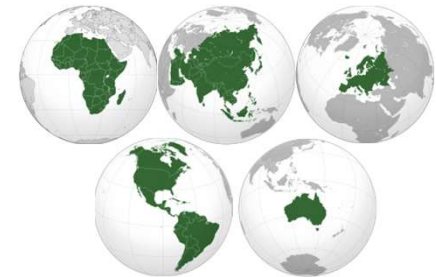


Oral Rabies Vaccination of Wildlife - Concept and Basic Principles



Thomas Müller
Conrad Freuling

Annecy, 28-30 November 2018

Terrestrial Rabies

Large Variety of Reservoir Species



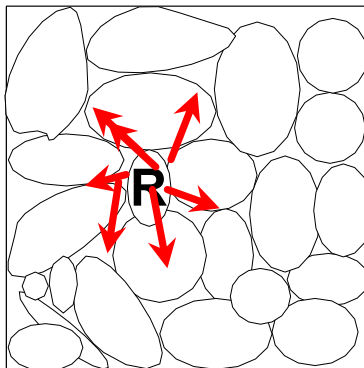
FLI, 2015

Oral Rabies Vaccination of Wildlife

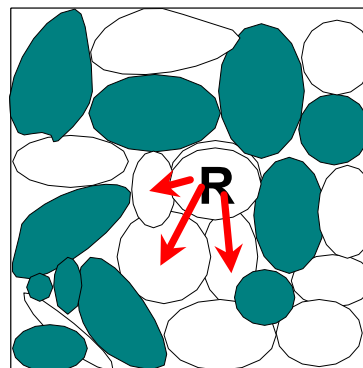
Only Solution



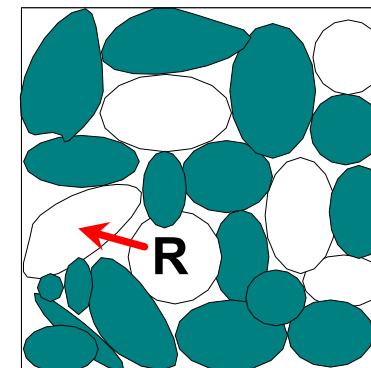
○ Susceptible



Immune barrier

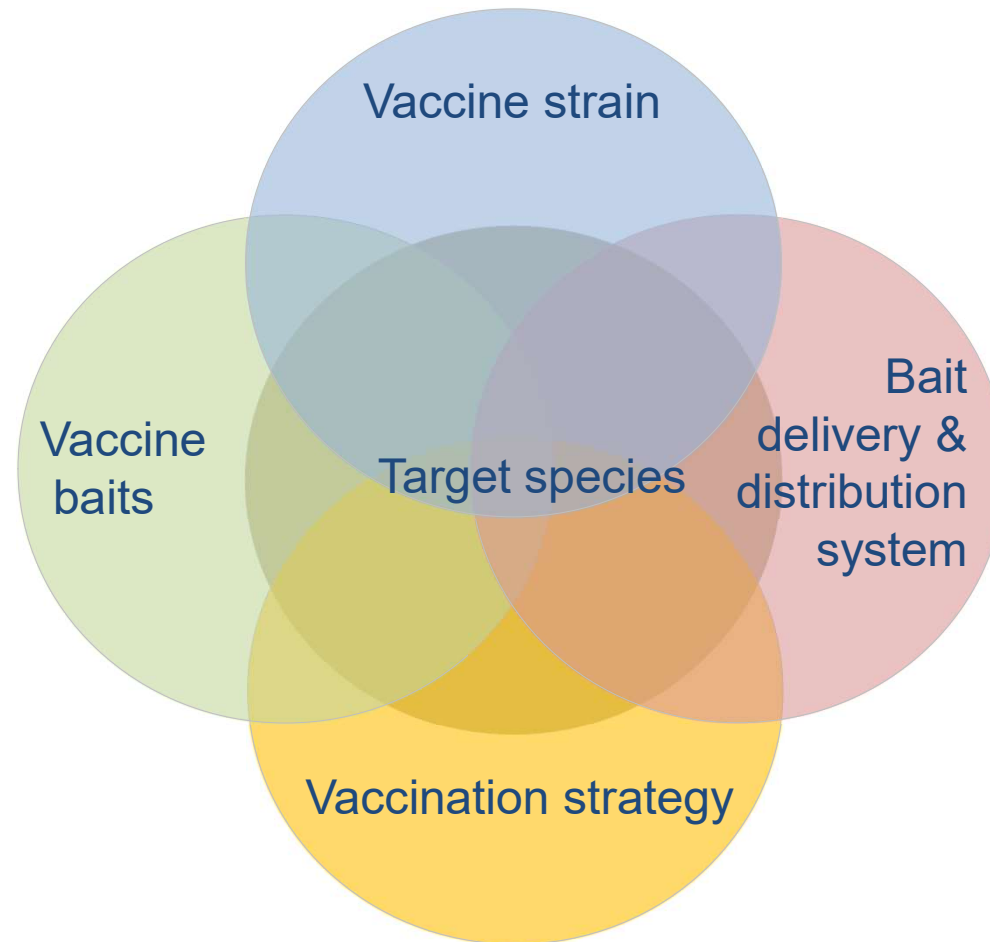


● Protected



