



Cultural Heritage Agency  
Ministry of Education, Culture and Science



# A FUTURE FOR MILLS

Principles for dealing with heritage mills



Much has been achieved in past decades in the field of mill preservation thanks to private initiatives, mill organisations, mill owners and the Dutch government. Over a thousand mills have been saved and restored, the professions of miller and millwright have been preserved and there is money available for regular maintenance.

Nevertheless, several aspects of current policy are in need of review. There should be less emphasis on mills as machines, and more on mills as monuments to the history of technology. Mills are striking witnesses to our history and it is this aspect that should be paramount in their preservation. The Dutch government recognises the importance of mills as bearers of culture and wishes to provide ongoing support for these monuments, their environment, the people who manage them and those who enjoy them.

This publication sets out the government's views on dealing with heritage mills and the direction that heritage conservation for mills will take in the coming years. The government's approach to mills and mill remains is based on their heritage value as monuments, their place in the landscape and their function in society. It is these aspects that underpin government policy and that define the Dutch government's vision with regard to mills, although in most cases this is the responsibility of mill owners themselves. Mill policy aims at the balanced conservation of both material and non-material features.

#### The role of the Cultural Heritage Agency

As part of the Ministry of Education, Culture and Science (OCW), the Cultural Heritage Agency acts under the direct responsibility of the Minister. The government is responsible for protecting cultural heritage that is of national significance. The tasks arising out of this mandate are carried out by the Cultural Heritage Agency, which uses the tools at its disposal – expertise about our moveable and immovable heritage, legislation and regulations, and a funding budget for heritage conservation. The Cultural Heritage Agency also looks after the national collection that is not on permanent loan.





Post mills are the oldest type of windmill in the Netherlands.  
The Maasmolen in Nederasselt (Gelderland)

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Dutch mills have an important role in the country's collective experience, attracting crowds of visitors on regional or national mill days. D'Admiraal chalk mill in Amsterdam-Buiksloot (North-Holland)

## SUMMARY

The Netherlands and mills – they go together and have done for centuries. Long before the Golden Age, mills played a vital role in the development of the Dutch economy and landscape, as well as in Dutch society.

This would all change later. Although the industrial revolution began rather late in the Netherlands, mills had been well and truly sidelined by about 1920. Fortunately, individual advocates together with social and government agencies were able to step in in time to preserve mills – from drainage mills to water-mills, from grain mills to wind engines – as monuments and as a distinctive part of the Dutch landscape. Nowadays, mills fulfil an important function in the collective experience of the Netherlands and they make a valuable contribution to the tourism industry.

Mill owners and government have been working side by side for more than half a century now to care for mills. Much has been achieved: over a thousand mills have been saved and restored, the professions of miller and millwright have survived, much of the old knowledge and skills relating to mills has been preserved, and mills have become a source of income and relaxation for many. However, there is still room for improvement in some areas. For example, there should be less emphasis on mills as machines. Instead, they need to be viewed first and foremost as monuments to the history of technology. Mills are striking witnesses to the past and it is this aspect that should be paramount in their conservation. Despite their iconic status, we need to be constantly vigilant about mill preservation. Conservation relies heavily on the efforts of volunteers and on private financial contributions. Generally speaking, mill owners are barely able to generate an income from their mills. The position of mills and the mill environment in the land use planning process needs to be strengthened.

These guidelines constitute the basis for government policy and as such set out the position of the Cultural Heritage Agency (RCE) with regard to mills. How does the government advise and decide on mills? How can other parties tackle their role? What can mill owners, who have first responsibility for mill preservation, expect from the authorities? How can we best safeguard the heritage values of mills? How do we ensure an integral role for mills in towns, villages and the countryside? These are questions that this protocol provides answers to. These principles set out the government's views on dealing with heritage mills and the direction that heritage conservation for mills will take in the coming years.

The government's approach to mills and mill remains is based on their heritage value, their place in the landscape and their function in society. The heritage policy outlined here advocates an integrated approach, guided by an objective assessment of the current state of individual mills.

These principles set out a number of guidelines for dealing with mills, with the first point of departure being heritage value, which comprises matters such as the location, the building and any moving parts, the building history and the history of the site. Operating mills as viable economic enterprises is not the only policy objective. The government does support the idea of operational mills, but only if the protection of heritage values is taken into consideration.

Where possible, original technologies and materials should be used in mill restoration and maintenance. There is, however, scope for the use of contemporary, innovative technologies and materials provided the heritage values are not compromised.

Mill preservation aims at the balanced conservation of both material and non-material features. It is therefore vital that milling levels and intensity of use be tailored to the circumstances of individual mills. Maintaining heritage mills in an operational state is and will continue to be an important part of government heritage policy.

New uses of mills, with the heritage values preserved, are to be encouraged where this will foster their use and strengthen their position in society. Some of the characteristic features of mills place constraints on the possibilities for new uses.

The link between a mill and its site and surroundings constitutes an important key heritage value, one that is damaged if the mill is relocated. The RCE therefore adopts the principle that mills should not be relocated.

Raising an existing mill to improve wind capture will in many instances damage its heritage value. The RCE therefore adopts a cautious approach to any such initiatives.

In principle, heritage policy does not seek the full or partial reconstruction of buildings, although this has regularly happened with mills in the past. In view of the number of restored mills in the Netherlands, the RCE does not view the reconstruction of still more mills as either necessary or desirable.

