The Ranavirus Project

Assessing the risk of introducing Exotic Ranaviruses into Europe

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Outline of the presentation:

- Objective of the study
  - The RANA-project
- Risk assessment
  - Methodology
  - Hazard Identification
  - Pathway
  - Calculations
  - Results
- Discussion & Perspectives
- Acknowledgements

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The RANA-project

- **R**isk **A**ssesment of **N**ew and emerging systemic iridoviral diseases for European fish and **A**quatic ecosystems
- EU-funded under 6th framework programme
- Six partners (DK, UK, FI, GE, IT and CZ)
- Inititiated June 2005
  - –finished in February 2009

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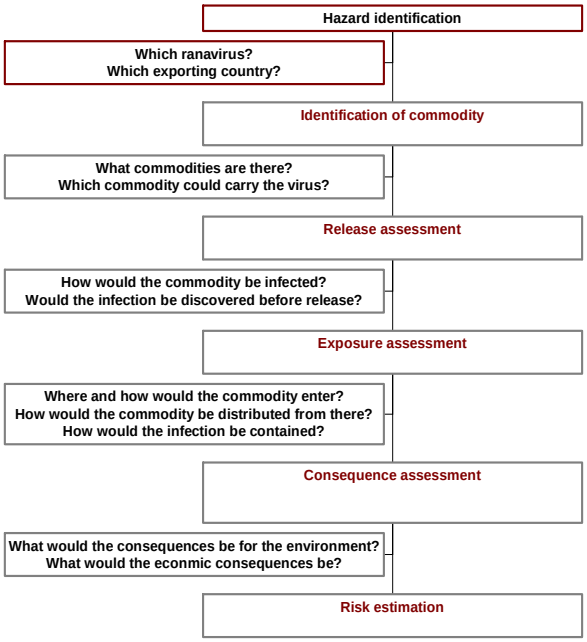
Risk Assessment: Methodology



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Hazard Identification
Criteria:

- Must be present in the commodity to be imported.
- Must be present in the exporting country.
- Should not be present in the importing country
  - if present, the pathogenic agent should be associated with a notifiable disease, or should be subject to control or eradication measures.
- Must be an OIE notifiable disease, or be identified by some other additional criteria by the importing country.
- Must produce adverse consequences in the importing country.

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Hazard Identification
–Objective of model

The possible introduction and spread of an exotic amphibian ranavirus (RTRV) from Asia into the EU

Next question: Route of entry?

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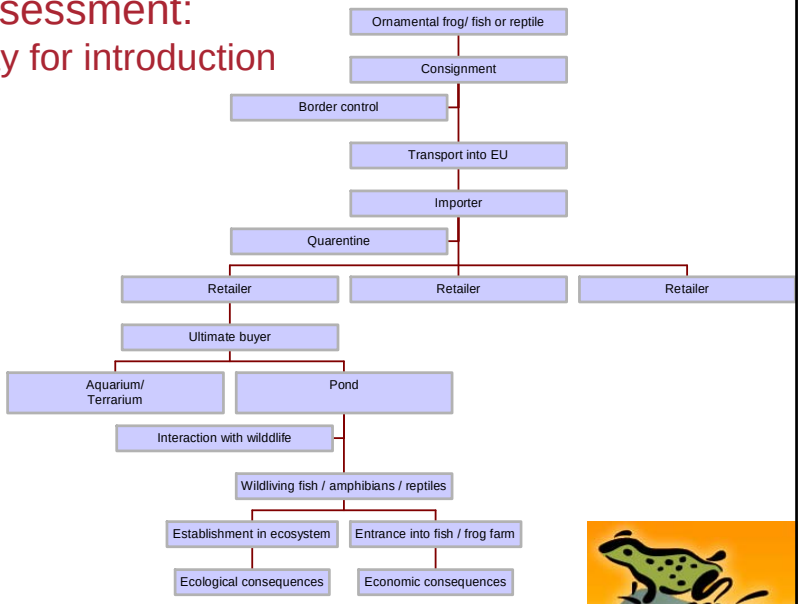
Risk Assessment:
Pathway for introduction



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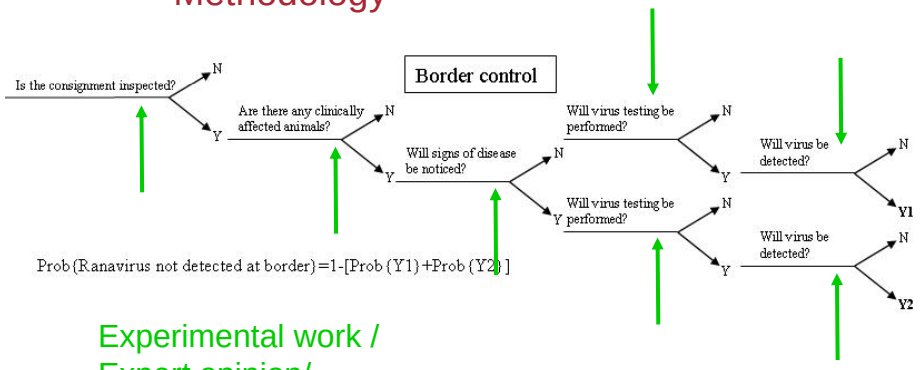
Risk Assessment:
Methodology



Experimental work /
Expert opinion/
Litterature

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Risk Assessment:
Expert opinion

- Experts asked for their opinion, using a triangular distribution of min-most likely-max

Steps in Border control	How likely is it? (%)		
	Min	Most likely value	Max
Inspection performed	85%	95%	98%
Virus testing performed given inspection made	5%	10%	12%
Rana virus detected if test performed (Se)	85%	95%	100%

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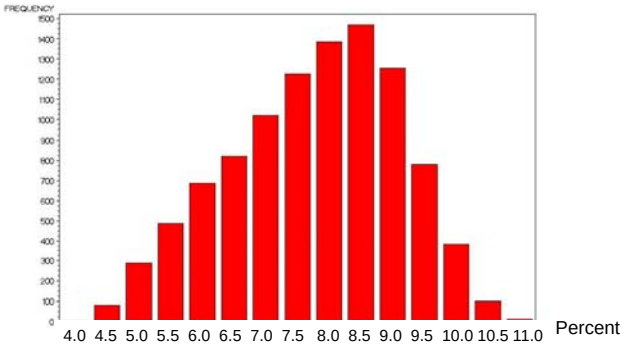
Risk Assessment:
Calculations

- Probability that virus is detected by border control



Simulation with 10.000 iterations

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Risk Assessment:
Results

	Probability	Variation	Assessment
Ranavirus in the consignment is not detected:	87.3-99.9%	72.4-100%	High
Wildlife (amphibians/fish) gets infected with ranavirus:	2.4-45.4%	0.4-71.9%	Medium
Fish farm gets infected with ranavirus:	0.1-19.2%	0-28.6%	Low

Assumptions:

- Considering one infected consignment (100% prevalence)
- Imported animals are destined for outdoor ponds

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Discussion and Perspectives

- Border control is inefficient –but is that a problem?
- Major data gaps:
  - prevalence of ranaviruses
  - carrierstatus
  - survival of virus in animals
  - transmission of virus between species, etc....
- Factors determining host susceptibility to ranaviruses should be clarified
- Epidemiologic investigations should be carried out when new outbreaks are detected
- Proper risk analyses should be carried out when amending legislation

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Ranavirus symposium organizers!

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