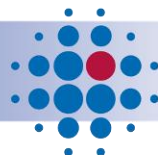


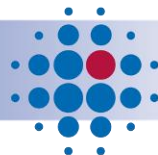
Informatik in Tierseuchenbekämpfung und veterinär-epidemiologischer Analyse

Franz J. Conraths, Detlef Klöß, Ronald Schröder,
Andreas Micklich, Carolina Probst, Sven Richter,
Stefan Kowalczyk, Petra Kranz, Ute Schmid,
Hendrik Wilking und Christoph Staubach



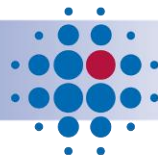
Speed in Animal Disease Control

- Laboratory-confirmed diagnosis
 - within 24-48 hours
- Spread of information
 - within minutes
- Decision regarding control options
 - ???



Outline

- Disease reporting
 - Case data base
 - GIS
 - Management systems
- Epidemiological analysis
 - Data quality and quantity
 - Cases & non-cases
- Projection and prediction
 - Modelling



Council directive 82/894/EEC of 21 December 1982

Article 3:

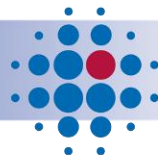
*„Each Member State shall notify directly to both the Commission and the other Member States **within 24 hours**: The **primary** outbreak of any of the diseases listed in Annex I which is confirmed in its territory...“*

Article 4:

*„... each Member State shall notify directly to the Commission, at least on the first working day of **each week**, the **secondary** outbreaks of any of the diseases listed in Annex I which are confirmed in its territory...“*

African horse sickness
African swine fever
Avian influenza
Bluetongue
Bovine spongiform encephalopathy
Classical swine fever
Contagious bovine pleuropneumonia
Foot and mouth disease
Newcastle disease
Infectious salmon anaemia
Infectious haematopoietic necrosis
Lumpy skin disease
Rift valley fever
Rinderpest
Peste des petits ruminants
Porcine enterovirus encephalomyelitis
Sheep and goat pox
Swine vesicular disease
Vesicular stomatitis
Viral haemorrhagic septicaemia

1910 – 2010



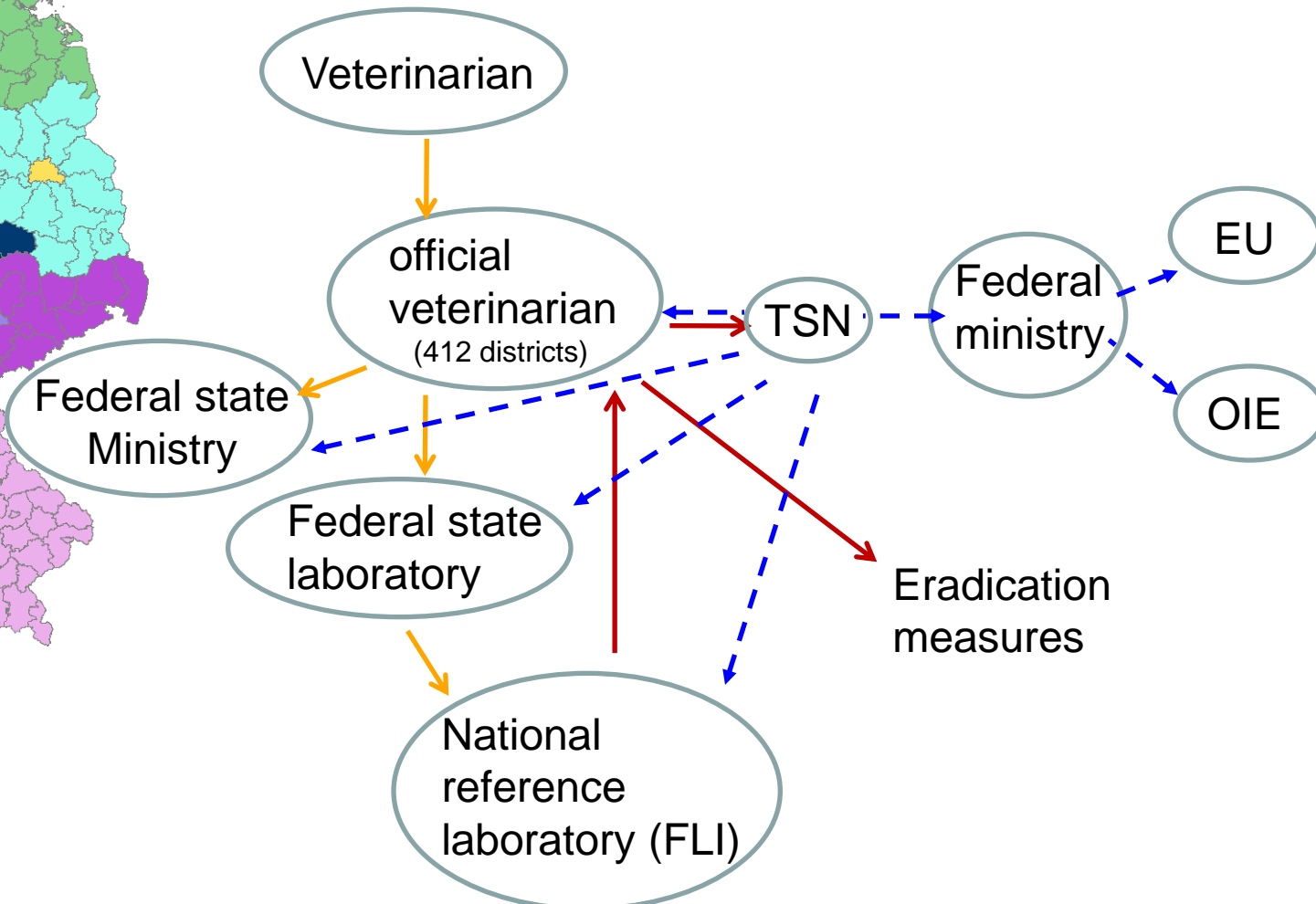
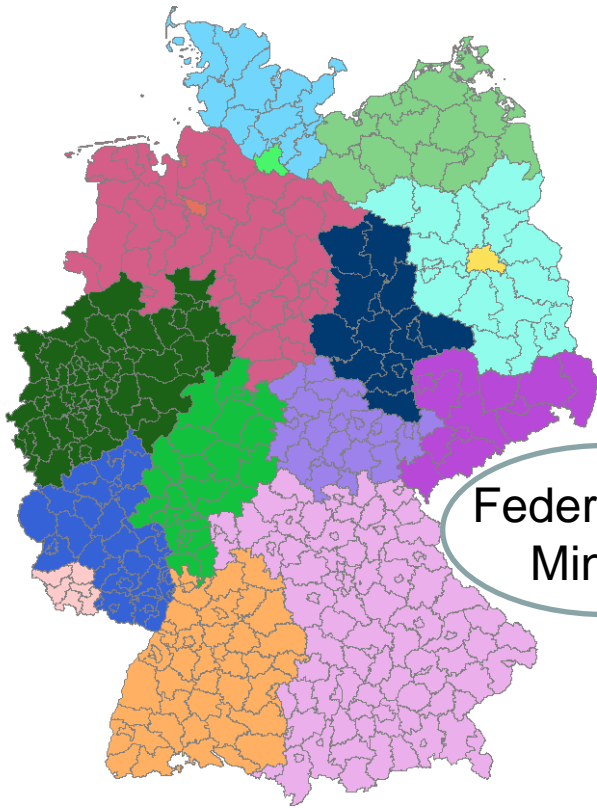
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Federal System

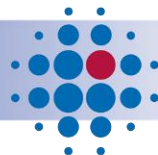


TSN = TierSeuchenNachrichten

Animal disease notification system

1. Computer based system for reporting and analysis of notifiable animal diseases
2. Information database for competent authorities and scientific institutions

- History
 - Development of TSN 1.0 in 1993 (MS-DOS)
 - Since 1995 official reporting system of notifiable animal diseases
 - Since 1997 reporting system of reportable diseases
 - 2000 Version 2.0 (Windows)
 - 2009 Version 3.0
 - 2011 Version 3.1

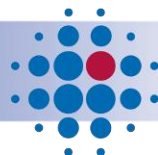


Structure of TSN

Client-Server architecture:

- **Central animal disease database (TSN-Online)**
(Friedrich-Loeffler-Institute (FLI), Wusterhausen)
- **Approx. 500 local clients (local TSN)**
 - Veterinary authorities of counties and towns
 - Veterinary authorities of the Federal States („Länder“)
 - Federal Ministry of Food, Agriculture and Consumer Protection
 - German armed forces (competent authorities on their own territory)
 - National Reference Laboratories (NRL)
 - Border inspection posts, BfR, Robert Koch-Institut, ...

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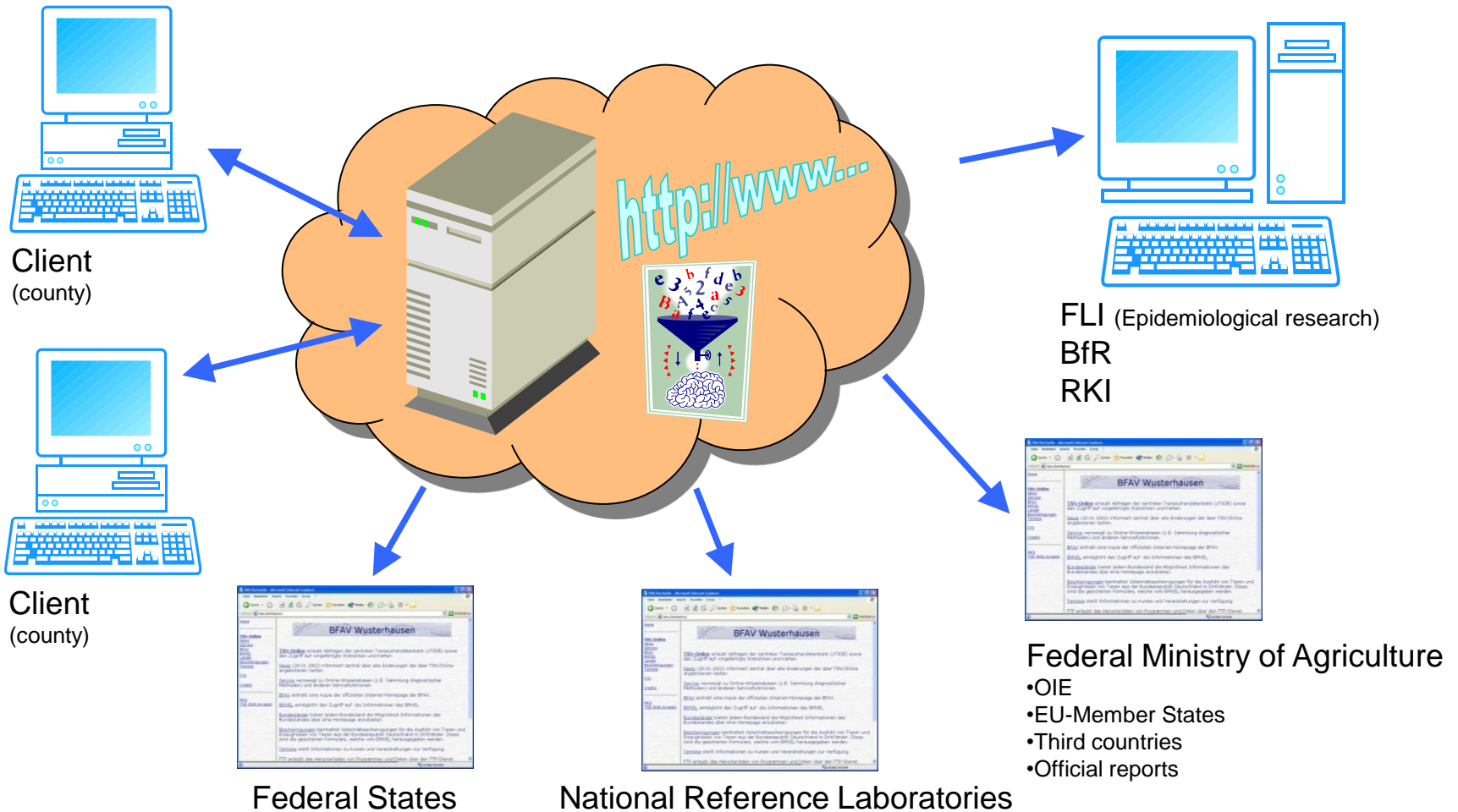
100 JAHRE

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Central animal disease database

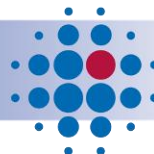


...and approx. 500 local users

(counties, federal state authorities, German armed forces, border inspection posts, etc.)

