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THE PROCESS OF EVALUATING THE RISK OF INTRODUCING ALIEN SPECIES - REVIEW AND EXPERIENCE

POSTUPAK PROCJENE RIZIKA UVOĐENJA STRANIH VRSTA - OSVRT I ISKUSTVA

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Introduction

Uvod

- **Alien species** - a species introduced outside its normal distribution, into new areas that have not historically been part of their native range
- Synonyms include: allochtone, non-native, exotic, adventive plants, introduced
- **Invasive alien species** – an alien species whose establishment and spread modify ecosystems, habitats, or species
- According to the **Nature Protection Act** (O.G. 80/13), the **invasive alien species** is a species whose introduction and/or spread threatens biodiversity or human health or causes economic damage.

FIGURE 1. *Solanum tuberosum* -potato

FIGURE 2. *Myocastor coypus* - nutria

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Introduction

Uvod

Introduction

the transfer of taxa to some areas previously inhabited, as a consequence of deliberate or unintended human action

Unintentional introduction

(indirect, accidental or secondary introduction)

made as a result of a species utilizing humans or human delivery systems as vectors for dispersal outside its natural range

Intentional introduction

(direct, deliberate)

made deliberately by humans, involving the purposeful movement of a species outside of its natural range and dispersal potential

Introduction

Uvod

- In case of the **intentional introduction** to the nature of some alien, particularly (potentially) invasive alien species, it is necessary to obtain a permit from the Ministry of Environment and Energy
- **Ordinance on the method of preparing and implementing risk assessment studies with respect to introduction, reintroduction and breeding of wild taxa (O.G. 35/2008)**
- Pravilnik o načinu izrade i provođenju studije o procjeni rizika uvođenja, ponovnog uvođenja i uzgoja divljih svojti (NN 35/2008)
  - the Study is prepared **for each introduction** and re-introduction **separately**, and the risk is assessed for each taxonomic category
  - the **purpose of introduction**, re-introduction or cultivation
  - **properties of taxa** introduced, reintroduced or cultivated
  - **features of the ecosystem and habitats** in which the tax is introduced or reintroduced
  - the **influence of taxa on the habitat** and the ecosystem
  - the **influence of introduced taxa on existing taxa** in the ecological system, especially on protected and strictly protected taxa

Methodology

Metodologija

- In preparing the Study, **risk is assessed** based on available information (previous research, published data and scientific literature)
- In evaluating the expected impact on nature it is necessary to:

  - assess all impacts

  - to quantitatively and qualitatively evaluate information on risk assessment using recognized methodology
- Chosen **risk assessment methodology** needs to be

  - described in detail

  - reasons for choosing that methodology stated clearly

  - advantages and applicability explained

Methodology

Metodologija

- **EPPO (European and Mediterranean Plant Protection Organization)**

  Europska i mediteranska organizacija za zaštitu bilja

  - an intergovernmental organization responsible for European cooperation in plant health

  •**EPPO prioritization process (2012)** - intended as a simple and flexible tool to provide consistent lists of invasive alien plant species for EPPO countries

  - 11 questions

  - fast, user friendly, but only a screening tool

Methodology

Metodologija

		A5 – Spread potential		
		Low	Medium	High
Adverse impacts (maximum rating from questions A6, A7, and A8)	Low	List of minor concern	List of minor concern	List of minor concern
	Medium	List of minor concern	Observation list of invasive alien plants	Observation list of invasive alien plants
	High	Observation list of invasive alien plants	Observation list of invasive alien plants	**List of invasive alien plants** **Go to B1.**

FIGURE 3. Matrix combining spread potential and adverse impacts

Methodology

Metodologija

FIGURE 4. *Miscanthus* × *giganteus* (Illinois)

- **The Weed Risk Assessment (WRA) (1997)**
  - science-based biosecurity risk analysis tool for determining the weed potential of proposed new plant imports
  - Developed in the Western Australian Department of Agriculture
  - 49 questions
  - answers generate a numerical score relating to the weed potential of that plant

Methodology

Metodologija

FIGURE 4. *Paulownia tomentosa*

- **Harmonia⁺ protocol (2014)**
  - risk screening tools for potentially invasive alien species
  - developed for Belgian Science Policy Office (BELSPO)
  - 41 questions devided into 11 modules
  - calculates overall risk, invasion score and impact score
  - includes detailed guildlines on scoring
  - and confidence evaluation

