

## Intermediate progress report Reporting template

Project acronym		REPEAT
Project title		
Project coordinator	Person (Title, Full Name)	Dr hab. Wiktor Kotowski
	Entity (Company/organization)	University of Warsaw
Project period (Start date – End date)		14.02.2017-14.02.2020
Project website, if applicable		<a href="http://www.project-repeat.com">www.project-repeat.com</a> <a href="http://ddni.ro/wps/project/repeat/">http://ddni.ro/wps/project/repeat/</a>

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List of partners involved in the project (company/organization and principal investigator). Please use partner numbers to specify the tasks, work packages and inputs of each partner in sections 4.3, 5 and 6.2 to 6.4.	Partner 1: University of Warsaw, dr hab. Wiktor Kotowski Partner 2: Danube Delta National Institute for Research and Development, Dr Jenica Hanganu Partner 3: University of Greifswald, Prof. Dr. Dr. h.c. Hans Joosten Partner 4: Norwegian Institute of Bioeconomy Research, Dr Bente Foereid Partner 5: University of Antwerp, Prof. Dr. Ruurd van Diggelen
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### 1. Description of activities and intermediate results

#### a. Summary of activities and intermediate results

##### **Partner 2: Danube Delta National Institute for Research and Development**

The main activities within reporting period:- selection and establishment of 5 experimental plots in the Danube delta area;- description of the area from morpho-hydrological point of view, - installation of the data loggers and piezometers; - sampling the plots (biomass collection, phytosociological relevés and soil sampling) together with Polish team (07.07.2017 - 14.07.2017); maintenances of the plots clear; - installation of decomposition frames and meshes in all 5 plots (2-6 of July 2018). For each plot it was installed 2 frames at 1m depth and 10 small frames at 5 cm depth;- maintenances of the plots clear and monitoring the sites was a permanent activity;-drafting an article related to peat formation in fens

#### **b. Delays, difficulties and how these were/will be overcome**

Organization of the project conference in Tulcea, Romania was postponed for 28- 31 of May 2019

### c. List of project meetings

Date	Place	Participating partners	Meeting title and object
20-21.02.2018	Antwerp meeting	Partner 2 DDNIRD	Administrative and technical details of further activities of the project

## 2. Table of deliverables

Deliverable and Milestone Name			Lead partner (country and designation)	Date of delivery (mm/yyyy)		Comments
				Initially planned	Delivered	
Work Package	Deliverable or Milestone	Full Name				
WP1	M.1.1.1.	Consortium agreement signed	Partner 1, Poland, UW	3.2017	delay	delayed administrative and legal procedure, will be delivered in July 2018
	D.1.1.1.	Consortium agreement		3.2017	delay	delayed administrative and legal procedure, will be delivered in July 2018
	M.1.1.2.	Kick-off meeting		3.2017	2.2017	delivered ahead of deadline
	M.1.1.3.	Internal progress reports (1) obtained from WP leaders		8.2017	x	internal progress report 1 skipped
	D.1.1.3.	Internal progress report (1)		8.2017	x	internal progress report 1 skipped
	M.1.1.4.	Internal progress reports (2) obtained from WP leaders		2.2018	3.2018	

Deliverable and Milestone Name		Lead partner (country and designation)	Date of delivery (mm/yyyy)		Comments
			Initially planned	Delivered	
D.1.1.4.	Internal progress report (2)		2.2018	3.2018	
M.1.2.1.	Financial report I prepared		3.2018	3.2018	financial reports prepared and submitted according to national rules
D.1.2.1.	Financial report I		3.2018	3.2018	financial reports prepared and submitted according to national rules
M.1.3.1.	External progress report I prepared		3.2018	3.2018	
D.1.3.1.	External progress report I		3.2018	10.2018	External progress report deadline set up on 01.10.2018
M.1.1.5.	Internal progress reports (3) obtained from WP leaders		8.2018		is foreseen without delay
D.1.1.5.	Internal progress report (3)		8.2018		is foreseen without delay
WP2	M.2.1.1.	Partner 5, Belgium, UA	9.2017	9.2017	achieved, no deviation
	M.2.2.1.		9.2017	9.2017	achieved, no deviation
	M.2.2.2.		9.2017	9.2017	achieved, no deviation
	M.2.3.1.		9.2017	9.2017	achieved, no deviation
	M.2.4.1.		9.2017	9.2017	achieved, no deviation

