Organisation Mondiale de la Santé Animale | World Organisation for Animal Health | Organización Mundial de Sanidad Animal

RAPPORT DE MISSION

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Date et lieu du déplacement : 01-08.10.2005 - Russia

Titre de la mission : Mission to Russia to assess the avian influenza situation in wildlife and the national measures being taken to minimize the risk of international spread.

Aims of the mission:

1. To assess the situation with regard to the possible relation between infection of wildlife with highly pathogenic avian influenza of the H5N1 subtype and the avian influenza outbreaks in domestic poultry
2. To assess the current capabilities of the Russian reference laboratory and if possible other diagnostic laboratories in the diagnosis of avian influenza
3. To submit an independent Mission Report to the OIE on completion of the mission. The report will be jointly signed by the Russian Government and the Director General of the OIE

Key persons met and subjects of discussion

1. Assessment of the situation with regard to the possible relation between infection of wildlife with highly pathogenic avian influenza of the H5N1 subtype and the avian influenza outbreaks in domestic poultry

Meeting at the Federal Centre for Animal Health (ARRIAH) in Vladimir – 03-04 October 2005

Dr. Vlasov N.A., Ph. D., Deputy Head, Service for Veterinary Surveillance - Moscow;
Dr. Grebennikova T.V., Virology Institute named after D. Ivanovsky;
Dr. Borisov A.V., Ph.D., Head of Department for Poultry Diseases (FGI ARRIAH);
Dr. Borisov V.V., Ph.D., Head of the Laboratory of Molecular Diagnosis of Poultry Diseases (FGI ARRIAH);
Dr. Frolov S.V., Ph.D., Laboratory Poultry Diseases (FGI ARRIAH);
Dr. Scherbakova L.O., Ph.D., Laboratory of Molecular Diagnosis of Poultry Diseases (FGI ARRIAH);
Dr. Frolov A.V., scientific consultant (FGI ARRIAH).

Meeting at the Regional Administration in Novosibirsk – 05 and 07 October 2005

Gergert V.A., Deputy Governor of Novosibirsk Region
Amirukov M.A., Head of Veterinary Department for Novosibirsk Region
Rozhkov O.A., Deputy Head of Veterinary Department for Novosibirsk Region
Timofeyev M.E., Veterinary Department for Novosibirsk Region
Larina N.M., Director of Interegional Veterinary Laboratory Novosibirsk Region

Meeting at the Institute of Animal Ecology and Systematics of the Russian Academy of Science in Novosibirsk – 05 and 07 October 2005

Yurlov A. K., Head of Laboratory for Population Ecology

Visit to the AI affected villages of Suzdalka, Baklushy and Iljinka – 06 October 2005

Dr. Borisov V.V., Ph.D., Head of the Laboratory of Molecular Diagnosis of Poultry Diseases (FGI ARRIAH);
Dr. Shulpin M., Ph.D., Laboratory of Molecular Diagnosis of Poultry Diseases (FGI ARRIAH)

2. Assessment of the current capabilities of the Russian reference laboratory and if possible other diagnostic laboratories in the diagnosis of avian influenza

Visit to the Avian Laboratory of the Federal Centre for Animal Health (ARRIAH) in Vladimir – 04 October 2005

Dr. Irza V.N., Ph.D., Head of the Laboratory (FGI ARRIAH);
Dr. Manin T.B., Ph.D., senior research officer (FGI ARRIAH);

Meeting with scientists of the State Research Centre of Virology and Biotechnology "VECTOR" in Novosibirsk – 05 October 2005

Dr. Shestopalov A.M., Head of Laboratory to Investigate and Monitor Emerging Zoonotic Diseases
Dr. Evseyenko V.A., research officer
Dr. Zabelina N.V., research officer

Visit to the Federal Governmental Establishment Novosibirsk Inter-regional Veterinary Laboratory (herein referred to as VLN for the purposes of this report) in Novosibirsk – 07 October 2005

Larina N.M., Director of Inter-regional Veterinary Laboratory Novosibirsk Region

Findings

1. Assessment of the situation with regard to the possible relation between infection of wildlife with highly pathogenic avian influenza (HPAI) of the H5N1 subtype and the avian influenza outbreaks in domestic poultry

   Characteristics of the AI outbreaks in the Russian Federation

   On 22 July 2005 the first AI outbreak was identified in a backyard flock at the village of Suzdalka in the Novosibirsk region. The Competent Veterinary Authorities (CVA) informed the mission team that from the 22 July up to 07 October 2005, 50 AI outbreaks were detected in six Siberian regions : Novosibirsk, Altai, Chelyabinsk, Kurgan, Omsk and Tiumen. In Kalmikya region, which is located in the European Russia northwest of the Caspian Sea, the presence of AI was suspected, but no final results are available. Nevertheless, a few positive PCR results for AI viruses of the H5 subtype were obtained from wild birds monitored in two unaffected regions (Tomsk and Kalmikya).

   The large majority of AI outbreaks were detected in village poultry. Only two outbreaks were suspected/detected in commercial poultry holdings:

   - Kurgan Region – In one commercial poultry holding an HPAI virus of the H5 subtype was detected on 03 October 2005. Full virus characterisation is still pending.

