



A European network
for wildlife health surveillance



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1st Consultation Workshop – Brescia, Italy – 27-28 June 2013

Project overview

WP 1 Reviews: Species cards (abundance estimation)

WP 2 Reviews: Diagnosis cards

→ Proposal of harmonized methods

WP 3 Evaluation: Field studies

WP 4 Network development

WP4 – project aim



To **develop** a **European network** for **wildlife health surveillance** in which **harmonized methods** are adopted for:

- estimating abundance of key hosts
- diagnosing key pathogens in key hosts

Subobjectives:

To **involve European countries/networks/partners beyond Aphaea**

- in the **network**
- in the **development** of harmonized methods

Long-term goal

Self-sustaining network of specialists for **wildlife health surveillance in Europe**

→ Exchange of information

- Early warning
- Expertise in lab diagnostics & others



→ Collaboration

- Working together, exchanging data or samples

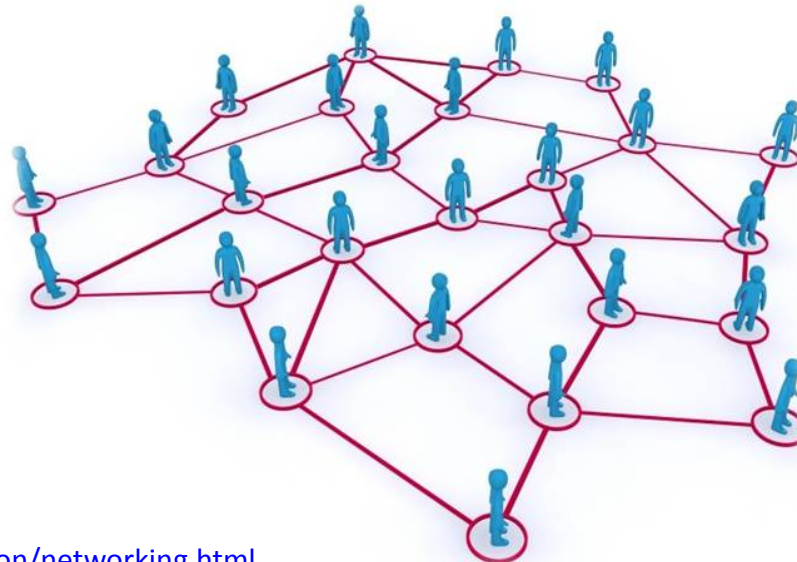
→ Harmonization

- Delivering data in such a form, that comparison with other studies (past or future) will be possible

Definition: Networking

« Creating a group of acquaintances and **associates** and keeping it **active** through regular **communication** for **mutual benefit**.

Networking is based on the question "How can I help?" and not with "What can I get?" »



Requirements

«Professional friendship»

- Desire to **share** (= take & *give*)
- Mutual trust, respect and comprehension
→ **Fairness** («treat others the way you want to be treated»)
- **Priorization** of reading & distributing relevant information, and answering requests
- Having **fun** meeting and exchanging information and sharing data
- Readiness to **harmonize** methods



Harmonization

- **Global evaluation** of disease status and associated risk factors
- Comparisons between **historic and current data**
- **Definitions** (e.g. lesion, age class)
- **Methods** (e.g. diagnostic test, population estimates)

Recent initiatives:

- OIE Training Manual on Wildlife Diseases and Surveillance 2010
- Project WildTech www.wildtechproject.com
- Project APHAEA www.aphaea.eu

Table 3. Population densities and prevalences of bovine tuberculosis (bTB) in documented wildlife maintenance and spillover hosts.

Country	Host(s)	BTB Prevalence		Density (individuals/km ²)		References	
		Maintenance	Reported	Category	Reported		Category
1 Spain	Wild boar		47%	High	1 – 90	High	[16,53,101]
	Red deer		12.35 %	Medium	30.9	High	[16,102]
2 Portugal	Wild boar		15.9%*	Medium	No data		[30,55]
	Red deer		10.3%*	Medium	No data		[16,55]
3 Great Britain	Badger		<17.7%	Medium	25.3	High	[103–105]
4 Republic of Ireland	Badger		14.1%	Medium	No data ^{a)}	-	[27,106]
5 USA (Michigan)	White-tailed deer		3.5%	Low	19–23	High	[25,42]
6 Canada	Elk		1%	Low	0.15–0.25	Low	[26,59,107]
	Wood bison		49%	High	0.011 - 0.162	Low	[26,56]
7 New Zealand	Brush-tail possum		up to 10% ^{c)}	Low-	Frequently	High	[22,23]
				medium	> 300 ^{b)}		
8 South Africa	African buffalo		47%	High	0.9–1.4	Low	[24,108]
Spillover							
9 Germany	Red deer		0.91%	Low	1.5–7 ^{c)}	Low- medium	[32]
10 Italy	Wild boar		3%	Low	1.7	Low	[34,109,110]
11 USA (Minnesota)	White-tailed deer		0.4 – 1.2% ^{d)}	Low	1.8–2.5 ^{d)}	Low	[100]

