

Protocol for Investigating the History of Social and Economic Relevance of ponds to Stakeholders

PONDSCAPE

Towards a sustainable management of pond diversity at the
landscape level



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Annex IV – Protocol: History of Social and Economic Relevance of ponds to Stakeholders

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1. Objectives

With the help of methods borrowed from sociology and history, we aim to analyse the evolution of relations between ponds and human beings. Semi-directive interviews of various stakeholders enlightened by a historical study of recent trends (19th-20th) are used to reveal how the value given to ponds by stakeholders has changed and to study the current human-related issues that must be taken into account in pond preservation. Operational objectives are the understanding of the way stakeholders value risks and benefits of ponds, and, taken this into account, how the creation and maintenance of ponds can be promoted in a sustainable way.

2. Methodology

2.1. Evolution of social and economic relevance of pools (Task 6.1)

The objective of this task is to assess in a qualitative (collection of relevant archives on pond history) and a quantitative way (cartographic approach) how ponds gained or lost socio-economic value along a recent historic period (typically the 20th century).

2.1.1 Documentary approach

The documentary approach consists in the collection and analysis of historical documents. Information on history of pond use and value has been gathered by research on the basis of historical documents collected from different sources: local libraries, local historians, and local history groups.

2.1.2 Cartographic approach

To get insights in pond density, distribution and evolution, an analysis of maps has been performed (cartographic approach). The methodology consists in an inventory and a comparison of ponds based on 1:20 000 or 1:25 000 maps from the National Geographic Institute (NGI) at four different periods (late 18th, early/mid/late 20th century). As an exhaustive inventory of ponds on the whole area is not possible in the available time, we chose representative areas of 80 km² belonging to one of the “ecoregions¹” and delimited by the NGI maps limits. As ponds are highly linked to farm activities and rural villages, areas with a high percentage of agricultural land were selected for the analysis (Figure 1 and 2). For each selected area, ponds were digitalized at the four different time periods and submitted to comparison (Figure 3).

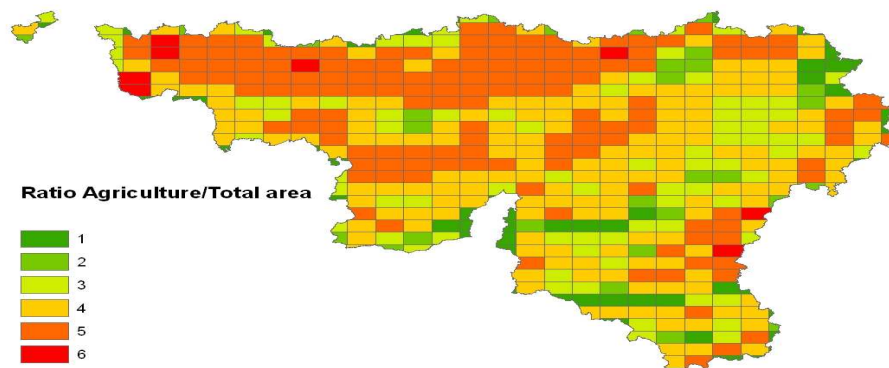


Figure 1. Percentage of agricultural land in Wallonia (1=<15%, 2=15-30%, 3=31-45%, 4=46-60%, 5=61-75%, 6=>75%).

¹ Belgium is divided into 13 areas (Dunes, Polders, Sandy, Campine, Silty and Sandy, Silty, Hennuyere, Famenne, Condroz, Grassland, Ardenne, High Ardenne and Jurassic) called ecoregions, differing from each other in soil composition, culture type, geographic and climatic conditions.