The RCE recognises the need to plug the gaps in our current knowledge about mills and it seeks to play a facilitating or active role regarding specific issues.

The ultimate objective of this document is to find effective ways to communicate a fascination for mills, as special monuments to history, technology, water management and food supply, to the heirs of this legacy – the mill owners and the 17 million inhabitants of the Netherlands. Admiration, knowledge and affection – this is what will safeguard the future of our monuments. This holds just as much for mills as it does for other heritage buildings.

The government recognises the importance of mills as bearers of culture and wishes to provide ongoing support for these monuments, their environment, the people who manage them and those who enjoy them.







*Mills contribute to the recognisability of the Netherlands in a way that few other structures do. They are part and parcel of the Netherlands, contributing to a positive, distinctive image of the country and playing a role in the collective experience*

# INTRODUCTION

**Mills are among the most recognisable monuments in the Netherlands. Like church spires, water towers and lighthouses, they serve as beacons in the landscape, reference points in the skylines of towns and villages. While watermills divulge their secrets less readily, the presence of a water wheel betrays the building's function. Mills contribute to the Netherlands' image in a way that few other structures do.**

Mills played a vital role in developing the Dutch economy and landscape and were put to numerous uses, from milling grain and processing many other raw materials to draining polders. What mills have in common is their function, one that is firmly rooted in technology: making the work of people easier by ingeniously harnessing the power of animals, wind or water. Their long, sometimes changing, use and their evolving technologies have often given mills a fascinating historical layering. This is also true of mill remains that have been converted into homes, pumping stations, grain silos or pet shops. Mill remains, together with some mills that have been put to new uses, derive their value not only from their rarity – there are by now more complete mills than ones used for new purposes – but from what they tell us about history, just as a converted church illustrates our history of belief and secularisation.

Mills are monuments of technology and economic development, but also of memory and nostalgia. They feature everywhere in the Dutch society, from television ads to milk cartons, from a painting by Jacob van Ruisdael to the key rings sold in souvenir shops. The fact that they lost their original economic significance over the course of a hundred years does not appear to have detracted from this. Mills are identified with the Netherlands. They are part and parcel of the collective experience of the country.

The government acknowledges the importance of mills as bearers of culture, both for Dutch people and for tourists. Mills contribute to a positive, distinctive image of the country, generating revenue directly and indirectly through tourism. But their significance is much greater for the inhabitants of the Netherlands, who often attach great value to the mills in their living space. These people become involved as volunteers, millers, mill guides, shop assistants, or members of the board. They visit the mills on National Mill Day and National Heritage Day, or during local activities such as markets, where a working mill is an obvious drawcard. In that sense, mills play a role in public

life. They are part of the social fabric of local communities. Some mills still retain an economic function, as people use them to earn a living, some as professional millers, others as millwrights. In many places, flour products from the mill are among the favourite local produce.

Despite their iconic status, we need to be constantly vigilant about mill preservation. Conservation relies heavily on the efforts of volunteers and on private financial contributions. Generally speaking, mill owners are barely able to generate an income from their mills. The mill environment, which includes access to wind and water, deserves attention and protection through the land use planning process. Public support for mills is indispensable.

Since 1961 the government has been closely involved in mill preservation, by building up knowledge, advising, and issuing permits and grants, all in partnership with a broad and active group of social partners. Using the principles that have since been developed, the government wishes to underline the importance of mills, both now and in the future. Mills are part and parcel of the Netherlands. However, even though they tend to be taken for granted, their conservation and management requires professional attention and financial support. In the period 1997-2010, no less than 8% of the total budget for conservation and restoration grants went to mills. While mill owners played a critical role, government efforts were very intensive, especially in comparison with other heritage buildings. Although the government has stepped back a little these days, including with regard to mills, it continues to actively support mill preservation.

Because mills have such a cultural historical significance for the country, the government wishes to provide enduring support for these heritage buildings and their environment, and to the people who manage them and enjoy them. It does so by way of grants, by building up knowledge, through practical advice and by guiding preservation practice.

The government takes as its point of departure the heritage value of mills, their place in the landscape and their function in society. Within this approach, scope and consideration is given to keeping mills operational, but this is not the sole aim – everything hinges on a mill's heritage value. This brochure sets out the principles that the government itself uses and offers a variety of suggestions and guidelines for mill preservation.