- Omsk Region - One large commercial farm (about 0.5 million breeders and broilers) has been put under restrictions due to laboratory results suggesting the possible presence of a low pathogenic AI virus of the H5N3 subtype. Final laboratory results are still pending.

The CVA of Russia submitted to the mission team a table (Annex I) summarizing the available data on the AI epidemic in the Russian Federation.

Characteristics of the AI outbreaks in the Novosibirsk Region

On 6 October, the mission team visited the site of the first outbreak at Suzdalka, Novosibirsk region. During the visit, the mission team had the opportunity to examine the characteristics of the first AI outbreak detected in Russia and was informed about the eradication measures enforced by the CVA. The disease was suspected on 19 July, due to the detection of mortality and nervous symptoms in domestic ducks and geese in 11 flocks. By 20 July, a total of 280 birds were dead out of a total of about 1000 animals (ducks, geese, chickens and turkeys) present in the 11 holdings.

The affected flocks were situated close to a lake. No massive mortality was observed in the wild waterfowl population of the same lake, but a few dead wild birds were noticed simultaneously to the identification of the disease in domestic poultry.

Before AI confirmation, the village was put under restrictions, checking and disinfection points were organised and all poultry premises in the village were put under veterinary surveillance.

On the 22 July, samples were collected from the affected domestic birds and submitted to three laboratories:

- the Avian Laboratory of the Federal Centre for Animal Health (ARRIAH) in Vladimir
- the State Research Centre of Virology and Biotechnology “VECTOR” in Novosibirsk
- the Federal Governmental Establishment Novosibirsk Inter-regional Veterinary Laboratory (VLN) in Novosibirsk

On 24 July, the VECTOR laboratory identified an HPAI virus of the H5 subtype and the virus was fully characterized subsequently as H5N1 HPAI according to OIE recommendations.

In total, 21 affected flocks were identified at Suzdalka out of a total of 401 backyard flocks. A total of 617 (19.9%) birds died in the infected premises which contained a total of 3100 birds. All the backyard flocks in the village (total of 11254 birds) were stamped out by 16 August 2005.

The HPAI epidemic in the Novosibirsk region is summarized in Annex II.

AI control and monitoring measures put into action in the affected Regions

Disease awareness – Early detection of any AI outbreaks in domestic poultry and wild waterfowl was increased by the production and distribution of posters, leaflets and warnings in the local press.

Control and eradication measures enforced in the infected village farms – Stamping out and restriction measures were applied to control and eradicate the disease. Infected flocks were stamped out and carcasses disposed of on site. In some affected villages all the birds in the village were killed and destroyed. Cleansing and disinfection of affected

premises under official control was carried out after the depopulation of the infected premises. The efficiency of disinfection was monitored through the collection and testing of environmental samples from infected holdings. Checking and disinfection points were set up around the affected villages. Vaccination was not applied.

The following control measures have been applied in the affected Regions:

- an AI crisis unit was instituted
- domestic poultry were kept inside or in the yard
- domestic ducks and geese were not allowed access to rivers and lakes
- trade of live poultry and poultry products among villages was prohibited
- poultry farms (both village and commercial settlements) were put under official veterinary surveillance
- monitoring of the wild bird population was carried out

AI monitoring of wild birds

AI monitoring was carried out in affected and free areas and the results obtained at ARRIAH in Vladimir are summarized in Annex III. Furthermore, samples collected in August-September 2005 from wild birds in infected and non infected regions were tested at VLN in Novosibirsk. The number of samples collected in affected areas and analysed at VLN was 466 with 22 (4.7%) H5 PCR positive. Positive PCR results for H5 AI viruses were obtained also from 4/74 (5.4%) wild birds sampled in the unaffected region of Tomsk. These last positive results have not yet been confirmed at ARRIAH.

Based on the results submitted by ARRIAH only and illustrated in Annex III, wild birds were sampled in eight regions: Novosibirsk, Omsk, Tyumen, Altai, Chelyabinsk, Kurgansk, Permanska and Kalmikya. In the affected regions of Novosibirsk, Tyumen, Kurgansk and Chelyabinsk some samples were H5 PCR positive, but in some affected districts all wild bird samples examined were negative by H5 PCR. Up to now wild bird monitoring at this laboratory has been negative for H5N1 in all unaffected districts, except for the Republic of Kalmikya as previously reported where 4 out of 32 wild bird sampled were positive leading to a prevalence of 12.5% (95%CL 1%-24%). Furthermore, an AI virus of N1 subtype (H subtype not determined) was detected in a wild bird hunted in the unaffected region of Permskaya.

VECTOR laboratory carried out monitoring activity in spring at a station located at Chany lake, Novosibirsk Region. Samples (41) were obtained from healthy wild birds, with the detection of six AI viruses. Four of these viruses were identified as H5 and derived from two Mallards, one Garganey and one Gadwall. These viruses were not fully characterized.