Results and discussion

Rezultati i diskusija

- **Expert opinion** on the Study is issued by the Croatian Agency for the Environment and Nature
- Based on the expert opinion of the Agency the Ministry of Environment and Energy will **grant or decline a permit for introduction** of alien species into nature
- Issuing of the expert opinion: **thirty day deadline**
- In case of various shortcomings noted, Agency asks for betterments or supplements of the Study in the appropriate time frame

- **Time needed for each iteration include**
  - time for issuing of expert opinion: 30 days
  - time for issuing the conclusion: not prescribed by this Ordinance!
  - lasts 40 to 100 days: on average 59 days

- **Maximum number of iterations ?**

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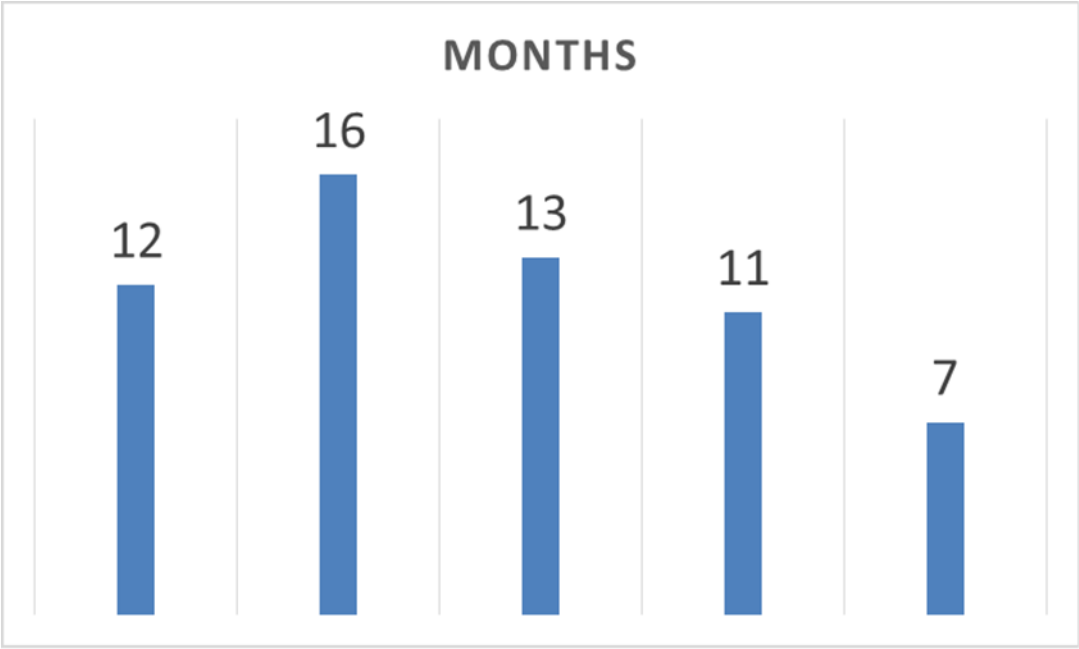
Results and discussion

Rezultati i diskusija



- **Period from submitting a request for introduction to the Ministry of Environment and Energy to issuing the permit: quite lengthy - on average 11.8 months**

Results and discussion

Rezultati i diskusija

- The role of the public involvement in the procedure

  - consultations announced publicly on web pages of the Ministry of Environment and Energy
  - lasts 30 days

- **Very low interest: zero to maximum one comment or suggestion per study**

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Possibility of improvement

Mogućnost poboljšanja

- **Proposal of law on the prevention and management of the introduction and spread of alien and invasive alien species**

  P.Z.E. No. 173 - proponent: Government of the Republic of Croatia
- Prijedlog Zakona o sprječavanju unošenja i širenja stranih te invazivnih stranih vrsta i upravljanju njima, prvo čitanje, P.Z.E. br. 173
- first reading on the agenda of the Croatian Parliament regular session starting 15th September
- Risk assessment study will be conducted by the expert body e.g. Agency
- White and black list of alien species

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