*Mills as a decorative and tourist icon of the Netherlands.*

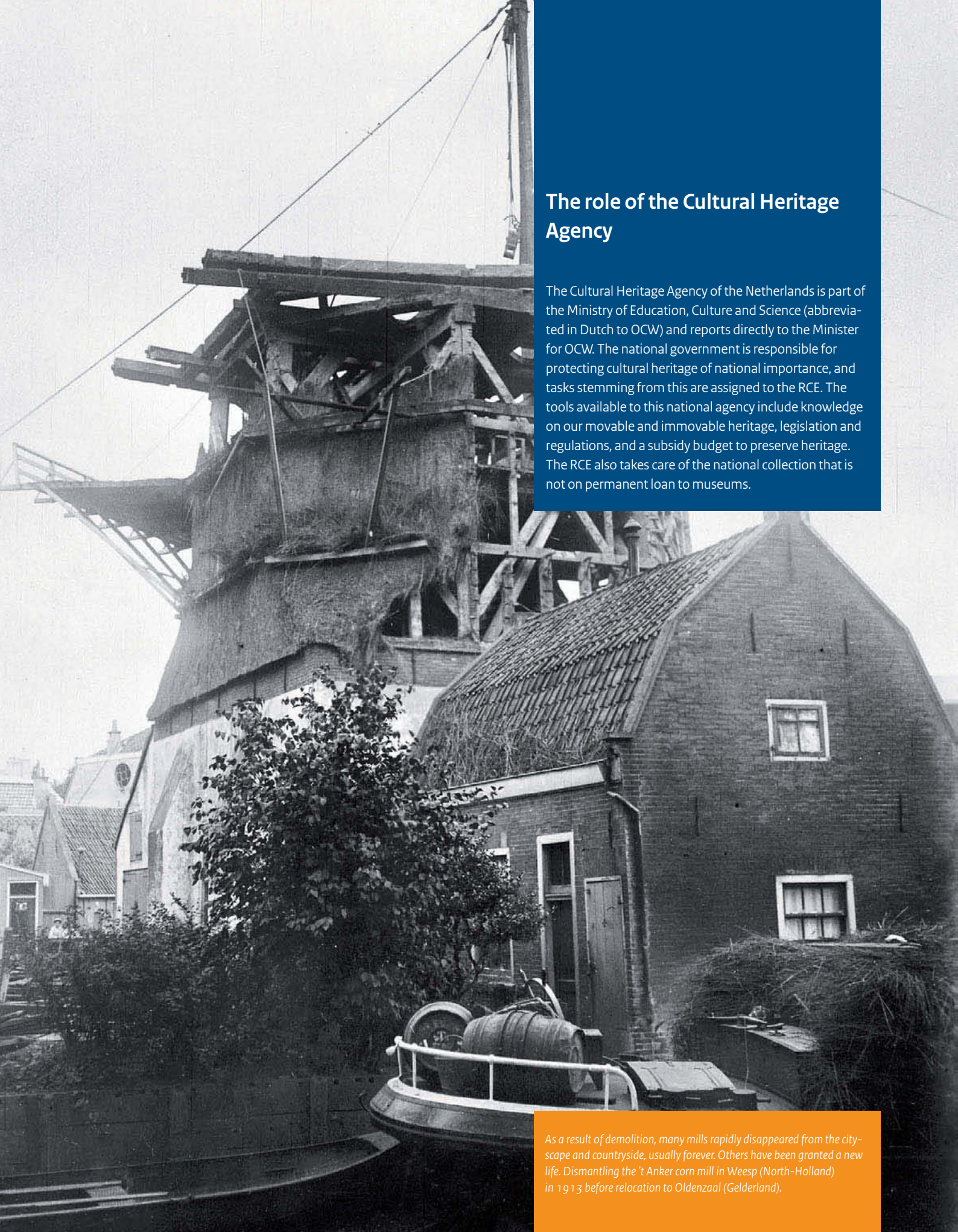


*Photo right-hand page: Traditional corn miller at the Joeswert mill in Feerwerd (Groningen).*

*Mills as an international and a national tourist attraction.*







## The role of the Cultural Heritage Agency

The Cultural Heritage Agency of the Netherlands is part of the Ministry of Education, Culture and Science (abbreviated in Dutch to OCW) and reports directly to the Minister for OCW. The national government is responsible for protecting cultural heritage of national importance, and tasks stemming from this are assigned to the RCE. The tools available to this national agency include knowledge on our movable and immovable heritage, legislation and regulations, and a subsidy budget to preserve heritage. The RCE also takes care of the national collection that is not on permanent loan to museums.

*As a result of demolition, many mills rapidly disappeared from the cityscape and countryside, usually forever. Others have been granted a new life. Dismantling the 't Anker corn mill in Weesp (North-Holland) in 1913 before relocation to Oldenzaal (Gelderland).*

# 1 BACKGROUND: THE EVOLUTION OF MILL PRESERVATION

In the mid-nineteenth century there were about 10,000 mills in the Netherlands. They had unintentionally become an iconic element in the Dutch landscape. But in the first half of the twentieth century, as industrialisation gathered pace, mills lost their self-evident economic role and began to disappear rapidly from the landscape.

The Dutch Mill Association was set up in 1923 in an attempt to stem the tide. From the outset, its primary aim was to keep mills operational, preferably by ensuring that they remained economically viable. Initially, the emphasis was on improving their competitiveness by encouraging technological developments and innovations. Although this approach would significantly slow down their decline, the battle ultimately proved to be an unwinnable one.

With the Historic Buildings and Monuments Act of 1961, there was now a structural framework for the protection of heritage buildings and the government began to play an active role in mill preservation. In 1966 the Netherlands Department for Conservation (RDMZ), a predecessor of today's Cultural Heritage Agency, produced the memorandum Conservation of windmills (Instandhouding van windmolens), which outlined the history of windmills in the Netherlands and analysed the issues. It also described investments made by the government on mill repairs and maintenance. At that time there were about 300 mills still in working order in the country but virtually no professional millers or millwrights. Following an analysis of the mill stock, with turning and milling capability as the criterion for protection, the memorandum set out what was required in order to maintain the Dutch mill stock and even to slightly increase the number of working mills. One typical statement declared that mills and mill bodies that could no longer be made operational, or only with great difficulty, would 'no longer be protected as monuments'. The deciding criterion for protection was not a mill's cultural historical value, but the degree to which it could still perform its function. New uses, accepted as a given for other monuments, were resolutely rejected in the case of mills. These principles still largely held sway until recently.