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Outbreak reporting

Online reporting

Case is sent immediately to the CADDB

Unique outbreak number

Reported Case = farm or individual wild animal

Type of reporting

Suspicion or report

https://tsn.fli.bund.de/TSN-Online/Edit/EditSo.aspx?KREIS=99999&TS_SCHL=984&GEM_SCHL=&BTR_REGNR=&BTR_NAME=&BTR_STRASSE=&BTR_PLZ=&BTR_ORT=&X_WERT=&Y_WERT=

TSN-Startseite

Zentrale Tierseuchendatenbank

Seuchenobjekt bearbeiten

SO-Nr.	ADNS-Kennung	Kreis	Tierseuche	1. Meldung / I. Meldung	Art der Meldung
neu		Testkreis	Test: Schweinepest	20.02.2009 /	Feststellung

Seite 1 Seite 2 Bemerkungen

Lokalisation

Gemeinde: <--- keine Auswahl --->
Ortsteil: <--- keine Auswahl --->
X/Y: 0 0
Reg.-Nr.:

Erreger

<--- keine Auswahl --->
Untersuchungsgrund: klin. Seuchenverdacht im Tierbestand
Diagnoseverfahren:

Datumsangaben

Feststellung: 20.02.2009
Aufhebung:
Seuchenverdacht:
Erstansteckung:
Impfung:

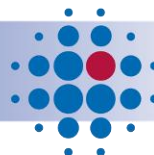
Tierarten des SO	Bestandsart	Anf.Best.	Datum	Verdacht	Zustall.	erk./inf.	verendet	getötet	geschl.	Akt.Best.
Mastschwein	Schw.mastbest.(4.Prod....	0	-	0	-	0	0	0	0	0

[Neu]

Test: Schweinepest RL 82/894/EWG, SP-VO, BMK-Tierseuchen 24-h-Meldung 30 Tage Sperrfrist

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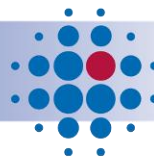
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Federal Research Institute for Animal Health

Central Disease Database

TSN Online

TSN-
Online
SO-Explorer

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Federal Research Institute for Animal Health

Central Disease Database

TSN Online

Zentrale Tierseuchendatenbank



Start-Seite
Abmelden

Liste drucken | Neues SO | SO bearbeiten | SO stornieren | Historie | Auswertungen | Schließen | SO-Explorer

Zeitraum: letzten 28 Tage
01.10.2008 - 19.02.2009
anwenden auf: Feststellung

Filter:
 Testkreis
 TS/TK
 aktive TS/TK
 aTS
 sofortige Meldepflicht
 mTK
 sTK
 Test-TS
 spez. Filter
 Art der Meldung
 Feststellung

Auswertungen:
 Zusammenfassung
 Karten-Explorer
 GoogleEarth
 GoogleMaps
 Daten-Export

SO-Kennung SO-Kennung 2.x	TS/TK Tierart			Feststellung Aufhebung	erste Meldung letzte Meldung
08-009-06717 03456A080056	Blauzungenkrank Kuh, Milchkuh >2 J.			05.11.2008 14.01.2009	06.11.2008 11:09 22.01.2009 10:15
08-009-06718 03456A080057	Blauzungenkrank Kuh, Milchkuh >2 J.			05.11.2008 14.01.2009	06.11.2008 11:09 22.01.2009 10:15
08-009-06719 03456A080058	Blauzungenkrankheit Rind 1-2 J.	NI	Grafschaft Bentheim Halle	05.11.2008 14.01.2009	06.11.2008 11:09 22.01.2009 10:15
08-009-06843 03456A080059	Blauzungenkrankheit Kuh, Milchkuh >2 J.	NI	Grafschaft Bentheim Ringe	10.11.2008 14.01.2009	13.11.2008 09:40 22.01.2009 10:15
08-009-06844 03456A080060	Blauzungenkrankheit Kuh, Milchkuh >2 J.	NI	Grafschaft Bentheim Gölenkamp	10.11.2008 14.01.2009	13.11.2008 09:40 22.01.2009 10:15
08-009-06845 03456A080061	Blauzungenkrankheit Kuh, Milchkuh >2 J.	NI	Grafschaft Bentheim Gölenkamp	10.11.2008 14.01.2009	13.11.2008 09:40 22.01.2009 10:15
08-009-06846 03456A080062	Blauzungenkrankheit Kuh, Milchkuh >2 J.	NI	Grafschaft Bentheim Wilsum	10.11.2008 14.01.2009	13.11.2008 09:40 22.01.2009 10:15
	Blauzungenkrankheit Kuh, Milchkuh >2 J.	NI	Grafschaft Bentheim Esche	10.11.2008 14.01.2009	13.11.2008 09:40 22.01.2009 10:15
	Blauzungenkrankheit Rindv. >2 J.	NI	Grafschaft Bentheim Halle	18.11.2008 14.01.2009	08.12.2008 12:24 22.01.2009 10:15
	Blauzungenkrankheit Rind 1-2 J.	NI	Grafschaft Bentheim Halle	24.11.2008 14.01.2009	08.12.2008 12:24 22.01.2009 10:15
	Blauzungenkrankheit Rind 1-2 J.	NI	Grafschaft Bentheim Lage	24.11.2008 14.01.2009	08.12.2008 12:24 22.01.2009 10:15
08-009-07218 03456A080067	Blauzungenkrankheit Rindv. >2 J.	NI	Grafschaft Bentheim Halle	01.12.2008 14.01.2009	08.12.2008 12:24 22.01.2009 10:15

Filtering functions: e.g.

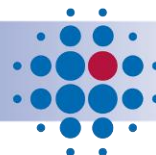
- time frame
- Disease
- specific serotype, e.g.

BTV-6

- ALNS-Nummer
- SO-Kennung 2.x
- Erreger

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Central Disease Database

TSN Online

TierSeuchenNachrichten - Testkreis - [Karten-Explorer (neues Projekt)]

Geo-Objekte identifizieren

Seuchenobjekte	Feldname	Wert
08-009-07219	SO_Kennung	08-009-07219
	Ts_Name	Blauzungenkrankheit
	Krs_Name	Grafschaft Bentheim
	Gem_Name	Lage
	Gem_Schl	03456013
	Ot_Name	keine Angaben
	Err_Name	Bluetongue Virus Seroty...
	Ug_Name	Monitoring
	Ta_Name	Rindv. >2 J.
	MeldeArt	Feststellung
	Feststellg	2008-12-01
	Verdacht	2008-12-01
	Aufhebung	2009-01-14

X: 3362008,000000 Y: 5816127,000000

Hervorheben Kopieren Bearbeiten Hyperlink

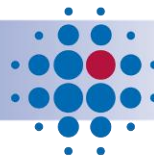
1:66.922 1 cm = 0,669 km
km 1,34 2,68 4,02

08-009-07219 | Blauzungenkrankheit | 2008-12-01

e.g. Download
KEZ

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Management of farm data

TSN client software

The screenshot displays the TSN client software interface for managing farm data. The window title is "Betriebe anzeigen (Abraham, Elisabeth - Nutztierhaltung: Rinder, Schweine, Ziegen)". The main content area is titled "Angaben zur Betriebsstätte (Standort)" and contains several form fields. A yellow highlight is placed over the "Name" field, which contains "Abraham, Elisabeth", and the "Registriernummer" field, which contains "999991720296". A red box with the text "Farm identification number" is positioned over the "Registriernummer" field. Another red box with the text "Farm address" is positioned over the "Straße/Nr." field, which contains "Bleppoweg 1". A green oval highlights the "Straße/Nr." field. A third red box with the text "Georeferencing of the farm" is positioned over the "PLZ/Ort" field, which contains "16831 Adamswalde". A fourth red box with the text "Owners address (if different)" is positioned over the "Firma" field in the "Angaben zum Hauptbetrieb bzw. Besitzer, falls vom 1. Adressfeld abweicht" section. The interface also includes a navigation bar with tabs for "Übersicht", "Adresse", "Bestände", "Erweitert", and "Status". The status bar at the bottom shows "Adamswalde", "Testkreis", "Nutztierhaltung: Rinder, Schweine, Ziegen", "1/685", and "685".

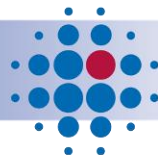
Farm identification number

Farm address

Georeferencing of the farm

Owners address (if different)

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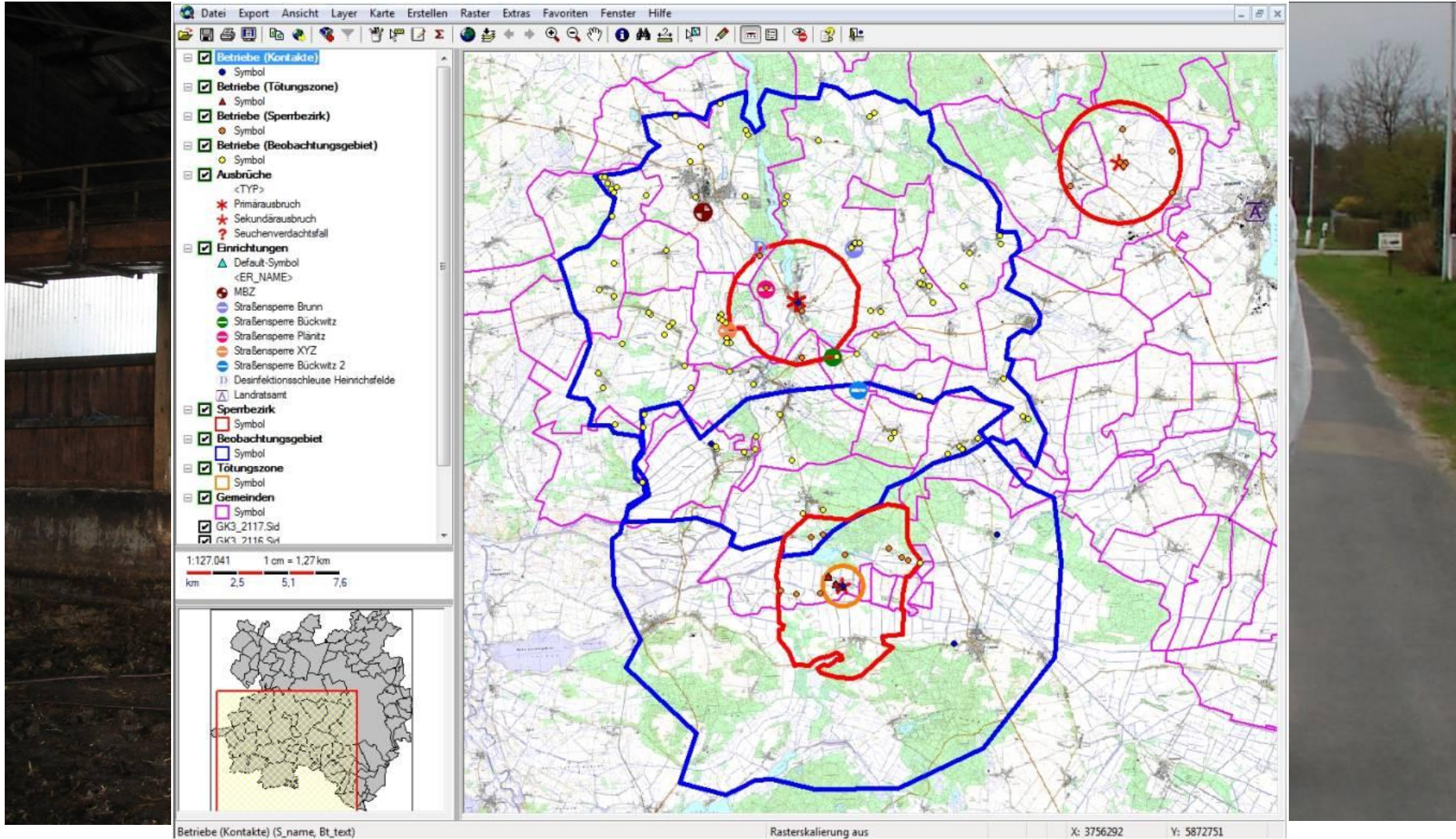
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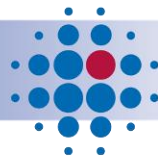
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Management of control measures



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Management of control measures

Krisen-Explorer (MKS-Ausbruch Klöß 2006)

Control Measures (Left Sidebar):

- Ausbrüche
- Betriebe
 - Sperren
 - RZ
 - Sperbezirk
 - Beob.gebiet
 - Kontrollzone
 - Impfgebiet
 - Überw.gebiet
 - Sperrgebiet
 - Gefährd. Bezirk
 - Tötungszone
 - keine RZ
 - keine RZ, kein KB
 - relevante KB
 - Sperverfügung
 - Epi. Ermittlung
 - Schätzung
 - Klin. Untersuchung
 - Probenahme
 - Untersuchung
 - Tötung, TKB
 - Grobreinigung
 - Feinreinigung
 - Wiederbelegung
 - Impfung
 - Entschädigung
- Übersichten
 - Ausbrüche
 - RZ
 - Typ der RZ
 - Gesamte Krise

Table of Farms and Measures:

Name	Zone	Animal movement restrictions	Epidemiological investigations	Valuation	Clinical inspection	Sampling	Culling	Cleaning	Disinfection	Compensation
Abraham, Elisabeth										
Asmus, Klaus										
Barschel, Dieter										
Becker, Elvis										
Blitz, Madonna										
Flemming, Robert										
Geyer, Udo										
Gläser, Gisela										
Kanow, Edith										
Kemsies, Siegfried										
Klöß, Detlef										
Krause, Ferdinand										
Krauskopf, Kerstin										
Lenek, Lars										
Lütken, Dora										
Metzelthin, Dieter										
Nele, Garry										
Neubert, Frank										
Rehlinger, Anton										

Detailed View (Bottom):

RZ - Sperrbezirk

Standort: Ansprechpartner: Anfangsbestand: Istbestand:

Name:

Betriebstyp:

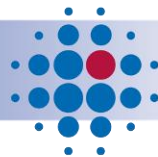
Straße/Nr.:

PLZ/Ort:

Ortsteil:

Rechtswert:

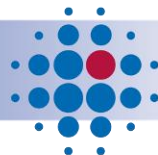
Hochwert:



Requirements for detailed epidemiological analysis

- Monitoring and Surveillance data
 - Test results for all tested individuals/farms
 - Positive and negative
 - Estimating prevalences, incidences, assessing the quality of monitoring/surveillance; spatial and temporal representativeness of samples etc.
 - Information on holdings
 - Number, location, animal species, ...

