# 1. General information 1.1 Member State HR 1.2 Species code 1188 1.3 Species scientific name Bombina bombina 1.4 Alternative species scientific name

### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	No

### 3. Information related to Annex V Species (Art. 14)

1.5 Common name (in national language) crveni mukač

3.1 Is the species taken in the wild/exploited?
3.2 Which of the measures in Art. 14 have been taken?

) regulație

No

a) regulations regarding access to property	No
b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
c) regulation of the periods and/or methods of taking specimens	No
d) application of hunting and fishing rules which take account of the conservation of such populations	No
e) establishment of a system of licences for taking specimens or of quotas	No
f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
g) breeding in captivity of animal species as well as artificial propagation of plant species	No
h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Continental (CON)**

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Jelić, D., Karaica, D., 2012. First data on the fauna of amphibians and reptiles of the lower Una River and its coastal area. Hyla: Herpetological bulletin 2012, 22–41.

Jelić, D., Kuljerić, M., Koren, T., Treer, D., Šalamon, D., Lončar, M., Podnar Lešić, M., Janev Hutinec, B., Bogdanović, T., Mekinić, S., Jelić, K., 2012. Crvena knjiga vodozemaca i gmazova Hrvatske. Ministarstvo zaštite okoliša i prirode, Državni zavod za zaštitu prirode, Republika Hrvatska.

Jurinac, A.E., 1887. Prilog hrvatskoj fauni ogulinsko-slunjske okolice i pećina. Rad Jugoslavenske akademije znanosti i umjetnosti 8, 86–128.

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

### 5. Range

5.1 Surface area

26600

5.2 Short-term trend Period

2007-2018

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# Report on the main results of the surveillance under Article 11 for Annex

II, IV and V species (Ann	ex B)				
5.3 Short-term trend Direction	Unknown (x)				
5.4 Short-term trend Magnitude	a) Minimum	b) Maximum			
5.5 Short-term trend Method used	Insufficient or no data available				
5.6 Long-term trend Period					
5.7 Long-term trend Direction					
5.8 Long-term trend Magnitude	a) Minimum	b) Maximum			
5.9 Long-term trend Method used					
5.10 Favourable reference range	a) Area (km²)				
	b) Operator	Approximately equal to (≈)			
	c) Unknown	the in accompany and in its mathematical and the accompany			
	d) Method	It is our expert opinion that, based on the current distribution and extrapolated range (using Range Tool), the presented range covers the majority of the actual species' distribution in Croatia.			
5.11 Change and reason for change					
in surface area of range	The change is mainl	v due to:			
	The change is main	y dae to.			
5.12 Additional information					
6. Population					
6.1 Year or period	2007-2018				
6.2 Population size (in reporting unit)	a) Unit	number of map 1x1 km grid cells (grids1x1)			
	b) Minimum				
	c) Maximum				
	d) Best single value	330			
6.3 Type of estimate	Minimum				

_	2	Typo	of	actimate.

# 6.3 Type of estimate

6.4 Additional population size (using population unit other than reporting unit)

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

6.5 Type of estimate

6.6 Population size Method used Based mainly on expert opinion with very limited data

6.7 Short-term trend Period 2007-2018

6.8 Short-term trend Direction Decreasing (-)

6.9 Short-term trend Magnitude a) Minimum b) Maximum

c) Confidence interval

6.10 Short-term trend Method used

Based mainly on expert opinion with very limited data

6.11 Long-term trend Period

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6.12 Long-term trend Direction

6.13 Long-term trend Magnitude

- a) Minimum
- b) Maximum
- c) Confidence interval

6.14 Long-term trend Method used

6.15 Favourable reference population (using the unit in 6.2 or 6.4)

- a) Population size
- b) Operator
- c) Unknown x
- d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

Jelić et al. (2012) state that the population trend in Croatia is negative.

Populations of B. variegata and B. bombina in the continental biogeographic region in Croatia greatly overlap and hybrids are regularly present in those areas.

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Unknown

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

Insufficient or no data available

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Decreasing (-)

7.5 Short-term trend Method used

Based mainly on expert opinion with very limited data

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

Jelić et al. (2012) state that habitat loss is one of the main threats to the survival of this species. The drainage of wetlands is an ongoing problem in Croatia.

### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Drainage (K02)	Н
Change of habitat location, size, and / or quality due to climate change (N05)	М
Drainage for use as agricultural land (A31)	M
Use of plant protection chemicals in agriculture (A21)	M

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Threat	Ranking
Drainage (K02)	Н
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Drainage for use as agricultural land (A31)	M
Plant and animal diseases, pathogens and pests (105)	M
Use of plant protection chemicals in agriculture (A21)	M

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

Manage changes in hydrological and coastal systems and regimes for construction and development (CF10)

Reduce impact of multi-purpose hydrological changes (CJ02)

Manage the use of natural fertilisers and chemicals in agricultural (plant and animal) production (CA09)

9.6 Additional information

Conservation measures are included in water management planning documents. However, as there is no systematic monitoring, there is no data to what extent are these measures really incorporated in water management activities and the system for evaluation of effectiveness of those measures is lacking.

#### 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Poor Poor

c) Habitat of the species

10.2 Additional information

#### 11. Conclusions

11.1. Range Unknown (XX)

11.2. Population Unknown (XX)

11.3. Habitat for the species Unknown (XX)

11.4. Future prospects Unknown (XX)

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11.5 Overall assessment of Conservation Status

11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

Unknown (XX)

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCls, SCls and SACs network (on the biogeographical/marine level including all sites where the species is present)

a) Unit

number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 213

12.2 Type of estimate

12.3 Population size inside the network Method used

12.4 Short-term trend of population size within the network Direction

12.5 Short-term trend of population size within the network Method used

Minimum

Based mainly on expert opinion with very limited data

Unknown (x)

Insufficient or no data available

12.6 Additional information

### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

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# 1. General information 1.1 Member State 1.2 Species code 1.3 Species scientific name 1.4 Alternative species scientific name 1.5 Common name (in national language)

### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

# 3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the wild/exploited?
3.2 Which of the measures in Art.

No

a) regulations regarding access to property	No
b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
c) regulation of the periods and/or methods of taking specimens	No
d) application of hunting and fishing rules which take account of the conservation of such populations	No
e) establishment of a system of licences for taking specimens or of quotas	No
f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
g) breeding in captivity of animal species as well as artificial propagation of plant species	No
h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period						
	Season/ Season/ Season/ Season/ Season/ year 1 year 2 year 3 year 4 year 5 year 6						
Min. (raw, ie. not rounded)							
Max. (raw, ie. not rounded)							
Unknown	No	No	No	No	No	No	

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

# 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Mediterranean (MED)**

Depoli, G., 1898. I Rettili ed Anfibii del territorio di Fiume. Riv. it. Sc. Nat. 18, 47–50.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Jelić, D., Kuljerić, M., Koren, T., Treer, D., Šalamon, D., Lončar, M., Podnar Lešić, M., Janev Hutinec, B., Bogdanović, T., Mekinić, S., Jelić, K., 2012. Crvena knjiga vodozemaca i gmazova Hrvatske. Ministarstvo zaštite okoliša i prirode, Državni zavod za zaštitu prirode, Republika Hrvatska.

Lanza, B., Vanni, S., 1987. Hypothesis on the Origins of the Mediterranean Islands Batrachofauna. Bulletin de la Socièté Zoologique de France 112, 179–196. Pavletić, J., 1964. Amphibia i reptilia: zbirke Hrvatskog narodnog zoološkog muzeja u Zagrebu. Hrvatski narodni zoološki muzej, Zagreb.

Schimmenti, G., Fabris, V., 2000. Note sull 'erpetofauna dell'isola di Krk (Croatia nordoccidentale). Museo Regionale di Scienze Naturali Torino 2000, 643–652. Tóth, T., Grillitsch, H., Farkas, B., Gál, J., Sušić, G., 2006. Herpetofaunal data from Cres Island, Croatia. Herpetozoa 19, 27–58.

Tvrtković, N., Kletečki, E., 1993. Vertebrates of the Velebit mountain (Croatia). Part I: Amphibians. Natura Croatica 2, 27–46

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

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#### 5. Range

5.1 Surrace area	9300
5.2 Short-term trend Period	2007-2018

5.3 Short-term trend Direction Unknown (x)

5.4 Short-term trend Magnitude a) Minimum b) Maximum

5.5 Short-term trend Method used Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude a) Minimum b) Maximum

5.9 Long-term trend Method used

5.10 Favourable reference range a) Area (km²) b) Operator

c) Unknown x

d) Method

in surface area of range

The change is mainly due to:

5.12 Additional information

5.11 Change and reason for change

#### 6. Population

6.1 Year or period

2007-2018

c) Maximum

6.2 Population size (in reporting unit) a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

d) Best single value 132

6.3 Type of estimate Minimum

6.4 Additional population size (using population unit other than reporting unit)

a) Unit
b) Minimum

c) Maximum

d) Best single value

6.5 Type of estimate

6.6 Population size Method used Based mainly on expert opinion with very limited data

6.7 Short-term trend Period 2007-2018

6.8 Short-term trend Direction Unknown (x)

6.9 Short-term trend Magnitude a) Minimum b) Maximum

c) Confidence interval

6.10 Short-term trend Method used Insufficient or no data available

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- 6.11 Long-term trend Period
- 6.12 Long-term trend Direction
- 6.13 Long-term trend Magnitude
- a) Minimum
- b) Maximum
- c) Confidence interval
- 6.14 Long-term trend Method used
- 6.15 Favourable reference population (using the unit in 6.2 or 6.4)
- a) Population size
- b) Operator
- c) Unknown
- d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Unknown

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

Insufficient or no data available

7.3 Short-term trend Period

2007-2018

7.5 Short term trend rendu

Unknown (x)

7.4 Short-term trend Direction

Insufficient or no data available

- 7.5 Short-term trend Method used
- 7.6 Long-term trend Period
- 7.7 Long-term trend Direction
- 7.8 Long-term trend Method used
- 7.9 Additional information

### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Plant and animal diseases, pathogens and pests (105)	M
Change of habitat location, size, and / or quality due to climate change (N05)	M
Use of plant protection chemicals in agriculture (A21)	M
Clear-cutting, removal of all trees (B09)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	M

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Threat	Ranking
Plant and animal diseases, pathogens and pests (I05)	Н
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Use of plant protection chemicals in agriculture (A21)	M
Clear-cutting, removal of all trees (B09)	M
Interspecific relations (competition, predation, parasitism, pathogens) (LO6)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

#### Reduce impact of multi-purpose hydrological changes (CJ02)

9.6 Additional information

Conservation measures are included in water management planning documents. However, as there is no systematic monitoring, there is no data to what extent are these measures really incorporated in water management activities and the system for evaluation of effectiveness of those measures is lacking.

### 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Unknown

c) Habitat of the species

Unknown

#### 10.2 Additional information

#### 11. Conclusions

11.1. Range

Unknown (XX)

11.2. Population

Unknown (XX)

11.3. Habitat for the species

Unknown (XX)

11.4. Future prospects

Unknown (XX)

11.5 Overall assessment of

Unknown (XX)

Conservation Status

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11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

a) Unit

number of map 1x1 km grid cells (grids1x1)

- b) Minimum
- c) Maximum
- d) Best single value 95

12.2 Type of estimate

12.3 Population size inside the network Method used

Minimum

Based mainly on expert opinion with very limited data

12.4 Short-term trend of population

size within the network Direction

12.5 Short-term trend of population

size within the network Method used

Unknown (x)

Insufficient or no data available

12.6 Additional information

### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs Alpine (ALP)

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4.2 Sources of information

Depoli, G., 1898. I Rettili ed Anfibii del territorio di Fiume. Riv. it. Sc. Nat. 18, 47–50.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Jelić, D., Kuljerić, M., Koren, T., Treer, D., Šalamon, D., Lončar, M., Podnar Lešić, M., Janev Hutinec, B., Bogdanović, T., Mekinić, S., Jelić, K., 2012. Crvena knjiga vodozemaca i gmazova Hrvatske. Ministarstvo zaštite okoliša i prirode, Državni zavod za zaštitu prirode, Republika Hrvatska.

Lanza, B., Vanni, S., 1987. Hypothesis on the Origins of the Mediterranean Islands Batrachofauna. Bulletin de la Socièté Zoologique de France 112, 179–196. Pavletić, J., 1964. Amphibia i reptilia: zbirke Hrvatskog narodnog zoološkog muzeja u Zagrebu. Hrvatski narodni zoološki muzej, Zagreb.

Schimmenti, G., Fabris, V., 2000. Note sull 'erpetofauna dell'isola di Krk (Croatia nordoccidentale). Museo Regionale di Scienze Naturali Torino 2000, 643–652. Tóth, T., Grillitsch, H., Farkas, B., Gál, J., Sušić, G., 2006. Herpetofaunal data from Cres Island, Croatia. Herpetozoa 19, 27–58.

Tvrtković, N., Kletečki, E., 1993. Vertebrates of the Velebit mountain (Croatia). Part I: Amphibians. Natura Croatica 2, 27–46

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area

5.2 Short-term trend Period

5.3 Short-term trend Direction

5.4 Short-term trend Magnitude

5.5 Short-term trend Method used

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude

5.9 Long-term trend Method used

5.10 Favourable reference range

10500

2007-2018

Unknown (x)

a) Minimum

Insufficient or no data available

a) Minimum

b) Maximum

b) Maximum

a) Area (km²)

b) Operator

Approximately equal to (≈)

c) Unknown

d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

5.12 Additional information

## 6. Population

6.1 Year or period

2007-2018

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6.2 Population size (in reporting unit)	a) Unit number of map 1x1 km grid cells (grids1x1) b) Minimum c) Maximum d) Best single value 95
6.3 Type of estimate	Minimum
6.4 Additional population size (using population unit other than reporting unit)	a) Unit b) Minimum c) Maximum d) Best single value
6.5 Type of estimate	
6.6 Population size Method used	Based mainly on expert opinion with very limited data
6.7 Short-term trend Period	2007-2018
6.8 Short-term trend Direction	Unknown (x)
6.9 Short-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.10 Short-term trend Method used	Insufficient or no data available
6.11 Long-term trend Period	
6.12 Long-term trend Direction	
6.13 Long-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.14 Long-term trend Method used	
6.15 Favourable reference population (using the unit in 6.2 or 6.4)	a) Population size b) Operator c) Unknown x d) Method
6.16 Change and reason for change in population size	The change is mainly due to:
6.17 Additional information	
7. Habitat for the species	
7.1 Sufficiency of area and quality of occupied habitat	a) Are area and quality of occupied habitat Yes sufficient (for long-term survival)?
	b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term

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Based mainly on expert opinion with very limited data

survival)?

7.2 Sufficiency of area and quality of

occupied habitat Method used

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Unknown (x)

7.5 Short-term trend Method used

Insufficient or no data available

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Clear-cutting, removal of all trees (B09)	M
Change of habitat location, size, and / or quality due to climate change (N05)	M
Threat	Ranking
Plant and animal diseases, pathogens and pests (105)	Н
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Use of plant protection chemicals in agriculture (A21)	M
Clear-cutting, removal of all trees (B09)	M

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

Manage changes in hydrological and coastal systems and regimes for construction and development (CF10)

Reduce impact of multi-purpose hydrological changes (CJ02)

Manage the use of natural fertilisers and chemicals in agricultural (plant and animal) production (CA09)

9.6 Additional information

Conservation measures are included in water management planning documents. However, as there is no systematic monitoring, there is no data to what extent are these measures really incorporated in water management activities and the

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system for evaluation of effectiveness of those measures is lacking.

#### 10. Future prospects

10.1 Future prospects of parameters

a) Range Unknown

b) Population Unknown

c) Habitat of the species Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range Unknown (XX)

11.2. Population Unknown (XX)

11.3. Habitat for the species Unknown (XX)

11.4. Future prospects Unknown (XX)

11.5 Overall assessment of Unknown (XX)
Conservation Status

11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCls, SCls and SACs network (on the biogeographical/marine level including all sites where the species is present)

a) Unit

number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 74

12.2 Type of estimate

12.3 Population size inside the network Method used

**Minimum** 

Based mainly on expert opinion with very limited data

12.4 Short-term trend of population size within the network Direction

Unknown (x)

12.5 Short-term trend of population size within the network Method used

Insufficient or no data available

12.6 Additional information

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#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Continental (CON)**

Depoli, G., 1898. I Rettili ed Anfibii del territorio di Fiume. Riv. it. Sc. Nat. 18, 47–50.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

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Jelić, D., Kuljerić, M., Koren, T., Treer, D., Šalamon, D., Lončar, M., Podnar Lešić, M., Janev Hutinec, B., Bogdanović, T., Mekinić, S., Jelić, K., 2012. Crvena knjiga vodozemaca i gmazova Hrvatske. Ministarstvo zaštite okoliša i prirode, Državni zavod za zaštitu prirode, Republika Hrvatska.

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Schimmenti, G., Fabris, V., 2000. Note sull 'erpetofauna dell'isola di Krk (Croatia nordoccidentale). Museo Regionale di Scienze Naturali Torino 2000, 643–652. Tóth, T., Grillitsch, H., Farkas, B., Gál, J., Sušić, G., 2006. Herpetofaunal data from Cres Island, Croatia. Herpetozoa 19, 27–58.

Tvrtković, N., Kletečki, E., 1993. Vertebrates of the Velebit mountain (Croatia). Part I: Amphibians. Natura Croatica 2, 27–46

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

### 5. Range

5.1 Surface area

30300

5.2 Short-term trend Period

2007-2018

5.3 Short-term trend Direction

Unknown (x)
a) Minimum

5.4 Short-term trend Magnitude

b) Maximum

5.5 Short-term trend Method used

Insufficient or no data available

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ii, iv aliu v species (Alii	iex bj	
5.6 Long-term trend Period		
5.7 Long-term trend Direction		
5.8 Long-term trend Magnitude	a) Minimum	b) Maximum
5.9 Long-term trend Method used		
5.10 Favourable reference range	a) Area (km²)	
	b) Operator	Approximately equal to (≈)
	c) Unknown d) Method	
5.11 Change and reason for change	,	
in surface area of range	The above to sect the	and a second
	The change is mainl	y due to:
5.12 Additional information		
6. Population		
6.1 Year or period	2007-2018	
6.2 Population size (in reporting unit)	a) Unit	number of map 1x1 km grid cells (grids1x1)
	b) Minimum	
	c) Maximum	
	d) Best single value	534
6.3 Type of estimate	Minimum	
6.4 Additional population size (using	a) Unit	
population unit other than reporting	b) Minimum	
unit)	c) Maximum	
	d) Best single value	
6.5 Type of estimate		
6.6 Population size Method used	Based mainly on exp	pert opinion with very limited data
6.7 Short-term trend Period	2007-2018	
6.8 Short-term trend Direction	Unknown (x)	
6.9 Short-term trend Magnitude	a) Minimum	
	b) Maximum	
C 10 Chart town two of Bilath advers	c) Confidence interv	
6.10 Short-term trend Method used	Insufficient or no da	ta avaliapie
6.11 Long-term trend Period		
6.12 Long-term trend Direction		
6.12 Long torm trond Magnitude	a) Minimum	
6.13 Long-term trend Magnitude	a) Minimum b) Maximum	

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c) Confidence interval

6.14 Long-term trend Method used

х

- 6.15 Favourable reference population (using the unit in 6.2 or 6.4)
- a) Population size
- b) Operator
- c) Unknown
- d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

Populations of B. variegata and B. bombina in the continental biogeographic region in Croatia greatly overlap and hybrids are regularly present in those areas.