A great deal has been achieved since the 1966 memorandum. The number of restored and/or operational mills has risen to over 1100. Thanks to the funding of maintenance

and restorations, the last surviving millwright firms enjoyed a revival and new businesses were able to start up. The few remaining professional millers passed on their skills to volunteers, who joined forces nationwide in 1972 in the Guild of Voluntary Millers and in Friesland in 1975 in the Guild of Frisian Millers. A number of grain millers seized the opportunity to continue to mill professionally, establishing the Guild of Artisanal Corn Millers in 1976. Countless local foundations and associations were set up to protect mills. The standard works *The Mill Stock of the Netherlands* (Nederlands Molenbestand, tenth printing in 1997), *Mills, incomplete mills, mill bodies and remains – inventory and selection for protection* (Molens, incomplete molens, molenrompen en molenrestanten – inventarisatie en selectie voor bescherming, RDMZ, May 1998/March 2000) and *Database of Dutch Mills* (Nederlandse molendatabase, 2001) were compiled in order to make a comprehensive inventory of Dutch mills. And, although most mills have lost their original economic function, they now play a unique role in the tourism industry.

A key focus in recent decades has been mills within their spatial context. Functioning mills require not only the machinery itself but also sufficient wind or water flow, matters which can be taken less and less for granted in other densely populated country. A mill's environment, the mill landscape, is made up of two elements: the availability of wind and/or water to power the mill, and the economic, social and cultural historical link to its site. This latter aspect is what makes a mill a reference point in the landscape for the history that has taken place there. In the past, as conditions around individual mills deteriorated, decisions were generally taken to relocate the mills, or sometimes to raise them. And in the context of mill reconstructions, more recent structures with heritage value were often demolished.



*The Witte Molen in Meeuwen (North Brabant). The reduced wind capture caused by industrial buildings with tall silos (left) meant that the mill was relocated in 1986 and restored to working order in 1996 (right).*



*Photo right-hand page: Taking the national voluntary millers' exam at the Westveense mill in Woerdense Verlaat (South-Holland).*

### Why a review?

The policy was in need of review. Firstly, there is a need to expand the basic principles to be considered when it comes to mill preservation. The mill as a functioning machine is one of these principles, but it is not the only one. Heritage and cultural historical values and the relationship of a mill to its site are the fundamental guiding principles. Attention should be paid to the building history, the living monument (archive function), the mill's evolution (e.g. later industrial additions and interior), the mill landscape (mill biotope), the non-material heritage, the public functions of mills, the miller's stewardship, and often the close involvement of locals and volunteers.

The objective is to safeguard the future of mills. To achieve this, there has to be broad public recognition of the need to protect mills. The care of mills requires the joint responsibility of different tiers of government, organisations, umbrella organisations, businesses and the public at large.

Secondly, the Policy Letter on the Modernisation of Heritage Conservation (Beleidsbrief Modernisering Monumentenzorg, MoMo, 2009) was an important reason for revising the policy. The mill policy set out in this brochure ties in with the three cornerstones outlined in MoMo:

- Cornerstone 1: taking account of cultural historical interests in land use planning
- Cornerstone 2: simpler and more effective regulations
- Cornerstone 3: promoting reuse

Mills traditionally occupied a special place within heritage policy. Without losing sight of the unique features of mills, mill policy will be placed on a more equal footing with policy for other monuments. Heritage value will serve as the policy's guiding principle, rather than a working mill being the sacrosanct ultimate objective.





## Volunteers

After the virtual disappearance of the occupation of professional miller, enthusiasts and volunteers played a vital role – as of the early 1970s – in the management and preservation of mills. The new world of mills that grew out of this was successful at quite an early date at organising itself, and has always managed to adhere to professional principles. Aspiring millers can take an in-depth course taught by The Guild of Voluntary Millers or the Guild of Frisian Millers before they are able to operate a mill. In addition to the nationwide Dutch Mill Association, there are various regional associations and foundations that champion the interests of millers and mill owners. There are also many volunteers working as administrators, guides, on maintenance or in mill shops.