Following the detection of outbreaks in domestic poultry 130 wild birds were shot at the Chany lake station. This station is located within 10 km of the affected village of Gorodischy which was stamped out on 10 August. In addition, at Suzdalka, Baklushy and Iljinka (all 60-70 km from Chany lake) stamping out measures were completed on 16 August. H5N1 viruses were isolated from four birds (Green sandpiper, Coot, Gadwall and Pochard) hunted at Chany lake on 27-28 August. Pathogenicity of these viruses has not yet been determined.

It is necessary to emphasize that many samples collected from wild birds have not yet been tested. Furthermore, the positive PCR results have not been confirmed through the isolation of H5N1 HPAI virus in many instances. In addition, the number of samples collected from wild birds both in affected and unaffected districts guarantees the detection

of the H5N1 HPAI virus only at a high prevalence. The results indicate that H5N1 HPAI may have been present in wild waterfowl in the wider region also prior to outbreaks in poultry.

Origin of the outbreaks

Based on the results of the epidemiological investigations carried out in the infected villages, the CVA of the Russian Federation reported that the spread of the H5N1 HPAI virus was related to contact with wild waterfowl at the lakes located in close proximity to the affected premises.

It is worth stressing that in Siberia the villages are sparsely distributed and on average separated from each other by at least several kilometres. It appears that the movement of live poultry among different villages is limited, since each village is restocked with young live birds distributed by some large commercial enterprises only in spring.

Potential role of wild birds in the introduction of HPAI H5N1 from South east Asia to Siberia

There are 2 minor flyways connecting South east Asia, south of India, Western Siberia and eastern Europe. There are some recovery data indicating that a low proportion (<10%) of West Siberian breeding birds are using south east Asia as the wintering ground (Proceedings of the Novosibirsk symposium, 1972; Dr. Yurlov, Institute of Animal Ecology and Systematic, Novosibirsk, Personal Communication).

The timing of the spring migration (April-May) and the first sign of an epizootic (end of July) does not coincide. There was no evidence of any massive “die off” or outbreaks in local wild avifauna from the start of the spring migration and during the breeding season (Personal communication from local field ornithologist and Dr. Yurlov, Institute of Animal Ecology and Systematic, Novosibirsk, Personal Communication).

The affected area is considered as an important moulting area for Siberian adult wild ducks. The timing (July) of the outbreak in both domestic poultry and wildlife, coincided with a period of post breeding moulting (a month of loss of flying ability due to a complete flight feather renewal). Moulting flocks of birds are concentrated on certain optimal lakes: flocks are composed of local breeders and migratory northerly breeding birds using these lakes as temporary stop-over sites. The eventual introduction of the virus via these northern breeders implicates the endemic persistence of the virus in birds on their breeding grounds at higher latitudes during the breeding season (May-June). There are no data or information regarding this so far.

If the HPAI H5N1 virus behaves as a low pathogenic strain in wild ducks, it could have persisted at a low endemic level in the breeding population. The local concentration of birds during July for moulting and the recruitment of susceptible individuals (juveniles) could have been favourable factors for the amplification and spread of the virus.

Role of wild birds in the regional (South-western Siberia) spread of the AI viruses in July and August

The reliability of the results of the monitoring activity in wild birds is not consistent due to the low sample size. The lack of a systematic approach with respect to temporal, spatial, species selection, location in relation to poultry outbreaks and diagnostic approaches render difficulties in drawing firm conclusions.

There are indications of an increased mortality in various susceptible species (herons, pigeons, gulls, birds of prey and passerines) simultaneously with the poultry outbreaks. The spatial and chronological appearance of the outbreaks between districts (North-west direction) do not match any known major bird migration routes (South-westerly and

Southerly direction), but at a local scale (within a district), the erratic movements of wild ducks and other species might be involved in the appearance of outbreaks in the various settlements.

The risk of introduction of HPAI by wild birds to Europe

The existence of known migration flyways of several bird species connecting South East Asia, Siberia and Europe shows a possibility of the introduction of H5N1 virus to both Eastern and Western Europe.

The possible continental spread of HPAI H5N1 by migratory birds should be under continual review particularly with reference to the results of investigations in wild birds in the republic of Kalmykia since the region (Caspian sea) is recognised as a significant wintering area for water birds of various origins (Europe and western Asia) and can be considered as a so called biological 'hub'.

In the light of recent developments with the detection of H5N1 HPAI virus that is very similar to a virus isolated from a wild birds in Novosibirsk district in August 2005, in Turkey with further characterisation results from the H5 virus in Romania, considering migratory bird movement, the spread and introduction of this virus into Europe via wild birds may be recognized as probable.

Human health implications

Two human cases were suspected during the first outbreak at Suzdalka. The two men, with clinical signs of pneumonia, were hospitalised. All the tests carried out gave negative results for H5N1 virus. No other suspected or confirmed cases of H5N1 in humans have been reported. Active surveillance was carried out in some outbreaks (collection of nasal swabs from exposed people) with negative results for AI viruses.