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Monitoring and Surveillance Data

AI-DB (Wildvogelmonitoring) - Microsoft Internet Explorer

Datei Bearbeiten Ansicht Favoriten Extras ?

Zurück Suchen Favoriten

Adresse <http://ai-db.fli.bund.de/Login.aspx?ReturnUrl=%2fDefault.aspx> Wechseln zu

Links Google Deutsche Bank Fliegenfischer - Forum ! DSL-Konfiguration Microsoft Outlook Web Access

 Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz

**Wildvogelmonitoring
Datenbank
zur Aviäre Influenza**

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Bundesforschungsinstitut für Tiergesundheit

**Willkommen auf den Internetseiten der Wildvogelmonitoring Datenbank
zur Aviären Influenza**

Anmelden

Benutzername:

Kennwort:

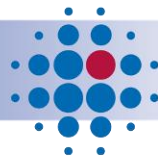
Anmelden

(c) FLI, 2006

Optimiert für IE7 und eine Auflösung von 1024x768

Fertig Internet

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AI-DB (Wildvogelmonitoring) - Microsoft Internet Explorer

Adresse [http://ai-db.fli.bund.de/\(F\(qSNkSEiW5Dn4so0Z5hpzqJrx7DINUnf0Klfl8DZ3B1yn7Q0iqZe8I\)5vxxwAAFMqPzi6HLk8C5xQMTK2wrVmvixpa9pMrB-i8NHRF4aMJQxu25FbvL3PtAAAdYlBQq70\)\)\)/Edit/EditRecc](http://ai-db.fli.bund.de/(F(qSNkSEiW5Dn4so0Z5hpzqJrx7DINUnf0Klfl8DZ3B1yn7Q0iqZe8I)5vxxwAAFMqPzi6HLk8C5xQMTK2wrVmvixpa9pMrB-i8NHRF4aMJQxu25FbvL3PtAAAdYlBQq70)))/Edit/EditRecc)

Links Google Deutsche Bank Fliegenfischer - Forum ! DSL-Konfiguration Microsoft Outlook Web Access

Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz

Wildvogelmonitoring Datenbank
zur Aviäre Influenza

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Benutzer: Christoph Staubach Letzter Login: 13.11.2006 04:22:51

Start-Seite
Daten bearbeiten ▶
Reports ▶
 Admin ▶
Benutzerdaten
Kontakt ▶

**Lab results:
positive & negative**

Labor:

Identifikation:

Kreis: <--- keine Auswahl --->

Gemeinde:

Restriktionsgebiet: außerhalb

Fund-, Erlegungs-, Beprobungs- oder Labordatum: 30.04.2006

Labordatum:

Vogelart:

Zustand des Tieres: frisch tot gefunden

Altersklasse: Altvogel

Geschlecht: k.A.

Beringungsnummer:

Art der Probe: Kloaken-Tupfer

Todesursache: andere Erkrankung

Isolat vorhanden: nein

Hämagglutinin-Typ: 5

Neuraminidase-Typ: 1

Molekulare Pathotypisierung: HPAI

Hämagglutinin-Typ (Serologie): n.d.

Neuraminidase-Typ (Serologie): n.d.

Intravenöser Pathogenitätsindex: n.d.

Amtliches Ergebnis: positiv

TSN-Seuchenobjekt-Nr.:

Bestätigung des Ergebnisses: nicht bestätigt

Bemerkungen:

Koordinaten:

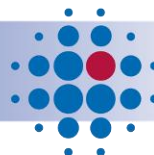
Die Fett dargestellten Felder sind Pflichtangaben!

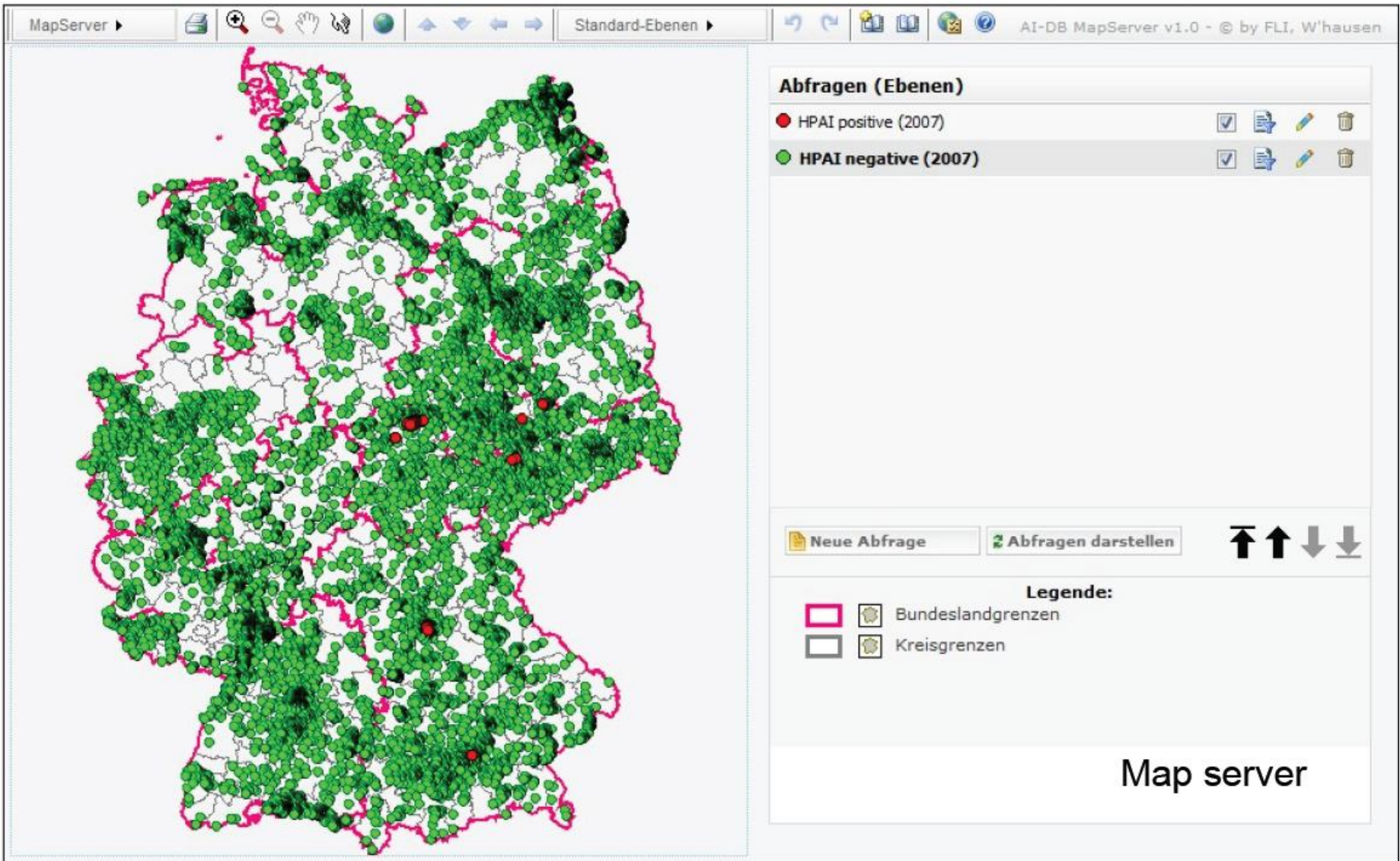
Speichern

(c) FLI, 2006

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Fertig Internet





Active or passive monitoring for HPAI?

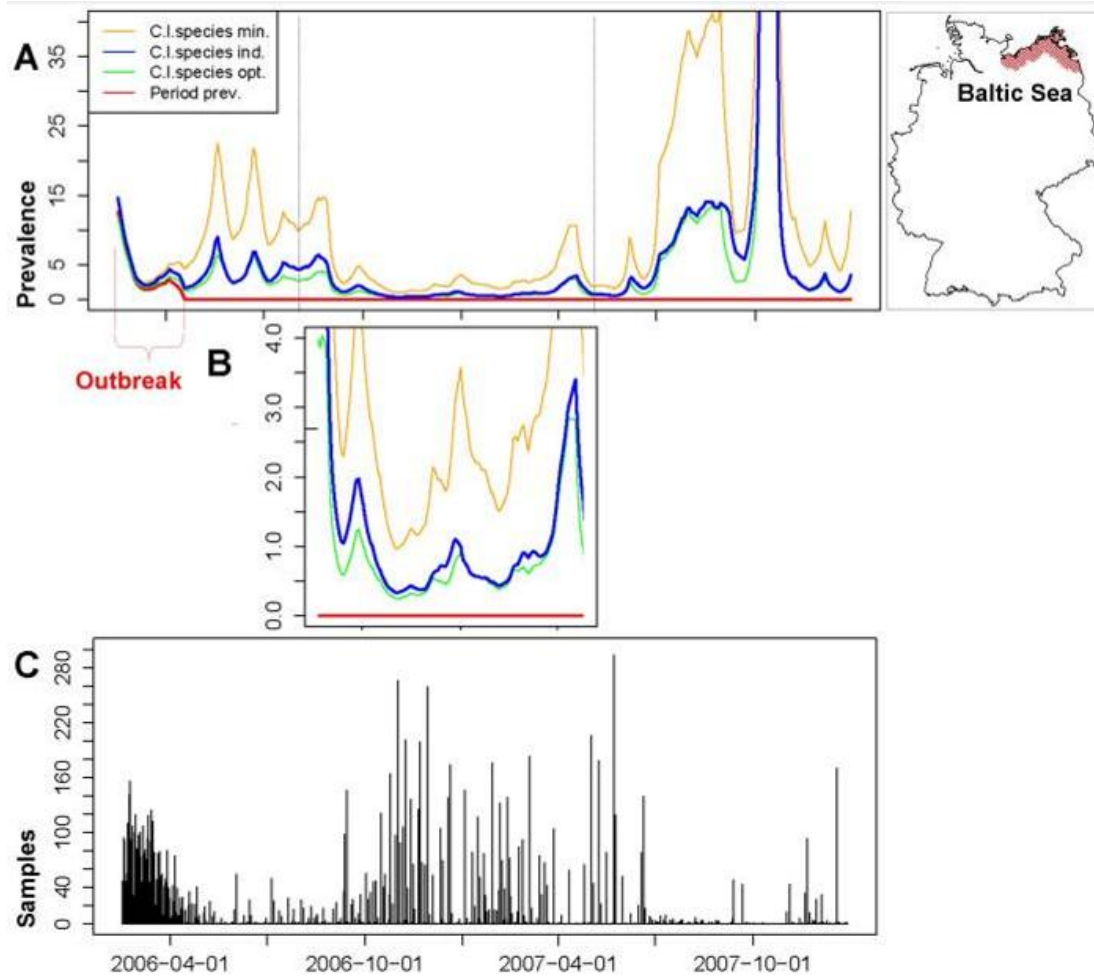
Entries of bird species into monitoring and their status during sampling

year	entries	different species	species level	active			passive			unknown
				alive	hunted	%	dead	sick	%	
2006	16,554*	165	61.3%	3,825	884	28.4	11,658	33	70.6	154
2007	25,545	190	81.7%	16,023	1,523	68.7	7,898	101	31.3	0
total	42,099	217	73.7%	19,848	2,407	52.9	19,556	134	46.7	154

Documented cases of HPAIV H5N1 and species designation

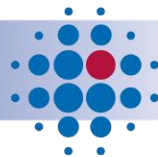
year	Actives Monitoring	Passive Monitoring
2006	0	343
2007	1	326
all	1	669

Quality of Monitoring and Surveillance



Wilking et al., PLoS One, 2009

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Data Base for Monitoring Classical Swine Fever in Wild Boar in the EU

Institute of Epidemiology, FLI, Wusterhausen, Germany
CRL CSF, TiHo Hannover, Germany





Background

- CSF Outbreaks in Wild Boar 2002
 - North Rhine-Westfalia: 57
 - Rhineland-Palatinate: 366
 - Saarland: 1

 - Belgium: 1
 - Luxembourg: 65
 - France: 28
- (PCR in the infected zone; April 2002-March 2003)



Background

- Proposal of the European working group on CSF in wild boar to establish a surveillance data base for the transparent evaluation of the epidemiological situation in the participating countries, in a spirit of co-operation (SANCO/10420/2002), in September 2002
- Final proposal of the Institute of Epidemiology (SANCO/10146/2003) in February 2003
- Decision of the European Commission concerning the financial support of the data base (2003/257/EC) in April 2003



CSF in Wild Boar Surveillance Data Base for Belgium, France, Germany, Luxembourg and The Netherlands



CSF of wild boar - Microsoft Internet Explorer

Datei Bearbeiten Ansicht Favoriten Extras ?



