Risk Mitigation

Panel Discussion

What are the top successes, failures, and lessons from managing (or not) diseases of free-ranging swine?

- Successes
    - Oral vaccination (CSF, TB)
    - Poisoning has been effective
    - Public education/stakeholder outreach
    - Program efforts to increase stakeholder ownership of problem/solution (Australia)
    - Setting objectives = key to being successful and knowing that you are
    - **Biosecurity – is one of the key management actions
    - No intervention in wildlife = Israel
    - Contingency plans?
- Failures
    - Fencing in Lithuania
    - Fencing in Australia (other species not swine)
    - Culling (peudorabies)-SW Spain
        - Population reduction
        - But situation/population dependent
        - Also not sustainable (for native species)
    - Hunting to prevent spread of swine and their diseases
        - Actually could hurt through dispersal

- Lessons learned
  - Need for stakeholder involvement and education
    - Need to own the problem and the solution
    - Recognizing needs of the various stakeholders and their concerns
    - Attitudes vs actions
  - Need to consider hunting enclosures
  - Mitigation efforts need to be disease-specific
    - Not all diseases are density-dependent
    - Thresholds vary
  - Mitigation is dependent on whether native/exotic
  - Mitigation efforts may have unintended consequences
    - Biodiversity/conservation
    - Hunting increase dispersal
  - Cost importance is situational (crises or not)
  - Need to have collaboration across countries/disciplines = global vision
    - But also need to recognize regional considerations and biological constraints
  - Politics will always play a role in all decisions and not always scienced

What disease mitigation strategies are available and how well have they worked?

Current knowledge about the ecological, environmental, and agricultural impact of diseases and their intervention strategies?

- Seems to be very limited knowledge
  - Barriers effect on the boreal lynx
  - Area for more research
- Also need to look at economics or cost/benefit of control vs non-intervention

How can we assess the effectiveness and value of disease mitigations in free-ranging swine?

- Depends on **objectives** and disease
- Indices
  - Disease outbreak or not, changes in disease metrics
  - Crop or environmental damage
  - Reduction in disease metrics in livestock/humans
  - Stakeholder acceptance capacity
- Need to evaluate multiple species in multi-host systems
- Also depends on indicator

What are the key unknowns for managing disease risks to livestock, wildlife, and people?

- Good population demographic information
- Appropriate diagnostic tools for wildlife for disease detection/monitoring
- Lack of field experiments
- Quantification of the interface
- Social science investigations
  - Critical to integrate throughout the process
- How to facilitate collaborations – One Health, scientists, jurisdictions
- Role of other species
- Movement/behavioral ecology
- Natural history (unknown)
- Role of co-infection in all of this
- Environmental conditions/parameters
- Knowledge translation = policy makers, stakeholders can understand
  - How do we market the science