Oral Rabies Vaccination of Wildlife

Pillars & Challenges



Oral Rabies Vaccination of Wildlife

Basic principles

- Biology of target species
 - Distribution, density, home range, Mating season, interaction with other reservoir species
- Suitable bait attractant
- Bait density to be applied
- Mode of bait distribution
- Timing of vaccination campaigns
- Bait competitors
- Size of vaccinated area



Oral Rabies Vaccination of Wildlife

No Bait fits all Species



Source: Richard Chipman, USDA Wildlife Services, REDIPRA 16 - Nov. 2017; courtesy Ad Vos

Oral Rabies Vaccination of Wildlife

Bait Development - Requirements

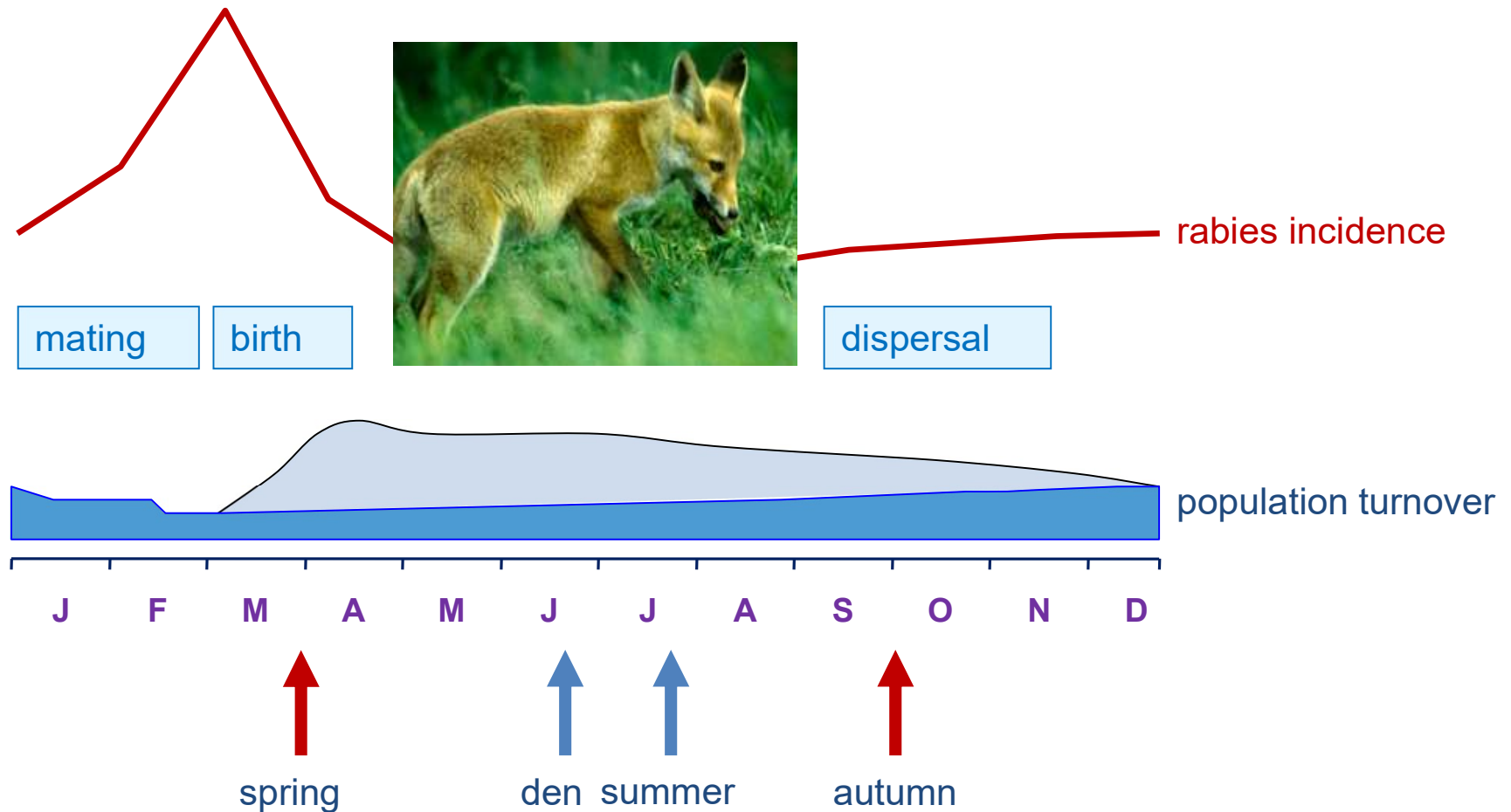
- attractive to target species
- adapted to mode of distribution
- be safe for target & non-target species
- no interference with vaccine activity
- easy ingestion by target species
- optimise release of vaccine into oral cavity & to target tissues
- allow incorporation of a biomarker
- be economic to produce in standard form