Adresse <http://www.csf.bfav.de/>

Wechseln zu

Links [Google](#) [CSF of wild boar](#) [TSN-Startseite](#) [GISVET](#) [Intranet-Homepage](#) [Outlook Express](#) [HOTMAIL](#)

Home

CSF Data Base

- [Edit *](#)
- [Upload *](#)
- [Record viewer](#)

CSF-DB Reports

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- [Time series](#)

Region Data Base

- [Edit *](#)
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Maps

- [Standardized](#)
- [Predesigned](#)
- [Map-Explorer](#)

[Service](#)

[News \(25.08.2004\)](#)

[Credits](#)

* write permission
necessary

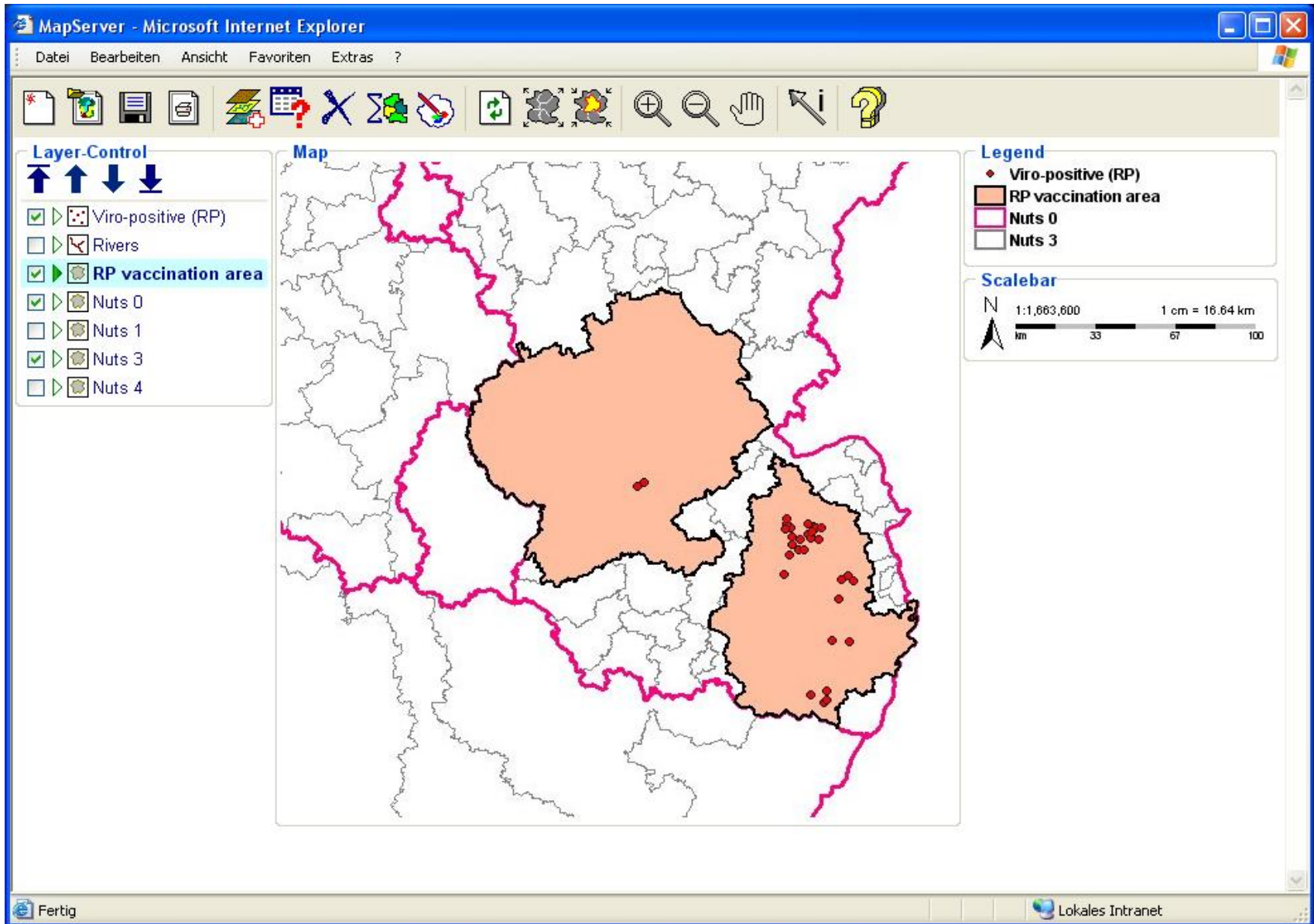
Time series

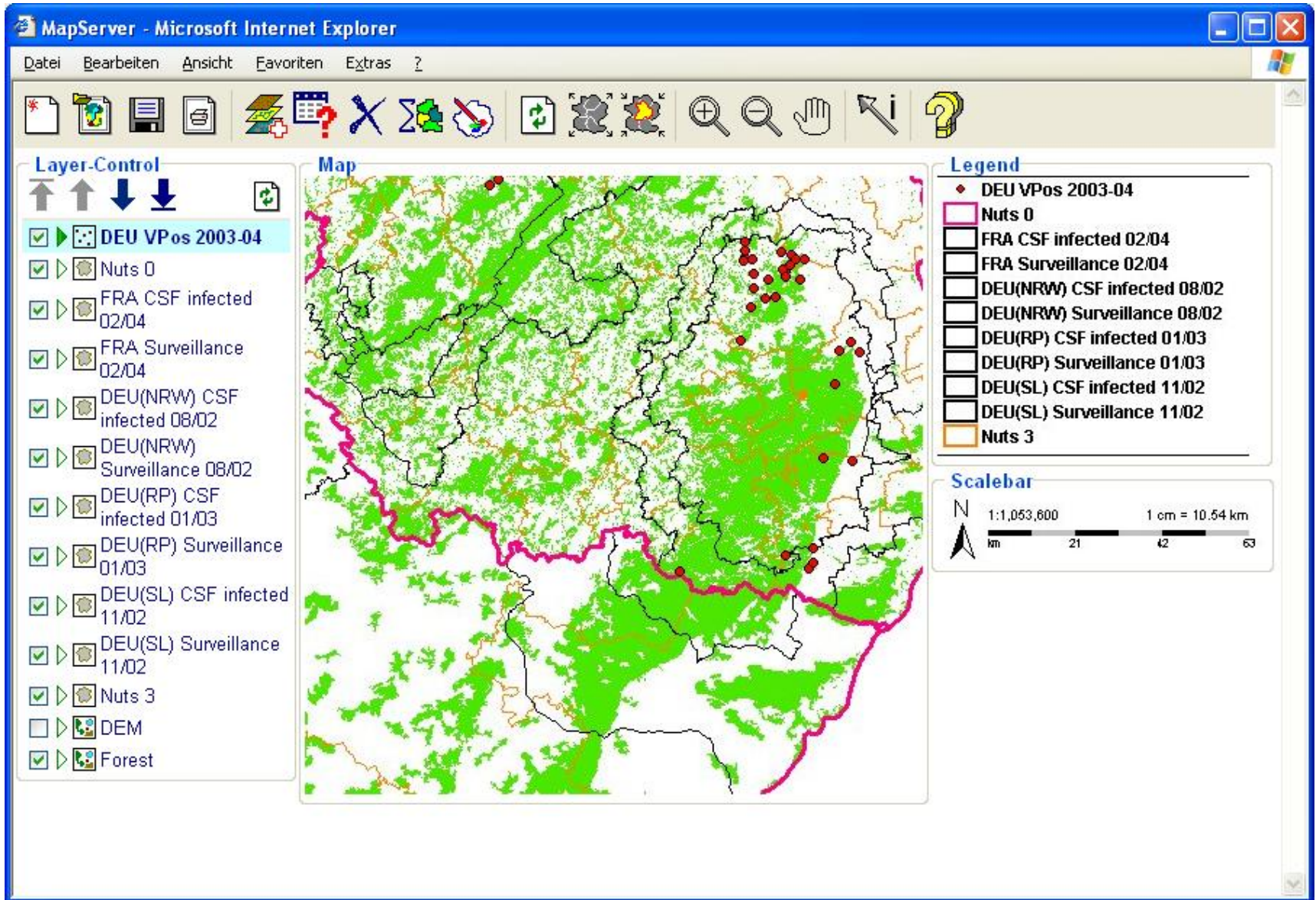
Time period: 01.10.2002 - 15.11.2003
Area selection: no area limitations

Virology: all
Serology: all

Prevalence of serological investigations









Status

1st January 2002 – 29th October 2010

Member State	No. of registered records	No. of virological investigations	No. of serological investigations
Belgium	7,817	7,683	5,693
France	75,040	69,627	71,063
Germany	340,949	318,168	333,547
Luxembourg	16,411	12,260	14,864
The Netherlands	3,105	133	3,101
Sum	443,322	407,871	428,268



CSF IN WILD BOAR SURVEILLANCE DATABASE - Microsoft Internet Explorer bereitgestellt von FLI

http://csf-info.fli.bund.de/Default.aspx


Favoriten CSF IN WILD BOAR SURVEILLANCE DATABASE

Community Reference Laboratory
CLASSICAL SWINE FEVER IN WILD BOAR SURVEILLANCE DATABASE

Home Manage data Reports Maps CRL Service Administration

» CSF-DB » Home » Start page logged in as: stefan.kowalczyk@fli.bund.de (ID8) | Logout

Welcome to the Classical Swine Fever in Wild Boar surveillance database



This web page is optimized for the use of **Internet Explorer 8**, **Mozilla Firefox 3.6.x** or **Google Chrome 6.0.x** and best viewed with a minimum resolution of 1024x768 pixel! For a smooth representation of this web page, we recommended to allow this page in any PopUp-Blocker solutions!

© by CRL, FLI | AppVersion: v0.6 BETA 2010-12-03

- 2010-02-16**
 - 3rd News content
- 2010-02-16**
 - Update to the CSF database #1
- 2010-02-12**
 - CSF-DB goes online and further documents can be downloaded
- Common notes**
 - STATIC TEXT (e.g. Link with current restrictions etc.)

Fertig Vertrauenswürdige Sites | Geschützter Modus: Inaktiv 100%





Timetable

- February 2011
 - Data base fully operating and start of support phase
 - Termination of the “old” CSF surveillance database
 - Start training and test phase of interested other member states with emphasis on currently affected countries
- March 2011 ff.
 - First data acquisition of new participating member states
 - Further integration of new interested participating member states based on the replies in the questionnaire



Workpackage 7.2

European Online Data Base on Epizootic Diseases as an Early Warning System

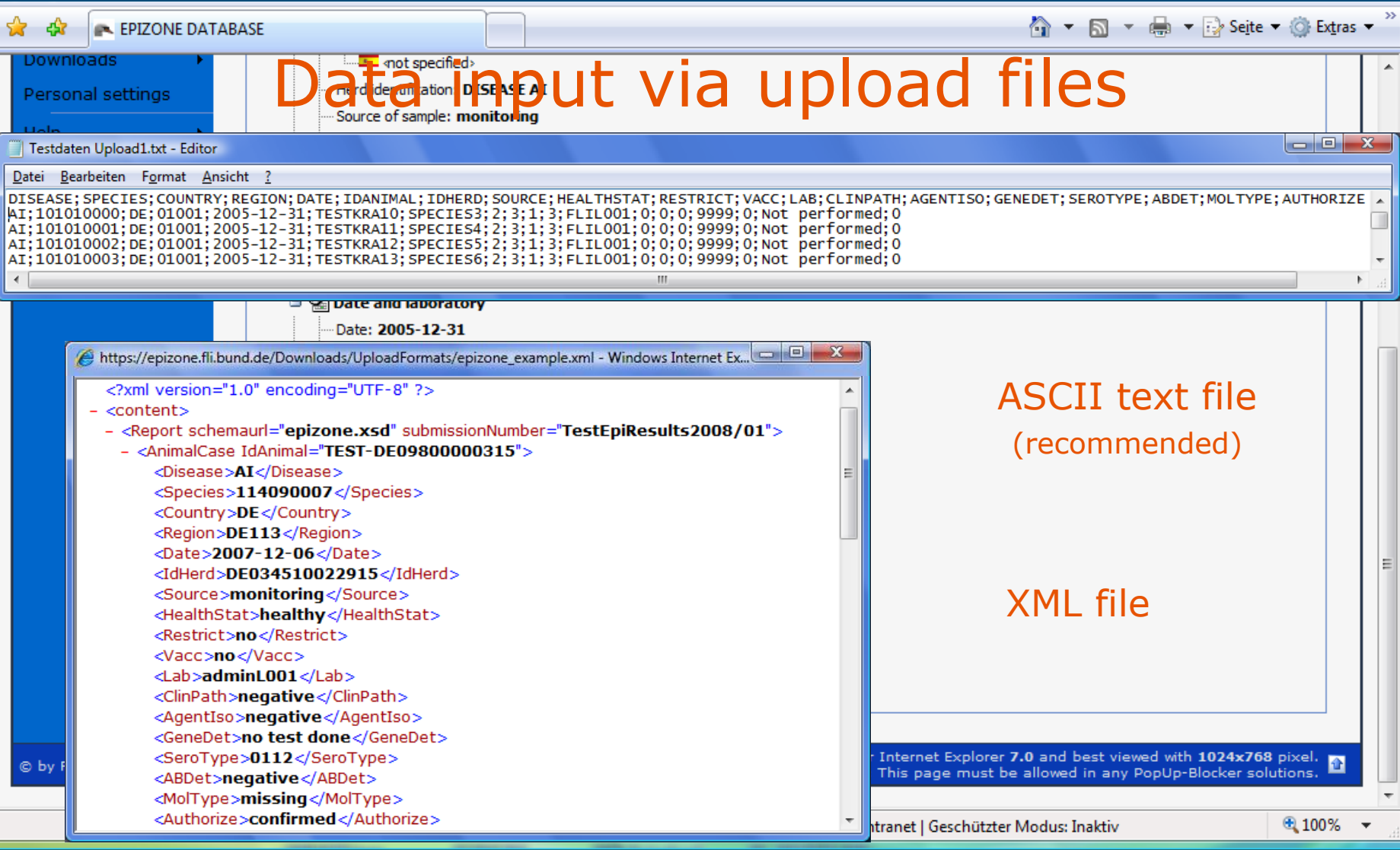
*CVI-Lelystad, The Netherlands; FLI, Germany;
IAH, United Kingdom; VLA, United Kingdom;
AFSSA, France; SVA, Sweden*

