



IMPLEMENTATION OF THE CONTROL AND ERADICATION PROGRAMME FOR RABIES IN 2013 IN BULGARIA



SCPAFF

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Brussels



Rabies control and eradication program

- 2009 – the start
- Objective: rabies eradication
- Achievement: Oral vaccination of foxes on the territory of North and Southwestern Bulgaria where rabies cases have been registered
- Duration 5-7 years (at least 2 years after the last positive case)
- 2 vaccination campaigns per year
 - spring (Mart -May)
 - autumn (September –November)
- Vaccination by aircrafts;
- LISVULPEN vaccine type, dose of 20 pieces per 1 km²



Vaccination of foxes 2009 – 2013

| Year | Campaigns | Districts | Territory covered (sq km) |
|------|-------------------|-----------|---------------------------|
| 2009 | 2 spring & autumn | 18 | 55 037 km ² |
| 2010 | 1 spring | 19 | 55 995 km ² |
| 2011 | 1 spring | 19 | 55 995 km ² |
| 2012 | 2 spring & autumn | 20 | 59 500 km ² |
| 2013 | 2 spring & autumn | 20 | 59 500 km ² |

- Vaccinated regions
- Additional vaccination in 2012



Rabies Diseased Animals in Bulgaria (2002-2013)

| Year | Total cases | Domestic Animals /livestock/ | Dogs | Cats | Foxes | Jackals | Other species |
|---------------|-------------|------------------------------|-----------|-----------|------------|-----------|---------------|
| 2002 | 16 | - | - | - | 3 | 1 | 12 |
| 2003 | 17 | 3 | 2 | - | 10 | - | 2 |
| 2004 | 11 | 5 | - | 1 | 4 | - | 1 |
| 2005 | 12 | 2 | 1 | 2 | 5 | 1 | 1 |
| 2006 | 9 | 1 | 1 | 4 | 2 | - | 1 |
| 2007 | 40 | - | 7 | 7 | 24 | 2 | - |
| 2008 | 49 | - | 6 | 4 | 33 | 6 | - |
| 2009 | 59 | 4 | 3 | 3 | 47 | 2 | - |
| 2010 | 6 | - | 3 | 1 | 2 | - | - |
| 2011 | 1 | - | - | - | 1 | - | - |
| 2012 | 1 | - | - | - | 1 | - | - |
| 2013 | 0 | - | - | - | - | - | - |
| 2014 | 2 | - | - | - | 2 | - | - |
| Total: | 223 | 15 | 23 | 22 | 134 | 12 | 17 |