Courtesy Ad Vos

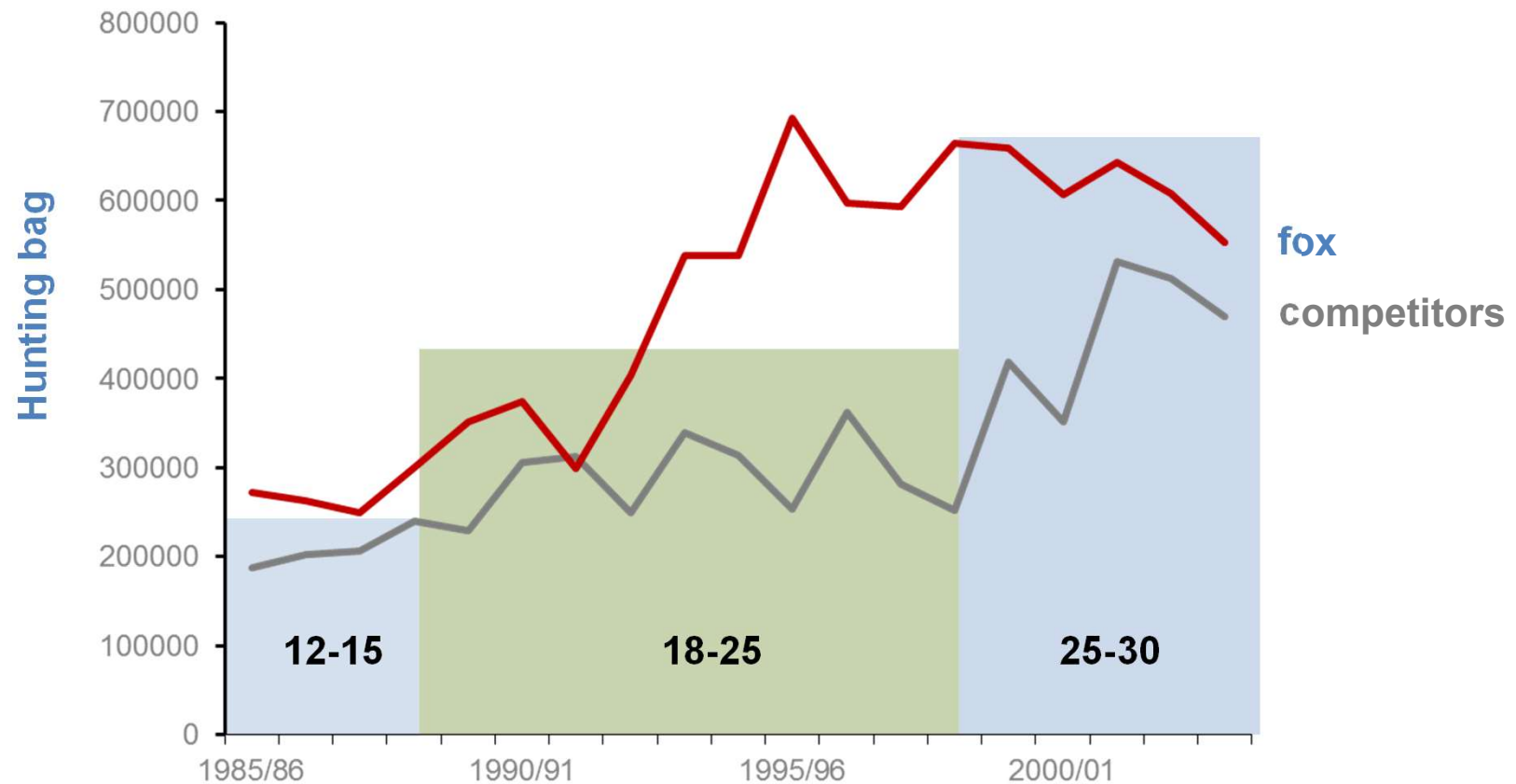
Oral Rabies Vaccination of Wildlife

Timing of campaigns



Oral Rabies Vaccination of Wildlife

Bait density/sqkm



Oral Rabies Vaccination of Wildlife

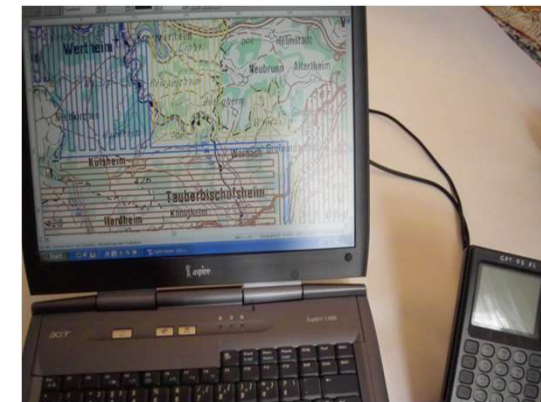
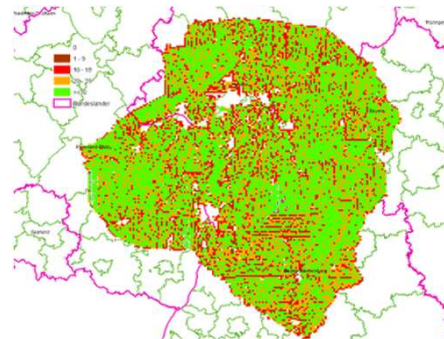
Mode of bait distribution

	hand		aerial	
organizational expense	+		-	
man power	+		-	
large-scale vaccination	-		+	
accessibility to areas	-		+	
cost-effectiveness	-		+	
control	-		+	

hand and aerial distribution complement each other
(urban / suburban settings)