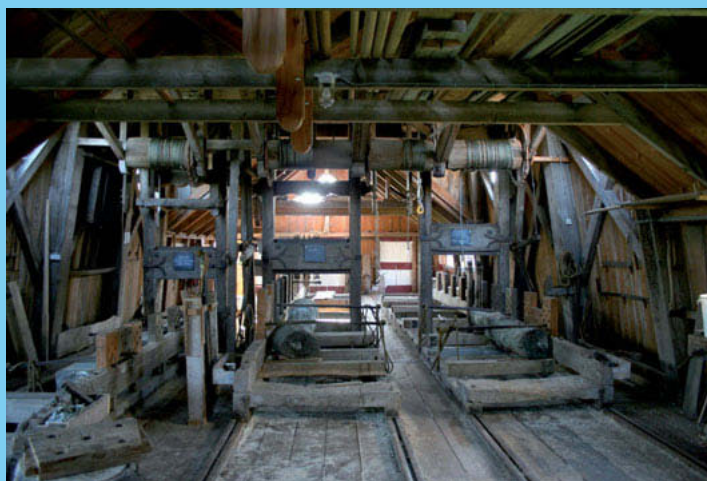
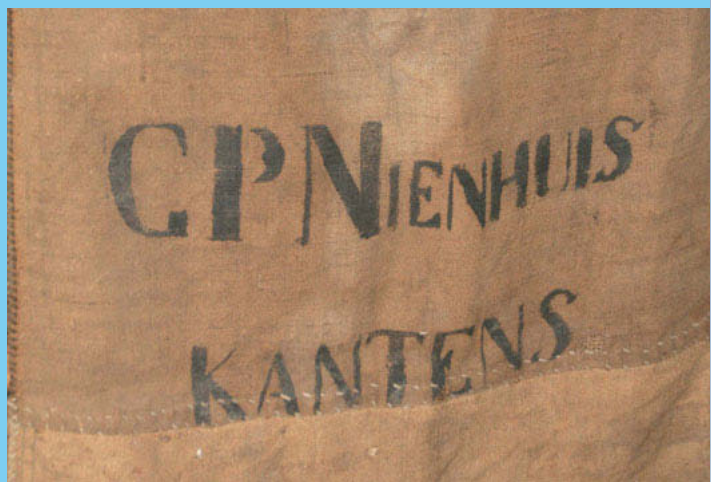
Mills often have an active volunteer network associated with them. These networks stand or fall by their ability to capture and retain people's enthusiasm for mills. Traditionally, however, the job of miller was not a social one and mills tend to occupy fairly isolated locations in the landscape. For this reason, such networks do not exist everywhere. This can have implications for a mill's management, maintenance, accessibility and social function and ultimately for its future. For individual millers and mill organisations, maintaining the network of volunteers requires constant attention. Nationwide, the looming shortage of volunteers is one of the biggest problems facing mill preservation in the future.

Structural work is largely carried out by professional partners, including millwrights. With their years of specialist experience in restoring and maintaining windmills and watermills, millwright firms play a vital role in mill preservation.

Maintenance and management tend to be carried out largely by volunteers, which can lead to a lively and optimistic atmosphere at the mill. In the future too, this unique group of committed volunteers will continue to play a pivotal role. The mill world could be supported in this regard by expanding the expertise of this group still further and in some instances by increasing their professional skills, such as in the areas of administration and stewardship. A careful use of the mill as a monument is key here and the RCE wishes to support this objective by providing input on protocols for use, management and maintenance.

Photos above: Dick Abelskamp (centre, † 2011) was one of the first voluntary millers in the Netherlands. The Nooit Gedacht corn mill in Warnsveld (Gelderland). Old flour sacks also bear witness to history. Photos centre: De Hoop mill in Tholen (Zeeland). De Zwaluw saw- and cornmill in Burdaard (Friesland). Bicker Caarten, mill expert and mill conservation champion, at the Sint Jan post mill in Stramproy (North Brabant) in 1961. Below: Post mill at Sint Annaland (Zeeland). Restoration work at the Oostmolen in Mijnsheerenland (South-Holland).

Photo right: De Rat sawmill in IJlst (Friesland).







## The role of the Cultural Heritage Agency

It is the RCE's task to assess whether objects (such as buildings) or complexes (such as a molengang, or series of mills working together) should be considered for inclusion on the National Heritage List. This is done by means of a value assessment, which is made on the basis of a building history survey. This survey in turn brings together information about a building's construction history, alteration history and history of use.

The Minister of OCW then decides whether a building should be designated a national monument. Alongside the value assessment, other criteria play a role in the selection of monuments, such as intrinsic, administrative and/or financial considerations. Even if the building is not designated a national monument, this assessment is still a useful springboard for restorations, alterations, maintenance and management.

Once a building is designated a national monument, the RCE draws up a description stating which immovable property is protected. It is also common for the most important heritage values of the monument to be included. By the time a building is designated a monument, a good deal of time may have elapsed in which new information may have come to light, the rarity value may have increased, or the assessment has been modified. In such cases, a supplementary value assessment may be required.

*The Het Prinsenhof hulling mill in Westzaan (North-Holland) was very conservatively restored in 2008 in order to preserve as many authentic parts as possible. The mill regularly carries out hulling demonstrations.*

## 2 HERITAGE VALUES AS THE GUIDING PRINCIPLE

The 1988 Historic Buildings and Monuments Act defines monuments as objects constructed at least 50 years ago that are of general significance because of their beauty, their scientific importance or their cultural historical value. In addition to the function, the heritage value of buildings is an obvious point of departure when dealing with listed monuments, and the same applies to mills, mill bodies and mill stumps.

Public appreciation of mills is closely tied up with their ability to function. For this reason, keeping heritage mills in working order is and remains a key aspect of heritage policy. In the past, however, the undisputed and ultimate objective for mill advocates was to ensure that mills were functioning machines, a one-sided approach which sometimes led to heritage aspects being compromised. The current heritage policy advocates an integrated approach whereby the guiding principle is an objective assessment of the current state of individual mills.

Recent years have seen the growing importance of non-material heritage. It would be true to say that the mill world has long led the way in this respect, as non-material aspects have guided mill preservation from the outset. Mills were originally machines, a fact that sets them apart from many other heritage buildings.