EPIZONE half yearly meeting m54, 12/13 January
2011, Lelystad, The Netherlands

Objectives

- Supra-national online data base on epizootic diseases (e.g. AI, BT, CSF, FMD, Rabies)
 - Share surveillance data (positive and negative samples incl. molecular references)
 - Keep each other informed with genuine data, standardised reports and automatic data analysis
 - Source for risk assessment and epidemiological analysis
- Automated Alert System: „early warning“

Data input via upload files



The screenshot shows the EPIZONE database interface. A text editor window titled 'Testdaten Upload1.txt - Editor' displays a table of data with columns: DISEASE; SPECIES; COUNTRY; REGION; DATE; IDANIMAL; IDHERD; SOURCE; HEALTHSTAT; RESTRICT; VACC; LAB; CLINPATH; AGENTISO; GENEDET; SEROTYPE; ABDET; MOLTYPE; AUTHORIZE. The data rows are as follows:

DISEASE	SPECIES	COUNTRY	REGION	DATE	IDANIMAL	IDHERD	SOURCE	HEALTHSTAT	RESTRICT	VACC	LAB	CLINPATH	AGENTISO	GENEDET	SEROTYPE	ABDET	MOLTYPE	AUTHORIZE	
AI	101010000	DE	01001	2005-12-31	TESTKRA10	SPECIES3	2; 3; 1; 3	FLIL001	0; 0; 0	9999	0	Not performed	0						
AI	101010001	DE	01001	2005-12-31	TESTKRA11	SPECIES4	2; 3; 1; 3	FLIL001	0; 0; 0	9999	0	Not performed	0						
AI	101010002	DE	01001	2005-12-31	TESTKRA12	SPECIES5	2; 3; 1; 3	FLIL001	0; 0; 0	9999	0	Not performed	0						
AI	101010003	DE	01001	2005-12-31	TESTKRA13	SPECIES6	2; 3; 1; 3	FLIL001	0; 0; 0	9999	0	Not performed	0						

A browser window shows an XML file with the following content:

```

<?xml version="1.0" encoding="UTF-8" ?>
- <content>
- <Report schemaurl="epizone.xsd" submissionNumber="TestEpiResults2008/01">
- <AnimalCase IdAnimal="TEST-DE09800000315">
  <Disease>AI</Disease>
  <Species>114090007</Species>
  <Country>DE</Country>
  <Region>DE113</Region>
  <Date>2007-12-06</Date>
  <IdHerd>DE034510022915</IdHerd>
  <Source>monitoring</Source>
  <HealthStat>healthy</HealthStat>
  <Restrict>no</Restrict>
  <Vacc>no</Vacc>
  <Lab>adminL001</Lab>
  <ClinPath>negative</ClinPath>
  <AgentIso>negative</AgentIso>
  <GeneDet>no test done</GeneDet>
  <SeroType>0112</SeroType>
  <ABDet>negative</ABDet>
  <MolType>missing</MolType>
  <Authorize>confirmed</Authorize>

```

To the right of the browser window, the text 'XML file' is displayed in orange.

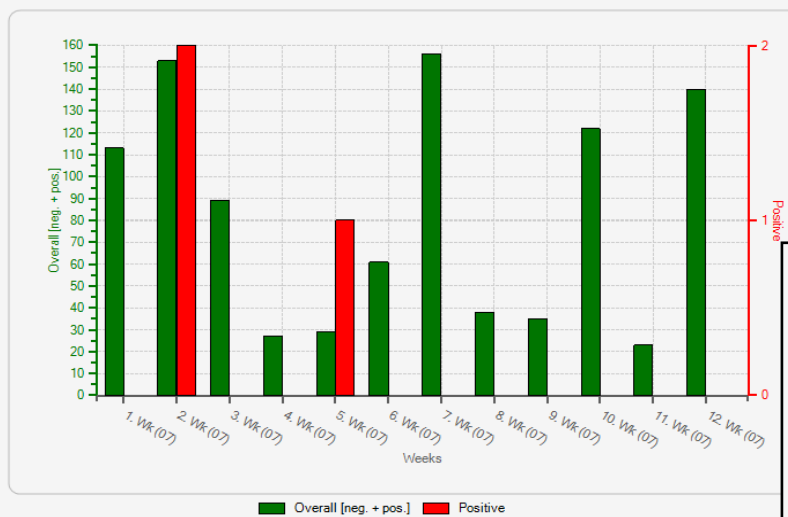
ASCII text file
(recommended)

XML file



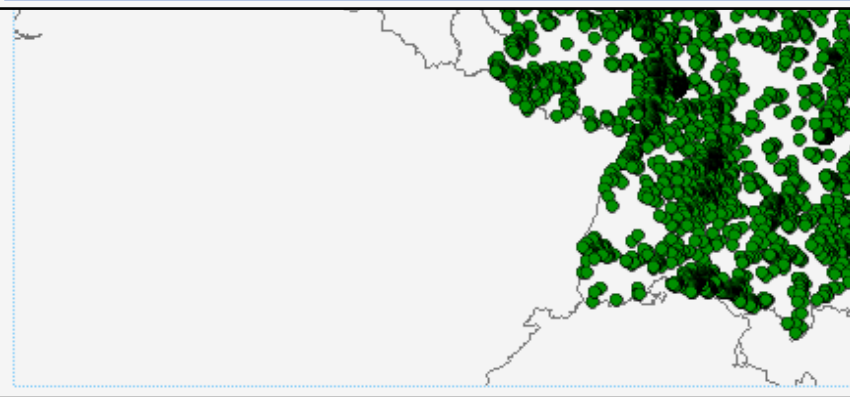
Dynamic charts by time series (AI)

Data aggregation based on genetic detection (negative and positive results)

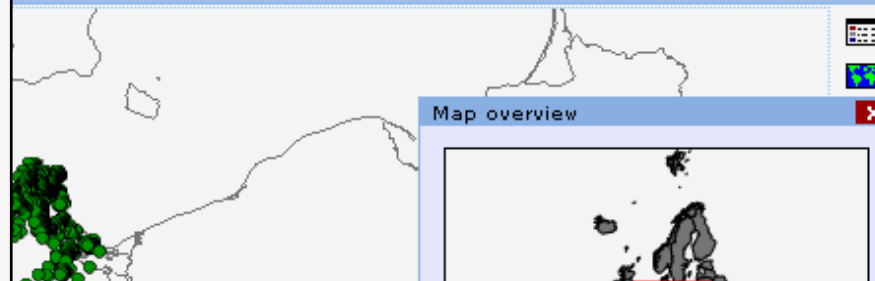


Get data table as Micros...

Totals	1. Wk (07)	2. Wk (07)	3. Wk (07)	4. Wk (07)	5. Wk (07)	6. Wk (07)	7. Wk (07)	8. Wk (07)	9. Wk (07)	10. Wk (07)	11. Wk (07)	12. Wk (07)
Positive	0	2	0	0	1	0	0	0	0	0	0	0
Overall [neg. + pos.]	986	113	153	89	27	29	61	156	38	35	122	



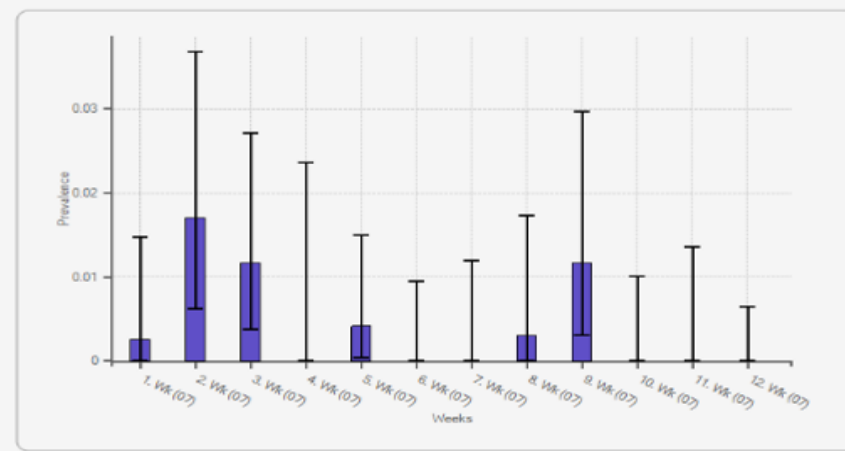
EPIZONE MapServer BETA 2



Data aggregation based on genetic detection (negative and positive results)

Refresh

Confidence level in percent: (50% - 99%) Maximum range of Y-axis: (0.0 - 1.0)



Get data table as Microsoft Excel file:


	1. Wk (07)	2. Wk (07)	3. Wk (07)	4. Wk (07)	5. Wk (07)	6. Wk (07)	7. Wk (07)	8. Wk (07)	9. Wk (07)	10. Wk (07)	11. Wk (07)	12. Wk (07)
CL_u	0.01478	0.03678	0.02710	0.02360	0.01501	0.00957	0.01195	0.01735	0.02966	0.01006	0.01358	0.00647
P	0.00262	0.01705	0.01168	0	0.00415	0	0	0.00308	0.01166	0	0	0
CL_l	0.00004	0.00623	0.00376	0	0.00046	0	0	0.00005	0.00313	0	0	0
x	1	6	2	0	2	0	0	1	4	0	0	0
n	382	352	428	204	482	508	406	325	343	483	357	753

Explanation: CL_u = upper bound of confidence limit, P = prevalence, CL_l = lower bound of confidence limit, x = total number of positive results, n = number of all tested species (negative + positive results)

EPIZONE DATABASE - Microsoft Internet Explorer bereitgestellt von FLI

http://localhost/epizone/AAS/AAS_Manager.aspx

EPIZONE DATABASE



» EPIZONE-DB Home » Personal settings » Configure Automated Alert System

Automated Alert System (AAS) - Manager

Rule overview (2) | Rule editor

The Automated Alert System (AAS) tool allows the user to compose rules based on several data-set parameters. A notification e-mail will be sent to the creator and all selected recipients if the rule is evaluated as true.

Note: All activated rules are processed once per night (~midnight), on the basis of then current data stored in the EPIZONE database. Additionally, rules are only processed if data relevant for the rule has changed (addition of new data-sets or modification of relevant data field values).

The section below shows an overview of all created rules. Checking the box to the left of each rule activates the rule for (nightly) evaluation.

Last updated: [dropdown] descending [dropdown] Refresh list Create a new rule

Rule name	Last run Triggered?	Created Changed
<input checked="" type="checkbox"/> #1 <CSF positive cases in Germany>	2010-12-15 00:05:00 yes	2010-12-11 16:07 2010-12-14 16:15
<input type="checkbox"/> #2 <AI cases>	2010-12-15 00:05:00 no	2010-12-10 14:50 2010-12-11 09:45

© by FLI, 2010 v0.5b | logged in as: admin | date of last login: 2010-12-14 17:13:02 | Optimized for Internet Explorer 7.0 and best viewed with 1024x768 pixel. Note: This page must be allowed in any PopUp-Blocker solutions.

Fehler auf der Seite. | Vertrauenswürdige Sites | Geschützter Modus: Inaktiv | 100%



Projection and Prediction

Network for Early Warning of Influenza Viruses in Migratory Birds in Europe

- Interdisciplinary
 - (Virology, Ornithology & Epidemiology)
- Integration of various data sources
- Evidence-based optimized Surveillance



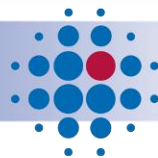
Better understanding of AI in wild birds
Basis for new modelling approaches
More efficient risk assessment



Participants

CO	1	Erasmus MC (EMC)	NL
CO	2	Wetlands International (WI)	NL
CR	3	Friedrich-Loeffler-Institut (FLI)	D
CR	4	Kalmar University (Kalmar)	S
CR	5	Danish Institute for Food and Veterinary Research (DFVF)	DK
CR	6	National Veterinary Research Institute (NVRI)	PL
CR	7	National Veterinary Institute (NVI)	N
CR	8	Istituto Zooprofilattico Sperimentale delle Venezie (IZSV)	I
CR	9	Station Biologique de la Tour du Valat (Tour Valat)	F
CR	10	Veterinary Laboratories Agency (VLA)	GB
CR	11	Centre de coopération internationale en recherche agronomique pour le développement (CIRAD)	F
CR	12	Wildfowl and Wetland Trust (WWT)	GB
CR	13	Oiseaux Migrateurs du Paléarctique Occidental (OMPO)	F

1910 – 2010



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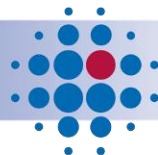
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 Bundesforschungsinstitut für Tiergesundheit
 Federal Research Institute for Animal Health

Data Base Structure


- Lab results
 - compatible to EC/CRL structure or ASCII files
- Bird observations
 - compatible to GAINS, WBDB, EURING
 - Census data
 - Description of observation places
 - International Waterbird Census (IWC) 1997-2007
- Environmental data, e.g.
 - Water bodies (running waters, lakes etc.)
 - CORINE Landcover data
 - Digital elevation model