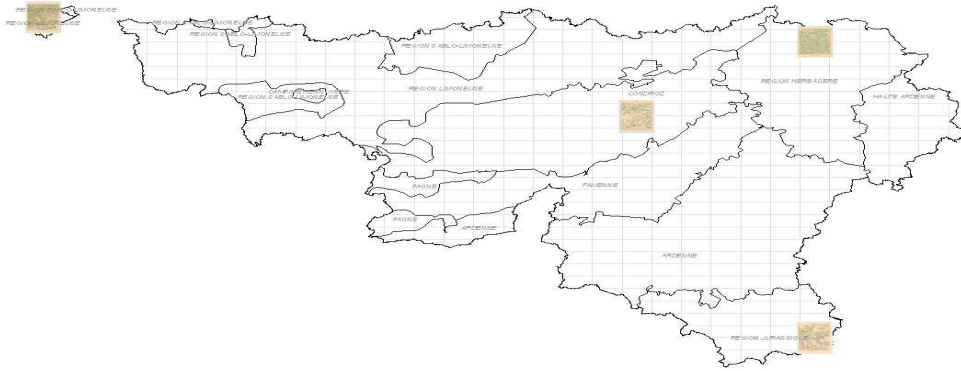


Figure 2. Selected maps, where agricultural land covers >75% of the area, within four ecoregions (Jurassic area, Condroz, Western Hainaut and Herve Land).

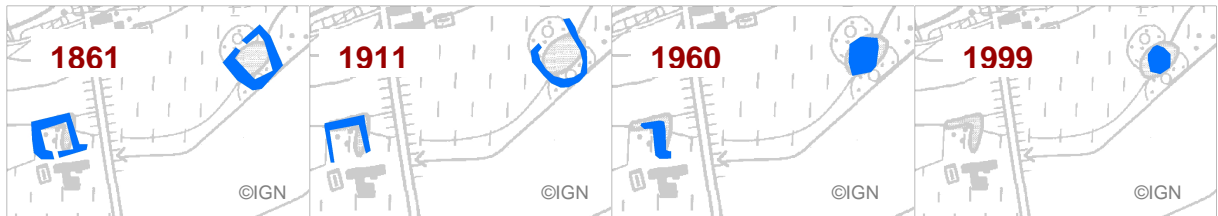


Figure 3. For each selected map, ponds were digitalized at four different periods. Here is a zoom on digitised moated sites of Western Hainaut in 1861, 1911, 1960 and in 1999.

2.2 Analysis of present day perception of social and economic value of ponds by different sectors (Task 6.2)

This aims at understanding stakeholders' perceptions concerning ponds' value and contains different sections.

2.2.1 Exploratory phase

The exploratory phase consisted in:

- contacting resource persons whose personal experience could enlighten the subject,
- reading general and scientific papers, and
- discussing with experts in the field.

This gave us a general overview of the present day situation of ponds in Belgium. This exploration is a necessary phase to discover and delimit the object "pond", but also to establish the basis of the following research phases.

2.2.2 Semi-directive interviews

A method based on the analysis of half-directive interviews was used to study the perception and representation of stakeholders. In total 48 interviews (27 in Wallonia and 21 in Flanders) were performed. Half-directive means that the interviewee is guided by the interviewer, throughout selected topics, but the scope and the direction of the discussion are allowed to follow the associations identified by the interviewee. This means that questions asked by the interviewer are supposed to be open (and not fixed) questions, giving free place to the interviewee in the formulation of his/her answer. This method has demonstrated its relevancy to reveal less visible aspects of stakeholders' ways of thinking or acting.

Each meeting lasted generally between 30 to 120 minutes. To ensure a totally free discussion between the interviewer and the stakeholders, all interviews were recorded on a dictaphone. An

interview guide (Figure 4) was built up in collaboration with a rural sociologist as a support for the interviewer to ensure that all interviews would follow the same outline. This guide has been modified and validated through different test interviews. It is organised around topics probing the viewpoints of stakeholders about the socio-economic characteristics of ponds: costs versus revenues, importance in the farm economy and beyond, management practices and issues, the opportunity of financial compensations...

Sample design

The sample size is relatively low in comparison with a quantitative study but is sufficient to ensure thorough interviews. The half-directive interview method does not aim at reporting on social reality by ensuring a representativeness of the population. Its objective is to emphasize on none or few explored aspects of the social reality.

The 48 interviewed persons were selected according to their membership to the “pond community” and to their geographic distribution.