In order to be able to objectively assess a building's heritage value, it is necessary to make an integrated value assessment combining different elements. Mills possess a large historical and contemporary diversity. An integrated value assessment allows us to differentiate between individual mills and to tailor their use, management and policy accordingly. Mill protection policy is only complete if we recognise and assess the differences between mills.

In 1996 the RCE developed criteria for making clear and complete assessments of buildings, published as Guidelines for selecting and recording more recent urban planning and architecture (1850-1940) (Handleiding selectie en registratie jongere stedenbouw en bouwkunst (1850-1940)). A few modifications and additions give rise to a value assessment that is applicable to mills, as set out in greater detail below.

The assessment of mills is based on criteria that can be grouped into five themes:

1. Cultural historical values
2. Architectural and art historical values

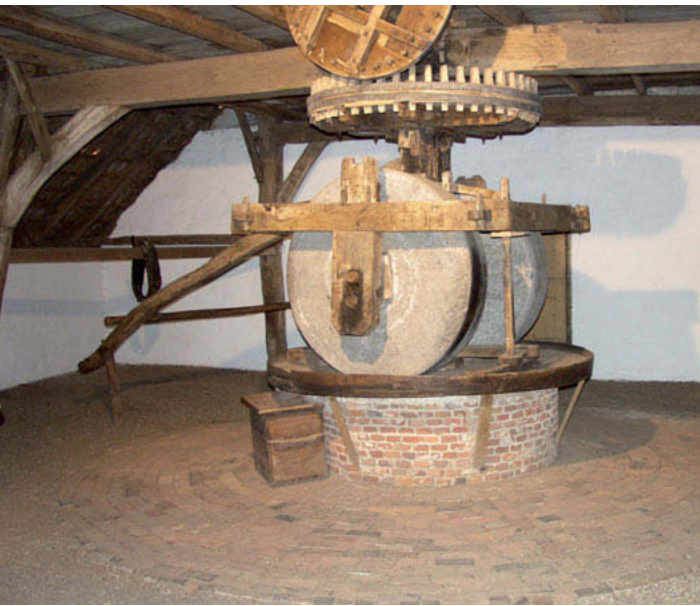
3. Situational and ensemble values
4. Integrity and recognisability
5. Rarity

This chapter explains and elaborates on the different themes. A full overview of the themes, assessment criteria and weighting factors can be found in Appendix 1. These make it possible to produce a specific value assessment for each mill. This assessment of a mill as a heritage building then serves as the point of departure for maintenance, redesignation and restoration, and as a framework for management and use. A value assessment is not a diktat. Nevertheless, the greater the heritage values, the more these need to be argued and substantiated. The greater the heritage value, the more heavily the interests weigh.

### 2.1 Cultural historical values

For centuries mills fulfilled a critical function in the Dutch economy (processing foodstuffs and other raw materials) and in water management, which was decisive for the development of the landscape. It would be no exaggeration to say that without mills the Golden Age would never have flourished as it did, and that the Dutch landscape – especially in the provinces North and South Holland, Friesland and Groningen – would have looked completely different. Not only did mills play a major role in our history and culture, they are also a tangible document of these aspects of Dutch society. Depending on their construction, function, place in the landscape, development history and present-day use, mills tell countless stories about social, socio-economic, landscape, technological and other changes.

Mills had a wide range of economic functions. Alongside drainage mills and grain mills, industry had sawmills, oil mills, hulling mills, paper mills, malt grist mills, tanning and fulling mills. Drainage and grain mills in particular are still found almost everywhere today. Other types of mills



*The Netherlands had hundreds of horse mills two centuries ago.*



*The Bilau sails of the De Hoop mill in Norg (Drenthe) are the only original survivors of their kind. Photo right: De Hersteller in Sintjohannesga (Friesland).*

are rare, either because they always were or because they have largely disappeared, thereby giving them a fairly high cultural historical value.

It is not only material aspects that govern the cultural historical value of mills. This is also determined by non-material aspects such as the specialist skills of millers and millwrights, the knowledge and stories that have been passed down to us, and sometimes the ownership status. Both these aspects, material and non-material, are inseparably linked when it comes to managing mills.

## 2.2 Architectural and art historical values

There is a remarkable variety of mills, with the way in which they are powered – wind, water or horsepower – being the most fundamental point of difference. Windmills can in turn be broken down into many types (round, square, polygonal or open, and built of wood or stone) and appearances (e.g. ground sailers, mound mills or reefing mills). There are also major differences in the mechanisms, reflecting the technological history. Just think of the sail types and the nature of the moving parts and machinery for windmills, and the waterwheel design for watermills.

Of course, the specific features largely relate to a mill's function. Just as some functions are rarer than others, so too are some types of mill, as both buildings and machines. Naturally, this is taken into account in a value assessment. A further consideration are the materials used, such as special types of timber, iron windshafts and the aluminium

streamlined leading edges on the sails. Mill bodies and stumps, as well as later additions or changes to the machinery (i.e. technical innovations), to the interior or to the surrounding buildings can in their own way chart historical changes and as such deserve to be included in the building historical value assessment.

Whereas mills have a relatively high architectural value because of the wide range of types, they have few art historical values.

## 2.3 Situational and ensemble values

The relationship between a mill and its environment, and the preservation of this relationship, is a key guiding principle in heritage policy. The mill site is immensely important for the cultural historical value of the mill.