NEW-FLUBIRD DATABASE - Microsoft Internet Explorer bereitgestellt von FLI


https://nfb-db.fli.bund.de/default.aspx

NEW-FLUBIRD DATABASE



NEW - FLUBIRD DATABASE

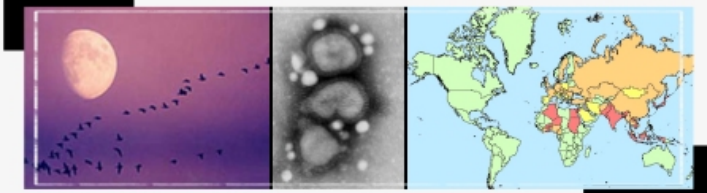
NETWORK FOR EARLY WARNING OF INFLUENZA VIRUSES
IN MIGRATORY BIRDS IN EUROPE



» NFB-DB Home

- Home
- News (2010-04-28)
- Information ▶
- Last changes *
- Code lists ▶
- Manage data ▶
- Reports ▶
- IWC data viewer
- MapServer (v1.0) ▶
- Downloads ▶
- Personal settings ▶
- Support ▶
- Logout

Welcome to the NEW - FLUBIRD database (NFB-DB)



2010-04-28

EWF tool implemented

[\[read more\]](#)

2009-11-03

Classification tool and environmental data available

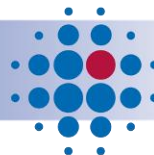
[\[read more\]](#)

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date of last login: **2010-05-04 23:59:12**

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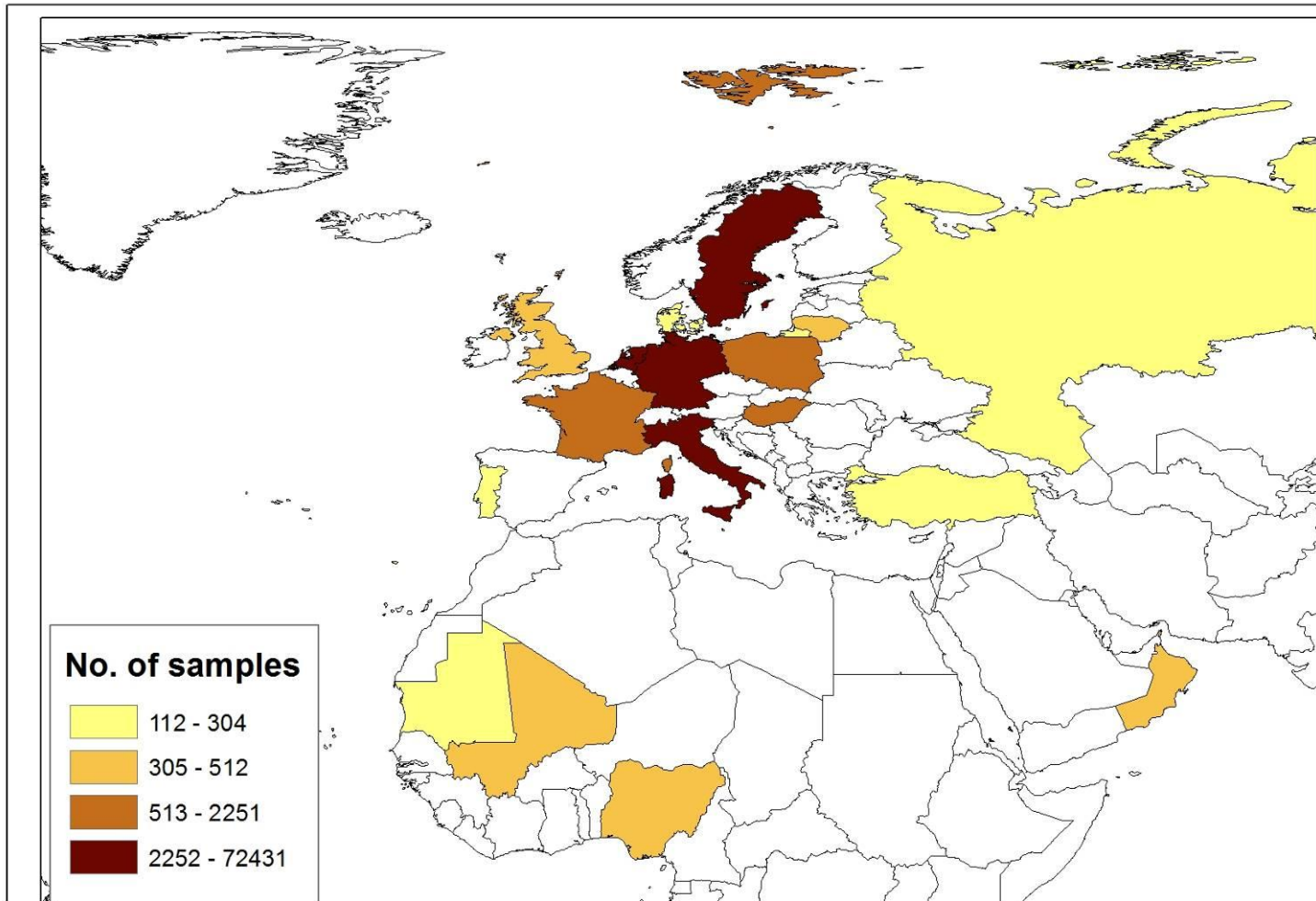
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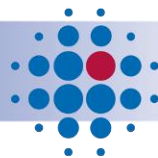
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Origin of Samples



Source: New FluBird Consortium

1910-2010



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Flyway(s) of *Anas platyrhynchos*

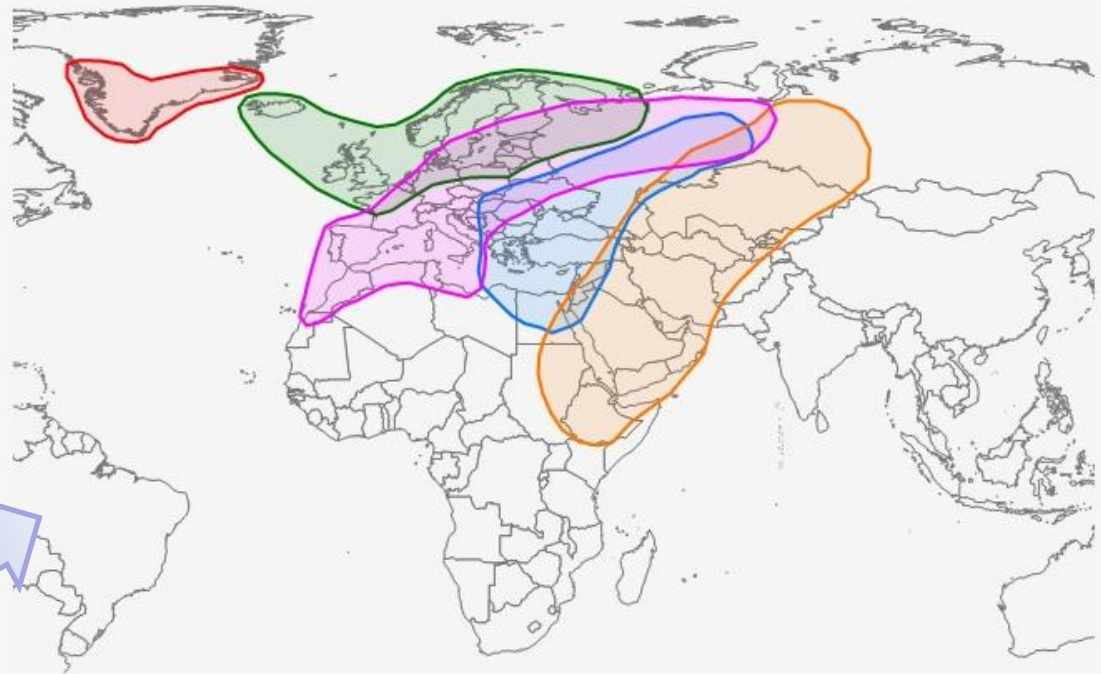
Refresh map

Close

Overview of available flyways - 47 record(s) in scope

1..47

WBDB code	Family name of species	Bird species Scientific name
457	Anatidae	Northern Pintail <i>Anas acuta</i>
448	Anatidae	Northern Shoveler <i>Anas clypeata</i>
31027	Anatidae	Common Teal <i>Anas crecca</i>
429	Anatidae	Eurasian Wigeon <i>Anas penelope</i>
435	Anatidae	Mallard <i>Anas platyrhynchos</i>
460	Anatidae	Garganey <i>Anas querquedula</i>
376	Anatidae	Greater White-fronted Goose <i>Anser albifrons</i>
378	Anatidae	Greylag Goose <i>Anser anser</i>
374	Anatidae	Pink-footed Goose <i>Anser brachyrhynchus</i>
377	Anatidae	Lesser White-fronted Goose <i>Anser erythropus</i>
375	Anatidae	Bean Goose <i>Anser fabalis</i>
472	Anatidae	Common Pochard <i>Aythya ferina</i>
480	Anatidae	Tufted Duck <i>Aythya fuligula</i>
386	Anatidae	Brent Goose <i>Branta bernicla</i>



- *Anas platyrhynchos conboschas* (<no location info available>)
- *Anas platyrhynchos platyrhynchos* (Black Sea, E Mediterranean)
- *Anas platyrhynchos platyrhynchos* (NW Europe)
- *Anas platyrhynchos platyrhynchos* (SW Asia)
- *Anas platyrhynchos platyrhynchos* (W Mediterranean)

3



3

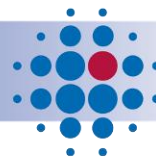


< 1 2 > | Page 1 of 2, Dataset 1 - 25 of 47.

Clicking the right-hand symbol to open the flyway maps.

! indicates a High Risk species

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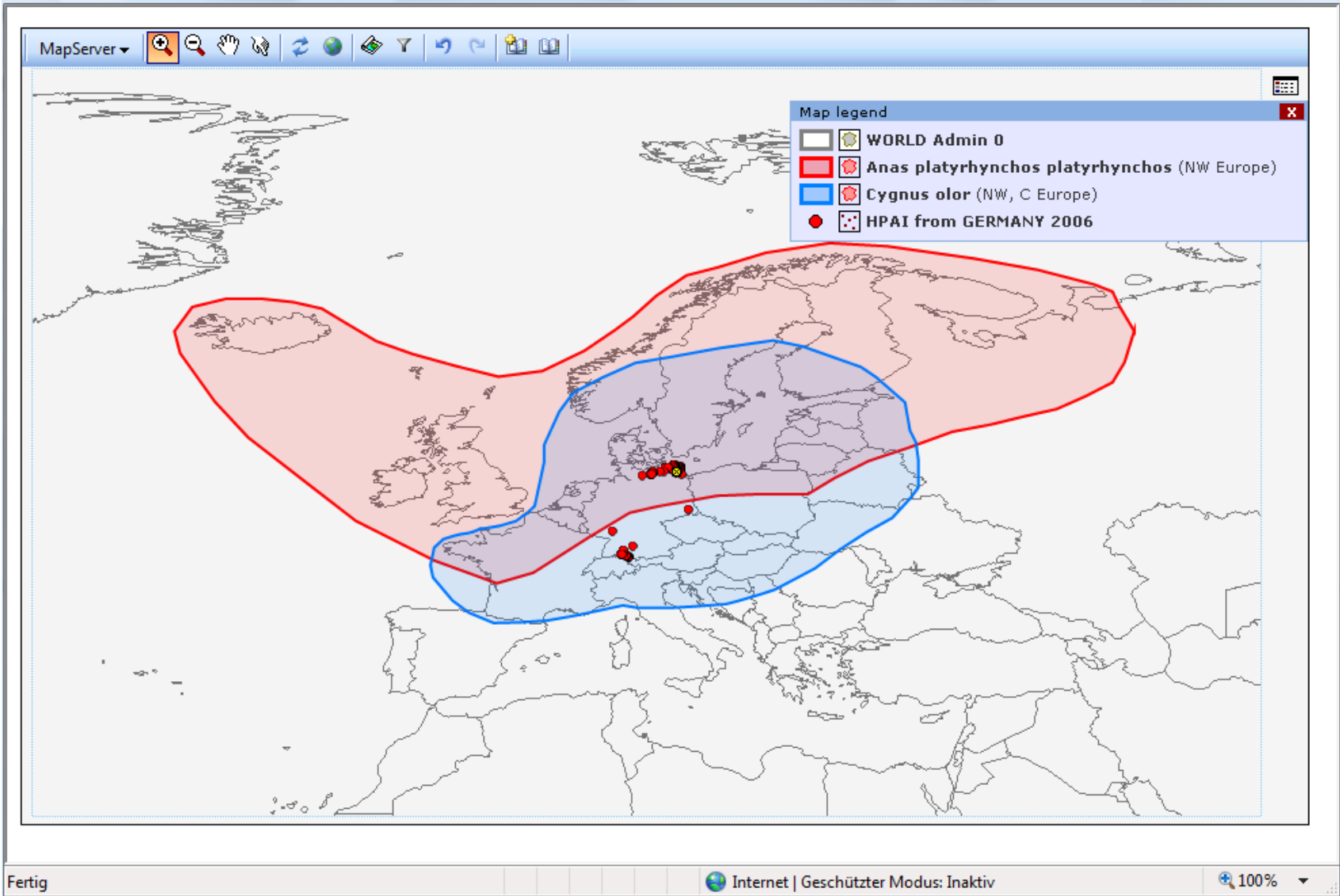