2. Assessment of the current capabilities of the Russian reference laboratory and if possible other diagnostic laboratories in the diagnosis of avian influenza

   On 4 September an official visit was carried out by the mission team at the Avian Laboratory of the Federal Centre for Animal Health (ARRIAH) in Vladimir. In addition, the Federal Governmental Establishment Novosibirsk Inter-regional Veterinary Laboratory (VLN) in Novosibirsk was visited on 7 October.

   Organization of the Veterinary diagnostic network in the Russian Federation

   The veterinary laboratory network of the Russian Federation comprises:

   - The Central Veterinary Laboratory (CVL) in Moscow
   - 20 Federal Inter-regional Laboratories
   - 86 District Laboratories
   - About 800 Local Laboratories

   The Central Veterinary Laboratory, the Federal Inter-regional, 86 District and about 350 Local Laboratories can process samples for AI investigations, using different techniques.

   Other Research Institutes can support the diagnostic and typing activity with regard to AI viruses:

   Federal Centre for Animal Health (ARRIAH) in Vladimir

   - All-Russia State Research Institute for Control, Standardisation and Certification of Veterinary Preparations

- Virology Institute named after D. Ivanovsky of the Academy of Medical Sciences in Moscow

- Institute for Influenza of the Academy of Medical Sciences in St-Petersburg

- Institute of Applied Microbiology of the Ministry of Defence located close to Moscow

- State Research Centre of Virology and Biotechnology “VECTOR” in Novosibirsk

Laboratory facilities assessed

ARRIAH – Well equipped laboratory that appeared sufficiently staffed. Laboratories generally old and in need of some repair. Better separation of PCR test stages may be beneficial to minimise risk of cross contamination between samples. It was not possible to inspect the category 3 laboratory but facilities were viewed from the exterior and described. A new facility for housing poultry was reported as under construction.

VLN - Well equipped laboratory that appeared sufficiently staffed. The laboratory was well laid out and generally in good condition. Specific training in the PCR test was provided on the VLN site by CVL as soon as the first outbreak in Novisibirsk was confirmed in late July.

The interactions at laboratory level were complex and sometimes a little unclear. In principle the VLN received samples for virus detection from all the affected regions and shared the samples with both Vector and ARRIAH for simultaneous testing to ensure uniformity and accuracy of result. In general materials consisted of tissues from affected or dead birds (poultry and wild birds) plus cloacal swabs. In addition, blood samples were collected for serology from unaffected poultry and some wild birds. All H5 PCR positive samples at VLN were forwarded to Vector and ARRIAH for further testing including virus isolation that is not available at VLN.

Virus detection by PCR

All laboratories named above used PCR technology but the application and precise tests varied between locations. Two basic approaches have been used: M or NP gene PCR for detection of influenza A virus (ARRIAH); H5 specific PCR test (all 3 laboratories). VLN were using a real time system for most tests subject to reagent availability otherwise conventional H5 PCR was in use. Reagents were generally obtained from Russian suppliers but not exclusively.

Serology

A standard HI test was used by all laboratories using reagents provided by CVL. ARRIAH and Vector had stocks of some international reference standards but standardisation in comparison to standards from CVL was unclear. A standard ELISA was in use at ARRIAH and VLN for screening of commercial flocks on a twice yearly basis with all positives/suspects analysed in HI tests for H5 and H7 specific antibodies. Some serology was being done on samples from wild birds.

Virus isolation

Performed at Vector and ARRIAH but throughput was limited and not performed in a timely manner in relation to referral or receipt of material. ARRIAH advised that lack of staff resources was the reason for this delay although consumable resources appeared sufficient.

Genetic analyses

Conducted at both ARRIAH and Vector but largely incomplete. We were advised this was due to volume of work during the AI outbreak.

Testing approach in relation to recommended OIE standards

Only a few viruses had been fully characterised to include, virus detection, isolation, subtype identification (including neuraminidase) and pathotype determination using either IVPI or gene sequencing. The virus from the index farm in Novisibirsk had been fully characterised as H5N1 HPAI according to OIE specified criteria at Vector. Relatively few PCR (M,NP or H5) positive samples had been subjected to further analyses including virus isolation and as a result a minimum total (both labs) of 21 H5 viruses had been isolated.

Conclusions

1. Stamping out and restriction measures were applied to control the disease. No vaccination was used. The detection of a further HPAI H5N1 outbreak in the Kurgan Region in a commercial poultry flocks on 3 October 2005 indicates that the transmission of the disease, possibly from wild birds to poultry is not under control at this region. The possible detection of an LPAI (H5N3) infected holding in the Omsk Region underlines the co-circulation of H5 viruses in some areas in wild birds and poultry. This should be taken into account in the interpretation of H5-PCR results from both domestic poultry and wild birds.

2. In assessing the local epidemiological situation the introduction of HPAI H5N1 could not be directly explained by the movement of poultry and poultry products.

3. Potential role of wild birds in the introduction of HPAI H5N1 from South east Asia to Siberia and Europe:

    - there are possible ways of the involvement of wild birds in the introduction of HPAI H5N1 virus in the West Siberian region

    - several factors indicate a potential role for wild birds in the spread of infection: local mortality in various species, as well as the dynamics and ecology of the local duck population

    - according to the ecology of water bird populations, the spread of the virus to both eastern and western Europe is possible. This assumption would become of high probability if the detection of HPAI H5N1 in wild birds hunted to the west of the Urals (e.g. Kalmikya region) and/or at Chany lake station in April-May 2005 is confirmed.

