Surveillance of aquatic IAS in the Netherlands

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October 17, 2018, Sevilla
Inhoud

• Water system in the Netherlands

• View on IAS issues

• Surveillance of IAS (with focus on citizen science)
Water system NL

- Small country
- River delta
- > 1/3 below sea level
**Water system NL**

- Open system
- Interconnected waterways
- Regional water authorities
Water system: impression
View on IAS issues

- Dike safety
- Musk rat € 33 mln/year
- Coypu €2 mln/year
View on IAS issues

• Aquatic plants:
  › Water safety
  › Huge impact biodiversity
  › Recreation: swimming, fishing, boating
  › Impossible to eliminate
  › Management costs rise rapidly

*Elodea nuttallii*
View on IAS issues

- Crayfish and Chinese mitten crab
  - Huge impact biodiversity
  - Dike safety – crayfish dig holes
  - Impossible to eliminate
Surveillance step 1: Collecting data

- Monitoring:
  - Professional
  - Citizen Science
Professional monitoring

• By governments or large nature organizations
• Help from ‘species organizations’
• Also >15.000 volunteers
Citizen science

- www.waarneming.nl
- www.telmee.nl
Apps

• Also apps especially for registration of IAS
Surveillance step 2: Filing and managing data

- National Database Flora and Fauna (www.ndff.nl)
  - Collects all possible nature data in NL
  - Data are verified
Surveillance step 3: Using data

- Subscription for using data
- National, regional, local data
- Verification
- Early warning for new species
- Identification and rapid risk assessment

Conclusion

• Invasive alien species are huge problem in open water systems.
• Monitoring by both professionals and citizens.
• Massive contribution by volunteers.

• Cooperation with species organizations for validation and early warning.
• National database with ‘all’ data.

• Result: detailed ready to use information for management measures.