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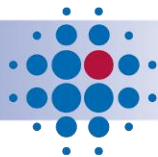
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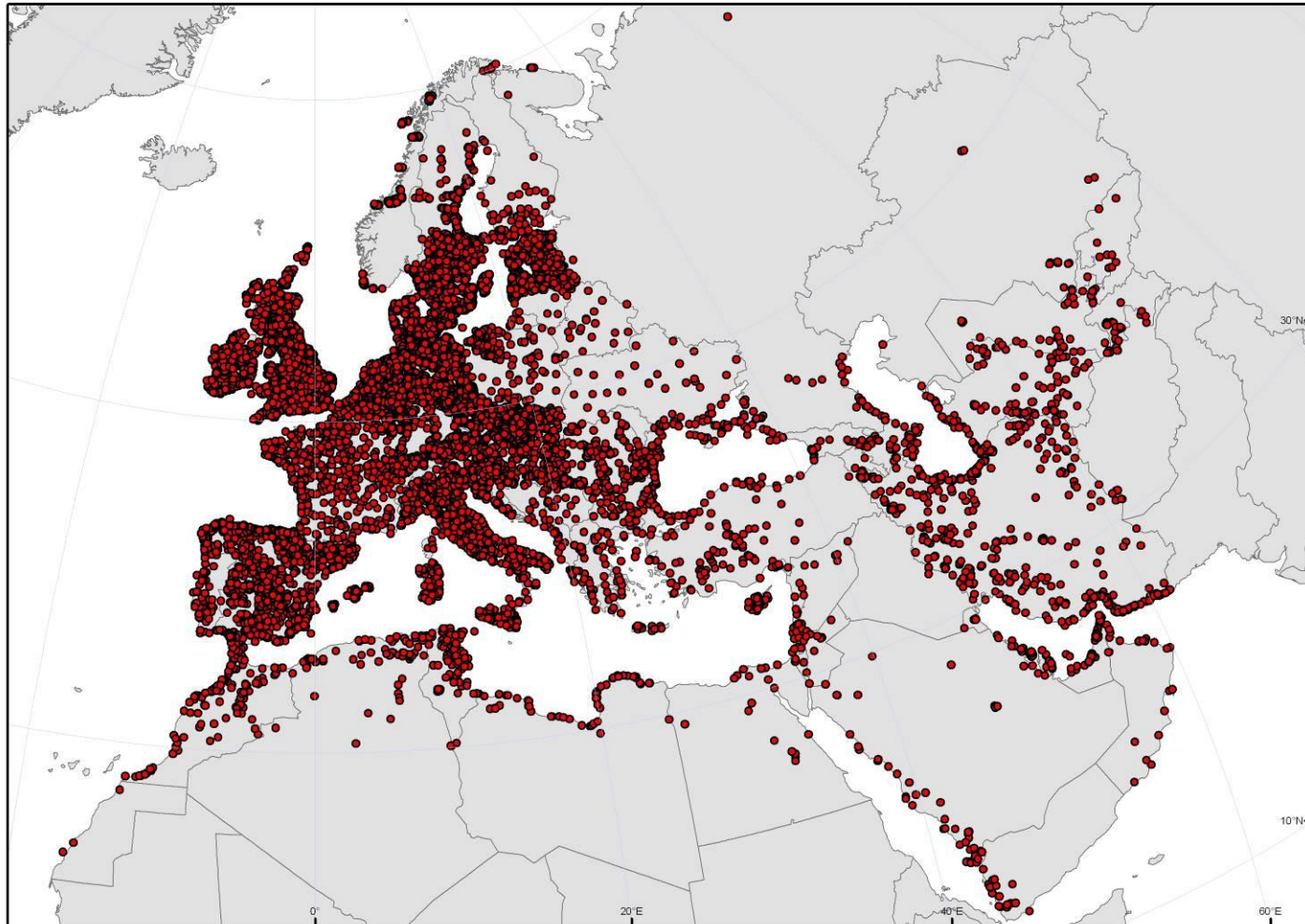
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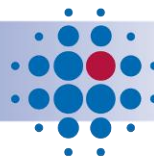
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IWC Observation sites 1990 - 2007



Source: Wetlands International

1910-2010



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Bird count / population data

» NFB-DB Home » Reports » Data analysis » IWC data viewer

Browse for IWC (International Waterbird Census) data [non-public beta]

Get IWC data using filters Get IWC data of a known site (SiteCode) [IWC data viewer (1785)]

 The overview contains a great number of IWC datasets. Please use the filter settings (e.g. selection of one species or one region etc.) to optimize the navigation-handling within the result table.

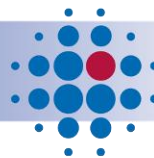
Site code Site name	Scientific name Common name	Country Region name [1]	Years Sites	Min Max	Mean Median	Q1 Q3	D1 D2
247300920 Bodensee-Obersee-D	Anas platyrhynchos * Mallard	GERMANY <not available>	10 10	3794 7796	5695.500 5712.000	4756.000 6466.000	4266.000 7183.000
247400900 Bodensee-Untersee-D	Anas platyrhynchos * Mallard	GERMANY <not available>	10 10	1206 3850	2404.300 2278.500	1797.000 3158.000	1378.000 3728.000
267101 Elbe: Geesthacht bis Zollenspieker	Anas platyrhynchos * Mallard	GERMANY Hamburg	9 9	265 1024	500.111 322.000	266.000 644.000	265.000 1024.000
267103 Norderelbe: Holzhafen bis Kaltehofe	Anas platyrhynchos * Mallard	GERMANY Hamburg	9 9	96 969	334.111 262.000	181.000 329.000	96.000 969.000
267106 Mühlenberger Loch	Anas platyrhynchos * Mallard	GERMANY Hamburg	9 9	45 1301	667.667 657.000	378.000 776.000	45.000 1301.000
371008 Peenestrom: Peenebrücke Wolgast - Lassar - Quilitz - Warthe - Möw	Anas platyrhynchos * Mallard	GERMANY Mecklenburg-Vorpommern	9 9	213 3250	1700.667 1853.000	580.000 2505.000	213.000 3250.000
371004 Gothensee, Kachliner See	Anas platyrhynchos * Mallard	GERMANY Mecklenburg-Vorpommern	9 9	1 282	95.222 40.000	2.000 210.000	1.000 282.000
371005 Rhein bei Wiesbaden- Amöneburg (Rhein-km 501.3- 502;5)	Anas platyrhynchos * Mallard	GERMANY Mecklenburg-Vorpommern	9 9	2 650	94.000 31.000	2.000 50.000	2.000 650.000
371055 Ostsee Prerow (Hohe Düne) - Ahrenshoop	Anas platyrhynchos * Mallard	GERMANY Mecklenburg-Vorpommern	9 9	3 610	279.556 246.000	130.000 387.000	3.000 610.000
170502 Großer Plöner See	Anas platyrhynchos * Mallard	GERMANY Schleswig-Holstein	9 9	352 1760	945.000 710.000	650.000 1275.000	352.000 1760.000
170701 Neustädter Binnenwasser	Anas platyrhynchos * Mallard	GERMANY Schleswig-Holstein	9 9	220 600	407.556 421.000	280.000 500.000	220.000 600.000
170704 Barkauer See	Anas platyrhynchos * Mallard	GERMANY Schleswig-Holstein	9 9	58 1200	318.222 200.000	66.000 320.000	58.000 1200.000

< 1 2 3 4 5 6 7 8 9 10 ... > | Page 1 of 36, Dataset 1 - 50 of 1785.

- [1] Region names based on NUTS1-level, * indicates a High Risk species
- Abbreviations: Q1 = 1st Quartile, Q3 = 3rd Quartile, D1 = 1st Decile, D2 = 9th Decile

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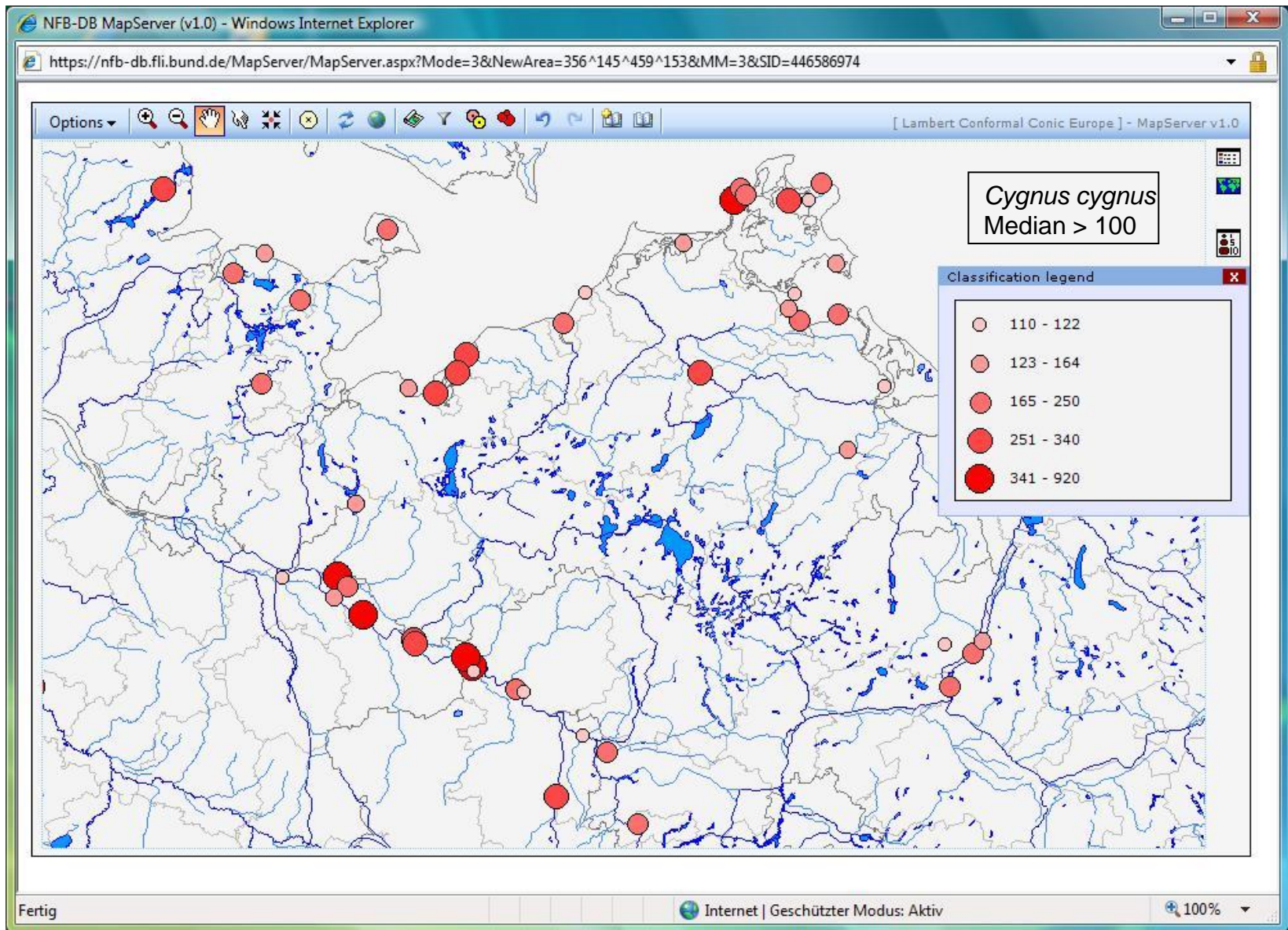
1910-2010



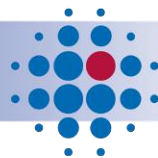
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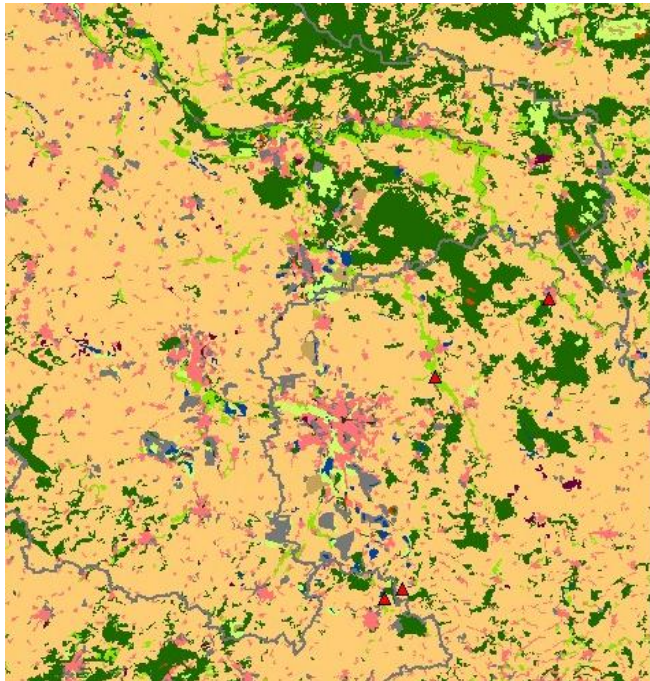
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CORINE Landcover data

Map



Filter

Set CLC (CORINE Land Cover) filter

To configure an environmental profile for areas (administrative units) from which you wish to select laboratory results, please enter the corresponding surface percentage values below. At least one field has to contain a value greater than 0% for the CLC-filter to be activated (multiple entries are possible and will be connected by a logical AND). The entered values correspond to the respective land cover class's percentage of the total surface area of administrative units.

Land cover class

Percentage share based on NUTS level 3 NUTS level 5

Urban: % Min Max Range

Grassland: % Min Max Range

Pasture: % Min Max Range

Agriculture: % Min Max Range

Forest: % Min Max Range

Scrub: % Min Max Range

Sparsely vegetated areas:
(steppes, tundra and badlands) % Min Max Range

Wetland: % Min Max Range

Water: % Min Max Range

Initially, please set the option to 'Range' and enter a start value followed by the end character. Example: 5-15.