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Yes

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

Based mainly on expert opinion with very limited data

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Unknown (x)

7.5 Short-term trend Method used

Insufficient or no data available

- 7.6 Long-term trend Period
- 7.7 Long-term trend Direction
- 7.8 Long-term trend Method used
- 7.9 Additional information

### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Clear-cutting, removal of all trees (B09)	M
Use of plant protection chemicals in agriculture (A21)	M
Change of habitat location, size, and / or quality due to climate change (N05)	M
Threat	Ranking
Clear-cutting, removal of all trees (B09)	M
Use of plant protection chemicals in agriculture (A21)	M
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Plant and animal diseases, pathogens and pests (105)	Н

8.2 Sources of information

8.3 Additional information

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#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

Manage changes in hydrological and coastal systems and regimes for construction and development (CF10)

Reduce impact of multi-purpose hydrological changes (CJ02)

Manage the use of natural fertilisers and chemicals in agricultural (plant and animal) production (CA09)

9.6 Additional information

Conservation measures are included in water management planning documents. However, as there is no systematic monitoring, there is no data to what extent are these measures really incorporated in water management activities and the system for evaluation of effectiveness of those measures is lacking.

#### 10. Future prospects

10.1 Future prospects of parameters

- a) Range
- Unknown
- b) Population
- Unknown
- c) Habitat of the species
- Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range

Unknown (XX)

11.2. Population

Unknown (XX)

11.3. Habitat for the species

Unknown (XX)

11.4. Future prospects

Unknown (XX)

11.5 Overall assessment of **Conservation Status** 

Unknown (XX)

11.6 Overall trend in Conservation Status

a) Overall assessment of conservation status

11.7 Change and reasons for change in conservation status and conservation status trend

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

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11.8 Additional information

### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

a) Unit

number of map 1x1 km grid cells (grids1x1)

- b) Minimum
- c) Maximum
- d) Best single value 290

12.2 Type of estimate

12.3 Population size inside the network Method used

Minimum

Based mainly on expert opinion with very limited data

12.4 Short-term trend of population size within the network Direction

Unknown (x)

12.5 Short-term trend of population size within the network Method used Insufficient or no data available

12.6 Additional information

### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

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#### 1. General information 1.1 Member State HR 1.2 Species code 6962 1.3 Species scientific name **Bufotes viridis Complex** 1.4 Alternative species scientific name 1.5 Common name (in national language) zelena krastača

### 2. Maps

3.1 Is the species taken in the

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	No

### 3. Information related to Annex V Species (Art. 14)

No

wild/exploited?		
3.2 Which of the measures in Art.	a) regulations regarding access to property	No
14 have been taken?	b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
	c) regulation of the periods and/or methods of taking specimens	No
	d) application of hunting and fishing rules which take account of the conservation of such populations	No
	e) establishment of a system of licences for taking specimens or of quotas	No

f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens g) breeding in captivity of animal species as well as No artificial propagation of plant species h) other measures No

No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Mediterranean (MED)**

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

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Hlavati, D., 2011. Winter activity of Pseudepidalea viridis (L a u r e n t i , 1768). Hyla: Herpetological bulletin 2011, 47–48.

Kiauta, B., 1954. Vtisi biologa iz Male Paklenice. Proteus 17, 115–118.

Koren, T., Lauš, B., Burić, I., Kuljerić, M., 2011. Contribution to the herpetofauna (amphibians & reptiles) of the Kornati archipelago, Croatia. Natura Croatica 20, 387–396.

Kušt, M., 1999. (4) Herpetološka grupa, in: Lukač, G. (Ed.), Međunarodni ljetni biološki kamp "Paklenica '99." Udruga studenata biologije – BIUS, Starigrad Paklenica, pp. 9–12.

Lauš, B., 2010. A contribution to the herpetofauna of Žirje Island (Dalmatia, Croatia). Natura Sloveniae 12, 61–63.

Lucić, V., Kapelj, S., Strišković, S., Popić, S., Kolarić, A., Kovač, D., Krstinić, P., Čolić, L., 2008. Inventory survey of the herpetofauna in the Lastovo archipelago Nature Park, in: Prvan, M., Čavrak, V.V. (Eds.), . Udruga studenata biologije - BIUS, Zagreb, pp. 96–99.

Mosauer, W., Wallis, K., 1924. Herpetologisches von einer Reise nach Istrien. Blätter für Aquarien- und Terrarienkunde 35, 172–175.

Osojnik, N., 2017. Poročilo o delu skupine za dvoživke, in: Ekosistemi Balkana,

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Vransko jezero 2016. Društvo študentov biologije, Ljubljana, pp. 58–64. Peaker, M., Peaker, S.J., 1968. Spring herpetofauna of the Rovinj area (Istria, Yugoslavia). British Journal of Herpetology 4, 36–37.

Schimmenti, G., Fabris, V., 2000. Note sull 'erpetofauna dell'isola di Krk (Croatia nordoccidentale). Museo Regionale di Scienze Naturali Torino 2000, 643-652. Tóth, T., Farkas, B., Géczy, C., Molnár, Z., 2009a. Herpetofaunal data from Ilovik and neighboring islets (Cres-Lošinj Archipelago, Croatia). Herpetozoa 22, 82-87. Tóth, T., Géczy, C., Sós, E., Molnár, Z., Halpern, B., 2009b. Further data on the herpetofauna of Lošinj Island, Croatia. Herpetozoa 21, 192.

Vervust, B., Grbac, I., Brecko, J., Tvrtković, N., Van Damme, R., 2009. Distribution of reptiles and amphibians in the nature park Lastovo Archipelago: possible underlying biotic and abiotic causes. Natura Croatica: Periodicum Musei Historiae Naturalis Croatici 18, 113-127.

Werner, F., 1891. Biologische Beobachtungen an Reptilien von Istrien und Dalmatien. Der Zoologische Garten.

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area

23400

5.2 Short-term trend Period

2007-2018

5.3 Short-term trend Direction

Unknown (x)

5.4 Short-term trend Magnitude

a) Minimum

Insufficient or no data available

5.5 Short-term trend Method used

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude

5.9 Long-term trend Method used

5.10 Favourable reference range

a) Minimum

b) Maximum

b) Maximum

a) Area (km²)

b) Operator

c) Unknown

d) Method

Х

5.11 Change and reason for change in surface area of range

The change is mainly due to:

5.12 Additional information

### 6. Population

6.1 Year or period

2007-2018

6.2 Population size (in reporting unit)

a) Unit

number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 213

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ii, iv aliu v species (Alii	iek bj	
6.3 Type of estimate	Minimum	
6.4 Additional population size (using population unit other than reporting unit)	<ul><li>a) Unit</li><li>b) Minimum</li><li>c) Maximum</li><li>d) Best single value</li></ul>	
6.5 Type of estimate		
6.6 Population size Method used	Based mainly on expert opinion with very limited of	data
6.7 Short-term trend Period	2007-2018	
6.8 Short-term trend Direction	Unknown (x)	
6.9 Short-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval	
6.10 Short-term trend Method used	Insufficient or no data available	
6.11 Long-term trend Period		
6.12 Long-term trend Direction		
6.13 Long-term trend Magnitude	<ul><li>a) Minimum</li><li>b) Maximum</li><li>c) Confidence interval</li></ul>	
6.14 Long-term trend Method used		
6.15 Favourable reference population (using the unit in 6.2 or 6.4)	a) Population size b) Operator c) Unknown x d) Method	
6.16 Change and reason for change in population size	The change is mainly due to:	
6.17 Additional information		
7. Habitat for the species		
7.1 Sufficiency of area and quality of occupied habitat	a) Are area and quality of occupied habitat sufficient (for long-term survival)?	Unknown
	b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?	
7.2 Sufficiency of area and quality of occupied habitat Method used	Insufficient or no data available	
7.3 Short-term trend Period	2007-2018	
7.4 Short-term trend Direction	Unknown (x)	
7.5 Short-term trend Method used	Insufficient or no data available	
7.6 Long-term trend Period		

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7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Change of habitat location, size, and / or quality due to climate change (N05)	M
Use of plant protection chemicals in agriculture (A21)	M
Threat	Ranking
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	M
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Use of plant protection chemicals in agriculture (A21)	M
Plant and animal diseases, pathogens and pests (105)	Н
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	Н
Drainage (K02)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

### 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Unknown

c) Habitat of the species

Poor

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10.2 Additional information

#### 11. Conclusions

11.1. Range	Unknown (XX)
11.2. Population	Unknown (XX)
11.3. Habitat for the species	Unknown (XX)

11.4. Future prospects	Unknown (XX)
11.5 Overall assessment of	Unknown (XX)

Conservation Status
11.6 Overall trend in Conservation
Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

# 13. Complementary information

- 13.1 Justification of % thresholds for trends
- 13.2 Trans-boundary assessment
- 13.3 Other relevant Information

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#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### Alpine (ALP)

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Henle, K., 1980. Herpetologische Beobachtungen in der Umgebung Rovinjs. Herpetofauna 6, 6–10.

Hlavati, D., 2011. Winter activity of Pseudepidalea viridis (L a u r e n t i , 1768). Hyla: Herpetological bulletin 2011, 47–48.

Kiauta, B., 1954. Vtisi biologa iz Male Paklenice. Proteus 17, 115–118.

Koren, T., Lauš, B., Burić, I., Kuljerić, M., 2011. Contribution to the herpetofauna (amphibians & reptiles) of the Kornati archipelago, Croatia. Natura Croatica 20, 387–396.

Kušt, M., 1999. (4) Herpetološka grupa, in: Lukač, G. (Ed.), Međunarodni ljetni biološki kamp "Paklenica '99." Udruga studenata biologije – BIUS, Starigrad Paklenica, pp. 9–12.

Lauš, B., 2010. A contribution to the herpetofauna of Žirje Island (Dalmatia, Croatia). Natura Sloveniae 12, 61–63.

Lucić, V., Kapelj, S., Strišković, S., Popić, S., Kolarić, A., Kovač, D., Krstinić, P., Čolić, L., 2008. Inventory survey of the herpetofauna in the Lastovo archipelago Nature Park, in: Prvan, M., Čavrak, V.V. (Eds.), . Udruga studenata biologije - BIUS, Zagreb, pp. 96–99.

Mosauer, W., Wallis, K., 1924. Herpetologisches von einer Reise nach Istrien. Blätter für Aquarien- und Terrarienkunde 35, 172–175.

Osojnik, N., 2017. Poročilo o delu skupine za dvoživke, in: Ekosistemi Balkana, Vransko jezero 2016. Društvo študentov biologije, Ljubljana, pp. 58–64.

Peaker, M., Peaker, S.J., 1968. Spring herpetofauna of the Rovinj area (Istria, Yugoslavia). British Journal of Herpetology 4, 36–37.

Schimmenti, G., Fabris, V., 2000. Note sull 'erpetofauna dell'isola di Krk (Croatia nordoccidentale). Museo Regionale di Scienze Naturali Torino 2000, 643–652. Tóth, T., Farkas, B., Géczy, C., Molnár, Z., 2009a. Herpetofaunal data from Ilovik and neighboring islets (Cres-Lošinj Archipelago, Croatia). Herpetozoa 22, 82–87. Tóth, T., Géczy, C., Sós, E., Molnár, Z., Halpern, B., 2009b. Further data on the herpetofauna of Lošinj Island, Croatia. Herpetozoa 21, 192.

Vervust, B., Grbac, I., Brecko, J., Tvrtković, N., Van Damme, R., 2009. Distribution of reptiles and amphibians in the nature park Lastovo Archipelago: possible underlying biotic and abiotic causes. Natura Croatica: Periodicum Musei Historiae Naturalis Croatici 18, 113–127.

Werner, F., 1891. Biologische Beobachtungen an Reptilien von Istrien und Dalmatien. Der Zoologische Garten.

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

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### 5. Range

5.1 Surface area 3800

5.2 Short-term trend Period 2007-2018

5.3 Short-term trend Direction Unknown (x)

5.4 Short-term trend Magnitude a) Minimum b) Maximum

5.5 Short-term trend Method used Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude a) Minimum b) Maximum

5.9 Long-term trend Method used

5.10 Favourable reference range a) Area (km²) b) Operator

c) Unknown x

d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

5.12 Additional information

### 6. Population

**6.1 Year or period** 2007-2018

6.2 Population size (in reporting unit) a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 8

6.3 Type of estimate Minimum

6.4 Additional population size (using population unit other than reporting unit)

a) Unit
b) Minimum

c) Maximum

d) Best single value

6.5 Type of estimate

6.6 Population size Method used Based mainly on expert opinion with very limited data

6.7 Short-term trend Period 2007-2018

6.8 Short-term trend Direction Unknown (x)

6.9 Short-term trend Magnitude a) Minimum

b) Maximum

c) Confidence interval

6.10 Short-term trend Method used Insufficient or no data available

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6.11 Long-term trend Period

6.12 Long-term trend Direction

6.13 Long-term trend Magnitude

- a) Minimum
- b) Maximum
- c) Confidence interval

6.14 Long-term trend Method used

6.15 Favourable reference population (using the unit in 6.2 or 6.4)

- a) Population size
- b) Operator
- c) Unknown
- d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Unknown

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

X

7.2 Sufficiency of area and quality of occupied habitat Method used

Insufficient or no data available

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Unknown (x)

7.5 Short-term trend Method used

Insufficient or no data available

- 7.6 Long-term trend Period
- 7.7 Long-term trend Direction
- 7.8 Long-term trend Method used
- 7.9 Additional information

### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Change of habitat location, size, and / or quality due to climate change (NO5)	M
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M

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Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	M
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Plant and animal diseases, pathogens and pests (105)	Н
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures a) Are measures needed?

b) Indicate the status of measures Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

### 10. Future prospects

10.1 Future prospects of parameters a) Range Unknown b) Population Unknown

c) Habitat of the species Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range Unknown (XX)

11.2. Population Unknown (XX)

11.3. Habitat for the species Unknown (XX)

11.4. Future prospects Unknown (XX)

11.5 Overall assessment of Unknown (XX) Conservation Status

11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

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b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

- 12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)
- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

### 13. Complementary information

- 13.1 Justification of % thresholds for trends
- 13.2 Trans-boundary assessment
- 13.3 Other relevant Information

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## 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Continental (CON)**

Džukić, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

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#### 5. Range

5.10 Favourable reference range

5.1 Surface area 18500 5.2 Short-term trend Period 2007-2018 5.3 Short-term trend Direction Unknown (x) 5.4 Short-term trend Magnitude a) Minimum 5.5 Short-term trend Method used Insufficient or no data available 5.6 Long-term trend Period 5.7 Long-term trend Direction 5.8 Long-term trend Magnitude a) Minimum 5.9 Long-term trend Method used

b) Maximum

b) Maximum

a) Area (km²)

b) Operator

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c) Unknown x d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

5.12 Additional information

#### 6. Population

**6.1 Year or period** 2007-2018

6.2 Population size (in reporting unit)

a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 63

Minimum

6.4 Additional population size (using population unit other than reporting unit)

a) Unit

b) Minimum

c) Maximum

d) Best single value

6.5 Type of estimate

6.3 Type of estimate

6.6 Population size Method used Based mainly on expert opinion with very limited data

6.7 Short-term trend Period

2007-2018

6.8 Short-term trend Direction

Unknown (x)

6.9 Short-term trend Magnitude

a) Minimum

b) Maximum

c) Confidence interval

6.10 Short-term trend Method used

end Method used Insufficient or no data available

6.11 Long-term trend Period

6.12 Long-term trend Direction

6.13 Long-term trend Magnitude

a) Minimum

b) Maximum

c) Confidence interval

6.14 Long-term trend Method used

6.15 Favourable reference population (using the unit in 6.2 or 6.4)

a) Population size

b) Operator

c) Unknown x

d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

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6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Yes

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

Based mainly on expert opinion with very limited data

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Unknown (x)

7.5 Short-term trend Method used

Insufficient or no data available

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Change of habitat location, size, and / or quality due to climate change (N05)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	M
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	Н
Plant and animal diseases, pathogens and pests (105)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

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9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters

a) Range Unknown

b) Population Unknown

c) Habitat of the species Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range Unknown (XX)

11.2. Population Unknown (XX)

11.3. Habitat for the species Unknown (XX)

11.4. Future prospects Unknown (XX)

11.5 Overall assessment of Unknown (XX) Conservation Status

11.6 Overall trend in Conservation
Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

# 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

a) Unit

b) Minimum

c) Maximum

d) Best single value

12.2 Type of estimate

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12.3 Population size inside the network Method used

12.4 Short-term trend of population size within the network Direction

12.5 Short-term trend of population size within the network Method used

12.6 Additional information

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

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# 1. General information 1.1 Member State HR 1.2 Species code 1203 1.3 Species scientific name Hyla arborea 1.4 Alternative species scientific name 1.5 Common name (in national language) gatalinka

#### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

#### 3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the wild/exploited?
3.2 Which of the measures in Art 14 have been taken?

No

a) regulations regarding access to property	No
b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
c) regulation of the periods and/or methods of taking specimens	No
d) application of hunting and fishing rules which take account of the conservation of such populations	No
e) establishment of a system of licences for taking specimens or of quotas	No
f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
g) breeding in captivity of animal species as well as artificial propagation of plant species	No
h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Mediterranean (MED)**

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb.