Deliverable and Milestone Name		Lead partner (country and designation)	Date of delivery (mm/yyyy)		Comments
			Initially planned	Delivered	
M.2.5.1.	Plant material for laboratory analyses collected		9.2017	9.2017	achieved, no deviation
M.2.6.1.	Management study transects localised in each research area		9.2017	9.2017	Paired unmown and mown plots (in total 24) installed in Netherlands, Germany and Poland. Additionally 12 plot pairs in Germany studied with a reduced set of parameters within a Master thesis.
M.2.2.3.	Data from laboratory analyses obtained		12.2017	12.2017	Achieved, no deviation
M.2.4.2.	Data from laboratory analyses (including analyses of tea bags) obtained		2.2018	5.2018	delay until May 2018
D.2.2.3.	Description of the hydrochemical and redox stratification per profile		2.2018	3.2018	delay until March 2018; redox measurements were skipped after revision of project plan
M.2.5.2.	Data from laboratory analyses obtained		3.2018	delay	delay until May 2018
D.2.4.2.	Description of decomposability of plant material		4.2018	4.2018	
D.2.5.2.	Assessment of the factors limiting primary production at each site		5.2018	5.2018	

Deliverable and Milestone Name			Lead partner (country and designation)	Date of delivery (mm/yyyy)		Comments
				Initially planned	Delivered	
<b>WP3</b>	M.3.2.4.	Moss productivity plots established - pilot study	<b>Partner 3, Germany, UG</b>	8.2017	4.2017	achieved ahead of deadline; installed in climate chamber, combined with T 5.4
	M.3.1.1.	Peat samples collected		9.2017	delay	Reduced number of samples collected. Results of the analysis will be used to refine the sampling in 2018.
	M.3.2.1.	Ingrowth bags installed, peat cores taken		9.2017	9.2017	achieved, no deviation
	M.3.2.5.	Assessment of the results of the pilot study on moss productivity		12.2017	5.2017	achieved ahead of deadline; combined with T 5.4.; method approved for main study
	M.3.3.1.	Litter bags prepared and installed, peat cores taken		12.2017	10.2017	achieved ahead of deadline
	M.3.2.6.	Moss productivity plots established		5. 2018	9.2017	achieved ahead of deadline
	M.3.1.2.	Peat samples analysed and dated		8.2018	delay	Reduced number of samples analysed. Dating postponed to refine method.
	M.3.2.2.	Ingrowth bags collected		8.2018	9.2017	Planned according to schedule (collection will spread over several weeks)
<b>WP4</b>	M.4.1.1.	First samples collected	<b>Partner 5, Belgium, UA</b>	7.2017	7.2017	Achieved, no delay
	M.4.5.1.	Samples collected		9.2017	delay	Postponed till 12.2018. Sample collection June 2018, data analysis Sept.- Dec. 2018
	M.4.1.2.	All samples collected		12.2017	7.2017	achieved ahead of deadline

Deliverable and Milestone Name			Lead partner (country and designation)	Date of delivery (mm/yyyy)		Comments
				Initially planned	Delivered	
WP5	M.5.3.1.	Root growth and decomposition pilot experiment established	Partner 3, Germany, UG	8.2017	4.2018	Plants collected in 3 study regions. Plants planted in small pots at Greifswald University. Setting up of large containers in April 2018. Experiment will run in 2018.
	M.5.5.1.	Roots collected		9.2017	9.2017	achieved, no deviation
	M.5.4.1.	Bryophyte growth and decomposition pilot experiment established		11.2017	4.2017	achieved, ahead of deadline, combined with T3.2.
	M.5.2.1.	Roots collected		12.2017	10.2017	Achieved ahead of timeline. Reduced number of plants because of logistical constraints.
	M.5.3.2.	Assessment of the results of the pilot experiment on root growth and decomposition		12.2017	delay	Experiment will be conducted in 2018.
	M.5.1.1.	Root traits gathered from literature		2.2018	delay	Ongoing work.
	D.5.1.1.	Root traits database, ready for adding supplementary information from own measurements		2.2018	delay	Ongoing work.
	M.5.3.3.	Root growth and decomposition experiment established		3.2018	3.2018	Experimental setup finalised, plants growing in small pots, transfer to large containers in April 2018.