Activate CLC filter

Reset fields

Close

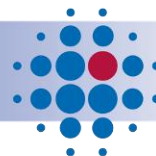
Browse for available CLC (CORINE Land Cover) data

Area selection and sorting

[CLC data viewer (2)]

Region name ^[1] Region code (country-specific)	Urban Grassland	Pasture Agriculture	Forest Scrub	Wetland Water	Sparsely vegetated areas
LK Ortenaukreis 08317	7.45 % 0.03 %	10.20 % 32.84 %	46.69 % 1.88 %	0.00 % 0.90 %	0.00 %
LK Ostprignitz-Ruppin 12068	3.52 % 1.95 %	14.06 % 45.31 %	31.14 % 1.76 %	0.11 % 2.12 %	0.03 %

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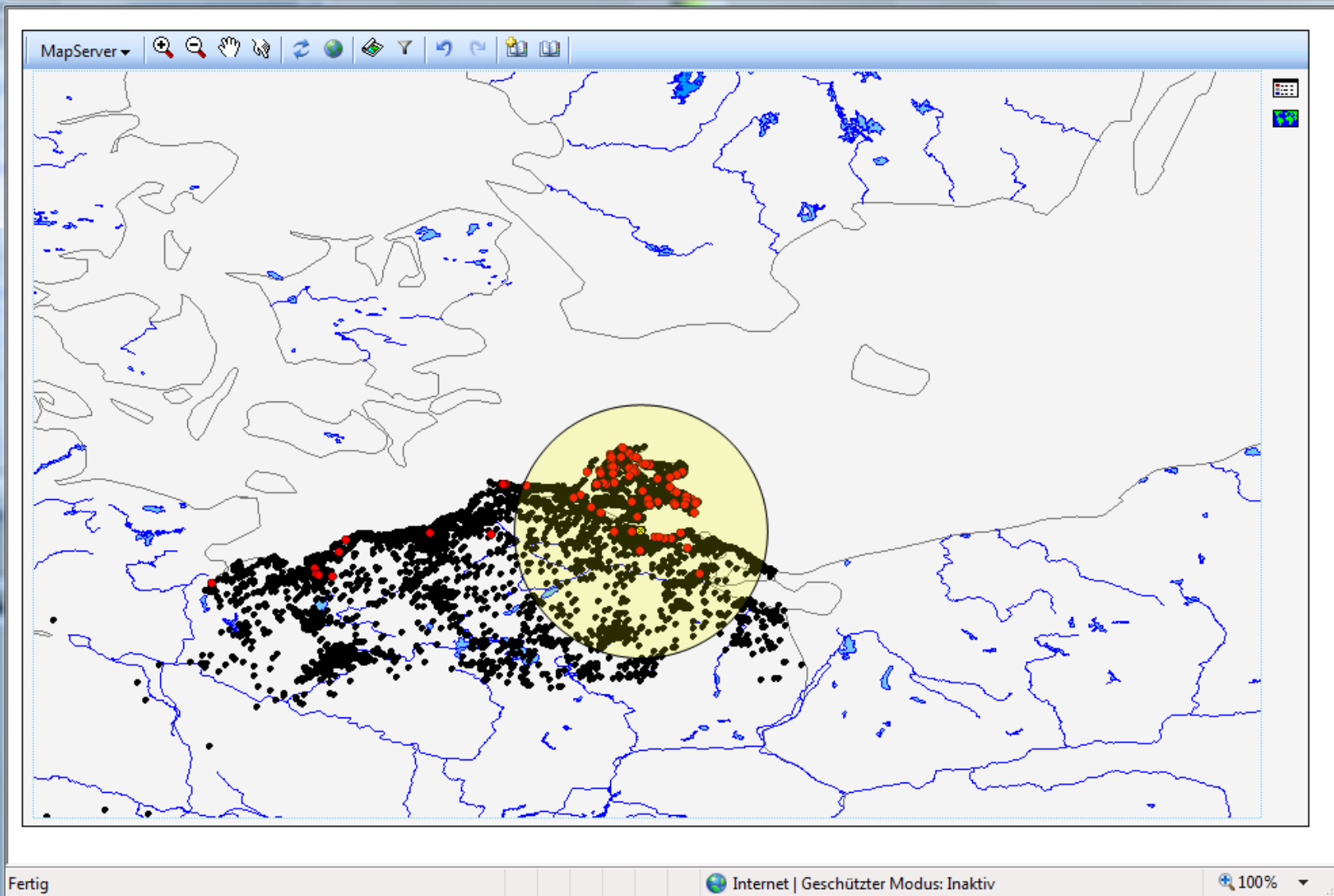


100 JAHRE

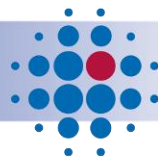
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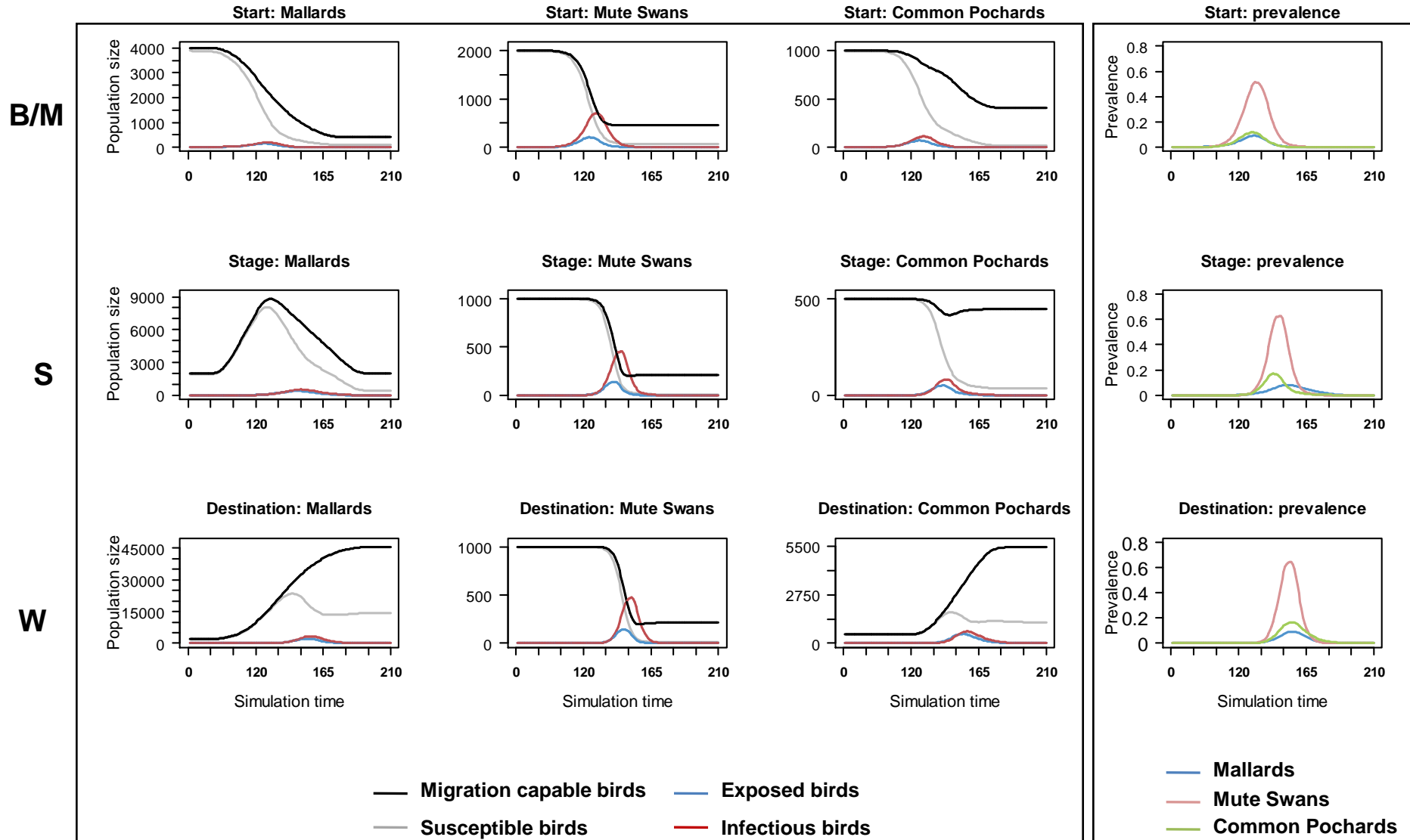
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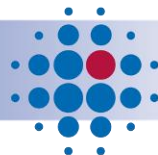
Model spread of HPAI H5N1 by wild birds



Zusammenfassung

- Internet-basierte Informationssysteme gestatten den weltweiten Austausch von Daten zu Tierseuchen nahezu in „Echtzeit“
 - Falldatenbanken erleichtern den Informationsaustausch und die Tierseuchenbekämpfung
 - Es existieren Datenbankstrukturen, die fundierte epidemiologische Analysen und Einschätzungen der Qualität von Monitoring- und Surveillance-Programmen gestatten
 - Prädiktive Modelle sind möglich, vielfach aber mit erheblichen Unsicherheiten behaftet (z.B. durch Datenlücken in Raum und Zeit)
- Daten zu Tierseuchen werden zunehmend auch in anderen Datenbanken miterfasst (z.B. Einzeltier-bezogenen Daten zu Rindern in HI-Tier)
- Teilweise existieren mehrere parallele Berichtsstränge (z.B. Zoonose-Berichterstattung über Abfragen bei den Ländern durch BfR/BVL; Berichterstattung über TSN, soweit es sich um anzeigepflichtige Tierseuchen oder meldepflichtige Tierkrankheiten handelt.
- Für die Feststellung von Tierseuchen relevante labordiagnostische Daten zur sind innerhalb von 24-48 Stunden nach Verdachtsfeststellung verfügbar.
- Der „Flaschenhals“ bezüglich der Zeit, die zum Treffen von Grundsatzentscheidungen über Bekämpfungsmaßnahmen (Töten, Impfen, ...) liegt immer stärker beim Risikomanagement.

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Acknowledgements

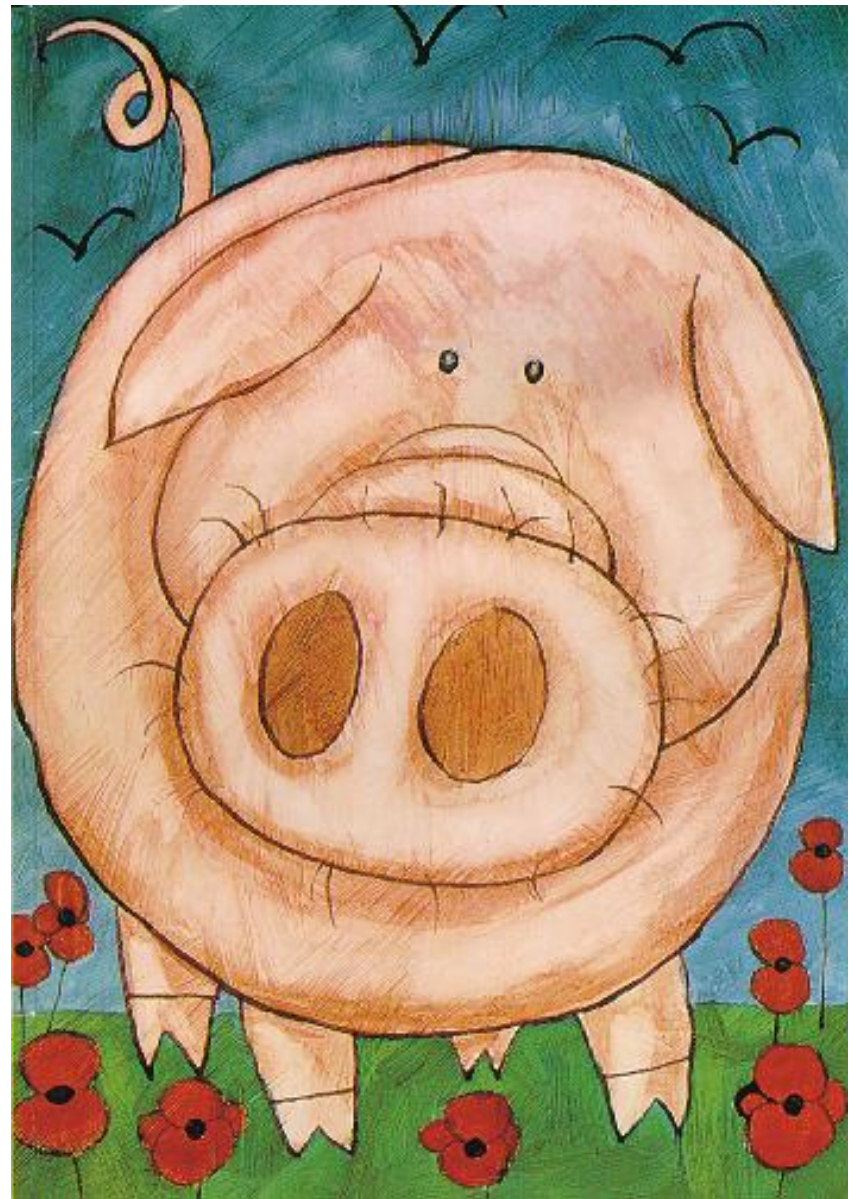
EPIZONE, WP7.2

New FluBird Consortium

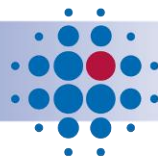
CRL Classical Swine Fever

BMELV, EU for funding

Vielen Dank!



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