*Culture performed only on animals presenting bTB-compatible lesions; a) total number of badgers in the Republic of Ireland (approximately): 84000 [111], b) general data for uncontrolled possum populations; local densities as high as 1000 ind./km² [22] and local TBL prevalences as high as 53% have been detected [112]; c) German Wildlife Foundation; published online at: <http://www.deutschewildtierstiftung.de/de/schuetzen/arten-schuetzen/rothirsch/verbreitungskarte/> (last accessed: 11/28/12); d) Data from 2007, prior to intensive density reduction measures. Study areas were: 1: South Central Spain; 2: Central-East Portugal; 3: Woodchester Park; 4: overall data; 5: North Eastern Lower Peninsula; 6: Riding Mountain National Park and surroundings (elk), Wood buffalo National Park (wood bison); 7: overall data; 8: Kruger National Park; 9: Southern Bavaria; 10: North-Western Italy; 11: North-Western Minnesota. Apparent prevalence was based on the isolation of *M. bovis* and/or *M. caprae*, except: 1 (red deer): TBL prevalence (in areas of known bTB infection); 3: culture and/or serological testing; 4: official sampling (testing method not provided); 6 (wood bison): live animal testing (caudal fold test and/or fluorescent polarisation assay); 7: testing method not provided. Methods for estimating population densities were not provided in most cases, except: 1 (red deer): head-light counts and distance sampling (average density calculated by first author from data provided); 3: capture-mark-recapture; 6 (elk): density calculated by first author from population and map data provided in [107], 9: estimation from hunting bags; 10: driving census; 11: helicopter survey. Prevalence categories: Low: 1–5%; Low-medium: 5–10%; Medium: 10–20%; Medium-high: 20–40%; High: 40–50%. Density categories: Low: 0–5 individuals (ind.) / km²; Medium: 5–20 ind./km²; High: >20 ind./km².

WP4 - Methods

- EWDA members, WildList
- EWDA wildlife health surveillance network
 - Founding meeting in **Brussels, October 2009**
 - **Committee:** T. Kuiken (The Netherlands, chair), Ch. Gortázar (Spain), D. Gavier-Widén, P. Tavernier (Belgium), M.-P. Ryser-Degiorgis (Switzerland)
 - **GoogleGroup** (currently > 100 people)

EWDA whs network

2009: Questionnaire about wildlife health surveillance in Europe
Country representatives of **25/49 European countries**

“Comprehensive general wildlife health surveillance”
=whole country, all species and pathogens



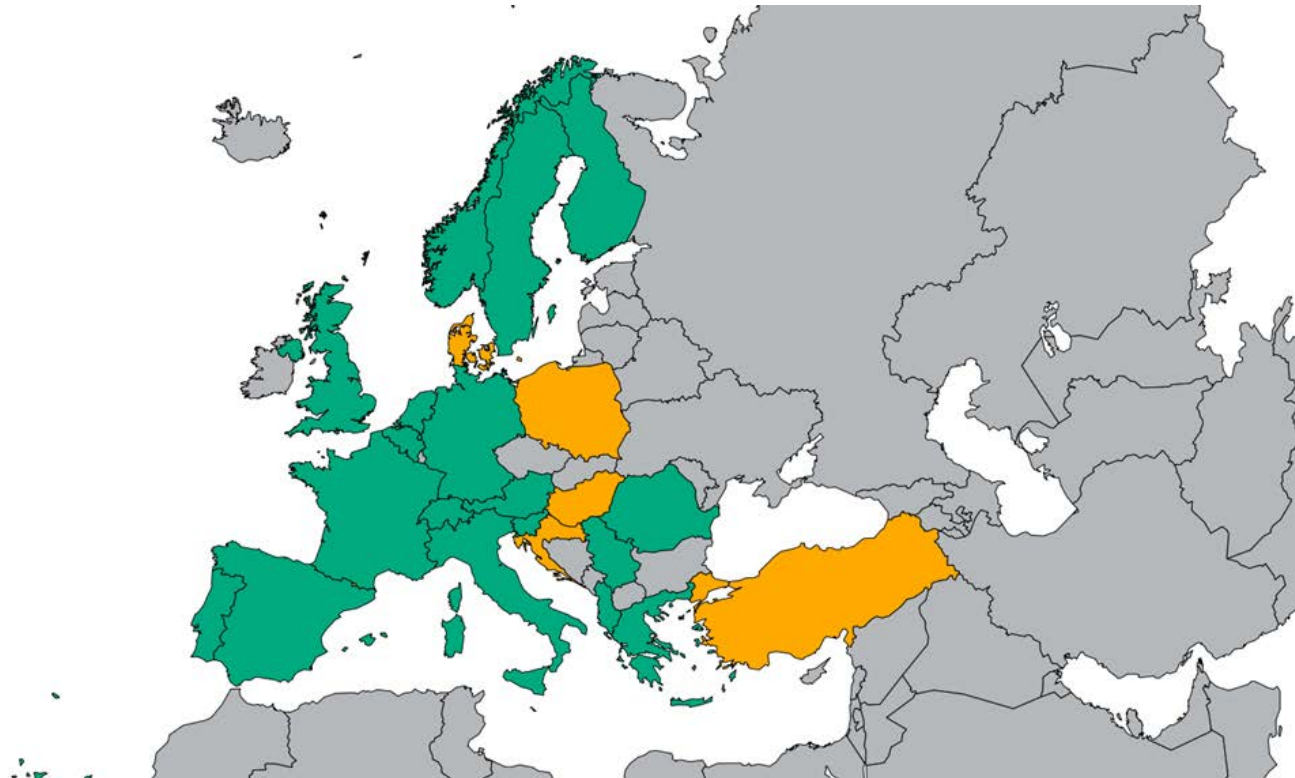
“No general wildlife health surveillance”,
But certain level of surveillance for selected pathogens

