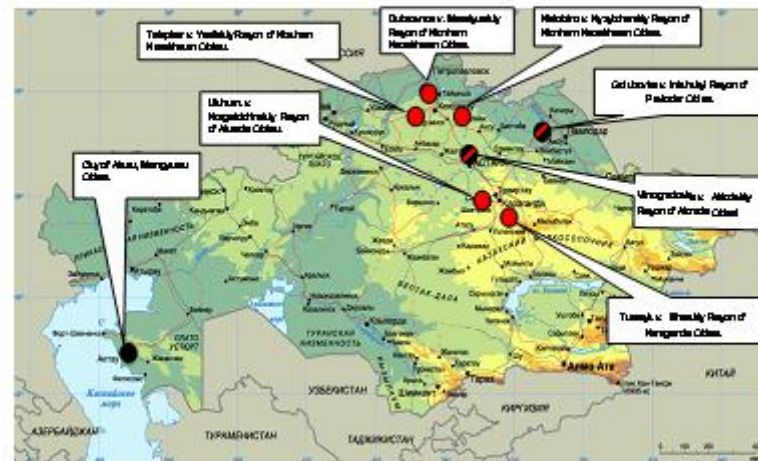
Numerous outbreaks of highly pathogenic avian influenza H5N1 in the South-East Asian nations in 2003-2004 and its further expansion necessitated full-scale monitoring of avian influenza throughout the world. Kazakhstan has exercised systematic monitoring of avian influenza since 2004.

## METHODS

The monitoring research methods used include collection and analysis of statistical data provided by veterinary services, Committee for Forestry and Hunting of Kazakhstan, and Epizootological investigation of disease outbreaks including collection and analysis of samples from wildfowl and poultry.



Twenty-three expeditions were set up in 2004-2006 to investigate water bodies and nearby villages in 9 oblasts of Kazakhstan. A total of 3,597 samples from 1,480 wildfowl (Anatidae, Rallidae, Charadriidae, Laridae, Sternidae, Corvidae) and 2,334 samples from poultry were collected and analyzed. A serological control of the infection on 5 poultry farms in Northern Kazakhstan, Kostanai, Eastern Kazakhstan and Almaty oblasts was carried out. Research conducted on Nan Farm, Pavlodar Oblast, in 2005 found an outbreak of highly pathogenic avian influenza H5N1. The disease was later recorded in 6 Rayons of Karaganda, Akmola, Northern Kazakhstan Oblasts. In 2006, the H5N1 virus was found amongst swans on the eastern shore of the Caspian Sea, close to the city of Aktau. Isolated strain A/domestic goose/Pavlodar/1/05 (H5N1) and others according to hemagglutinin gene nucleotide sequence belong to the group of viruses isolated in Quinghai (China) and Novosibirskaya oblast (Russia) in 2005. The avian influenza outbreak was contained, and vaccination of poultry was carried out in high-risk areas.



AI outbreaks in Kazakhstan in 2005 - 2006

- AI outbreak in domestic birds
- AI outbreak in wild birds
- AI outbreak in both wild birds and domestic birds

Possible ways of AI H5N1 bringing and spread in Kazakhstan



## CONCLUSION

As a result of monitoring in 2005, seven outbreak foci of highly pathogenic avian influenza H5N1 were found in Pavlodar, Northern Kazakhstan, Karaganda and Akmola Oblasts; and one focus was found in 2006 in Mangystau Oblast.



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