Bogdanović, T., 2008. Inventarizacija i valorizacija faune vodozemaca (Amphibia) i gmazova (Reptilia) Parka prirode "Papuk." Sveučilište J. J. Strossmayera, Odjel za biologiju, Osjek.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

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Jelić, D., Karaica, D., 2012. First data on the fauna of amphibians and reptiles of the lower Una River and its coastal area. Hyla: Herpetological bulletin 2012, 22–41.

Koren, T., Črne, M., Koprivnikar, N., Trkov, D., Drašler, K., Jelić, D., 2013. Contribution to the herpetofauna (Amphibia & Reptilia) of lower Neretva River (Croatia & Bosnia and Herzegovina). Hyla: Herpetological bulletin 2012, 19–40. Koren, T., Jelić, D., 2011. Interesting color forms of the European tree frog, Hyla arborea (Linnaeus, 1758) (Amphibia: Ranidae) from Croatia. HYLA: Herpetological bulletin 2011, 27–29.

Osojnik, N., 2017. Poročilo o delu skupine za dvoživke, in: Ekosistemi Balkana, Vransko jezero 2016. Društvo študentov biologije, Ljubljana, pp. 58–64. M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

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#### 5. Range

5.1 Surface area	18900
5.2 Short-term trend Period	2007-2018
5.3 Short-term trend Direction	Unknown (x)

5.4 Short-term trend Magnitude a) Minimum b) Maximum

5.5 Short-term trend Method used Insufficient or no data available

5.6 Long-term trend Period

5.8 Long-term trend Magnitude a) Minimum b) Maximum

5.9 Long-term trend Method used

5.10 Favourable reference range a) Area (km²) b) Operator

c) Unknown x

d) Method

in surface area of range

The change is mainly due to:

5.12 Additional information

5.11 Change and reason for change

5.7 Long-term trend Direction

#### 6. Population

6.1 Year or period

2007-2018

6.2 Population size (in reporting unit) a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum c) Maximum

d) Best single value 101

6.3 Type of estimate Minimum

6.4 Additional population size (using population unit other than reporting unit)

a) Unit
b) Minimum
c) Maximum

d) Best single value

6.5 Type of estimate

6.6 Population size Method used Based mainly on expert opinion with very limited data

6.7 Short-term trend Period 2007-2018
6.8 Short-term trend Direction Unknown (x)

6.9 Short-term trend Magnitude a) Minimum b) Maximum

c) Confidence interval

6.10 Short-term trend Method used Insufficient or no data available

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- 6.11 Long-term trend Period
- 6.12 Long-term trend Direction
- 6.13 Long-term trend Magnitude
- a) Minimum
- b) Maximum
- c) Confidence interval
- 6.14 Long-term trend Method used
- 6.15 Favourable reference population (using the unit in 6.2 or 6.4)
- a) Population size
- b) Operator

d) Method

- c) Unknown

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Unknown

- b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?
- 7.2 Sufficiency of area and quality of occupied habitat Method used
- 7.3 Short-term trend Period
- 7.4 Short-term trend Direction
- 7.5 Short-term trend Method used
- 7.6 Long-term trend Period
- 7.7 Long-term trend Direction
- 7.8 Long-term trend Method used
- 7.9 Additional information

Insufficient or no data available

2007-2018

Unknown (x)

Insufficient or no data available

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Conversion into agricultural land (excluding drainage and burning) (A01)	M
Drainage (K02)	M
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Use of plant protection chemicals in agriculture (A21)	M

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Other invasive alien species (other then species of Union concern) (I02)	Н
Threat	Ranking
Conversion into agricultural land (excluding drainage and burning) (A01)	М
Drainage (K02)	M
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Use of plant protection chemicals in agriculture (A21)	M
Other invasive alien species (other then species of Union concern) (IO2)	Н
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	Н
8.2 Sources of information	

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Unknown

c) Habitat of the species

Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range Unknown (XX)

11.2. Population Unknown (XX)

11.3. Habitat for the species Unknown (XX)

11.4. Future prospects Unknown (XX)

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11.5 Overall assessment of Conservation Status

11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

Unknown (XX)

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCls, SCls and SACs network (on the biogeographical/marine level including all sites where the species is present)

- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

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#### 4. Biogeographical and marine regions

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4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

Alpine (ALP)

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb.

Bogdanović, T., 2008. Inventarizacija i valorizacija faune vodozemaca (Amphibia) i gmazova (Reptilia) Parka prirode "Papuk." Sveučilište J. J. Strossmayera, Odjel za biologiju, Osjek.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Jelić, D., Karaica, D., 2012. First data on the fauna of amphibians and reptiles of the lower Una River and its coastal area. Hyla: Herpetological bulletin 2012, 22–41.

Koren, T., Črne, M., Koprivnikar, N., Trkov, D., Drašler, K., Jelić, D., 2013. Contribution to the herpetofauna (Amphibia & Reptilia) of lower Neretva River (Croatia & Bosnia and Herzegovina). Hyla: Herpetological bulletin 2012, 19–40. Koren, T., Jelić, D., 2011. Interesting color forms of the European tree frog, Hyla arborea (Linnaeus, 1758) (Amphibia: Ranidae) from Croatia. HYLA: Herpetological bulletin 2011, 27–29.

Osojnik, N., 2017. Poročilo o delu skupine za dvoživke, in: Ekosistemi Balkana, Vransko jezero 2016. Društvo študentov biologije, Ljubljana, pp. 58–64. M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area 8400

5.2 Short-term trend Period 2007-2018

5.3 Short-term trend Direction Unknown (x)

5.4 Short-term trend Magnitude a) Minimum b) Maximum

5.5 Short-term trend Method used Insufficient or no data available

5.6 Long-term trend Period

5.8 Long-term trend Magnitude a) Minimum b) Maximum

5.9 Long-term trend Method used

5.10 Favourable reference range a) Area (km²)

b) Operator
c) Unknown x

d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

5.12 Additional information

5.7 Long-term trend Direction

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#### 6. Population

7. Habitat for the species

6.1 Year or period	2007-2018
6.2 Population size (in reporting unit)	a) Unit number of map 1x1 km grid cells (grids1x1) b) Minimum c) Maximum d) Best single value 22
6.3 Type of estimate	Minimum
6.4 Additional population size (using population unit other than reporting unit)	a) Unit b) Minimum c) Maximum d) Best single value
6.5 Type of estimate	
6.6 Population size Method used	Based mainly on expert opinion with very limited data
6.7 Short-term trend Period	2007-2018
6.8 Short-term trend Direction	Unknown (x)
6.9 Short-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.10 Short-term trend Method used	Insufficient or no data available
6.11 Long-term trend Period	
6.12 Long-term trend Direction	
6.13 Long-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.14 Long-term trend Method used	
6.15 Favourable reference population (using the unit in 6.2 or 6.4)	a) Population size b) Operator c) Unknown x d) Method
6.16 Change and reason for change in population size	The change is mainly due to:
6.17 Additional information	

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7.1 Sufficiency of	area a	and qua	ality of
occupied habitat			

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

habitat of suitable quality (for long-term

b) Is there a sufficiently large area of unoccupied

Unknown

7.2 Sufficiency of area and quality of occupied habitat Method used

Insufficient or no data available

2007-2018

survival)?

7.4 Short-term trend Direction

7.3 Short-term trend Period

Unknown (x)

7.5 Short-term trend Method used

Insufficient or no data available

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Conversion into agricultural land (excluding drainage and burning) (A01)	М
Drainage (K02)	M
Use of plant protection chemicals in agriculture (A21)	M
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	M
Threat	Ranking
Conversion into agricultural land (excluding drainage and burning) (A01)	М
Drainage (K02)	M
Use of plant protection chemicals in agriculture (A21)	M
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

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- 9.2 Main purpose of the measures taken
- 9.3 Location of the measures taken
- 9.4 Response to the measures
- 9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters

- a) Range
- Unknown
- b) Population
- Unknown
- c) Habitat of the species
- Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range

Unknown (XX)

11.2. Population

Unknown (XX)

11.3. Habitat for the species

Unknown (XX)

11.4. Future prospects

Unknown (XX)

11.5 Overall assessment of

Unknown (XX)

**Conservation Status** 

11.6 Overall trend in Conservation

Status 11.7 Change and reasons for change

in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

12.2 Type of estimate

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12.3 Population size inside the network Method used

12.4 Short-term trend of population size within the network Direction

12.5 Short-term trend of population size within the network Method used

12.6 Additional information

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Continental (CON)**

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb.

Bogdanović, T., 2008. Inventarizacija i valorizacija faune vodozemaca (Amphibia) i gmazova (Reptilia) Parka prirode "Papuk." Sveučilište J. J. Strossmayera, Odjel za biologiju, Osjek.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Jelić, D., Karaica, D., 2012. First data on the fauna of amphibians and reptiles of the lower Una River and its coastal area. Hyla: Herpetological bulletin 2012, 22–41.

Koren, T., Črne, M., Koprivnikar, N., Trkov, D., Drašler, K., Jelić, D., 2013. Contribution to the herpetofauna (Amphibia & Reptilia) of lower Neretva River (Croatia & Bosnia and Herzegovina). Hyla: Herpetological bulletin 2012, 19–40. Koren, T., Jelić, D., 2011. Interesting color forms of the European tree frog, Hyla arborea (Linnaeus, 1758) (Amphibia: Ranidae) from Croatia. HYLA: Herpetological bulletin 2011, 27–29.

Osojnik, N., 2017. Poročilo o delu skupine za dvoživke, in: Ekosistemi Balkana, Vransko jezero 2016. Društvo študentov biologije, Ljubljana, pp. 58–64.

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M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area

30400

5.2 Short-term trend Period

2007-2018

5.3 Short-term trend Direction

Unknown (x)

5.4 Short-term trend Magnitude5.5 Short-term trend Method used

a) Minimum

Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude

a) Minimum

b) Maximum

b) Maximum

5.9 Long-term trend Method used5.10 Favourable reference range

a) Area (km²)

b) Operator

c) Unknown

х

d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

#### 5.12 Additional information

#### 6. Population

6.1 Year or period

2007-2018

6.2 Population size (in reporting unit)

a) Unit

number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 165

6.3 Type of estimate

Minimum

6.4 Additional population size (using population unit other than reporting unit)

a) Unit

b) Minimum

c) Maximum

d) Best single value

6.5 Type of estimate

6.6 Population size Method used

Based mainly on expert opinion with very limited data

6.7 Short-term trend Period

2007-2018

**6.8 Short-term trend Direction** 

Unknown (x)

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6.9 Short-term trend Magnitude a) Minimum b) Maximum c) Confidence interval 6.10 Short-term trend Method used Insufficient or no data available 6.11 Long-term trend Period **6.12 Long-term trend Direction** 6.13 Long-term trend Magnitude a) Minimum b) Maximum c) Confidence interval 6.14 Long-term trend Method used 6.15 Favourable reference a) Population size population (using the unit in 6.2 or b) Operator c) Unknown X d) Method 6.16 Change and reason for change in population size The change is mainly due to: 6.17 Additional information 7. Habitat for the species 7.1 Sufficiency of area and quality of a) Are area and quality of occupied habitat Unknown occupied habitat sufficient (for long-term survival)? b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)? 7.2 Sufficiency of area and quality of Insufficient or no data available occupied habitat Method used 7.3 Short-term trend Period 2007-2018 7.4 Short-term trend Direction Unknown (x) 7.5 Short-term trend Method used Insufficient or no data available 7.6 Long-term trend Period 7.7 Long-term trend Direction 7.8 Long-term trend Method used

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

7.9 Additional information

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	М

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Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	M
Drainage (K02)	М
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Drainage (K02)	M
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures a) Are measures needed?

b) Indicate the status of measures Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters a) Range Unknown b) Population Unknown

c) Habitat of the species Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range	Unknown (XX)
11.2. Population	Unknown (XX)
11.3. Habitat for the species	Unknown (XX)
11.4. Future prospects	Unknown (XX)

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11.5 Overall assessment of Conservation Status

11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

Unknown (XX)

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

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# 1. General information 1.1 Member State HR 1.2 Species code 1197 1.3 Species scientific name Pelobates fuscus 1.4 Alternative species scientific name 1.5 Common name (in national language) češnjača

#### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

#### 3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in th	e
wild/exploited?	
0.0 14/1 : 1   6 : 1	

3.2 Which of the measures in Art.14 have been taken?

No

a) regulations regarding access to property	No
b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
c) regulation of the periods and/or methods of taking specimens	No
d) application of hunting and fishing rules which take account of the conservation of such populations	No
e) establishment of a system of licences for taking specimens or of quotas	No
f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
g) breeding in captivity of animal species as well as artificial propagation of plant species	No
h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Uni

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Mediterranean (MED)**

Anonymous, 2010. The Gazeteer of the Republic of Croatia (=Registar geografskih imena Republike Hrvatske).

Ćurić, A., Zimić, A., Bogdanović, T., Jelić, D., 2017. New data and distribution of common spadefoot toad Pelobates fuscus (Laurenti, 1768) (Anura: Pelobatidae) in Western Balkans. North-Western Journal of Zoology.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Tvrtković, N., Topić, J., Kerovec, M., Janev Hutinec, B., Malić Limari, S., 2011. Prijedlog Strategije očuvanja biološke raznolikosti u regionalnom razvoju Grada Zagreba. NVU "Natura," Zagreb.

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area

5.2 Short-term trend Period

5.3 Short-term trend Direction

5.4 Short-term trend Magnitude

5.5 Short-term trend Method used

a) Minimum

b) Maximum

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ii) it and t species (/ iii)	ick b,	
5.6 Long-term trend Period		
5.7 Long-term trend Direction		
5.8 Long-term trend Magnitude	a) Minimum	b) Maximum
5.9 Long-term trend Method used		
5.10 Favourable reference range	a) Area (km²)	
	b) Operator c) Unknown	•
	d) Method	X
5.11 Change and reason for change	•	
in surface area of range		
	The change is mainly	/ due to:
5.12 Additional information		
6. Population		
6.1 Year or period		
·		
6.2 Population size (in reporting unit)	a) Unit	number of map 1x1 km grid cells (grids1x1)
	b) Minimum	
	c) Maximum	
	d) Best single value	
6.3 Type of estimate		
6.4 Additional population size (using	a) Unit	
population unit other than reporting	b) Minimum	
unit)	c) Maximum	
	d) Best single value	
6.5 Type of estimate		
6.6 Population size Method used		
6.7 Short-term trend Period		
6.8 Short-term trend Direction		
6.9 Short-term trend Magnitude	a) Minimum	
	b) Maximum	
	c) Confidence interva	al Control of the Con
6.10 Short-term trend Method used		
6.11 Long-term trend Period		
6.12 Long-term trend Direction		
6.13 Long-term trend Magnitude	a) Minimum	
	<ul><li>b) Maximum</li><li>c) Confidence interva</li></ul>	
	cy confidence interve	al Control of the Con

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6.14 Long-term trend Method used

- 6.15 Favourable reference population (using the unit in 6.2 or 6.4)
- a) Population size
- b) Operator
- c) Unknown
- d) Method
- 6.16 Change and reason for change in population size
- The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

- 7.1 Sufficiency of area and quality of occupied habitat
- a) Are area and quality of occupied habitat sufficient (for long-term survival)?
- b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?
- 7.2 Sufficiency of area and quality of occupied habitat Method used
- 7.3 Short-term trend Period
- 7.4 Short-term trend Direction
- 7.5 Short-term trend Method used
- 7.6 Long-term trend Period
- 7.7 Long-term trend Direction
- 7.8 Long-term trend Method used
- 7.9 Additional information

#### 8. Main pressures and threats

8.1 Characterisation of pressures/threats

Pressure Ranking

No information on pressures (Xp)

Threat Ranking

No information on threats (Xt)

- 8.2 Sources of information
- 8.3 Additional information

#### 9. Conservation measures

- 9.1 Status of measures a) Are measures needed?
  - b) Indicate the status of measures
- 9.2 Main purpose of the measures taken
- 9.3 Location of the measures taken

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9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters

- a) Range
- b) Population
- c) Habitat of the species

10.2 Additional information

#### 11. Conclusions

11.1. Range

11.2. Population

11.3. Habitat for the species

11.4. Future prospects

11.5 Overall assessment of Conservation Status

11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

Unknown (XX)

Unknown (XX)

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

12.2 Type of estimate

12.3 Population size inside the network Method used

12.4 Short-term trend of population size within the network Direction

a) Unit

b) Minimum

c) Maximum

d) Best single value

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12.5 Short-term trend of population size within the network Method used

12.6 Additional information

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Continental (CON)**

Anonymous, 2010. The Gazeteer of the Republic of Croatia (=Registar geografskih imena Republike Hrvatske).

Ćurić, A., Zimić, A., Bogdanović, T., Jelić, D., 2017. New data and distribution of common spadefoot toad Pelobates fuscus (Laurenti, 1768) (Anura: Pelobatidae) in Western Balkans. North-Western Journal of Zoology.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Tvrtković, N., Topić, J., Kerovec, M., Janev Hutinec, B., Malić Limari, S., 2011. Prijedlog Strategije očuvanja biološke raznolikosti u regionalnom razvoju Grada Zagreba. NVU "Natura," Zagreb.

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area

16800

5.2 Short-term trend Period

2007-2018

5.3 Short-term trend Direction

Unknown (x)

5.4 Short-term trend Magnitude

a) Minimum

b) Maximum

5.5 Short-term trend Method used

Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude

a) Minimum

b) Maximum

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ii) it alia t species (Alii	ick b <sub>j</sub>	
5.9 Long-term trend Method used		
5.10 Favourable reference range	a) Area (km²)	
	b) Operator	
	c) Unknown d) Method	X
5.11 Change and reason for change		
in surface area of range	The change is mainly	v due to:
		,
5.12 Additional information		
6. Population		
6.1 Year or period	2007-2018	
o.1 rear or period	2007-2010	
6.2 Population size (in reporting unit)	a) Unit	number of map 1x1 km grid cells (grids1x1)
ole repaidtion size (in reperting unity	b) Minimum	Hamber of map 1x1 km grid cens (grids1x1)
	c) Maximum	
	d) Best single value	113
607 6		
6.3 Type of estimate	Minimum	
6.4 Additional population size (using	a) Unit	
population unit other than reporting unit)	b) Minimum	
unity	c) Maximum	
	d) Best single value	
6.5 Type of estimate		
6.6 Population size Method used	Based mainly on exp	ert opinion with very limited data
6.7 Short-term trend Period	2007-2018	
6.8 Short-term trend Direction	Unknown (x)	
6.9 Short-term trend Magnitude	a) Minimum	
	b) Maximum	
	c) Confidence interva	
6.10 Short-term trend Method used	Insufficient or no da	ta available
6.11 Long-term trend Period		
6.12 Long-term trend Direction		
6.13 Long-term trend Magnitude	a) Minimum	
	b) Maximum c) Confidence interva	
6 14 Long torm trond Mathed year	c, confidence intervi	и
6.14 Long-term trend Method used		
6.15 Favourable reference	a) Population size	
population (using the unit in 6.2 or 6.4)	b) Operator	v
0.7/	c) Unknown	X

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d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

habitat of suitable quality (for long-term

b) Is there a sufficiently large area of unoccupied

Unknown

ty of

7.2 Sufficiency of area and quality of occupied habitat Method used

7.3 Short-term trend Period

7.4 Short-term trend Direction

7.5 Short-term trend Method used

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

Insufficient or no data available

2007-2018

survival)?