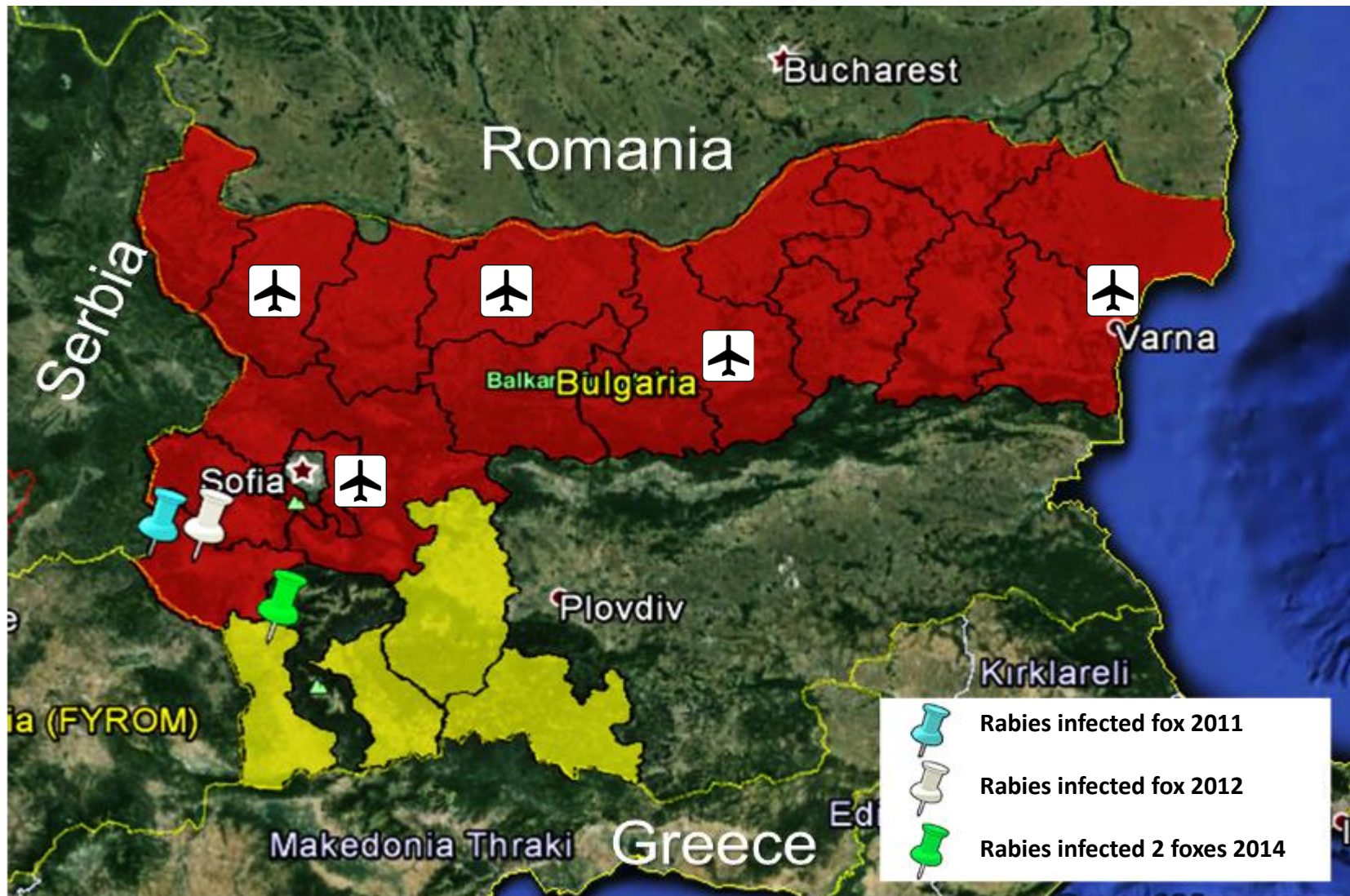
The Balkan mountains act as natural barrier as most of the rabies cases during the past years have been detected in North Bulgaria. Only few cases in foxes have been detected south of the mountains in the west part of the country since 2008.



Rabies cases 2011-2014



Vaccination Zones



 2013

 additional territory 2014



General information Programme 2013

- **Two vaccination campaigns** carried out by the contractor:
 - Spring campaign - within the time period 17 April – 2 May 2013
 - Autumn campaign - 21 Oct – 20 Nov 2013
- **Territory covered:** 20 administrative districts (59 500 sq km)
- **Vaccine used:** LISVULPEN (by Bioveta) used in dose of 20 pieces vaccine baits per 1 sq km
 - 2 366 000 baits distributed by aircrafts
 - 296 000 vaccine baits distributed manually
- Flight operations controlled on daily basis by CA on central and regional level:
 - Aerial and manual distribution of vaccine baits documented in individual protocols
 - Summarising and analysis of the data performed by BFSA Central Office, Animal health and welfare Directorate



Data on vaccination

| Wildlife oral vaccination | | | | | |
|----------------------------------------------------------------------------------|------------------|-----------------|--------------------------------------------|---------------------|-------------------------------------|
| Region/Area | Month | Number of baits | Size of vaccinated area (km ²) | Distribution method | Bait density (per km ²) |
| 1 | 2 | 3 | 4 | 5 | 6=3÷4 |
| Varna, Burgas, Shumen, Targovishte, V. Tarnovo, Dobrich, Silistra, Ruse, Razgrad | 17.04-02.05.2013 | 585900 | 28697 | aircrafts | 20,4 |
| | 21.10-20.11.2013 | 582400 | 26199 | | 22,2 |
| Montana, Vratsa, Vidin, Lovetch, Gabrovo, Pleven, part of Sofia district | 17.04-02.05.2013 | 406 700 | 20335 | aircrafts | 20,0 |
| | 21.10-20.11.2013 | 419802 | 20962 | | 20,0 |
| Sofia-town, part of Sofia-district, Pernik, Kustendil, Blagoevgrad | 17.04-02.05.2013 | 190400 | 10250 | aircrafts | 18,6 |
| | 21.10-20.11.2013 | 180798 | 9895 | | 18,3 |
| | Total | 2 366 000 | 116 338 | | 20,3 |