“The pond community”

Among others utilities, the exploratory phase helped us to set up a list of stakeholders relevant for the purpose of our research. Coarsely, the common requirement between the members of this group is to have a link with ponds. The final list of stakeholders interviewed in Wallonia and Flanders is presented below (Table 1), following a general description of each encountered group.

- **Farmers:** groups supposed to be closely linked to ponds, as they were previously one of the key users of ponds: drinking places for their cattle or water reservoirs for domestic purpose. Interviewed farmers exploit one or several ponds. Traditional and bio-farmers were interviewed, as well as farmers whose ponds are or are not included in the « agri-environmental measures² » policy;
- **Local authorities:** responsible for pond management in the area (responsible for agriculture, water management, environment);
- **Reserve managers:** Flanders and Wallonia count several natural parks that are large areas where a sustainable management program between different stakeholders (local authorities, farmers associations, environmental groups) is set up to ensure the preservation and development of nature. In Flanders, this group also includes structures involved in pond creation, restoration and maintenance;
- **Environmentalists:** Among others, CRIE³ members were interviewed. They use ponds as tools to support ecological discovery by children. Other environmentalist groups were: environmental non-profit organisations, naturalists, associations working with schools and youth groups involved in nature issues;
- **Foresters:** Even if ponds are mainly located in pastures, many are located inside forests and have generally a natural origin. Agents of the Forest and Nature Division are dedicated to the maintenance of these forest ponds;
- **Local historians** guided us concerning the historical uses and important evolution of ponds in the investigated ecoregions;
- **Vets:** The opinion of vets is interesting because of their contact with farmers.

² Agri-Environmental Measures » (AEM) is a European subsidiary tools set up to help farmers preserving, maintaining and developing natural elements (ponds, hurdles,...) in their farm, and using technics compatible with respect for the environment.

³ Regional Centers for Environmental Initiation

WP6 : INTERVIEW GUIDE	
<p>THE PURPOSE OF RESEARCH</p> <p>HISTORY OF THE POND</p> <p><i>The origin of the pond? Who has installed? When? Why?</i></p> <p>POND'S USES</p> <p><i>Old uses? Today's use? What benefits from the management / ownership / use of the pond ? What are the disadvantages?</i></p> <p>POND MAINTENANCE / PRACTICE MANAGEMENT</p> <p><i>What maintenance for your pond? Cost ? Benefits? Risks? Problems ? Pond's vicinity description Do you adjust your management in the immediate vicinity of the pond? Any parasites problem? Fasciola hepatica?</i></p> <p>ECONOMIC INTEREST</p> <p><i>Place in the economy of the farm? Do you see any economic interest in ponds? Pond and AEM • If MAE Cost / Subsidies + or -? If - why keep it? Without subsidies, what would you do with your pond ? Administrative task for pond in AEM? Is it heavy? The game worth the candle?</i></p> <p>SOCIAL INTEREST</p> <p><i>Who benefits the pond?</i></p>	<p>KNOWLEDGE ON POND</p> <p><i>What definition do you give to « pond »? What importance do you give to the pond in the landscape? Should it be maintain ? Why ? Does this region contain many ponds? More or less than before? In your view point what are the reasons for the decline / increase ponds in Belgium? When and why interest in ponds appear?</i></p> <p>FUTURE</p> <p><i>What solutions to reverse the decline would you suggest? Who should do so (what (s) actor (s)?)</i></p> <p>SENTIMENTALE VALUE OF THE POND</p> <p><i>Remembrance of children around the pond? What if the pond did not exist?</i></p> <p>CALL TO THE IMAGINATION</p> <p><i>What is your ideal pond?</i></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>IDENTITY</p> <p>Name</p> <p>Surname</p> <p>Age</p> <p>Place of life</p> <p>Job</p> </div>

Figure 4. Interview guide.

Table 1. Distribution of the interviews between the different stakeholders.