Mills were never built in random locations. Traditionally, mills have had a strong association and interaction with their surroundings, which can be reflected in the way that this environment is organised. Thus we find grain mills strategically located in relation to a village, often on thoroughfares or water courses, drainage mills in places dictated by water management, industrial mills in areas where goods transport could easily be organised and with readily accessible markets, and watermills at sites dictated by the specific requirements of water supply.

The surrounding landscape was also organised and adapted in ways that allowed mills to be used and to optimise such



## Safety: people and buildings

Where occupational safety is concerned, the parties are obliged to accept their responsibilities – in other words, organisations must meet their duty of care, as set out in the Working Conditions Act and the Civil Code.

There are three different parties involved: employers, employees and third parties. The mill owner has the role of employer, the miller (whether professional or voluntary) and others working at the mill are the employees, and any visitors and passers-by are third parties. The mill owner and miller are jointly responsible for the safety, health and wellbeing at work, with the mill owner having final responsibility.

In consultation with experts and interest groups such as the Guild of Voluntary Millers and the Guild of Artisanal Grain Millers, the Dutch Mill Association has developed a Risk Inventory and Evaluation (RI&E) listing the occupational hazards in mills. Once a plan of action has been drawn up, everyone will have a good understanding of the risks and of the measures required to prevent or reduce them. It goes without saying that safety in mills is a standard component of the millers' training course run by the Guild of Voluntary Millers.

It is sometimes desirable or necessary to install a sprinkler system, perhaps together with a fire alarm system, in order to fight fires effectively. For mills with a stone or thatched body, it is very difficult to fight fires from outside the mill. A sprinkler system would be an effective way to extinguish the flames from inside. The subsidy options for the installation, maintenance and control of fire extinguishing tools are explained in the 'Property insurance' section. To make an inventory of damage to monuments, the RCE manages the Database for Registration of Incidents relating to Cultural Heritage (DICE) ([www.erfgoedincidenten.nl](http://www.erfgoedincidenten.nl)). This is a protected database of incidents involving monuments, where anyone, such as mill owners and local authorities, can report incidents and near incidents involving material damage to the mill. This gives a better understanding of the risks and allows preventive measures to be strengthened to protect people and mills.



## Archaeological research

Until recently, archaeological research in and around mills was a rare occurrence. Professional archaeologists showed little interest in this field, and the same was true of mill owners. So far most studies have concerned themselves with lost mills whose former sites were explored by amateur archaeologists. A small site can yield an enormous amount of information.

Recent years have seen a burgeoning of professional interest, thanks in part to the advent of industrial archaeology. Archaeological investigations have recently been conducted, for example, into a 13th-century watermill in Epse, an 18th-century watermill in Ulft and the earliest known sawmill (built by Cornelis Cornelisz. of Uitgeest), dating from 1595, in Alkmaar.

Archaeological research prior to and during a restoration can provide new insights into the history of the mill and the mill landscape. If groundwork is required before a restoration, attention can be given to the presence of archaeological values. For example, there may still be older floor levels and zones of use and activity inside or outside the mill. Without archaeological research, this underground information is soon lost, and it can then never be reconstructed.

An archaeological survey is best carried out in conjunction with a building history survey, as this combination can yield new insights. A fine example is a study of the Oostmolen in Mijnsheerenland. In 2011 features were found there of a predecessor to the current mill. The investigation led to a new understanding of the type of foundation, the development of the layout and the use of the mill. Whereas a building history survey is in principle eligible for subsidy, the principle for archaeological research is usually that 'the disturber pays'. If an archaeological and a building history survey are conducted together, they will in principle be eligible for subsidy.





Photo left: Archaeological research during the major restoration of the Oostmolen in Mijnsheerenland (South-Holland).



Left and right: The authentic interior of the Heimolen in Rucphen (North Brabant). Example of an evolving corn milling firm.

use. The landscape was kept open for the purpose of wind capture, and supply routes, water courses and mill basins were created and enlarged in keeping with the mill's function and capacity. Some mills are part of a complex comprising different structural elements. Hydraulic mill complexes were sometimes built for functional reasons, such as a molengang in polders, where successive mills lifted up the water step-by-step over a great height. Special surviving examples can be found at Aarlanderveen, Zevenhuizen, Leidschendam and remains at Streefkerk (South Holland) and in the Schermer (North Holland) and elsewhere. Kinderdijk (South Holland) has the largest mill complex in the Netherlands. Industrial mills may also form part of a larger complex with its own specific cultural historical ensemble values, such as the Zaansche Schans in Zaandam (North Holland).

Like all monuments, mills lend a location identity and anchor it to the past. Traditionally, windmills have functioned as beacons because of their prominence, their characteristic sails and the open expanse surrounding them.

The sites that mills occupy frequently possess a rich history. An earlier mill may have stood there, and there will have been intensive human activity in the past. The soil archive may contain valuable information, such as the remains of foundations, walls, post holes, tools and other ground features that divulge something about the older history of the mill and the site. The presence of a soil archive is an important archaeological value that contributes to the cultural historical importance of the mill and its site.

While the current mill site is often the original site, this is not always the case. Over the centuries, various mills have been relocated one or more times. The mode of construction made this easier, with wooden mills in particular being akin to construction kits. Mills were always relocated for economic reasons, and always to a site where they could be put to use. At the new location too, a functional relationship developed between the mill and its environment.