Wildlife oral vaccination – manual distribution

| Region/Area | Size of area under the programme (km ²) | Number of baits distributed 17.04-02.05.2013 | Number of baits distributed 21.10-20.11.2013 | Total |
|----------------|-----------------------------------------------------|----------------------------------------------|----------------------------------------------|---------------|
| Vidin | 3033 | 7000 | 7000 | 14000 |
| Montana | 3635 | 8400 | 8400 | 16800 |
| Vratsa | 3620 | 8400 | 8400 | 16800 |
| Pleven | 4330 | 9800 | 9800 | 19600 |
| Lovech | 4129 | 9100 | 9100 | 18200 |
| Gabrovo | 2023 | 4200 | 4200 | 8400 |
| Veliko Turnovo | 4662 | 10500 | 10500 | 21000 |
| Ruse | 2803 | 6300 | 6300 | 12600 |
| Turgovishte | 2716 | 6300 | 6300 | 12600 |
| Razgrad | 2637 | 5600 | 5600 | 11200 |
| Shumen | 3390 | 7700 | 7700 | 15400 |
| Silistra | 2846 | 6300 | 6300 | 12600 |
| Dobrich | 4720 | 10500 | 10500 | 21000 |
| Varna | 3820 | 8400 | 8400 | 16800 |
| Sofia city | 1345 | 3500 | 3500 | 7000 |
| Sofia district | 7062 | 15400 | 15400 | 30800 |
| Pernik | 2027 | 4900 | 4900 | 9800 |
| Kyustendil | 3084 | 7000 | 7000 | 14000 |
| Burgas | 1103 | 2100 | 2100 | 4200 |
| Bllagoevgrad | 3564 | 6600 | 6600 | 13200 |
| Total | 66 549 | 148000 | 148000 | 296000 |



laboratory testing for 2013

- Animals sampled - 402
- Direct immune-fluorescent test – 402 tests
- Direct immune-fluorescent test in suspected animals - 118 tests
- ELISA Ab – 192 tests
- Identifying tetracycline marker test (ITMT) – 402 tests

| Foxes and Jackals | | | | | | | | | | | |
|-------------------|-------------------|-----------------|--------------|-------------------|-------------------------------------------------------|-----------------|------------------------|--------------------|--------------|-----------------|----------|
| Region | Serological tests | | | | Tests for the presence of biomarker –Tetracycline (T) | | | | DIF | | |
| | Type of test | Number of tests | Seropositive | % seropositive | Type of test | Number of tests | Positive for biomarker | %marker presence | Type of test | Number of tests | positive |
| | | | | | | | | $10 = (9/8) * 100$ | | | |
| 1 | 3 | 4 | 5 | $6 = (5/4) * 100$ | 7 | 8 | 9 | 10 | 11 | 12 | |
| Total Foxes: | ELISA | 133 | 54 | 40,6 | T | 253 | 191 | 75,49 | DIF | 253 | 0 |
| Total Jackals: | ELISA | 59 | 5 | 8,47 | T | 149 | 115 | 77,18 | DIF | 149 | 0 |



Suspect animals

| Domestic animals | | | | | | | | | | | DIF | | |
|------------------|-----|-----|--------|--------|-------|------|-----|-----------|-------|-------------|------|-----------------|----------|
| | | | | | | | | | | | Test | Number of tests | Positive |
| | dog | cat | cattle | equine | sheep | goat | pig | stray dog | other | unspecified | | | |
| Total | 4 | 7 | 4 | 0 | 3 | 1 | 0 | 84 | 1 | 0 | | 104 | 0 |

| Wild animals | | | | | | | | | | | | | DIF | | |
|--------------|-----|---------|------|--------|--------|------------------|-----------|----------|-------------|---------|-----|-------------|------|-----------------|----------|
| | | | | | | | | | | | | | Test | Number of tests | Positive |
| | fox | raccoon | wolf | badger | marten | other carnivores | wild boar | roe deer | fellow deer | jackals | bat | unspecified | | | |
| Total | 10 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | | 14 | 0 |



Thank you for your attention



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