Stakeholders	# interviews - Wallonia	# interviews - Flanders	Total
Farmers	13	6	19
Conservation associations	4	6	10
Education	2	1	3
Forest Agency	2	1	3
Local authorities	2	3	5
Local historian	2	/	2
Vet	1	/	1
Pondside resident	1	/	1
Landscape management	/	2	2
Private owners	/	2	2
Total	27	21	48

The mean age of the interviewees was 48 years and age limits were 26 and 74 years old. Gender separation is 6 females for 42 males. This could seem quite disproportional, but as mentioned, qualitative work doesn't try to reach equal proportions between groups, but just to reveal social reality. Indeed, field reality is that more men are working in the pond sector.

Geographic distribution

Interviewees live in rural areas and are distributed throughout the different Belgium ecoregions. Indeed, the exploratory phase showed that pond types and pond history were closely linked to the environmental conditions. Thus, the ecoregion is used as a synthetic indicator for hydric and pedological conditions as well as ground occupation. It forms the basis unit of the field work phase.

3. Description of the activities

3.1 Exploratory phase

We contacted research teams whom results or methodology could be useful to us, as well as field actors involved in ponds. Collected data concerns: agro-environmental measures (and linked information), ponds in open areas, types of ponds existing in Wallonia, potential focus areas, nature conservation importance in new ponds creation, interview guide. Concretely, this phase was used to read bibliography, to make field visits, and meet relevant persons in order to answer the following basic questions:

- What is the definition of a pond?
- What is the general status of ponds in Belgium?
- What are the types of ponds in Belgium?
- How do ponds work and how are they maintained in Belgium today?
- Who are the stakeholders?

3.2 Interview and historical research

Interviews and consulting of local documents were tackled in tandem to find information about both socio-economical and historical questions. As described in the methodology, information collection and interviews were realized in each ecoregion. When a meeting was agreed, time was used during the day to visit local libraries and history groups. There, publications and research on past water uses and supply of the area were collected.

For the interview part, the first step was to contact stakeholders and organise a meeting for interviewing. Stakeholders were contacted by different means:

- E-mail was sent to concerned local authorities (in charge of environment, agriculture), local history groups and nature conservation agencies;
- Direct phone contact: mainly for farmers under AEM;
- Step by step approach by questioning stakeholders on possible other pond owners/managers.

After field interviews, everything was written down literally. Then each interview was analyzed separately, by sorting the different parts of the speeches into semantic categories.

3.3 Cartographic analyses

While it seemed to us that a cartographic approach was necessary to support our research with objective and quantitative data, we are faced with several issues. First, a very time-consuming activity was to find the relevant maps. Secondly, the main source of maps in Belgium is NGI, but prices are very high. Finally, cartography is managed by the regional authorities in Belgium. So, when one wants to work on the entire Belgian area, one needs to gather maps from Flanders and Wallonia, and adapt to different administrative systems.

Maps finally bought from NGI were processed using the ArcGIS 9.1 software. For each selected map, ponds were digitalized. After digitalization, comparison of pond density, distribution and size between the different periods was performed for the four selected areas.

3.4 Valorisation tasks

Participation to a publication on ponds

AgriNature is a collection of publications set up by the Walloon region and aims at presenting different aspects and particularities of the agriculture in Southern Belgium. In an upcoming publication of AgriNature dedicated to rural ponds of Wallonia, we have participated as co-authors with Nathalie Feremans (UCL) and Eric Graitson (ULg- Walloon Region). Our contribution in this publication is concentrated into three chapters, one on the description of four particular types of Walloon ponds, a second on the origin and past uses of ponds by people and a third one on the evolution of ponds throughout the last two centuries. Target readers of these publications are farmers, naturalists, rural inhabitants as well as all people interested by the subject developed within the publication.

Presentations in conferences and workshops

Kevin Morelle and Eric Graitson, "Origine et diversité des mares agricoles en Région Wallonne", Workshop on « Ponds and Agro-environment », CTA Stree-Modave, organized by Groupe Interuniversitaire de Recherches en Écologie Appliquée (G.I.R.E.A.), 12 June 2008.

Kevin Morelle, "L'évolution des mares en Belgique : entre Histoire humaine et Histoire de l'environnement", First Environmental History Meeting: Belgium-Luxemburg-Congo, Rwanda, Burundi, organized by the Department of Historical Research, FUNDP, 11-13 December 2008.