4. The standard of the laboratory testing appeared satisfactory although time did not permit a detailed inspection at either of the two locations visited. Some quality control assessing results between laboratories was done through submission of duplicate samples to appropriate laboratories but inspection of this information was outwith the scope of this mission.

    - A consistent testing strategy was lacking within and between laboratories. General OIE recommendations were not regularly followed or achieved and standard tests not always in use eg neuraminidase typing (typing by NI only done at Vector). In particular there was no clear prioritisation based on previous laboratory results. For example M gene positive PCR's from wild birds were not directly tested by H5 PCR and/or virus isolation and as consequence the data is incomplete in supporting the hypothesis of introduction and spread via wild birds.

Linkage and comparison of results from laboratory analyses on related sampling in poultry and wild birds was not possible. In particular relatively few materials had been subjected to virus isolation. Full analysis of H5 positive samples from wild birds before, during and after the outbreaks in poultry was not done. Therefore complete scientific evidence supporting the potential role of wild birds was not available.

- The lack of a structured laboratory approach to testing and the duplicate submission of many samples contributed to the laboratories becoming rapidly overloaded. As a result critical testing was often not completed even though lower priority testing was progressed.

- The ARRIAH laboratory appeared to have several staff with expertise in AI at the disease and technical level. However, although there was interaction with other laboratories their activities did not appear fully consistent with those normally associated with a national reference centre. For example they are not responsible for the production of reference reagents, their standardisation (with international reference standards) and distribution. The role in taking the lead for assuring quality of laboratory testing ie through ring trials was lacking.

- The role of the Ivanovsky Institute (NARVAC) was unclear particularly in respect of laboratory testing of samples from suspect disease outbreaks in poultry. They were involved in surveillance (especially wild birds) and test development where some valuable work had been done. They appeared to have a more structured approach to testing including a limited amount of virus isolation.

- Generally there was little interaction at the international level with other laboratories especially those within OFFLU. Some training and support had been obtained by Vector from a laboratory in the USA and the other laboratories had obtained some advice/reagents. No virus isolates have been shared with an international reference laboratory so independent confirmation of the virus characteristics had not been obtained.

Recommendations

1. A full and complete analyses according to international standards for H5 and other influenza viruses already isolated from both poultry and wild birds should be given the utmost priority. Information on all H5 viruses from wild birds sampled before, during and after poultry outbreaks will be critical for national and international authorities in both veterinary and human health sectors.

2. Active surveillance and monitoring in wild birds should realized on the international basis and should be focused on specific risk factors and target species:

    - where there is a high density of wintering water birds species and meeting points of several flyways, so called biological ‘hubs’

    - high density poultry areas

    - previously AI infected areas

    - places of wintering of bird species that spends summer within the affected regions of Siberia

    Experts from the mission are available to provide direct support to developing and establishing such programmes. There may be opportunities to harmonise with such programmes being put in place in Europe.

3. Passive surveillance in wild birds should consist of early reporting of unusual mortality in any species. Local hunters and ornithologists should be informed and involved in this process and advised of the importance of such early warning.

4. Current attempts at risk assessment suffer from a lack of quantified information on bird migration and on the interaction between wild birds either infected or non infected with HPAI-H5N1. To assess the risk posed by migratory birds in transporting HPAI it is necessary to:

    - assess and monitor occurrence of AI in key species at strategic migratory sites and at different times during the migration and breeding cycles of the respective species

    - analyse the cumulative bird ringing recovery data to estimate the importance of the connection between the West Siberian and European bird populations

5. Virus strains isolated from domestic and wild birds should be submitted to the OIE/FAO Laboratory Network on AI (OFFLU) and in particular this should involve early sharing of current H5N1 viruses isolated in Russia to support international efforts to combat the threats posed.

6. A program of active surveillance should be set up in domestic poultry both in back-yard and commercial sectors for early detection of infection including in Western Russia.

7. The developing and realization of vaccination programs for poultry of back-yard farms within the affected regions is strongly recommended.

8. Data collection, assimilation and analyses should be streamlined and performed in a timely manner by epidemiologists.

9. To improve the diagnostic capabilities of the veterinary laboratories in the Russian Federation the team strongly recommends that:

    - the CVA of the Russian Federation should identify one National Reference Laboratory for Avian Influenza (NRL), which should have all the necessary equipment, reagents end expertise at least to perform standard procedures for screening and characterisation of AI viruses

    - quality assurance programs should be conducted in the laboratory network of Russia under the supervision of the NRL

10. OFFLU should provide the NRL of the Russian Federation with reference materials and advice as required to guarantee the reliability of AI tests.

11. The roles and responsibilities of laboratories involved surveillance and diagnosis of AI would benefit from being clearly defined to ensure resources are not duplicated or wasted.