Unknown (x)

Insufficient or no data available

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Drainage (K02)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Drainage (K02)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М
Change of habitat location, size, and / or quality due to climate change (N05)	М

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8.2 Sources of information

8.3 Additional information

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#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Unknown

c) Habitat of the species

Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range

Unknown (XX)

11.2. Population

Unknown (XX)

11.3. Habitat for the species

Unknown (XX)

11.4. Future prospects

Unknown (XX)

11.5 Overall assessment of

Unknown (XX)

Conservation Status

11.6 Overall trend in Conservation

Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

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- 12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)
- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Uni
- b) Minimum
- c) Maximum
- d) Best single value

#### 13. Complementary information

- 13.1 Justification of % thresholds for trends
- 13.2 Trans-boundary assessment
- 13.3 Other relevant Information

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## 1. General information 1.1 Member State HR 1.2 Species code 6976 1.3 Species scientific name Pelophylax esculentus 1.4 Alternative species scientific name

#### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

#### 3. Information related to Annex V Species (Art. 14)

1.5 Common name (in national language) zelena žaba

3.1 Is the species taken in the wild/exploited?
3.2 Which of the measures in Art. 14 have been taken?

Yes

a) regulations regarding access to property	No
b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
c) regulation of the periods and/or methods of taking specimens	No
d) application of hunting and fishing rules which take account of the conservation of such populations	No
e) establishment of a system of licences for taking specimens or of quotas	No
f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
g) breeding in captivity of animal species as well as artificial propagation of plant species	No
h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Continental (CON)**

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb.

Čavlović, K., Buj, I., Karaica, D., Jelić, D., Choleva, L., 2018. Composition and age structure of the Pelophylax esculentus complex (Anura; Ranidae) population in inland Croatia. Salamandra 54, 11–20.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Jelić, D., Karaica, D., 2012. First data on the fauna of amphibians and reptiles of the lower Una River and its coastal area. Hyla: Herpetological bulletin 2012, 22–41.

Jelić, M., Vucić, M., Klobučar, G., Korlević, P., Đikić, D., Franjević, D., Jelić, D., 2015. Molecular study on water frogs (genus Pelophylax) in Croatia – preliminary results.

JU Brijuni, 2016. Nacionalni park Brijuni. PLAN UPRAVLJANJA (razdoblje provođenja plana od 2016. do 2025. godine).

Koren, T., Črne, M., Koprivnikar, N., Trkov, D., Drašler, K., Jelić, D., 2013. Contribution to the herpetofauna (Amphibia & Reptilia) of lower Neretva River (Croatia & Bosnia and Herzegovina). Hyla: Herpetological bulletin 2012, 19–40. Osojnik, N., 2017. Poročilo o delu skupine za dvoživke, in: Ekosistemi Balkana, Vransko jezero 2016. Društvo študentov biologije, Ljubljana, pp. 58–64. M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta

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vodozemaca i gmazova Republike Hrvatske, Zagreb.

b) Maximum

#### 5. Range

5.1 Surface area 35400 5.2 Short-term trend Period 2007-2018

5.3 Short-term trend Direction Unknown (x)

5.4 Short-term trend Magnitude a) Minimum b) Maximum

5.5 Short-term trend Method used Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude

5.9 Long-term trend Method used

5.10 Favourable reference range a) Area (km²)

b) Operator

a) Minimum

c) Unknown x

d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

#### 5.12 Additional information

#### 6. Population

6.1 Year or period 2007-2018

6.2 Population size (in reporting unit) a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 944

6.3 Type of estimate Minimum

6.4 Additional population size (using population unit other than reporting unit)

a) Maximum

c) Maximum

d) Best single value

6.5 Type of estimate

6.6 Population size Method used Based mainly on expert opinion with very limited data

6.7 Short-term trend Period 2007-2018

6.8 Short-term trend Direction Unknown (x)

6.9 Short-term trend Magnitude a) Minimum

b) Maximum

c) Confidence interval

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6.10 Short-term trend Method used

Insufficient or no data available

- 6.11 Long-term trend Period
- 6.12 Long-term trend Direction
- 6.13 Long-term trend Magnitude
- a) Minimum
- b) Maximum
- c) Confidence interval

6.14 Long-term trend Method used

- 6.15 Favourable reference population (using the unit in 6.2 or 6.4)
- a) Population size
- b) Operator
- c) Unknown
- х
- d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Yes

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

Based mainly on expert opinion with very limited data

7.2 Sufficiency of area and quality of occupied habitat Method used

7.3 Short-term trend Period

2007-2018 Unknown (x)

7.4 Short-term trend Direction

Insufficient or no data available

- 7.5 Short-term trend Method used
- 7.6 Long-term trend Period
- 7.7 Long-term trend Direction
- 7.8 Long-term trend Method used
- 7.9 Additional information

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	М
Conversion into agricultural land (excluding drainage and burning) (A01)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Drainage (K02)	M

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Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Drainage (K02)	M
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

7.1 Status of Measures

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Unknown

c) Habitat of the species

Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range Unknown (XX)

11.2. Population Unknown (XX)

11.3. Habitat for the species Unknown (XX)

11.4. Future prospects Unknown (XX)

11.5 Overall assessment of Unknown (XX)

Conservation Status

11.6 Overall trend in Conservation

**Status** 

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11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

Currently it is impossible to differentiate the various species and hybrids of the genus Pelophylax present in Croatia based on external morphology. It is also not always easy to differentiate them using genetic analysis and currently only a few locatons were tested. Therefore, all data for green frogs was pooled and presented together.

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## 1. General information 1.1 Member State HR 1.2 Species code 6981 1.3 Species scientific name Pelophylax lessonae 1.4 Alternative species scientific name

#### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

mala zelena žaba

#### 3. Information related to Annex V Species (Art. 14)

No

3.1 Is the species taken in the wild/exploited?	
3.2 Which of the measures in Art. 14 have been taken?	

1.5 Common name (in national language)

a) regulations regarding access to property No b) temporary or local prohibition of the taking of No specimens in the wild and exploitation c) regulation of the periods and/or methods of taking No specimens d) application of hunting and fishing rules which take No account of the conservation of such populations e) establishment of a system of licences for taking No specimens or of quotas f) regulation of the purchase, sale, offering for sale, No keeping for sale or transport for sale of specimens

No

No

g) breeding in captivity of animal species as well as

artificial propagation of plant species

h) other measures

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Continental (CON)**

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb.

Čavlović, K., Buj, I., Karaica, D., Jelić, D., Choleva, L., 2018. Composition and age structure of the Pelophylax esculentus complex (Anura; Ranidae) population in inland Croatia. Salamandra 54, 11–20.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Jelić, D., Karaica, D., 2012. First data on the fauna of amphibians and reptiles of the lower Una River and its coastal area. Hyla: Herpetological bulletin 2012, 22–41.

Jelić, M., Vucić, M., Klobučar, G., Korlević, P., Đikić, D., Franjević, D., Jelić, D., 2015. Molecular study on water frogs (genus Pelophylax) in Croatia – preliminary results.

JU Brijuni, 2016. Nacionalni park Brijuni. PLAN UPRAVLJANJA (razdoblje provođenja plana od 2016. do 2025. godine).

Koren, T., Črne, M., Koprivnikar, N., Trkov, D., Drašler, K., Jelić, D., 2013. Contribution to the herpetofauna (Amphibia & Reptilia) of lower Neretva River (Croatia & Bosnia and Herzegovina). Hyla: Herpetological bulletin 2012, 19–40. Osojnik, N., 2017. Poročilo o delu skupine za dvoživke, in: Ekosistemi Balkana, Vransko jezero 2016. Društvo študentov biologije, Ljubljana, pp. 58–64. M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta

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vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area 35400 5.2 Short-term trend Period 2007-2018

5.3 Short-term trend Direction Unknown (x)

5.4 Short-term trend Magnitude a) Minimum b) Maximum

5.5 Short-term trend Method used Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude a) Minimum b) Maximum

5.9 Long-term trend Method used

5.10 Favourable reference range a) Area (km²) b) Operator

c) Unknown x

d) Method

in surface area of range

The change is mainly due to:

5.12 Additional information

5.11 Change and reason for change

#### 6. Population

6.3 Type of estimate

6.5 Type of estimate

6.9 Short-term trend Magnitude

6.1 Year or period 2007-2018

6.2 Population size (in reporting unit) a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum d) Best single value 944

6.4 Additional population size (using population unit other than reporting unit)

a) Unit
b) Minimum
c) Maximum

d) Best single value

6.6 Population size Method used

Based mainly on expert opinion with very limited data

Minimum

6.7 Short-term trend Period 2007-2018

a) Minimum

6.8 Short-term trend Direction Unknown (x)

b) Maximum c) Confidence interval

•

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6.10 Short-term trend Method used

Insufficient or no data available

6.11 Long-term trend Period

6.12 Long-term trend Direction

6.13 Long-term trend Magnitude

- a) Minimum
- b) Maximum
- c) Confidence interval

6.14 Long-term trend Method used

6.15 Favourable reference population (using the unit in 6.2 or 6.4)

- a) Population size
- b) Operator
- c) Unknown

d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Yes

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

Based mainly on expert opinion with very limited data

7.3 Short-term trend Period

7.4 Short-term trend Direction

7.5 Short-term trend Method used

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

2007-2018

Unknown (x)

Insufficient or no data available

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Drainage (K02)	M

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Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Drainage (K02)	M
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Interspecific relations (competition, predation, parasitism, pathogens) (LO6)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Unknown

c) Habitat of the species

Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range Unknown (XX)

11.2. Population Unknown (XX)

11.3. Habitat for the species Unknown (XX)

11.4. Future prospects Unknown (XX)

11.5 Overall assessment of Unknown (XX)

Conservation Status

11.6 Overall trend in Conservation Status

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11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

Currently it is impossible to differentiate the various species and hybrids of the genus Pelophylax present in Croatia based on external morphology. It is also not always easy to differentiate them using genetic analysis and currently only a few locatons were tested. Therefore, all data for green frogs was pooled and presented together.

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# 1. General information 1.1 Member State HR 1.2 Species code 6938 1.3 Species scientific name Pelophylax ridibundus 1.4 Alternative species scientific name 1.5 Common name (in national language) velika zelena žaba

#### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

#### 3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the wild/exploited?
3.2 Which of the measures in Art. 14 have been taken?

Yes

a) regulations regarding access to property	No
b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
c) regulation of the periods and/or methods of taking specimens	No
d) application of hunting and fishing rules which take account of the conservation of such populations	No
e) establishment of a system of licences for taking specimens or of quotas	No
f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
g) breeding in captivity of animal species as well as artificial propagation of plant species	No
h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period			•		
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Mediterranean (MED)**

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb.

Čavlović, K., Buj, I., Karaica, D., Jelić, D., Choleva, L., 2018. Composition and age structure of the Pelophylax esculentus complex (Anura; Ranidae) population in inland Croatia. Salamandra 54, 11–20.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Jelić, D., Karaica, D., 2012. First data on the fauna of amphibians and reptiles of the lower Una River and its coastal area. Hyla: Herpetological bulletin 2012, 22–41.

Jelić, M., Vucić, M., Klobučar, G., Korlević, P., Đikić, D., Franjević, D., Jelić, D., 2015. Molecular study on water frogs (genus Pelophylax) in Croatia – preliminary results.

JU Brijuni, 2016. Nacionalni park Brijuni. PLAN UPRAVLJANJA (razdoblje provođenja plana od 2016. do 2025. godine).

Koren, T., Črne, M., Koprivnikar, N., Trkov, D., Drašler, K., Jelić, D., 2013. Contribution to the herpetofauna (Amphibia & Reptilia) of lower Neretva River (Croatia & Bosnia and Herzegovina). Hyla: Herpetological bulletin 2012, 19–40. Osojnik, N., 2017. Poročilo o delu skupine za dvoživke, in: Ekosistemi Balkana, Vransko jezero 2016. Društvo študentov biologije, Ljubljana, pp. 58–64. M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta

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vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area 25000 5.2 Short-term trend Period 2007-2018

5.3 Short-term trend Direction Unknown (x)

5.4 Short-term trend Magnitude a) Minimum b) Maximum

5.5 Short-term trend Method used Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude a) Minimum b) Maximum

5.10 Favourable reference range a) Area (km²)

b) Operator

c) Unknown x

d) Method

5.11 Change and reason for change in surface area of range

5.9 Long-term trend Method used

The change is mainly due to:

#### 5.12 Additional information

#### 6. Population

6.1 Year or period 2007-2018

6.2 Population size (in reporting unit) a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 368

6.3 Type of estimate Minimum

6.4 Additional population size (using population unit other than reporting unit)

a) Unit
b) Minimum
c) Maximum

d) Best single value

6.5 Type of estimate

6.6 Population size Method used

Based mainly on expert opinion with very limited data

a) Minimum

6.7 Short-term trend Period 2007-2018

6.9 Short-term trend Magnitude

6.8 Short-term trend Direction Unknown (x)

b) Maximum

c) Confidence interval

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6.10 Short-term trend Method used

Insufficient or no data available

6.11 Long-term trend Period

6.12 Long-term trend Direction

6.13 Long-term trend Magnitude

- a) Minimum
- b) Maximum
- c) Confidence interval

6.14 Long-term trend Method used

6.15 Favourable reference population (using the unit in 6.2 or 6.4)

- a) Population size
- b) Operator
- c) Unknown

d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Yes

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of

occupied habitat Method used

7.3 Short-term trend Period

7.4 Short-term trend Direction

7.5 Short-term trend Method used

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

Based mainly on expert opinion with very limited data

2007-2018

Unknown (x)

Insufficient or no data available

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Drainage (K02)	M

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Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	M
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	M
Drainage (K02)	M
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Unknown

c) Habitat of the species

Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range Unknown (XX)

11.2. Population Unknown (XX)

11.3. Habitat for the species Unknown (XX)

11.4. Future prospects Unknown (XX)

11.5 Overall assessment of Unknown (XX)
Conservation Status

11.6 Overall trend in Conservation

**Status** 

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11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

Currently it is impossible to differentiate the various species and hybrids of the genus Pelophylax present in Croatia based on external morphology. It is also not always easy to differentiate them using genetic analysis and currently only a few locatons were tested. Therefore, all data for green frogs was pooled and presented together.

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#### 4. Biogeographical and marine regions

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4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

Alpine (ALP)

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb.

Čavlović, K., Buj, I., Karaica, D., Jelić, D., Choleva, L., 2018. Composition and age structure of the Pelophylax esculentus complex (Anura; Ranidae) population in inland Croatia. Salamandra 54, 11-20.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Jelić, D., Karaica, D., 2012. First data on the fauna of amphibians and reptiles of the lower Una River and its coastal area. Hyla: Herpetological bulletin 2012, 22-41.

Jelić, M., Vucić, M., Klobučar, G., Korlević, P., Đikić, D., Franjević, D., Jelić, D., 2015. Molecular study on water frogs (genus Pelophylax) in Croatia – preliminary results.

JU Brijuni, 2016. Nacionalni park Brijuni. PLAN UPRAVLJANJA (razdoblje provođenja plana od 2016. do 2025. godine).

Koren, T., Črne, M., Koprivnikar, N., Trkov, D., Drašler, K., Jelić, D., 2013. Contribution to the herpetofauna (Amphibia & Reptilia) of lower Neretva River (Croatia & Bosnia and Herzegovina). Hyla: Herpetological bulletin 2012, 19–40. Osojnik, N., 2017. Poročilo o delu skupine za dvoživke, in: Ekosistemi Balkana, Vransko jezero 2016. Društvo študentov biologije, Ljubljana, pp. 58–64. M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area

10400

5.2 Short-term trend Period

2007-2018

5.3 Short-term trend Direction

Unknown (x)

5.4 Short-term trend Magnitude

b) Maximum

5.5 Short-term trend Method used

a) Minimum

Insufficient or no data available

- 5.6 Long-term trend Period
- 5.7 Long-term trend Direction 5.8 Long-term trend Magnitude

5.10 Favourable reference range

- 5.9 Long-term trend Method used
- a) Minimum
- b) Maximum
- a) Area (km²)
- b) Operator
- c) Unknown Х
- d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

5.12 Additional information

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#### 6. Population 6.1 Year or period 2007-2018 6.2 Population size (in reporting unit) a) Unit number of map 1x1 km grid cells (grids1x1) b) Minimum c) Maximum d) Best single value 64 Minimum 6.3 Type of estimate 6.4 Additional population size (using a) Unit population unit other than reporting b) Minimum unit) c) Maximum d) Best single value 6.5 Type of estimate 6.6 Population size Method used Based mainly on expert opinion with very limited data 6.7 Short-term trend Period 2007-2018 6.8 Short-term trend Direction Unknown (x) 6.9 Short-term trend Magnitude a) Minimum b) Maximum c) Confidence interval 6.10 Short-term trend Method used Insufficient or no data available 6.11 Long-term trend Period 6.12 Long-term trend Direction 6.13 Long-term trend Magnitude a) Minimum b) Maximum c) Confidence interval 6.14 Long-term trend Method used 6.15 Favourable reference a) Population size population (using the unit in 6.2 or b) Operator 6.4) c) Unknown Х d) Method 6.16 Change and reason for change in population size The change is mainly due to:

### 7. Habitat for the species

6.17 Additional information

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7.1 Sufficiency of	area	and	quality of	
occupied habitat				

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Yes

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

Based mainly on expert opinion with very limited data

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Unknown (x)

7.5 Short-term trend Method used

Insufficient or no data available

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Drainage (K02)	M
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Drainage (K02)	M
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

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- 9.2 Main purpose of the measures taken
- 9.3 Location of the measures taken
- 9.4 Response to the measures
- 9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters

- a) Range
- Unknown
- b) Population
- Unknown
- c) Habitat of the species
- Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range

Unknown (XX)

11.2. Population

Unknown (XX)

11.3. Habitat for the species

Unknown (XX)

11.4. Future prospects

Unknown (XX)

11.5 Overall assessment of

Unknown (XX)

**Conservation Status** 

in conservation status and conservation status trend

11.6 Overall trend in Conservation

Status

11.7 Change and reasons for change

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

12.2 Type of estimate

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

a) Unit

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- b) Minimum
- c) Maximum
- d) Best single value

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12.3 Population size inside the network Method used

12.4 Short-term trend of population size within the network Direction

12.5 Short-term trend of population size within the network Method used

12.6 Additional information

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

Currently it is impossible to differentiate the various species and hybrids of the genus Pelophylax present in Croatia based on external morphology. It is also not always easy to differentiate them using genetic analysis and currently only a few locatons were tested. Therefore, all data for green frogs was pooled and presented together.