Methods

- EWDA members, WildList
- EWDA wildlife health surveillance network
- APHAEA «external partners»
 - Informal meeting at EWDA conference, Lyon, July 2012
 - Information email on GoogleGroup, Fall 2012
 - EWDA Bulletin, Christmas 2012
 - Information email on GoogleGroup, Spring 2013
 - «Chasing people»
 - 1st APHAEA Consultation Workshop, June 2013 (> 50 part.)

APHAEA external partners

- > 60 people in at least 16 European countries
- + additional external partners, authors and reviewers of APHAEA cards in Europe, North America and Africa



WP1 - Species cards

Nr	Species Card
1	Red fox
2	Wild boar
3	Raccoon dog
4	Lagomorphs
5	Red deer
6	Roe Deer
7	White-tailed Deer
8	Badger
9	Ibex
10	Chamois
11	Mouflon/Barbary sheep
12	Bison
13	Muskoxen
14	Rodents
15	Game birds
16	Waterfowl
17	Dabbling ducks

WP2 - Diagnosis cards

Nr	Pathogen	EWDA	APHAEA
1	Anaplasmosis		x
2	Anthrax		x
3	Aujeszky Disease Virus		x
4	African Swine Fever	x	
5	Bluetongue	x	
6	Brucellosis		x
7	Campylobacter		x
8	Classical Swine Fever	x	
9	Coxiellosis		x
10	Echinococcus multilocularis		x
11	Encephalom.		x
12	European Brown Hare Syndrom		x
13	Tularemia		x
14	Hantavirus		x
15	Hepatitis E Virus		x
16	Highly Pathogenic Avian Influenza Virus	x	
17	Leptospirosis		x
18	Listeria monocytogenes		x
19	LCV		x
20	MAP		x
21	Bovine tuberculosis	x	
22	Neosporosis		x
23	Pasteurella multocida		x
24	Pathogenic E. coli		x
25	Rabies	x	
26	Salmonellosis		x
27	Tick borne EV		x
28	Toxoplasmosis		x
29	Trichinellosis	x	
30	West Nile Virus		x

External partners

- Are kept **updated about project progresses**
- Can **contribute to the species cards & diagnosis cards (WP1+2)**
 - as author/reviewer
 - give opinion on documents available on APHAEA website
 - ask competent colleagues to give their opinion
- Can **contribute to the development of harmonized protocols**
 - participate to project workshops
 - give opinion on documents available on website
 - ask competent colleagues to give their opinion
- Can **contribute to the evaluation of harmonized methods (WP3)**
 - gather population and/or disease data in your country according to harmonized protocols)
- Can **contribute to the wildlife health surveillance network on the long term**, including the application of harmonized methods in future studies

WP4 – milestones & deliverables



- | | | |
|---|---|--------------------------------|
| 1 | External stakeholder groups and experts contacted and confirmation of their participation in the network received
→ List of participating partners | August 2012
September 2012 |
| 2 | <u>Consultation of network on unpublished methods</u> for abundance estimation and diagnosis concluded;
Aphaea website functioning | December 2012
December 2012 |
| 3 | Literature review on harmonized methods uploaded
Concept of harmonized methods sent to network partners for review → uploaded on website | May 2013
Aug/Sep 2013 |
| 4 | Feedback in <u>1st consultation workshop</u> from network on proposed harmonized protocols transferred to WP1 and WP2 for processing → Workshop proceedings | October 2013
February 2014 |
| 5 | Validation data from WP3 studies presented to and endorsed by the network in <u>2nd consultation workshop</u>
→ Workshop proceedings | March 2015
May 2015 |

DONE

ON-GOING

NEXT

Network development

How to contribute, now and in the future:

- Visit the project website: www.aphaea.eu
- **Participate to APHAEA:**
 1. Register as external partner
 2. LogIn and give your opinion on available documents (both positive and negative)
- **Participate to the Googlegroup**
 - for registration, see www.ewda.org
- **Share you knowledge, propose/apply harmonized methods**

.... and have fun ! 😊

Thank you !



Core partners

External partners

Funding organizations

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(please indicate «APHAEA» as email topic)