12. Permanent links must be created between OFFLU and the Russian NRL for avian influenza as soon as possible in order to improve two way collaboration, provide training and to exchange technical and scientific information.

13. A clear laboratory testing strategy in accordance with OIE guidelines should be developed and applied to ensure that laboratory test results critical for advising control and surveillance are available at the earliest opportunity. This should involve the following minimum standards for all H5 or H7 viruses in order of priority:

    - haemagglutinin subtype identification
    - pathogenicity determination
    - neuraminidase subtype identification
    - selected viruses should be analysed more fully at the genetic level to provide information on molecular epidemiology

14. It is strongly recommended that consideration be given to an international audit of laboratory processes to include the management of samples, testing processes, reliability of results, use of facilities, use of data and measures for delivery of results.

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Enclosed documents: annexes I, II, III

Diffusion : Directeur général, Chargés de mission auprès du Directeur général, Chefs de service et adjoints, Coordonnateurs régionaux, Documentaliste, M. Banaszak

Annex I

EPIDEMIOLOGICAL SITUATION ON AI IN RUSSIA (DATA UP TO 07 OCT 2005)

District	Affected settlements (cumulative)	Suspected settlements (cumulative)	Poultry stamped out or died (cumulative)	Settlements that were infected and stamped out		Settlements where suspicion proved false	Settlements remaining under suspicion
				Full	Part.		
Altaysky Kray	9	4	13682	8	1	4	0
Tumenskaya Oblast	8	2	39170	8	0	2	0
Omskaya Oblast	7	20	9560	7	0	19	1
Kurganskaya Oblast	7	14	6321	6	1	14	0
Chel'abinskaya Oblast	4	-	1018	3	1	-	0
Novosibirskaya Oblast	15	43	92896	15	0	26	17
TOTAL	50	83	162647	47	3	65	18

Note:

- 1 commercial farm in Omskaya Oblast appears infected with H5 LPAI (probably N3) virus. There are problems with diagnosis due to latent character of infectious process. Neither disease nor death registered.
- 1 commercial farm in Kurganskaya Oblast is HPAI infected (03.10.2005). This is H5 (highly probably N1) virus. It appears it is very similar to H5N1 HPAI with several basic amino acids within the cleavage site (sequencing is ongoing).

Annex II

Data on the HPAI outbreaks in village poultry in the Novosibirsk Region up to 07 October 2005

Region	Date of AI identification (enforcement of restrictions)	Name of village	Dead birds	N° of birds depopulated/ date of depopulation	N° of birds not depopulated	Quarantine lifted
Dovolensky						
	22.07	Suzdalka	617	17022/16.08.		22.09
	24.07	Baklushy	436	11235/14.08.		22.09
	24.07	Iljinka	299	709/05.08.	7577	9.09
Koopinsky						
	30.07	Kopkool	377	17693/05.08.		2.09
	30.07	Vasiljevka	98	4284/01.08.		2.09
	30.07	Malkovo	206	5120/06.08.		2.09
	30.07	Novorozino	92	5857/11.08.		23.09
	30.07	Petrovka	136		1990	23.09
Chistoozerny						
	25.07	Yaminka	10		1660	9.09
	25.07	Ishimskoye	21		5864	9.09
	25.07	Malaya Tokhta	21	13	2330	22.09
Zdvinsky						
	30.07	Gorodische	84	4904/10.08.		9.09
	30.07	Alekseyevka	163	10144/09.08.		9.09
	30.07	Novomikhailovka	123	960/10.08.		9.09
	30.07	Gorkoye ozero	95	2830/07.08.		9.09

ANNEX 3 LABORATORY ANALYSES AT ARRIAH, VLADIMIR OF SAMPLES FROM WILD BIRDS

				Method							Sequencing					
Date of the sampling	**Species**	**No' samples**	**Lab where the test was done**	**HI**	**PCR**				**Flu-test**	**Virus Isolation**	**NP**	**H**	**N**	**M**	**Reason for sampling**	**Location of affected willage**
					NP	M	H	N								
					Novosibirsk Region											
					Kuybyshevsky District											
19/08/2005	Coot	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	disease-free area
19/08/2005	Coot	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	disease-free area
19/08/2005	Coot	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	disease-free area
19/08/2005	rook	5	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	disease-free area
19/08/2005	rock pigeon	4	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	disease-free area
19/08/2005	crow	4	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	disease-free area
19/08/2005	magpie	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	disease-free area
19/08/2005	common pintail	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	disease-free area
19/08/2005	great-crested grebe	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	disease-free area
19/08/2005	Pochard	2	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	disease-free area
19/08/2005	wild duck	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	disease-free area
19/08/2005	green sandpiper	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	disease-free area
19/08/2005	sparrow	2	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
					Ubinsky District											

19/08/2005	garganey	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
19/08/2005	marsh harrier	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
19/08/2005	sparrow-hawk	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area

Barabinsky District

19/08/2005	pigeon	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
19/08/2005	rook	2	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
19/08/2005	magpie	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	laughing gull	3	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	laughing gull	1	ARRIAH	nd	positive	positive	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	herring gull	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	white-headed plover	2	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	crow	2	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	bittern	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	coot	4	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	Pochard	4	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	great-crested grebe	2	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	grey heron	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	green sandpiper	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	oyster-catcher	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area