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Continental (CON)**

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb.

Čavlović, K., Buj, I., Karaica, D., Jelić, D., Choleva, L., 2018. Composition and age structure of the Pelophylax esculentus complex (Anura; Ranidae) population in inland Croatia. Salamandra 54, 11–20.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Jelić, D., Karaica, D., 2012. First data on the fauna of amphibians and reptiles of the lower Una River and its coastal area. Hyla: Herpetological bulletin 2012, 22–41.

Jelić, M., Vucić, M., Klobučar, G., Korlević, P., Đikić, D., Franjević, D., Jelić, D., 2015. Molecular study on water frogs (genus Pelophylax) in Croatia – preliminary results.

JU Brijuni, 2016. Nacionalni park Brijuni. PLAN UPRAVLJANJA (razdoblje

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provođenja plana od 2016. do 2025. godine). Koren, T., Črne, M., Koprivnikar, N., Trkov, D., Drašler, K., Jelić, D., 2013. Contribution to the herpetofauna (Amphibia & Reptilia) of lower Neretva River (Croatia & Bosnia and Herzegovina). Hyla: Herpetological bulletin 2012, 19-40. Osojnik, N., 2017. Poročilo o delu skupine za dvoživke, in: Ekosistemi Balkana, Vransko jezero 2016. Društvo študentov biologije, Ljubljana, pp. 58–64. M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area

35400

5.2 Short-term trend Period

2007-2018

5.3 Short-term trend Direction

Unknown (x)

5.4 Short-term trend Magnitude

b) Maximum a) Minimum

Х

5.5 Short-term trend Method used

Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction 5.8 Long-term trend Magnitude

a) Minimum

b) Maximum

5.9 Long-term trend Method used

5.10 Favourable reference range

a) Area (km²)

b) Operator

c) Unknown

d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

#### 5.12 Additional information

#### 6. Population

6.1 Year or period

2007-2018

6.2 Population size (in reporting unit)

a) Unit

number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value

6.3 Type of estimate

Minimum

6.4 Additional population size (using population unit other than reporting unit)

a) Unit

b) Minimum

c) Maximum

d) Best single value

6.5 Type of estimate

6.6 Population size Method used

Based mainly on expert opinion with very limited data

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6.7 Short-term trend Period 2007-2018 6.8 Short-term trend Direction Unknown (x) 6.9 Short-term trend Magnitude a) Minimum b) Maximum c) Confidence interval 6.10 Short-term trend Method used Insufficient or no data available 6.11 Long-term trend Period 6.12 Long-term trend Direction 6.13 Long-term trend Magnitude a) Minimum b) Maximum c) Confidence interval 6.14 Long-term trend Method used 6.15 Favourable reference a) Population size population (using the unit in 6.2 or b) Operator 6.4)c) Unknown d) Method 6.16 Change and reason for change in population size The change is mainly due to: 6.17 Additional information 7. Habitat for the species 7.1 Sufficiency of area and quality of a) Are area and quality of occupied habitat Yes occupied habitat sufficient (for long-term survival)? b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)? 7.2 Sufficiency of area and quality of Based mainly on expert opinion with very limited data occupied habitat Method used 7.3 Short-term trend Period 2007-2018 7.4 Short-term trend Direction Unknown (x) 7.5 Short-term trend Method used Insufficient or no data available 7.6 Long-term trend Period 7.7 Long-term trend Direction 7.8 Long-term trend Method used 7.9 Additional information

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M

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Conversion into agricultural land (excluding drainage and burning) (A01)	M
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Drainage (K02)	М
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Drainage (K02)	М
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures a) Are measures needed?

b) Indicate the status of measures Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters a) Range Unknown b) Population Unknown

c) Habitat of the species Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range Unknown (XX)
11.2. Population Unknown (XX)
11.3. Habitat for the species Unknown (XX)

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11.4. Future prospects

11.5 Overall assessment of Conservation Status

11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

Unknown (XX)

Unknown (XX)

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCls, SCls and SACs network (on the biogeographical/marine level including all sites where the species is present)

- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

Currently it is impossible to differentiate the various species and hybrids of the genus Pelophylax present in Croatia based on external morphology. It is also not always easy to differentiate them using genetic analysis and currently only a few locatons were tested. Therefore, all data for green frogs was pooled and presented together.

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## 1. General information 1.1 Member State HR 1.2 Species code 1214 1.3 Species scientific name Rana arvalis 1.4 Alternative species scientific name

#### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

#### 3. Information related to Annex V Species (Art. 14)

1.5 Common name (in national language) močvarna smeđa žaba

3.1 Is the species taken in the wild/exploited?
3.2 Which of the measures in Art. 14 have been taken?

No

a) regulations regarding access to property	No
b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
c) regulation of the periods and/or methods of taking specimens	No
d) application of hunting and fishing rules which take account of the conservation of such populations	No
e) establishment of a system of licences for taking specimens or of quotas	No
f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
g) breeding in captivity of animal species as well as artificial propagation of plant species	No
h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period						
	Season/ Season/ Season/ Season/ Season/ Season/ year 1 year 2 year 3 year 4 year 5 year 6						
Min. (raw, ie. not rounded)							
Max. (raw, ie. not rounded)							
Unknown	No	No	No	No	No	No	

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Continental (CON)**

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Tvrtković, N., Kletečki, E., 2008. Distribution of Rana arvalis in Croatia with remarks on habitats and phenology. Zeitschrift für Feldherpetologie 13: 329-336. M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

b) Maximum

#### 5. Range

5.1 Surface area

17900

5.2 Short-term trend Period

2007-2018

5.3 Short-term trend Direction

Unknown (x)

5.4 Short-term trend Magnitude

a) Minimum

5.5 Short-term trend Method used

Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

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,	•	
5.8 Long-term trend Magnitude	a) Minimum	b) Maximum
5.9 Long-term trend Method used		
5.10 Favourable reference range	a) Area (km²)	
	<ul><li>b) Operator</li><li>c) Unknown</li></ul>	x
	d) Method	^
5.11 Change and reason for change		
in surface area of range	The change is mainl	v duo to:
	The change is main	y due to.
5.12 Additional information		
6. Population		
6.1 Year or period	2007-2018	
6.2 Population size (in reporting unit)	a) Unit	number of map 1x1 km grid cells (grids1x1)
	b) Minimum	
	c) Maximum	
	d) Best single value	102
6.3 Type of estimate	Minimum	
6.4 Additional population size (using	a) Unit	
population unit other than reporting	b) Minimum	
unit)	c) Maximum	
	d) Best single value	
6.5 Type of estimate		
6.6 Population size Method used	Based mainly on exp	pert opinion with very limited data
6.7 Short-term trend Period	2007-2018	
6.8 Short-term trend Direction	Unknown (x)	
6.9 Short-term trend Magnitude	a) Minimum	
	b) Maximum	
6.10 Short-term trend Method used	c) Confidence interv Insufficient or no da	
6.11 Long-term trend Period	msumcient of no da	ta available
6.12 Long-term trend Direction		
6.13 Long-term trend Magnitude	a) Minimum	
0.13 Long term trend Magnitude	b) Maximum	
	c) Confidence interv	al
6.14 Long-term trend Method used		
6.15 Favourable reference	a) Population size	
population (using the unit in 6.2 or	b) Operator	

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c) Unknown

6.4)

d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

habitat of suitable quality (for long-term

b) Is there a sufficiently large area of unoccupied

Unknown

7.2 Sufficiency of area and quality of occupied habitat Method used

7.3 Short-term trend Period

7.4 Short-term trend Direction

7.5 Short-term trend Method used

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

Insufficient or no data available

2007-2018

survival)?

Unknown (x)

Insufficient or no data available

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Drainage (K02)	Н
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	M
	M H
pathogens) (L06)	
pathogens) (L06) Drainage (K02) Mixed source pollution to surface and ground waters (limnic	Н

8.2 Sources of information

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8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures a) Are measures needed? Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters a) Range Unknown

> Unknown b) Population Unknown c) Habitat of the species

10.2 Additional information

#### 11. Conclusions

11.1. Range Unknown (XX)

11.2. Population Unknown (XX)

11.3. Habitat for the species Unknown (XX)

Unknown (XX) 11.4. Future prospects

11.5 Overall assessment of Unknown (XX)

**Conservation Status** 

11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

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- 12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)
- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Uni
- b) Minimum
- c) Maximum
- d) Best single value

#### 13. Complementary information

- 13.1 Justification of % thresholds for trends
- 13.2 Trans-boundary assessment
- 13.3 Other relevant Information

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# 1. General information 1.1 Member State HR 1.2 Species code 1209 1.3 Species scientific name Rana dalmatina 1.4 Alternative species scientific name 1.5 Common name (in national language) šumska smeđa žaba

#### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

#### 3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the wild/exploited?
3.2 Which of the measures in Art. 14 have been taken?

No

a) regulations regarding access to property	No
b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
c) regulation of the periods and/or methods of taking specimens	No
d) application of hunting and fishing rules which take account of the conservation of such populations	No
e) establishment of a system of licences for taking specimens or of quotas	No
f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
g) breeding in captivity of animal species as well as artificial propagation of plant species	No
h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period						
	Season/ Season/ Season/ Season/ Season/ Season/ year 1 year 2 year 3 year 4 year 5 year 6						
Min. (raw, ie. not rounded)							
Max. (raw, ie. not rounded)							
Unknown	No	No	No	No	No	No	

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Mediterranean (MED)**

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Koren, T., Črne, M., Koprivnikar, N., Trkov, D., Drašler, K., Jelić, D., 2013. Contribution to the herpetofauna (Amphibia & Reptilia) of lower Neretva River (Croatia & Bosnia and Herzegovina). Hyla: Herpetological bulletin 2012, 19–40. Osojnik, N., 2017. Poročilo o delu skupine za dvoživke, in: Ekosistemi Balkana, Vransko jezero 2016. Društvo študentov biologije, Ljubljana, pp. 58–64. M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area

13700

5.2 Short-term trend Period

2007-2018

5.3 Short-term trend Direction

Unknown (x)

a) Minimum

5.4 Short-term trend Magnitude

b) Maximum

5.5 Short-term trend Method used

Insufficient or no data available

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ii) it and t species (Ain	
5.6 Long-term trend Period	
5.7 Long-term trend Direction	
5.8 Long-term trend Magnitude	a) Minimum b) Maximum
5.9 Long-term trend Method used	
5.10 Favourable reference range	a) Area (km²)
	b) Operator
	c) Unknown x d) Method
5.11 Change and reason for change	
in surface area of range	
	The change is mainly due to:
5.12 Additional information	
5.12 Additional information	
6. Population	
6.1 Year or period	2007-2018
6.2 Population size (in reporting unit)	a) Unit number of map 1x1 km grid cells (grids1x1)
	b) Minimum
	c) Maximum
	d) Best single value 104
6.3 Type of estimate	Minimum
6.4 Additional population size (using	a) Unit
population unit other than reporting	b) Minimum
unit)	c) Maximum
	d) Best single value
6.5 Type of estimate	
6.6 Population size Method used	Based mainly on expert opinion with very limited data
6.7 Short-term trend Period	2007-2018
6.8 Short-term trend Direction	Unknown (x)
6.9 Short-term trend Magnitude	a) Minimum
	b) Maximum
6.10 Short-term trend Method used	c) Confidence interval Insufficient or no data available
	mounicient of no data available
6.11 Long-term trend Period 6.12 Long-term trend Direction	
6.13 Long-term trend Direction  6.13 Long-term trend Magnitude	a) Minimum
0.13 Long-term trema Magnitude	b) Maximum
	c) Confidence interval

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6.14 Long-term trend Method used

- 6.15 Favourable reference population (using the unit in 6.2 or 6.4)
- a) Population size
- b) Operator
- c) Unknown x
- d) Method
- 6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Unknown

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

Insufficient or no data available

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Unknown (x)

7.5 Short-term trend Method used

Insufficient or no data available

- 7.6 Long-term trend Period
- 7.7 Long-term trend Direction
- 7.8 Long-term trend Method used
- 7.9 Additional information

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	M
Drainage (K02)	Н
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Threat	Ranking
Threat Use of plant protection chemicals in agriculture (A21)	Ranking M
Use of plant protection chemicals in agriculture (A21) Interspecific relations (competition, predation, parasitism,	M

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Change of habitat location, size, and / or quality due to Н climate change (N05)

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters

- a) Range
- Unknown
- b) Population

Unknown

c) Habitat of the species

Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range

Unknown (XX)

11.2. Population

Unknown (XX)

11.3. Habitat for the species

Unknown (XX)

11.4. Future prospects

Unknown (XX)

11.5 Overall assessment of **Conservation Status** 

conservation status trend

Unknown (XX)

11.6 Overall trend in Conservation

**Status** 

11.7 Change and reasons for change in conservation status and

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

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#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

- 12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)
- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

#### 13. Complementary information

- 13.1 Justification of % thresholds for trends
- 13.2 Trans-boundary assessment
- 13.3 Other relevant Information

#### \_-----

#### 4. Biogeographical and marine regions

- 4.1 Biogeographical or marine region where the species occurs
- 4.2 Sources of information

#### Alpine (ALP)

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Koren, T., Črne, M., Koprivnikar, N., Trkov, D., Drašler, K., Jelić, D., 2013. Contribution to the herpetofauna (Amphibia & Reptilia) of lower Neretva River (Croatia & Bosnia and Herzegovina). Hyla: Herpetological bulletin 2012, 19–40. Osojnik, N., 2017. Poročilo o delu skupine za dvoživke, in: Ekosistemi Balkana, Vransko jezero 2016. Društvo študentov biologije, Ljubljana, pp. 58–64.

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M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

5.	R	a	n	g	e
		•		_	•

5.1 Surface area 10100

5.2 Short-term trend Period 2007-2018

5.3 Short-term trend Direction Unknown (x)

5.4 Short-term trend Magnitude b) Maximum a) Minimum

5.5 Short-term trend Method used Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude

5.9 Long-term trend Method used

5.10 Favourable reference range

a) Minimum

b) Maximum

a) Area (km²)

b) Operator

c) Unknown Х

d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

5.12 Additional information

#### 6. Population

6.1 Year or period 2007-2018

**6.2 Population size (in reporting unit)** a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 39

6.3 Type of estimate **Minimum** 

6.4 Additional population size (using

population unit other than reporting unit)

a) Unit

b) Minimum

c) Maximum

d) Best single value

6.5 Type of estimate

6.6 Population size Method used Based mainly on expert opinion with very limited data

6.7 Short-term trend Period 2007-2018

6.8 Short-term trend Direction Unknown (x)

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6.9 Short-term trend Magnitude a) Minimum b) Maximum c) Confidence interval 6.10 Short-term trend Method used Insufficient or no data available 6.11 Long-term trend Period **6.12 Long-term trend Direction** 6.13 Long-term trend Magnitude a) Minimum b) Maximum c) Confidence interval 6.14 Long-term trend Method used 6.15 Favourable reference a) Population size population (using the unit in 6.2 or b) Operator c) Unknown X d) Method 6.16 Change and reason for change in population size The change is mainly due to: 6.17 Additional information 7. Habitat for the species 7.1 Sufficiency of area and quality of a) Are area and quality of occupied habitat Unknown occupied habitat sufficient (for long-term survival)? b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)? 7.2 Sufficiency of area and quality of Insufficient or no data available occupied habitat Method used 7.3 Short-term trend Period 2007-2018 7.4 Short-term trend Direction Unknown (x) 7.5 Short-term trend Method used Insufficient or no data available 7.6 Long-term trend Period 7.7 Long-term trend Direction

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

7.8 Long-term trend Method used

7.9 Additional information

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М

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Drainage (K02)	Н
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	М
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Drainage (K02)	Н
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М
Change of habitat location, size, and / or quality due to climate change (N05)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures a) Are measures needed?

b) Indicate the status of measures Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters a) Range Unknown b) Population Unknown

c) Habitat of the species Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range	Unknown (XX)
11.2. Population	Unknown (XX)
11.3. Habitat for the species	Unknown (XX)
11.4. Future prospects	Unknown (XX)
11.5 Overall assessment of Conservation Status	Unknown (XX)

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11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

a) Unit

- b) Minimum

- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

c) Maximum d) Best single value

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs **Continental (CON)** 

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4.2 Sources of information

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Koren, T., Črne, M., Koprivnikar, N., Trkov, D., Drašler, K., Jelić, D., 2013. Contribution to the herpetofauna (Amphibia & Reptilia) of lower Neretva River (Croatia & Bosnia and Herzegovina). Hyla: Herpetological bulletin 2012, 19-40. Osojnik, N., 2017. Poročilo o delu skupine za dvoživke, in: Ekosistemi Balkana, Vransko jezero 2016. Društvo študentov biologije, Ljubljana, pp. 58-64. M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area 34500

5.2 Short-term trend Period 2007-2018

5.3 Short-term trend Direction

5.4 Short-term trend Magnitude

5.5 Short-term trend Method used

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude

5.9 Long-term trend Method used

5.10 Favourable reference range

Unknown (x)

a) Minimum

b) Maximum

Insufficient or no data available

a) Minimum

b) Maximum

a) Area (km²)

b) Operator

Approximately equal to (≈)

c) Unknown

d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

5.12 Additional information

#### 6. Population

6.1 Year or period

2007-2018

6.2 Population size (in reporting unit)

a) Unit

number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 603

6.3 Type of estimate

Minimum

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6.4 Additional population size (using
population unit other than reporting
unit)

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

6.5 Type of estimate

6.6 Population size Method used

Based mainly on expert opinion with very limited data

6.7 Short-term trend Period

2007-2018

6.8 Short-term trend Direction

Unknown (x)

6.9 Short-term trend Magnitude

- a) Minimum
- b) Maximum
- c) Confidence interval

6.10 Short-term trend Method used

Insufficient or no data available

- 6.11 Long-term trend Period
- 6.12 Long-term trend Direction
- 6.13 Long-term trend Magnitude
- a) Minimum
- b) Maximum
- c) Confidence interval

6.14 Long-term trend Method used

6.15 Favourable reference population (using the unit in 6.2 or 6.4)

- a) Population size
- b) Operator
- c) Unknown
- Х
- d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Unknown

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

Insufficient or no data available

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Unknown (x)

7.5 Short-term trend Method used

Insufficient or no data available

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

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7.9 Additional information

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Drainage (K02)	Н
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Drainage (K02)	Н
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М
Change of habitat location, size, and / or quality due to climate change (N05)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

## 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Unknown

c) Habitat of the species

Unknown

10.2 Additional information

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#### 11. Conclusions

11.4. Future prospects

11.2. Population

11.1. Range Unknown (XX)

11.3. Habitat for the species Unknown (XX)

Unknown (XX)

Unknown (XX)

Unknown (XX)

11.5 Overall assessment of Conservation Status

11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

## 13. Complementary information

- 13.1 Justification of % thresholds for trends
- 13.2 Trans-boundary assessment
- 13.3 Other relevant Information

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## 1. General information

1.1 Member State	HR
1.2 Species code	1215
1.3 Species scientific name	Rana latastei
1.4 Alternative species scientific name	
1.5 Common name (in national language)	talijanska smeđa žaba

## 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

## 3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the		
wild/exploited?		

3.2 Which of the measures in Art.14 have been taken?

No

a) regulations regarding access to property	No
b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
c) regulation of the periods and/or methods of taking specimens	No
d) application of hunting and fishing rules which take account of the conservation of such populations	No
e) establishment of a system of licences for taking specimens or of quotas	No
f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
g) breeding in captivity of animal species as well as artificial propagation of plant species	No
h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

#### \_\_\_\_\_\_

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

**Mediterranean (MED)** 

Koller, K., 2017. Underground occurences of three species of amphibians and reptiles with special emphasis on Rana latastei (Amphibia: Anura). North-Western Journal of Zoology 13, 176–179.