Deliverable and Milestone Name		Lead partner (country and designation)	Date of delivery (mm/yyyy)		Comments	
			Initially planned	Delivered		
M.5.4.2.	Assessment of the results of the pilot experiment on bryophyte growth and decomposition		4.2018	4.2018	delivered timely - growth rates measured, decomposability (FTIR) is being analysed	
	M.5.4.3.		Bryophyte growth and decomposition experiment established	5.2018	2.2018	achieved ahead of the deadline
<b>WP6</b>	No milestones nor deliverables planned in the reporting period	<b>Partner 4, Norway, NIBIO</b>				
<b>WP7</b>	M.7.1.1.	Sampling and experimental protocols cross-reviewed for all WPs	<b>Partner 1, Poland, UW</b>	5.2017	5.2017	achieved, no deviation
	D.7.1.1.	Description of sampling and experimental design in the project		5.2017	5.2017	achieved, no deviation
	M.7.2.1.	Conference registration opened		3.2018	postponed	postponed to October 2018
	M.7.2.1.	Conference organized		9.2018	postponed	postponed to May 2019
	D.7.2.2.	International scientific conference		9.2018	postponed	postponed to May 2019
<b>WP8</b>	M.8.2.1.	Leaflet prepared & printed	<b>Partner 3, Germany, UG</b>	7.2017	delay	Postponed to 2019 to better cover project results.
	D.8.2.1.	Leaflet about fen restoration		7.2017	delay	Postponed to 2019 to better cover project results.
	M.8.5.1.	Project website created		8.2017	8.2017	Website created and maintained.
	D.8.5.1.	Project website		8.2017	8.2017	
	M.8.3.1.	Five stakeholders workshops prepared		11.2017	delay	Stakeholder workshops will take place in 2018.



Deliverable and Milestone Name	Lead partner (country and designation)	Date of delivery (mm/yyyy)		Comments
		Initially planned	Delivered	
D.8.3.1.	Five stakeholders workshops, documentary movie	11.2017	delay	Stakeholder workshops will take place in 2018.

### 3. List of scientific publications

Wiktor Kotowski (1), Franziska Tanneberger (2), Rudy van Diggelen (3), Hanna Silvennoinen (4), Jenica Hanganu (5), Camiel Aggenbach (3), Jürgen Kreyling (2), Mateusz Wilk (1), Bente Føreid (4), Izabela Jaszczuk (1), Ewa Jabło., 2018. REPEAT: REstoration and prognosis of PEAT formation in fens - linking diversity in plant functional traits to soil biological and biogeochemical processes (2017-2019). Geophysical Research Abstracts Vol. 20, EGU2018-19183, 2018 EGU General Assembly 2018 © Author(s) 2018. CC Attribution 4.0 license.

Niculescu, S., Ienco, D., and Hanganu, J.: APPLICATION OF DEEP LEARNING OF MULTI-TEMPORAL SENTINEL-1 IMAGES FOR THE CLASSIFICATION OF COASTAL VEGETATION ZONE OF THE DANUBE DELTA, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-3, 1311-1318, <https://doi.org/10.5194/isprs-archives-XLII-3-1311-2018>, 2018.

### 4. Stakeholder engagement and dissemination to stakeholders

#### a. Stakeholder engagement

1. Stakeholders' participation to project framing and implementation (e.g. via advisory boards, and including before the application)

**The main stakeholder in the area is Administration of the Danube Delta Biosphere Reserve in charge with preservation of the natural ecosystems of the delta including reed beds.**

2. Provision of data by stakeholders; use of field/experiments allowed by stakeholders

3. Involvement of stakeholders considered as research objects (e.g. Participatory meetings used to assess biodiversity and service values by them)

4. Other meetings and activities (to be specified)

#### b. Dissemination of results to stakeholders

*Dissemination of results to stakeholders (except general public)*

**A round table with stakeholder representatives is planned at REPEAT Conference in Tulcea Romania on 30 of May 2019 to present our research results on peat experiments and the way those reed ecosystems can be preserved. Stakeholders will be invited (on 30 of May 2019) to join the field trip to Enisala Romanian case study site in the Danube Delta, to learn more about our research results on peat formation and decomposition.**



## 5. Future activities

1) Systematization of the experiment measurements, 2) GIS analyses on relationships between vegetation types, hypsometry and hydrology. 3) Production of thematic maps and 4) writing an article (initial title: Floating fens of Danube Delta – first interdisciplinary perspectives on peat forming process –results).