Oral Rabies Vaccination of Wildlife

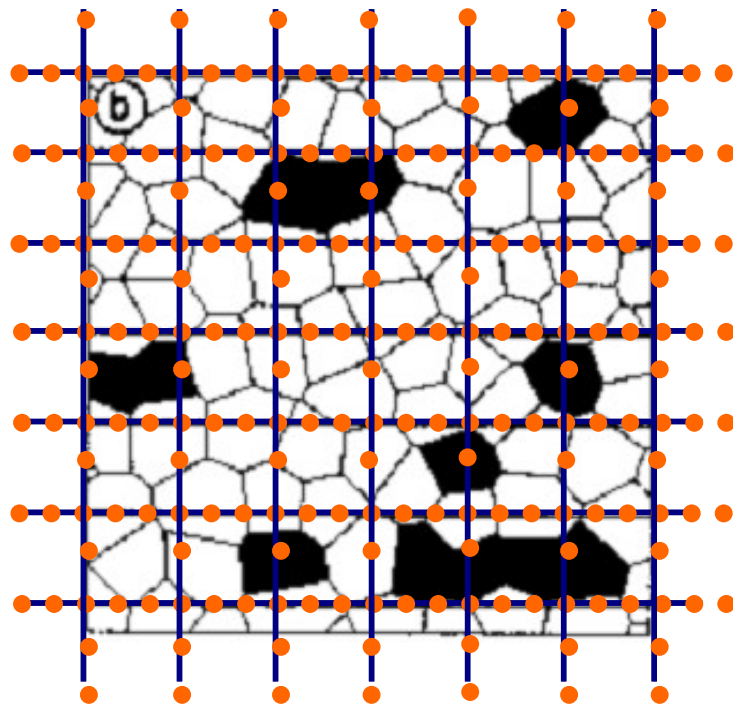
Aerial bait distribution



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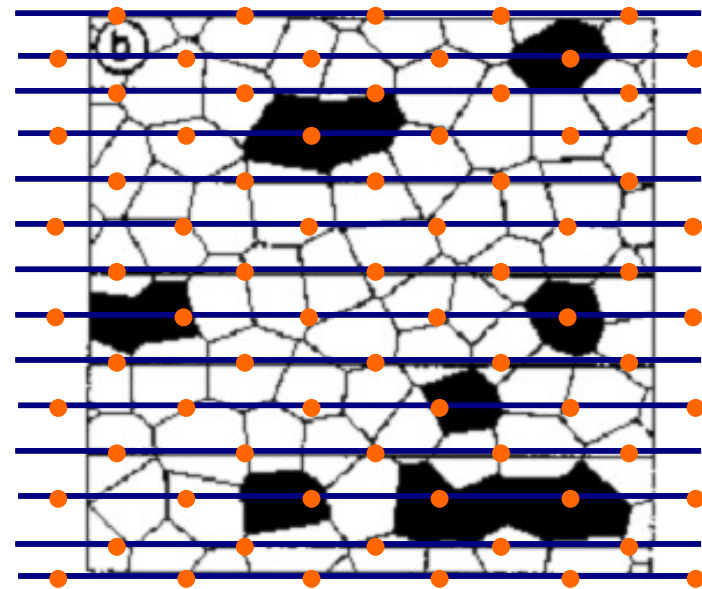
Areal bait distribution - flight line spacing

Double vaccination



1,000 m

Reduction of flight lines

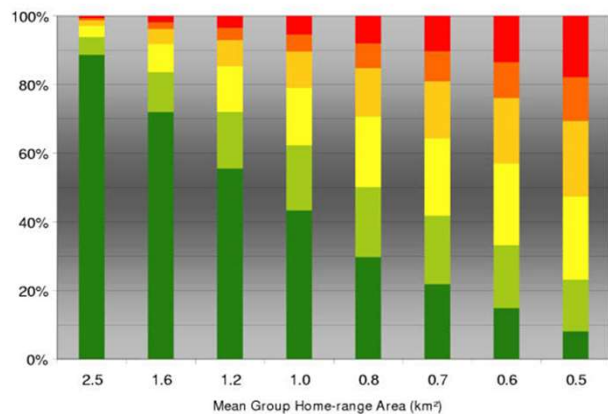


500 m

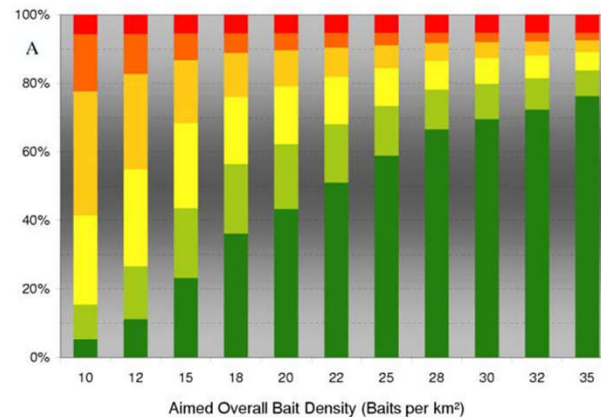
Oral Rabies Vaccination of Wildlife

Bait density -effect of

group home-range size



varying bait density



varying flight line distance