Kuljerić, M., 2011. Lombardijska smeđa žaba, Rana latastei Boulenger, 1879 (Amphibia, Anura). Hyla: herpetological bulletin 2011, 3–20.

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area 900
5.2 Short-term trend Period 2007-2018
5.3 Short-term trend Direction Unknown (x)

5.4 Short-term trend Magnitude a) Minimum b) Maximum

5.5 Short-term trend Method used Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude a) Minimum

Minimum b) Maximum

5.9 Long-term trend Method used

5.10 Favourable reference range

a) Area (km²)b) Operator

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c) Unknown Х d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

5.12 Additional information

#### 6. Population

6.1 Year or period 2007-2018

6.2 Population size (in reporting unit) a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 64

6.3 Type of estimate Minimum

6.4 Additional population size (using population unit other than reporting b) Minimum unit)

a) Unit

c) Maximum

d) Best single value

6.5 Type of estimate

6.6 Population size Method used Based mainly on expert opinion with very limited data

6.7 Short-term trend Period

2007-2018

6.8 Short-term trend Direction

Decreasing (-)

6.9 Short-term trend Magnitude

a) Minimum

b) Maximum

c) Confidence interval

6.10 Short-term trend Method used

Based mainly on expert opinion with very limited data

6.11 Long-term trend Period

6.12 Long-term trend Direction

6.13 Long-term trend Magnitude

a) Minimum

b) Maximum

c) Confidence interval

6.14 Long-term trend Method used

6.15 Favourable reference population (using the unit in 6.2 or 6.4)

a) Population size

b) Operator

c) Unknown Χ

d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

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6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

No

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

Unknown

7.2 Sufficiency of area and quality of occupied habitat Method used

Based mainly on expert opinion with very limited data

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Decreasing (-)

7.5 Short-term trend Method used

Based mainly on expert opinion with very limited data

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

## 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Drainage (K02)	Н
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	Н
Conversion to other types of forests including monocultures (BO2)	М
Clear-cutting, removal of all trees (B09)	M
Physical alteration of water bodies (K05)	Н
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Drainage (K02)	Н
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М
Change of habitat location, size, and / or quality due to climate change (N05)	Н

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Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	Н
Conversion to other types of forests including monocultures (B02)	M
Clear-cutting, removal of all trees (B09)	M
Physical alteration of water bodies (K05)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures a) Are measures needed?

b) Indicate the status of measures Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

Reduce impact of multi-purpose hydrological changes (CJ02)

9.6 Additional information Conserv

Conservation measures are included in water management planning documents. However, as there is no systematic monitoring, there is no data to what extent are these measures really incorporated in water management activities and the system for evaluation of effectiveness of those measures is lacking.

#### 10. Future prospects

10.1 Future prospects of parameters a) Range Poor

b) Population Bad

c) Habitat of the species Bad

10.2 Additional information

#### 11. Conclusions

11.1. Range Unknown (XX)

11.2. Population Unfavourable - Bad (U2)

11.3. Habitat for the species Unfavourable - Bad (U2)

11.4. Future prospects Unfavourable - Bad (U2)

11.5 Overall assessment of Unfavourable - Bad (U2)

11.6 Overall trend in Conservation Deteriorating (-)

Status

**Conservation Status** 

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11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

a) Unit

number of map 1x1 km grid cells (grids1x1)

b) Minimum c) Maximum

d) Best single value 52

12.2 Type of estimate

network Method used

12.3 Population size inside the

Minimum

Based mainly on expert opinion with very limited data

12.4 Short-term trend of population size within the network Direction

Decreasing (-)

12.5 Short-term trend of population size within the network Method used Based mainly on expert opinion with very limited data

12.6 Additional information

## 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

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# 1. General information 1.1 Member State 1.2 Species code 1.3 Species scientific name 1.4 Alternative species scientific name 1.5 Common name (in national language) livadna smeđa žaba

#### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

### 3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the wild/exploited?	Yes	
3.2 Which of the measures in Art. 14 have been taken?	<ul><li>a) regulations regarding access to property</li><li>b) temporary or local prohibition of the taking of specimens in the wild and exploitation</li></ul>	No No No
	<ul><li>c) regulation of the periods and/or methods of taking specimens</li></ul>	
	d) application of hunting and fishing rules which take account of the conservation of such populations	No
	e) establishment of a system of licences for taking specimens or of quotas	No
	f) regulation of the purchase, sale, offering for sale,	No

h) other measures

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keeping for sale or transport for sale of specimens g) breeding in captivity of animal species as well as

artificial propagation of plant species

No

No

3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

This species is exploited for food in the alpine biogeographic region.

## 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

Alpine (ALP)

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Jelić, D., Karaica, D., 2012. First data on the fauna of amphibians and reptiles of the lower Una River and its coastal area. Hyla: Herpetological bulletin 2012, 22–41.

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

## 5. Range

5.1 Surface area 1000
5.2 Short-term trend Period 2007-2018
5.3 Short-term trend Direction Unknown (x)

5.4 Short-term trend Magnitude a) Minimum b) Maximum

5.5 Short-term trend Method used Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude a) Minimum b) Maximum

5.9 Long-term trend Method used

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5.10 Favourable reference range	a) Area (km²) b) Operator c) Unknown x d) Method
5.11 Change and reason for change in surface area of range	The change is mainly due to:
5.12 Additional information	
6. Population	
6.1 Year or period	2007-2018
6.2 Population size (in reporting unit)	a) Unit number of map 1x1 km grid cells (grids1x1) b) Minimum c) Maximum d) Best single value 5
6.3 Type of estimate	Minimum
6.4 Additional population size (using population unit other than reporting unit)	a) Unit b) Minimum c) Maximum d) Best single value
6.5 Type of estimate	.,
6.6 Population size Method used	Based mainly on expert opinion with very limited data
6.7 Short-term trend Period	2007-2018
6.8 Short-term trend Direction	Unknown (x)
6.9 Short-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.10 Short-term trend Method used	
6.11 Long-term trend Period	
6.12 Long-term trend Direction	
6.13 Long-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.14 Long-term trend Method used	
6.15 Favourable reference population (using the unit in 6.2 or 6.4)	a) Population size b) Operator c) Unknown x d) Method

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6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

habitat of suitable quality (for long-term

b) Is there a sufficiently large area of unoccupied

Unknown

ty of

7.2 Sufficiency of area and quality of occupied habitat Method used

7.3 Short-term trend Period

7.4 Short-term trend Direction

7.5 Short-term trend Method used

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

Insufficient or no data available

2007-2018

survival)?

Unknown (x)

Insufficient or no data available

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Drainage (K02)	Н
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Illegal shooting/killing (G10)	M
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism,	M
pathogens) (L06)	
Drainage (K02)	H
	H M
Drainage (K02)  Mixed source pollution to surface and ground waters (limnic	

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8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Unknown

c) Habitat of the species

Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range

Unknown (XX)

11.2. Population

Unknown (XX)

11.3. Habitat for the species

Unknown (XX)

11.4. Future prospects

Unknown (XX)

11.5 Overall assessment of

**Unknown (XX)** 

Conservation Status

Olikilowii (AA)

11.6 Overall trend in Conservation

Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

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#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

- 12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)
- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

#### 13. Complementary information

- 13.1 Justification of % thresholds for trends
- 13.2 Trans-boundary assessment
- 13.3 Other relevant Information

## 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### Continental (CON)

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Jelić, D., Karaica, D., 2012. First data on the fauna of amphibians and reptiles of the lower Una River and its coastal area. Hyla: Herpetological bulletin 2012, 22–41.

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

## 5. Range

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5.1 Surface area	18600	
5.2 Short-term trend Period	2007-2018	
5.3 Short-term trend Direction	Unknown (x)	
5.4 Short-term trend Magnitude	a) Minimum	b) Maximum
5.5 Short-term trend Method used	Insufficient or no da	ta available
5.6 Long-term trend Period		
5.7 Long-term trend Direction		
5.8 Long-term trend Magnitude	a) Minimum	b) Maximum
5.9 Long-term trend Method used		
5.10 Favourable reference range	<ul><li>a) Area (km²)</li><li>b) Operator</li><li>c) Unknown</li></ul>	x
	d) Method	
5.11 Change and reason for change in surface area of range		
	The change is mainly	y due to:
5.12 Additional information		
6. Population		
6.1 Year or period	2007-2018	
6.2 Population size (in reporting unit)	a) Unit	number of map 1x1 km grid cells (grids1x1)
	b) Minimum	
	c) Maximum	
	d) Best single value	169
6.3 Type of estimate	Minimum	
6.4 Additional population size (using	a) Unit	
population unit other than reporting	b) Minimum	
unit)	c) Maximum	

b) Minimum
c) Maximum
d) Best single value

6.5 Type of estimate
6.6 Population size Method used
Based mainly on expert opinion with very limited data
2007-2018
C.8 Short-term trend Period
C.9 Short-term trend Magnitude
Di Minimum
Di Maximum
Di Maximum
C) Confidence interval
Confidence interval
Confidence on on data available

6.11 Long-term trend Period6.12 Long-term trend Direction

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- 6.13 Long-term trend Magnitude
- a) Minimum
- b) Maximum
- c) Confidence interval
- 6.14 Long-term trend Method used
- 6.15 Favourable reference population (using the unit in 6.2 or 6.4)
- a) Population size
- b) Operator
- c) Unknown
- d) Method
- 6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Unknown

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

Insufficient or no data available

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Unknown (x)

7.5 Short-term trend Method used

Insufficient or no data available

- 7.6 Long-term trend Period
- 7.7 Long-term trend Direction
- 7.8 Long-term trend Method used
- 7.9 Additional information

## 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Drainage (K02)	Н
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M

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Interspecific relations (competition, predation, parasitism, pathogens) (L06)	M
Drainage (K02)	Н
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М
Change of habitat location, size, and / or quality due to climate change (N05)	Н

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures a) Are measures needed?

b) Indicate the status of measures Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters a) Range Unknown b) Population Unknown

c) Habitat of the species Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range Unknown (XX)
11.2. Population Unknown (XX)

11.2. Population Unknown (XX)
11.3. Habitat for the species Unknown (XX)

11.4. Future prospects Unknown (XX)

11.5 Overall assessment of Unknown (XX)
Conservation Status

11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

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b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

- 12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)
- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

#### 13. Complementary information

- 13.1 Justification of % thresholds for trends
- 13.2 Trans-boundary assessment
- 13.3 Other relevant Information

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# 1. General information 1.1 Member State HR 1.2 Species code 1177 1.3 Species scientific name Salamandra atra 1.4 Alternative species scientific name 1.5 Common name (in national language) crni daždevnjak

#### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	No

#### 3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the wild/exploited?
3.2 Which of the measures in Art. 14 have been taken?

No

a) regulations regarding access to property	No
b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
c) regulation of the periods and/or methods of taking specimens	No
d) application of hunting and fishing rules which take account of the conservation of such populations	No
e) establishment of a system of licences for taking specimens or of quotas	No
f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
g) breeding in captivity of animal species as well as artificial propagation of plant species	No
h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Uni

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Continental (CON)**

Đurić, P., Jeran, N., Žganec, K., 2004. Crni daždevnjak (Salamandra atra) na Žumberku – popularizacija vrste, edukacija stanovništva i kartiranje mogućih staništa u svrhu zaštite vrste. Hrvatsko herpetološko društvo – Hyla, Zagreb. Jeran, N., Đurić, P., Žganec, K., 2011. Finding of the Alpine salamander (Salamandra atra Laurenti, 1768; Salamandridae, Caudata) in the Nature Park Žumberak - Samoborsko gorje (NW Croatia). Hyla: Herpetological bulletin 2011, 35–46.

Lukač, M., 2014. Hitridiomikoza - što sve treba znati prije odlaska na teren. Šunje, E., Pasmans, F., Maksimović, Z., Martel, A., Rifatbehović, M., 2018. Recorded mortality in the vulnerable Alpine salamander, Salamandra atra prenjensis (Amphibia: Caudata), is not associated with the presence of known amphibian pathogens. Salamandra 54, 75–79.

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb. 285 str.

#### 5. Range

5.1 Surface area

100

5.2 Short-term trend Period

2007-2018

5.3 Short-term trend Direction

Unknown (x)

5.4 Short-term trend Magnitude

a) Minimum

b) Maximum

5.5 Short-term trend Method used

Insufficient or no data available

5.6 Long-term trend Period

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5.7 Long-term trend Direction	
5.8 Long-term trend Magnitude	a) Minimum b) Maximum
5.9 Long-term trend Method used	
5.10 Favourable reference range	a) Area (km²)
	b) Operator c) Unknown x
	d) Method
5.11 Change and reason for change	
in surface area of range	The change is mainly due to:
	The change is mainly due to:
5.12 Additional information	
6. Population	
6.1 Year or period	2007-2018
6.2 Population size (in reporting unit)	a) Unit number of map 1x1 km grid cells (grids1x1)
	b) Minimum
	c) Maximum
	d) Best single value 2
6.3 Type of estimate	Minimum
6.4 Additional population size (using	a) Unit
population unit other than reporting	
	m ivimimim
unit)	b) Minimum c) Maximum
unit)	
unit) 6.5 Type of estimate	c) Maximum
	c) Maximum
6.5 Type of estimate	c) Maximum d) Best single value
6.5 Type of estimate 6.6 Population size Method used	c) Maximum d) Best single value  Based mainly on expert opinion with very limited data
6.5 Type of estimate 6.6 Population size Method used 6.7 Short-term trend Period	c) Maximum d) Best single value  Based mainly on expert opinion with very limited data 2007-2018
6.5 Type of estimate 6.6 Population size Method used 6.7 Short-term trend Period 6.8 Short-term trend Direction	c) Maximum d) Best single value  Based mainly on expert opinion with very limited data 2007-2018 Unknown (x) a) Minimum b) Maximum
6.5 Type of estimate 6.6 Population size Method used 6.7 Short-term trend Period 6.8 Short-term trend Direction 6.9 Short-term trend Magnitude	c) Maximum d) Best single value  Based mainly on expert opinion with very limited data 2007-2018 Unknown (x) a) Minimum b) Maximum c) Confidence interval
6.5 Type of estimate 6.6 Population size Method used 6.7 Short-term trend Period 6.8 Short-term trend Direction 6.9 Short-term trend Magnitude 6.10 Short-term trend Method used	c) Maximum d) Best single value  Based mainly on expert opinion with very limited data 2007-2018 Unknown (x) a) Minimum b) Maximum
6.5 Type of estimate 6.6 Population size Method used 6.7 Short-term trend Period 6.8 Short-term trend Direction 6.9 Short-term trend Magnitude 6.10 Short-term trend Method used 6.11 Long-term trend Period	c) Maximum d) Best single value  Based mainly on expert opinion with very limited data 2007-2018 Unknown (x) a) Minimum b) Maximum c) Confidence interval
6.5 Type of estimate 6.6 Population size Method used 6.7 Short-term trend Period 6.8 Short-term trend Direction 6.9 Short-term trend Magnitude 6.10 Short-term trend Method used 6.11 Long-term trend Period 6.12 Long-term trend Direction	c) Maximum d) Best single value  Based mainly on expert opinion with very limited data 2007-2018 Unknown (x) a) Minimum b) Maximum c) Confidence interval Insufficient or no data available
6.5 Type of estimate 6.6 Population size Method used 6.7 Short-term trend Period 6.8 Short-term trend Direction 6.9 Short-term trend Magnitude 6.10 Short-term trend Method used 6.11 Long-term trend Period	c) Maximum d) Best single value  Based mainly on expert opinion with very limited data 2007-2018 Unknown (x) a) Minimum b) Maximum c) Confidence interval Insufficient or no data available  a) Minimum
6.5 Type of estimate 6.6 Population size Method used 6.7 Short-term trend Period 6.8 Short-term trend Direction 6.9 Short-term trend Magnitude 6.10 Short-term trend Method used 6.11 Long-term trend Period 6.12 Long-term trend Direction	c) Maximum d) Best single value  Based mainly on expert opinion with very limited data 2007-2018 Unknown (x) a) Minimum b) Maximum c) Confidence interval Insufficient or no data available

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6.14 Long-term trend Method used

- 6.15 Favourable reference population (using the unit in 6.2 or 6.4)
- a) Population size
- b) Operator
- c) Unknown x
- d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Unknown

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

Insufficient or no data available

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Unknown (x)

7.5 Short-term trend Method used

Insufficient or no data available

- 7.6 Long-term trend Period
- 7.7 Long-term trend Direction
- 7.8 Long-term trend Method used
- 7.9 Additional information

## 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Change of habitat location, size, and / or quality due to climate change (N05)	М
Clear-cutting, removal of all trees (B09)	M
Threat	Ranking
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	Н

8.2 Sources of information

8.3 Additional information

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#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

b) Indicate the status of measures

Yes

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Unknown

c) Habitat of the species

Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range

Unknown (XX)

11.2. Population

Unknown (XX)

11.3. Habitat for the species

Unknown (XX)

11.4. Future prospects

Unknown (XX)

11.5 Overall assessment of

Unknown (XX)

**Conservation Status** 

11.6 Overall trend in Conservation

a) Overall assessment of conservation status

11.7 Change and reasons for change in conservation status and conservation status trend

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

## 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

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- 12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)
- 12.2 Type of estimate
- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

#### 13. Complementary information

- 13.1 Justification of % thresholds for trends
- 13.2 Trans-boundary assessment
- 13.3 Other relevant Information

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## 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### Alpine (ALP)

Đurić, P., Jeran, N., Žganec, K., 2004. Crni daždevnjak (Salamandra atra) na Žumberku – popularizacija vrste, edukacija stanovništva i kartiranje mogućih staništa u svrhu zaštite vrste. Hrvatsko herpetološko društvo – Hyla, Zagreb. Jeran, N., Đurić, P., Žganec, K., 2011. Finding of the Alpine salamander (Salamandra atra Laurenti, 1768; Salamandridae, Caudata) in the Nature Park Žumberak - Samoborsko gorje (NW Croatia). Hyla: Herpetological bulletin 2011, 35–46

Lukač, M., 2014. Hitridiomikoza - što sve treba znati prije odlaska na teren. Šunje, E., Pasmans, F., Maksimović, Z., Martel, A., Rifatbehović, M., 2018. Recorded mortality in the vulnerable Alpine salamander, Salamandra atra prenjensis (Amphibia: Caudata), is not associated with the presence of known amphibian pathogens. Salamandra 54, 75–79.