20/08/2005	herring gull	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	herring gull	1	ARRIAH	nd	positive	positive	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
20/08/2005	coot	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
					Karasuksky District											
21/08/2005	wild duck	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
21/08/2005	duck-hawk	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
21/08/2005	coot	3	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
21/08/2005	Pochard	3	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
21/08/2005	pigeon	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
21/08/2005	rook	2	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
21/08/2005	magpie	2	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
21/08/2005	gadwall	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
21/08/2005	sparrow	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	hunting expedition	affected area
					Dovolensky District											
22/07/2005	wild duck	2	ARRIAH	nd	positive	positive	nd	nd	positive	nd	nd	nd	nd	nd	sick birds	affected area
					Omsk Region											
					Mar'anovsky District											
14/08/2005	coot	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area

14/08/2005	rook	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	nothern shovler	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	crow	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	pigeon	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	wild duck	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	sandpiper	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	oyster-catcher	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	little grebe	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	black-winged stilt	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	Phalarope	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	little tern	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	pied wagtail	1	ARRIAH	nd	positive	positive	nd	nd	positive	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	green sandpiper	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area

Isikulsky District

14/08/2005	rook	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	white headed plover	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	laughing gull	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	oyster-catcher	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area

14/08/2005	starling	4	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	coot	2	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	little grebe	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	mallard	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area

Nazyvayevsky District

14/08/2005	crow	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	Pochard	2	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	Harrier sp	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	sparrow-hawk	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	rook	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
14/08/2005	Coot	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area

Tyukalinsky Dustrict

15/08/2005	rook	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
15/08/2005	white headed plover	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
15/08/2005	crow	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
15/08/2005	crow	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
15/08/2005	pigeon	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
15/08/2005	buzzard	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area

15/08/2005	turtle	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
15/08/2005	coot	2	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
15/08/2005	black-headed gull	3	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
15/08/2005	green-winged teal	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
15/08/2005	bittern	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
15/08/2005	coot	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
15/08/2005	garganey	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
15/08/2005	tree sparrow	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area

Sargatsky District

26.072005	wild duck	2	ARRIAH	nd	positive	positive	H5	N1	positive	nd	nd	H5	N1	nd	dead birds	affected area

Tyumen region

Armizonsky District

31/07/2005	wild duck	3	ARRIAH	nd	positive	positive	H5	N1	positive	nd	nd	H5	N1	nd	sick birds	affected area
17/08/2005	Pochard	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	pigeon	2	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	crow	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	coot	2	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	coot	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
17/08/2005	white-headed plover	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area

17/08/2005	laughing gull	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	starling	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	starling	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
17/08/2005	coot	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area

Berdyuzhsky District

28/07/2005	wild duck	1	ARRIAH	nd	positive	positive	H5	N1	positive	nd	nd	H5	N1	nd	sick birds	affected area
17/08/2005	rook	2	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
17/08/2005	starling	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
17/08/2005	coot	3	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
17/08/2005	curlew	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
17/08/2005	rock pigeon	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
17/08/2005	crow	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area
17/08/2005	rock pigeon	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	affected area
17/08/2005	herring gull	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area

Vikulovsky District

16/08/2005	mallard	2	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	jackdaw	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	crow	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area

16/08/2005	laughing gull	2	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	rook	2	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	Harrier sp	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	rock pigeon	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	pigeon	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area

Abatsky District

16/08/2005	black-headed gull	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	gadwall	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	green-winged teal	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	pigeon	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	magpie	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area

Sorokinsky District

16/08/2005	herring gull	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	jackdaw	2	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	duck-hawk	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	rook	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area

Ishimsky Distric

16/08/2005	sparrow	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area

16/08/2005	rook	2	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	shelduck	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	coot	2	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	laughing gull	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	rock pigeon	5	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
16/08/2005	white-headed plover	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area

Kazansky District

17/08/2005	nothern shoveler	2	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	heron	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	laughing gull	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
17/08/2005	little tern	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
17/08/2005	Pochard	3	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	coot	4	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	pigeon	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	jackdaw	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
17/08/2005	green sandpiper	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	green sand piper	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
17/08/2005	gray lag goose	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	teal	1	ARRIAH	nd	positive	positive	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	affected area

17/08/2005	teal	2	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	Pochard	1	ARRIAH	nd	positive	positive	H5	nd	nd	nd	nd	H5	nd	nd	hunting expedition	affected area
17/08/2005	laughing gull	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	herring gull	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	hunting expedition	disease-free area
17/08/2005	Harrier sp	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area

Altay Region
Volchikhinsky District
The Asanovy Yamki Lake, the Bych'ye Lake, the Maloye Gor'koye Lake

17/08/2005	common pochard	10	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	affected area
17/08/2005	herring gull	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	Hunting expedition	affected area	
17/08/2005	common pochard	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	Hunting expedition	affected area	
17/08/2005	teal	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	affected area	
17/08/2005	mallard	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	affected area	