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb. 285 str.

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#### 5. Range

5.1 Surrace area			400	

5.2 Short-term trend Period 2007-2018

5.3 Short-term trend Direction Unknown (x)
5.4 Short-term trend Magnitude a) Minimum b) Maximum

3.4 Short term trend wagnitude a) willimidin

5.5 Short-term trend Method used Insufficient or no data available

5.6 Long-term trend Period

5.8 Long-term trend Magnitude a) Minimum b) Maximum

a) willimidil

5.9 Long-term trend Method used
5.10 Favourable reference range
a) Area (km²)

10 Favourable reference range a) Area (km²) b) Operator

c) Unknown x

d) Method

in surface area of range

The change is mainly due to:

5.12 Additional information

5.11 Change and reason for change

5.7 Long-term trend Direction

#### 6. Population

6.1 Year or period 2007-2018

6.2 Population size (in reporting unit) a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum
d) Best single value 5

6.3 Type of estimate Minimum

6.4 Additional population size (using population unit other than reporting unit)

a) Maximum

c) Maximum

d) Best single value

6.5 Type of estimate

6.6 Population size Method used Based mainly on expert opinion with very limited data

6.7 Short-term trend Period 2007-2018

6.8 Short-term trend Direction Unknown (x)

6.9 Short-term trend Magnitude a) Minimum b) Maximum

c) Confidence interval

6.10 Short-term trend Method used Insufficient or no data available

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- 6.11 Long-term trend Period
- 6.12 Long-term trend Direction
- 6.13 Long-term trend Magnitude
- a) Minimum
- b) Maximum
- c) Confidence interval
- 6.14 Long-term trend Method used
- 6.15 Favourable reference population (using the unit in 6.2 or 6.4)
- a) Population size
- b) Operator
- c) Unknown
- d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Unknown

- b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?
- 7.2 Sufficiency of area and quality of occupied habitat Method used
- 7.3 Short-term trend Period 200
- 7.4 Short-term trend Direction
- 7.5 Short-term trend Method used
- 7.6 Long-term trend Period
- 7.7 Long-term trend Direction
- 7.8 Long-term trend Method used
- 7.9 Additional information

Insufficient or no data available

2007-2018

Unknown (x)

Insufficient or no data available

## 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Change of habitat location, size, and / or quality due to climate change (N05)	M
Threat	Ranking
Change of habitat location, size, and / or quality due to climate change (N05)	Н
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	Н

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8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Unknown

c) Habitat of the species

Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range

Unknown (XX)

11.2. Population

Unknown (XX)

11.3. Habitat for the species

Unknown (XX)

11.4. Future prospects

Unknown (XX)

11.5 Overall assessment of

Unknown (XX)

Conservation Status

11.6 Overall trend in Conservation

Status

a) Overall assessment of conservation status

11.7 Change and reasons for change in conservation status and conservation status trend

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

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#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

- 12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

12.2 Type of estimate

- 12.3 Population size inside the network Method used
- 12.4 Short-term trend of population size within the network Direction
- 12.5 Short-term trend of population size within the network Method used
- 12.6 Additional information

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

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# 1. General information 1.1 Member State HR 1.2 Species code 1167 1.3 Species scientific name Triturus carnifex 1.4 Alternative species scientific name

#### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

veliki vodenjak

#### 3. Information related to Annex V Species (Art. 14)

No

3.1 Is the species taken in the wild/exploited?
3.2 Which of the measures in Art. 14 have been taken?

1.5 Common name (in national language)

a) regulations regarding access to property No b) temporary or local prohibition of the taking of No specimens in the wild and exploitation c) regulation of the periods and/or methods of taking No specimens d) application of hunting and fishing rules which take No account of the conservation of such populations e) establishment of a system of licences for taking No specimens or of quotas f) regulation of the purchase, sale, offering for sale, No keeping for sale or transport for sale of specimens g) breeding in captivity of animal species as well as No artificial propagation of plant species h) other measures No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Uni

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

## 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Mediterranean (MED)**

Arntzen, J.W., Espregueira Themudo, G., Wielstra, B., 2007. The phylogeny of crested newts (Triturus cristatus superspecies): nuclear and mitochondrial genetic characters suggest a hard polytomy, in line with the paleogeography of the centre of origin. Contributions to Zoology 76, 261–278.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Werner, F., 1897. Die Reptilien und Amphibien Oesterreich - Ungarns und der Occupationslaender. Pichlers Witwe & Sohn, Wien.

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb. 285 str.

#### 5. Range

5.1 Surface area

5100

5.2 Short-term trend Period

2007-2018

5.3 Short-term trend Direction

Unknown (x)

5.4 Short-term trend Magnitude

a) Minimum

b) Maximum

5.5 Short-term trend Method used

Insufficient or no data available

5.6 Long-term trend Period5.7 Long-term trend Direction

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5.8 Long-term trend Magnitude	a) Minimum	b) Maximum
5.9 Long-term trend Method used		
5.10 Favourable reference range	a) Area (km²)	
	b) Operator c) Unknown	×
	d) Method	^
5.11 Change and reason for change		
in surface area of range	The change is mainly	vidue to:
	The change is main	y due to.
5.12 Additional information		
6. Population		
6. Population		
6.1 Year or period	2007-2018	
6.2 Population size (in reporting unit)	a) Unit	number of map 1x1 km grid cells (grids1x1)
	b) Minimum	
	c) Maximum	
	d) Best single value	49
6.3 Type of estimate	Minimum	
6.4 Additional population size (using	a) Unit	
the second secon		
population unit other than reporting	b) Minimum	
unit)	b) Minimum c) Maximum	
	•	
	c) Maximum	
unit)	c) Maximum d) Best single value	ert opinion with very limited data
unit) 6.5 Type of estimate	c) Maximum d) Best single value	ert opinion with very limited data
unit) 6.5 Type of estimate 6.6 Population size Method used	c) Maximum d) Best single value Based mainly on exp	ert opinion with very limited data
unit) 6.5 Type of estimate 6.6 Population size Method used 6.7 Short-term trend Period	c) Maximum d) Best single value  Based mainly on exp 2007-2018	ert opinion with very limited data
unit)  6.5 Type of estimate  6.6 Population size Method used  6.7 Short-term trend Period  6.8 Short-term trend Direction	c) Maximum d) Best single value  Based mainly on exp 2007-2018 Unknown (x) a) Minimum b) Maximum	
unit)  6.5 Type of estimate  6.6 Population size Method used  6.7 Short-term trend Period  6.8 Short-term trend Direction  6.9 Short-term trend Magnitude	c) Maximum d) Best single value  Based mainly on exp 2007-2018  Unknown (x) a) Minimum b) Maximum c) Confidence interva	al
unit)  6.5 Type of estimate  6.6 Population size Method used  6.7 Short-term trend Period  6.8 Short-term trend Direction  6.9 Short-term trend Magnitude  6.10 Short-term trend Method used	c) Maximum d) Best single value  Based mainly on exp 2007-2018 Unknown (x) a) Minimum b) Maximum	al
unit)  6.5 Type of estimate  6.6 Population size Method used  6.7 Short-term trend Period  6.8 Short-term trend Direction  6.9 Short-term trend Magnitude  6.10 Short-term trend Method used  6.11 Long-term trend Period	c) Maximum d) Best single value  Based mainly on exp 2007-2018  Unknown (x) a) Minimum b) Maximum c) Confidence interva	al
unit)  6.5 Type of estimate  6.6 Population size Method used  6.7 Short-term trend Period  6.8 Short-term trend Direction  6.9 Short-term trend Magnitude  6.10 Short-term trend Method used  6.11 Long-term trend Period  6.12 Long-term trend Direction	c) Maximum d) Best single value  Based mainly on exp 2007-2018  Unknown (x) a) Minimum b) Maximum c) Confidence interve Insufficient or no day	al
unit)  6.5 Type of estimate  6.6 Population size Method used  6.7 Short-term trend Period  6.8 Short-term trend Direction  6.9 Short-term trend Magnitude  6.10 Short-term trend Method used  6.11 Long-term trend Period	c) Maximum d) Best single value  Based mainly on exp 2007-2018 Unknown (x) a) Minimum b) Maximum c) Confidence interval Insufficient or no data	al
unit)  6.5 Type of estimate  6.6 Population size Method used  6.7 Short-term trend Period  6.8 Short-term trend Direction  6.9 Short-term trend Magnitude  6.10 Short-term trend Method used  6.11 Long-term trend Period  6.12 Long-term trend Direction	c) Maximum d) Best single value  Based mainly on exp 2007-2018  Unknown (x) a) Minimum b) Maximum c) Confidence interve Insufficient or no day	al ta available
unit)  6.5 Type of estimate  6.6 Population size Method used  6.7 Short-term trend Period  6.8 Short-term trend Direction  6.9 Short-term trend Magnitude  6.10 Short-term trend Method used  6.11 Long-term trend Period  6.12 Long-term trend Direction	c) Maximum d) Best single value  Based mainly on exp 2007-2018 Unknown (x) a) Minimum b) Maximum c) Confidence interve Insufficient or no data	al ta available
unit)  6.5 Type of estimate  6.6 Population size Method used  6.7 Short-term trend Period  6.8 Short-term trend Direction  6.9 Short-term trend Magnitude  6.10 Short-term trend Period  6.11 Long-term trend Period  6.12 Long-term trend Direction  6.13 Long-term trend Magnitude	c) Maximum d) Best single value  Based mainly on exp 2007-2018 Unknown (x) a) Minimum b) Maximum c) Confidence interve Insufficient or no data	al ta available

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c) Unknown

6.4)

d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

b) Is there a sufficiently large area of unoccupied

Unknown

habitat of suitable quality (for long-term survival)?

Insufficient or no data available

2007-2018

Unknown (x)

Insufficient or no data available

7.2 Sufficiency of area and quality of occupied habitat Method used

7.3 Short-term trend Period

7.4 Short-term trend Direction

7.5 Short-term trend Method used

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

## 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Drainage (K02)	M
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Threat	Ranking
Drainage (K02)	M
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М
Change of habitat location, size, and / or quality due to climate change (N05)	M
climate change (1405)	

8.2 Sources of information

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8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

- 9.2 Main purpose of the measures taken
- 9.3 Location of the measures taken
- 9.4 Response to the measures
- 9.5 List of main conservation measures

Reduce impact of multi-purpose hydrological changes (CJ02)

9.6 Additional information

Conservation measures are included in water management planning documents. However, as there is no systematic monitoring, there is no data to what extent are these measures really incorporated in water management activities and the system for evaluation of effectiveness of those measures is lacking.

#### 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Unknown

c) Habitat of the species

Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range

Unknown (XX)

11.2. Population

Unknown (XX)

11.3. Habitat for the species

Unknown (XX)

11.4. Future prospects

Unknown (XX)

11.5 Overall assessment of **Conservation Status** 

conservation status trend

**Unknown (XX)** 

11.6 Overall trend in Conservation

**Status** 

11.7 Change and reasons for change in conservation status and

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

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#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

b) Minimum

a) Unit

number of map 1x1 km grid cells (grids1x1)

- c) Maximum
- d) Best single value 24

Minimum

Based mainly on expert opinion with very limited data

12.4 Short-term trend of population size within the network Direction

Unknown (x)

12.5 Short-term trend of population size within the network Method used Insufficient or no data available

12.6 Additional information

12.2 Type of estimate

network Method used

12.3 Population size inside the

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

## 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs Alpine (ALP)

4.2 Sources of information

Arntzen, J.W., Espregueira Themudo, G., Wielstra, B., 2007. The phylogeny of crested newts (Triturus cristatus superspecies): nuclear and mitochondrial genetic characters suggest a hard polytomy, in line with the paleogeography of the centre of origin. Contributions to Zoology 76, 261–278.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118–167.

https://doi.org/10.5937/bnhmb1508118D

Werner, F., 1897. Die Reptilien und Amphibien Oesterreich - Ungarns und der Occupationslaender. Pichlers Witwe & Sohn, Wien.

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta

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vodozemaca i gmazova Republike Hrvatske, Zagreb. 285 str.

#### 5. Range

5.1 Surface area 7200

5.2 Short-term trend Period 2007-2018

5.3 Short-term trend Direction Unknown (x)

5.4 Short-term trend Magnitude a) Minimum b) Maximum

5.5 Short-term trend Method used Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude a) Minimum b) Maximum

5.9 Long-term trend Method used

5.10 Favourable reference range a) Area (km²) b) Operator

c) Unknown x

d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

#### 5.12 Additional information

#### 6. Population

6.1 Year or period 2007-2018

6.2 Population size (in reporting unit) a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 31

6.3 Type of estimate Minimum

6.4 Additional population size (using population unit other than reporting unit)

a) Maximum

c) Maximum

d) Best single value

6.5 Type of estimate

6.6 Population size Method used Based mainly on expert opinion with very limited data

6.7 Short-term trend Period 2007-2018

6.8 Short-term trend Direction Unknown (x)

6.9 Short-term trend Magnitude a) Minimum

b) Maximum

c) Confidence interval

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6.10 Short-term trend Method used

Insufficient or no data available

6.11 Long-term trend Period

6.12 Long-term trend Direction

6.13 Long-term trend Magnitude

- a) Minimum
- b) Maximum
- c) Confidence interval

6.14 Long-term trend Method used

6.15 Favourable reference population (using the unit in 6.2 or

- a) Population size
- b) Operator
- c) Unknown
- d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Unknown

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

7.3 Short-term trend Period

7.4 Short-term trend Direction

7.5 Short-term trend Method used

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

Insufficient or no data available

2007-2018

Unknown (x)

Insufficient or no data available

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Drainage (K02)	M
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М

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Threat	Ranking
Drainage (K02)	М
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М
Change of habitat location, size, and / or quality due to climate change (N05)	M

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

L

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

Reduce impact of multi-purpose hydrological changes (CJ02)

9.6 Additional information

Conservation measures are included in water management planning documents. However, as there is no systematic monitoring, there is no data to what extent are these measures really incorporated in water management activities and the system for evaluation of effectiveness of those measures is lacking.

#### 10. Future prospects

10.1 Future prospects of parameters

a) Range

Unknown

b) Population

Unknown

c) Habitat of the species

Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range Unknown (XX)

11.2. Population Unknown (XX)

11.3. Habitat for the species Unknown (XX)

11.4. Future prospects Unknown (XX)

11.5 Overall assessment of Unknown (XX)

**Conservation Status** 

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11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

a) Unit

number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 26

12.2 Type of estimate

12.3 Population size inside the network Method used

Minimum

Based mainly on expert opinion with very limited data

12.4 Short-term trend of population size within the network Direction

12.5 Short-term trend of population size within the network Method used

Unknown (x)

Insufficient or no data available

12.6 Additional information

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

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#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

**Continental (CON)** 

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4.2 Sources of information

Arntzen, J.W., Espregueira Themudo, G., Wielstra, B., 2007. The phylogeny of crested newts (Triturus cristatus superspecies): nuclear and mitochondrial genetic characters suggest a hard polytomy, in line with the paleogeography of the centre of origin. Contributions to Zoology 76, 261-278.

Dzukic, G., Cvijanovic, M., Urosevic, A., Vukov, T., Tomasevic-Kolarov, N., Slijepcevic, M., Ivanovic, A., Kalezic, M., 2015. The batrachological collections of the Institute for biological research "Sinisa Stankovic", University of Belgrade. Bulletin of the Natural History Museum 118-167.

https://doi.org/10.5937/bnhmb1508118D

Werner, F., 1897. Die Reptilien und Amphibien Oesterreich - Ungarns und der Occupationslaender. Pichlers Witwe & Sohn, Wien.

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb. 285 str.