Mikhaylovsky District
The Gusevo Lake, the Chetvyorty Tanatar Lake

18/08/2005	common pochard	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
18/08/2005	common pochard	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	Hunting expedition	disease-free area	
18/08/2005	kite	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area	
18/08/2005	mallard	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area	
18/08/2005	ruff	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area	
18/08/2005	black-headed gull	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area	
18/08/2005	black-headed gull	1	ARRIAH	nd	positive	positive	nd	nd	negative	nd	nd	nd	nd	nd	Hunting expedition	disease-free area	
18/08/2005	nothern shoveler	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area	
18/08/2005	common pochard	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area	
18/08/2005	roody shelduck	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area	

18/08/2005	herring gull	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
18/08/2005	black-tailed godwit	3	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area

Klyuchevskoy District

the Bashkul Lake, Lebedinoe Lake, Novo-poltava Lake

19/08/2005	black-tailed godwit	2	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	teal	5	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	dusky gull	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	gadwall	4	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	gadwall	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	mallard	2	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area

Kulundinsky District

The Vozdvizhenka Lake, the Mochalka Lake, the Presnoye Lake, the Karakul Lake, the Schekuldun Lake

19/08/2005	gadwall	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	teal	2	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	black-tailed godwit	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	mallard	2	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	mallard	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	coot	2	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	gray lag goose	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	gray lag goose	1	ARRIAH	nd	positive	positive	nd	nd	negative	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area

19/08/2005	ruff	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	red-footed falcon	2	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	black-headed gull	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
19/08/2005	little stint	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area

Burlinsky District
the Burlinka Lake

20/08/2005	common pochard	6	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	mallard	3	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	coot	2	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	nothern shoveler	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	teal	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	teal	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	gadwall	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area

Slavgorodsky District
the Pokrovka lake, the Botayevka Lake, the Bikurda Lake

20/08/2005	bittern?	2	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	common pochard	2	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	common pochard	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	common pochard	2	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	cormorant	1	ARRIAH	nd	positive	positive	nd	nd	negative	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area

20/08/2005	black-headed gull	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	sheld duck	2	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	sheld duck	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	coot	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	common pochard	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	teal	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005	black-tailed godwit	1	ARRIAH	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	Hunting expedition	disease-free area
20/08/2005																	
					Kurgansk Region												
					Chastoozyorinsky District												
03/08/2005	wild duck	1	ARRIAH	nd	positive	positive	H5	N1	negative	nd	nd	H5	N1	nd	dead birds	affected area	
03/08/2005	gull	1	ARRIAH	nd	positive	positive	H5	N1	negative	nd	nd	H5	N1	nd	dead birds	affected area	
31/07/2005	wild duck	2	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	dead birds	affected area	
					Chelyabisnk Region												
15/08/2005	pigeons	2	ARRIAH	nd	positive	positive	H5	N1	positive	nd	nd	H5	N1	nd	dead birds	affected area	
					Perm' Region												
10/08/2005	common pochard	1	ARRIAH	nd	positive	positive	nd	N1	negative	nd	nd	nd	N1	nd	hunting expedition	disease-free area	
					Republic of Kalmykiya												
27/08/2005	greate-crested grebe	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area	
27/08/2005	black-headed gull	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area	
27/08/2005	little tern	2	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area	

27/08/2005	mallard	2	ARRIAH	nd	positive	positive	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	shelduck	1	ARRIAH	nd	positive	positive	nd	nd	positive	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	coot	1	ARRIAH	nd	positive	positive	nd	nd	positive	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	mallard	1	ARRIAH	nd	positive	positive	H5	N1	positive	nd	nd	H5	N1	nd	monitoring	disease-free area
27/08/2005	cormorant	1	ARRIAH	nd	positive	positive	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	big tern	2	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	grey heron	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	little tern	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	coot	1	ARRIAH	nd	negative	negative	nd	nd	nd	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	black-tailed godwit	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	garganey	2	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	white-faced ibis	2	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	garganey	1	ARRIAH	nd	negative	negative	nd	nd	positive	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	common pintail	2	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	mallard	1	ARRIAH	nd	negative	negative	nd	nd	positive	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	black-headed gull	2	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	shelduck	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	blackwinged stilt	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area
27/08/2005	roody shelduck	1	ARRIAH	nd	positive	positive	H5	N1	positive	nd	nd	H5	N1	nd	monitoring	disease-free area

27/08/2005	coot	1	ARRIAH	nd	positive	positive	H5	N1	positive	nd	nd	H5	nd	nd	monitoring	disease-free area
27/08/2005	coot	1	ARRIAH	nd	positive	positive	H5	N1	positive	nd	nd	H5	N1	nd	monitoring	disease-free area
27/08/2005	green-winged teal	1	ARRIAH	nd	negative	negative	nd	nd	negative	nd	nd	nd	nd	nd	monitoring	disease-free area

ARRIAH is the FGI "Federal Centre for Animal Health" in Vladimir
nd - means that the samples have not been examined by the method yet
wild duck - means that the species was not determined
affected area - means that in this District there were suspected or affected areas