#### 5. Range

5.1 Surface area 6500

5.2 Short-term trend Period 2007-2018

5.3 Short-term trend Direction

Unknown (x) 5.4 Short-term trend Magnitude a) Minimum

b) Maximum

5.5 Short-term trend Method used

Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude

5.9 Long-term trend Method used

5.10 Favourable reference range

a) Minimum

b) Maximum

a) Area (km²)

b) Operator

c) Unknown Х

d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

5.12 Additional information

#### 6. Population

6.1 Year or period 2007-2018

6.2 Population size (in reporting unit)

a) Unit

number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 53

6.3 Type of estimate

Minimum

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6.4 Additional population size (using
population unit other than reporting
unit)

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

6.5 Type of estimate

6.6 Population size Method used

Based mainly on expert opinion with very limited data

6.7 Short-term trend Period

2007-2018

6.8 Short-term trend Direction

Unknown (x)

6.9 Short-term trend Magnitude

- a) Minimum
- b) Maximum
- c) Confidence interval

6.10 Short-term trend Method used

Insufficient or no data available

- 6.11 Long-term trend Period
- 6.12 Long-term trend Direction
- 6.13 Long-term trend Magnitude
- a) Minimum
- b) Maximum
- c) Confidence interval

6.14 Long-term trend Method used

6.15 Favourable reference population (using the unit in 6.2 or 6.4)

- a) Population size
- b) Operator
- c) Unknown
- Х

d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

Unknown

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

Insufficient or no data available

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Unknown (x)

7.5 Short-term trend Method used

Insufficient or no data available

7.7 Long-term trend Direction

7.6 Long-term trend Period

7.8 Long-term trend Method used

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7.9 Additional information

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Drainage (K02)	M
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	M
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Threat	Ranking
Drainage (K02)	M
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (LO6)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М
Change of habitat location, size, and / or quality due to climate change (N05)	M

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

Manage changes in hydrological and coastal systems and regimes for construction and development (CF10)

Reduce impact of multi-purpose hydrological changes (CJ02)

Manage the use of natural fertilisers and chemicals in agricultural (plant and animal) production (CA09)

9.6 Additional information

Conservation measures are included in water management planning documents.

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However, as there is no systematic monitoring, there is no data to what extent are these measures really incorporated in water management activities and the system for evaluation of effectiveness of those measures is lacking.

#### 10. Future prospects

10.1 Future prospects of parameters

- Unknown a) Range
- Unknown b) Population c) Habitat of the species Unknown
- 10.2 Additional information

#### 11. Conclusions

1.1.	Range	Unknown (XX)

- 11.2. Population Unknown (XX)
- 11.3. Habitat for the species Unknown (XX)
- 11.4. Future prospects Unknown (XX)
- 11.5 Overall assessment of Unknown (XX) **Conservation Status**
- 11.6 Overall trend in Conservation **Status**
- 11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level

including all sites where the species is present)

12.2 Type of estimate

12.3 Population size inside the network Method used

12.4 Short-term trend of population size within the network Direction

- a) Unit number of map 1x1 km grid cells (grids1x1)
- b) Minimum
- c) Maximum
- d) Best single value 34

Minimum

Based mainly on expert opinion with very limited data

Unknown (x)

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12.5 Short-term trend of population size within the network Method used

Insufficient or no data available

12.6 Additional information

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

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## 1. General information 1.1 Member State HR 1.2 Species code 1993 1.3 Species scientific name Triturus dobrogicus

1.4 Alternative species scientific name

1.5 Common name (in national language) veliki dunavski vodenjak

#### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

#### 3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the
wild/exploited?

3.2 Which of the measures in Art.14 have been taken?

No

a) regulations regarding access to property	No
b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
c) regulation of the periods and/or methods of taking specimens	No
d) application of hunting and fishing rules which take account of the conservation of such populations	No
e) establishment of a system of licences for taking specimens or of quotas	No
f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
g) breeding in captivity of animal species as well as artificial propagation of plant species	No
h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Continental (CON)**

Arntzen, J.W., Espregueira Themudo, G., Wielstra, B., 2007. The phylogeny of crested newts (Triturus cristatus superspecies): nuclear and mitochondrial genetic characters suggest a hard polytomy, in line with the paleogeography of the centre of origin. Contributions to Zoology 76, 261–278.

Baškiera, S., Koller, K., 2016. Istraživanje vodozemaca i gmazova na području šume Žutice, izvještaj za 2016. godinu (završni izvještaj). Hrvatsko herpetološko društvo – Hyla, Zagreb

M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvanosti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb. 285 str.

#### 5. Range

5.1 Surface area

14900

5.2 Short-term trend Period

5.3 Short-term trend Direction

5.4 Short-term trend Magnitude

5.5 Short-term trend Method used

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude a) Minimum b) Maximum

5.10 Favourable reference range a) Area (km²)

5.9 Long-term trend Method used

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Х

b) Operator

c) Unknown

d) Method

5.11 Change and reason for change in surface area of range

The change is mainly due to:

5.12 Additional information

#### 6. Population

6.1 Year or period 2007-2018

6.2 Population size (in reporting unit)

a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 92

6.3 Type of estimate

Minimum

6.4 Additional population size (using population unit other than reporting unit)

a) Unit

b) Minimum

c) Maximum

d) Best single value

6.5 Type of estimate

6.6 Population size Method used

Based mainly on expert opinion with very limited data

6.7 Short-term trend Period

2007-2018

6.8 Short-term trend Direction

Unknown (x)

6.9 Short-term trend Magnitude

a) Minimum

b) Maximum

c) Confidence interval

6.10 Short-term trend Method used

Insufficient or no data available

6.11 Long-term trend Period

6.12 Long-term trend Direction

6.13 Long-term trend Magnitude

a) Minimum

b) Maximum

c) Confidence interval

6.14 Long-term trend Method used

6.15 Favourable reference population (using the unit in 6.2 or 6.4)

a) Population size

b) Operator

c) Unknown

d) Method

6.16 Change and reason for change in population size

The change is mainly due to:

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Χ

6.17 Additional information

#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term

Unknown

survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

Insufficient or no data available

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Unknown (x)

7.5 Short-term trend Method used

Insufficient or no data available

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Drainage (K02)	M
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Threat	Ranking
Drainage (K02)	M
Use of plant protection chemicals in agriculture (A21)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	М
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	М
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М
Change of habitat location, size, and / or quality due to climate change (N05)	М

8.2 Sources of information

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8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

Manage changes in hydrological and coastal systems and regimes for construction and development (CF10)

Reduce impact of multi-purpose hydrological changes (CJ02)

Manage the use of natural fertilisers and chemicals in agricultural (plant and animal) production (CA09)

9.6 Additional information

Conservation measures are included in water management planning documents. However, as there is no systematic monitoring, there is no data to what extent are these measures really incorporated in water management activities and the system for evaluation of effectiveness of those measures is lacking.

#### 10. Future prospects

10.1 Future prospects of parameters

- a) Range
- Unknown
- b) Population
- Unknown
- c) Habitat of the species
- Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range

Unknown (XX)

11.2. Population

Unknown (XX)

11.3. Habitat for the species

Unknown (XX)

11.4. Future prospects

Unknown (XX)

11.5 Overall assessment of **Conservation Status** 

Unknown (XX)

11.6 Overall trend in Conservation

**Status** 

a) Overall assessment of conservation status

11.7 Change and reasons for change in conservation status and conservation status trend

The change is mainly due to:

b) Overall trend in conservation status

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The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCls, SCls and SACs network (on the biogeographical/marine level including all sites where the species is present)

a) Unit number of map 1x1 km grid cells (grids1x1)

- b) Minimum
- c) Maximum
- d) Best single value 49

12.2 Type of estimate

12.3 Population size inside the network Method used

Minimum

Based mainly on expert opinion with very limited data

12.4 Short-term trend of population size within the network Direction

12.5 Short term trend of population

Unknown (x)

12.5 Short-term trend of population size within the network Method used

Insufficient or no data available

12.6 Additional information

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

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# 1. General information 1.1 Member State HR 1.2 Species code 1186 1.3 Species scientific name Proteus anguinus 1.4 Alternative species scientific name

#### 2. Maps

2.1 Sensitive species	No
2.2 Year or period	2007-2018
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on expert opinion with very limited data
2.5 Additional maps	Yes

#### 3. Information related to Annex V Species (Art. 14)

1.5 Common name (in national language) čovječja ribica

3.1 Is the species taken in the wild/exploited?	No
3.2 Which of the measures in Art. 14 have been taken?	<ul><li>a) regulations regarding access to property</li><li>b) temporary or local prohibition of the takin specimens in the wild and exploitation</li></ul>

a) regulations regarding access to property	No
b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
c) regulation of the periods and/or methods of taking specimens	No
d) application of hunting and fishing rules which take account of the conservation of such populations	No
e) establishment of a system of licences for taking specimens or of quotas	No
f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
g) breeding in captivity of animal species as well as artificial propagation of plant species	No
h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

4.2 Sources of information

#### **Mediterranean (MED)**

Ozimec, R., Jalžić, B., Mihoci, I., Hanžek, N., Rnjak, G., Grgurev, M., Lacković, D., Matočec, N., 2015. Studija Glavne ocjene prihvatljivosti zahvata za ekološku mrežu HE Ombla. Knjiga 3. Bioraznolikost špiljskih objekata na širem području zahvata. OIKON, Hrvatski prirodoslovni muzej, GEONATURA. 319 str. M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area

5.2 Short-term trend Period

5.3 Short-term trend Direction

5.4 Short-term trend Magnitude 5.5 Short-term trend Method used

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude 5.9 Long-term trend Method used

5.10 Favourable reference range

5900

2007-2018

Unknown (x)

a) Minimum

b) Maximum

Insufficient or no data available

a) Minimum

b) Maximum

a) Area (km²)

b) Operator

c) Unknown

d) Method

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Χ

5.11 Change and reason for change in surface area of range

The change is mainly due to:

5.12 Additional information

6.	De	'n	ш	lati	ion
U.	L	y	u	ıaı	

or r openation		
6.1 Year or period	2007-2018	
6.2 Population size (in reporting unit)	<ul><li>a) Unit</li><li>b) Minimum</li><li>c) Maximum</li><li>d) Best single value</li></ul>	number of map 1x1 km grid cells (grids1x1)  37
6.3 Type of estimate	Minimum	
6.4 Additional population size (using population unit other than reporting unit)	<ul><li>a) Unit</li><li>b) Minimum</li><li>c) Maximum</li><li>d) Best single value</li></ul>	
6.5 Type of estimate		
6.6 Population size Method used	Based mainly on exp	pert opinion with very limited data
6.7 Short-term trend Period	2007-2018	
6.8 Short-term trend Direction	Unknown (x)	
6.9 Short-term trend Magnitude	a) Minimum b) Maximum c) Confidence interv	al
6.10 Short-term trend Method used	Insufficient or no da	ta available
6.11 Long-term trend Period		
6.12 Long-term trend Direction		
6.13 Long-term trend Magnitude	a) Minimum b) Maximum c) Confidence interv	al
6.14 Long-term trend Method used		
6.15 Favourable reference population (using the unit in 6.2 or 6.4)	<ul><li>a) Population size</li><li>b) Operator</li><li>c) Unknown</li><li>d) Method</li></ul>	x
6.16 Change and reason for change in population size	The change is mainl	y due to:

**6.17 Additional information** 

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#### 7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term

Unknown

survival)?

Insufficient or no data available

2007-2018

Unknown (x)

Insufficient or no data available

7.2 Sufficiency of area and quality of occupied habitat Method used

7.3 Short-term trend Period

7.4 Short-term trend Direction

7.5 Short-term trend Method used

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

#### 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Forestry activities generating soil pollution (B26)	M
Hydropower (dams, weirs, run-off-the-river), including infrastructure (D02)	М
Land, water and air transport activities generating pollution to surface or ground waters (E05)	M
Pollution to surface or ground water due to urban run-offs (F11)	M
Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (F12)	M
Problematic native species (IO4)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	М
Forestry activities generating soil pollution (B26)	М
Hydropower (dams, weirs, run-off-the-river), including infrastructure (D02)	М
Land, water and air transport activities generating pollution to surface or ground waters (E05)	M
Pollution to surface or ground water due to urban run-offs (F11)	M

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Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (F12)

Problematic native species (I04)

Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)

Change of habitat location, size, and / or quality due to climate change (N05)

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures a) Are measures needed?

b) Indicate the status of measures Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

#### 10. Future prospects

10.1 Future prospects of parameters a) Range Unknown b) Population Unknown

c) Habitat of the species Unknown

10.2 Additional information

#### 11. Conclusions

**Conservation Status** 

11.1. Range Unknown (XX)

11.2. Population Unknown (XX)

11.3. Habitat for the species Unknown (XX)

11.4. Future prospects Unknown (XX)

11.5 Overall assessment of Unknown (XX)

11.6 Overall trend in Conservation

Status

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

The change is mainly due to:

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b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

- 12.1 Population size inside the pSCls, SCls and SACs network (on the biogeographical/marine level including all sites where the species is present)
- a) Unit

number of map 1x1 km grid cells (grids1x1)

- b) Minimum
- c) Maximum
- d) Best single value 30

12.2 Type of estimate

#### Minimum

12.3 Population size inside the network Method used

Based mainly on expert opinion with very limited data

12.4 Short-term trend of population size within the network Direction

Unknown (x)

12.5 Short-term trend of population size within the network Method used

Insufficient or no data available

12.6 Additional information

There is one N2k site which is proclaimed specifically for this species, but it is possible the olm is not present within that particular cave. There are several other caves in close proximity, it is possible the protected one was mistook for one of those.

#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

There are at least several locations where the olm had been found in the past, but at which it had not been observed for at least 20-30 years or (substantially) longer. Those locations have been removed from the dataset untill the olm's presence there can be re-evaluated, if the locations are still accessible.

#### 4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

Alpine (ALP)

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4.2 Sources of information

Ozimec, R., Jalžić, B., Mihoci, I., Hanžek, N., Rnjak, G., Grgurev, M., Lacković, D., Matočec, N., 2015. Studija Glavne ocjene prihvatljivosti zahvata za ekološku mrežu HE Ombla. Knjiga 3. Bioraznolikost špiljskih objekata na širem području zahvata. OIKON, Hrvatski prirodoslovni muzej, GEONATURA. 319 str. M. Zadravec, P. Gambiroža, 2019. Prvo izvješće o stanju očuvansti vrsta vodozemaca i gmazova Republike Hrvatske, Zagreb.

#### 5. Range

5.1 Surface area 1100

5.2 Short-term trend Period 2007-2018

5.3 Short-term trend Direction Unknown (x)

5.4 Short-term trend Magnitude a) Minimum b) Maximum

5.5 Short-term trend Method used Insufficient or no data available

5.6 Long-term trend Period

5.7 Long-term trend Direction

5.8 Long-term trend Magnitude

5.9 Long-term trend Method used

a) Minimum

b) Maximum

5.10 Favourable reference range a) Area (km²)

b) Operator

c) Unknown

d) Method

Х

5.11 Change and reason for change in surface area of range

The change is mainly due to:

5.12 Additional information

#### 6. Population

6.1 Year or period 2007-2018

a) Unit number of map 1x1 km grid cells (grids1x1)

b) Minimum

c) Maximum

d) Best single value 15

6.3 Type of estimate Minimum

6.4 Additional population size (using population unit other than reporting unit)

6.2 Population size (in reporting unit)

a) Unit

b) Minimum

c) Maximum

d) Best single value

6.5 Type of estimate

6.6 Population size Method used Based mainly on expert opinion with very limited data

6.7 Short-term trend Period 2007-2018

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6.8 Short-term trend Direction Unknown (x) 6.9 Short-term trend Magnitude a) Minimum b) Maximum c) Confidence interval 6.10 Short-term trend Method used Insufficient or no data available 6.11 Long-term trend Period 6.12 Long-term trend Direction 6.13 Long-term trend Magnitude a) Minimum b) Maximum c) Confidence interval 6.14 Long-term trend Method used 6.15 Favourable reference a) Population size population (using the unit in 6.2 or b) Operator c) Unknown X d) Method 6.16 Change and reason for change in population size The change is mainly due to: 6.17 Additional information 7. Habitat for the species 7.1 Sufficiency of area and quality of a) Are area and quality of occupied habitat Unknown occupied habitat sufficient (for long-term survival)? b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)? Insufficient or no data available 7.2 Sufficiency of area and quality of occupied habitat Method used 7.3 Short-term trend Period 2007-2018 7.4 Short-term trend Direction Unknown (x) Insufficient or no data available 7.5 Short-term trend Method used 7.6 Long-term trend Period 7.7 Long-term trend Direction 7.8 Long-term trend Method used 7.9 Additional information 8. Main pressures and threats

#### 8.1 Characterisation of pressures/threats

Pressure	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Forestry activities generating soil pollution (B26)	M

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Hydropower (dams, weirs, run-off-the-river), including infrastructure (D02)	M
Land, water and air transport activities generating pollution to surface or ground waters (E05)	M
Pollution to surface or ground water due to urban run-offs (F11)	M
Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (F12)	M
Problematic native species (I04)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Threat	Ranking
Use of plant protection chemicals in agriculture (A21)	M
Forestry activities generating soil pollution (B26)	M
Hydropower (dams, weirs, run-off-the-river), including infrastructure (D02)	М
Land, water and air transport activities generating pollution to surface or ground waters (E05)	М
Pollution to surface or ground water due to urban run-offs (F11)	М
Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (F12)	M
Problematic native species (I04)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	М
Change of habitat location, size, and / or quality due to climate change (N05)	M

8.2 Sources of information

8.3 Additional information

#### 9. Conservation measures

9.1 Status of measures

a) Are measures needed?

Yes

b) Indicate the status of measures

Measures identified, but none yet taken

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

9.6 Additional information

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#### 10. Future prospects

10.1 Future prospects of parameters

a) Range Unknown

Unknown b) Population

c) Habitat of the species

Unknown

10.2 Additional information

#### 11. Conclusions

11.1. Range

11.2. Population

11.3. Habitat for the species

11.4. Future prospects

11.5 Overall assessment of **Conservation Status** 

11.6 Overall trend in Conservation Status

11.7 Change and reasons for change in conservation status and conservation status trend

Unknown (XX)

Unknown (XX)

Unknown (XX)

Unknown (XX)

Unknown (XX)

a) Overall assessment of conservation status

The change is mainly due to:

b) Overall trend in conservation status

The change is mainly due to:

11.8 Additional information

#### 12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

a) Unit

number of map 1x1 km grid cells (grids1x1)

- b) Minimum
- c) Maximum
- d) Best single value 15

12.2 Type of estimate

12.3 Population size inside the network Method used

**Minimum** 

Based mainly on expert opinion with very limited data

12.4 Short-term trend of population size within the network Direction

Unknown (x)

12.5 Short-term trend of population size within the network Method used Insufficient or no data available

12.6 Additional information

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#### 13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

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