## 2.4 Integrity and recognisability

Integrity and individual recognisability lend added value to a mill. This could be to the mill itself or to its landscape and social context. The machinery and interior deserve special attention in the case of mills. Considerations include whether they are original or have been restored or reconstructed, whether this was done in a traditional way, and when.

Changes in themselves can also tell a valuable story. Inscriptions and the traces left behind by different uses in the course of a monument's history give rise to a 'historical layering'. If changes are noted, it is important to know whether they occurred gradually, 'organically' (as in the case of a grain mill which served as a storage depot and then a pet shop), or whether the present function marks a radical break with the past. Traces of change can therefore be of immense value. For restorations, it is important to recognise and assess this historical layering, not to thoughtlessly erase it but to exploit it, as a high-quality 'legibility' of the historical layers increases our understanding of the mill. A mill's chequered past contains an interesting story and references to facts and events from its history.

## 2.5 Rarity

A mill may possess great rarity value because there only a few surviving examples of that type, from that period, with that particular function, with those building materials or techniques, or with that particular layout. The notion of rarity can apply to the mill as a whole, but also to certain parts or to the larger context in which the mill stands. Thus water turbines in the case of watermills and Dekker pumps in the case of drainage mills have a high rarity value. While the wave of restorations in recent decades has meant that many mills are operational once again, it has often led to the loss of many historical values and components. The remaining mills with authentic or partially authentic machinery and an original mill site therefore deserve our special attention.

*The tjakser is a small kind of drainage mill used for draining small plots of land.*



*De Oostendorper, two watermills with a common millpond, in Haaksbergen (Overijssel).*





Photos upper left: Coal tar and brown tar are two of the traditional materials that are still used today to protect wood. Zandwijkse mill at Uppel (North Brabant).  
 Painted lantern wheel in the De Harmonie mill in Biervliet (Zeeland). Centre: Peepholes and hourglass designs on the body of the Sint Jan post mill in Stramproy (Limburg).  
 Below: Young volunteer at the Het Pink oil mill in Koog aan de Zaan (North Holland). Built on an old town gate, the Rijn en Lek corn mill in Wijk bij Duurstede (Utrecht) is highly distinctive. The Opwettense watermill in Opwetten (North Brabant) boasts the largest water wheel in the Netherlands.  
 Photo right: The Grote Geert corn- and hulling mill in Kantens (Groningen) still has a well-preserved interior with inscriptions, silos and other features.







## The role of the Cultural Heritage Agency

Local authorities are themselves responsible for shaping policy on their monumental heritage, which includes land use planning. The province also plays an important role in spatial policy for its region.

The RCE conducts value assessments and protects heritage buildings by designating them as listed monuments and placing them on the National Heritage List. The RCE can also support local authorities if required, in the first instance by making information available. Thus in 2010 the RCE issued a protocol outlining how local authorities can conduct an inventory and analysis of the cultural historical values in their area, which is mandatory under the Spatial Planning Act. It also plans to publish a brochure on how to incorporate cultural historical values into a land use plan, complete with example provisions. Local authorities themselves can decide if they wish to take advantage of the RCE's support. The RCE believes it is important to provide input into land use plans where national interests are at stake, as is the case with national landscapes. The RCE is keen to enter into discussion with other authorities in order to foster the embedding of mill landscapes in regional and land use plans.

*The mill landscape and the biotope of the Wimmenumer drainage mill in Egmond aan den Hoef (North-Holland) remains expansive, original and unspoiled.*

# 3 SPATIAL POLICY

## 3.1 Government policy: national, provincial and local authorities and water boards

The special values of heritage mills enjoy national protection in the first instance under the Historic Buildings and Monuments Act 1988 and the General Provisions of Environmental Law Act (WABO).

Today's heritage management looks not only at the monument itself, but at its spatial context. It is certainly true of mills that they form a unified whole with their environment. We see this most clearly in the water table of watermills. It is therefore vital with regard to spatial changes that both the mills and their setting are taken into account. It is the provincial and local authorities that determine how the landscape is organised. Under the Spatial Planning Act (WRO), provinces may adopt a regulation containing rules about the content of municipal land use plans. For example, the regulation for the province of Zeeland states that, in order to safeguard wind capture, building can only occur in the immediate vicinity of a mill under stringent conditions.

Water boards may actively promote mill conservation by considering the interests of mills in their water management (e.g. water levels, polder water level, free discharge of stream and river water). They can also preserve drainage mills and their mill landscape by keeping them on hand for reserve drainage purposes. Two examples are the Wetterskip Fryslân and the Hoogheemraadschap van Rijnland. In the latter case, almost all the mills in the Rhineland Mill Foundation act as reserve drainage mills for the water board. This function is regulated by contracts that are renewable every five years. Under the contract, the Rhineland Mill Foundation must ensure that its mills are operational (which is also one of the objectives of the foundation).

Local authorities have a major part to play in the protection of cultural heritage. They therefore need to be prepared for requests concerning the reuse, restoration, alteration or extension of heritage buildings. A proactive policy helps to ensure that accountable and well-considered choices are made about land use planning, mill restoration and preservation. It will also increase the chances that the future of mills is safeguarded. The mill biotopes can be included in land use plans.

The municipal spatial development plan allows local authorities to play an active and supporting role in protecting their heritage. The plan sets out how the local authority will deal with heritage, such as stipulating which types of use and reuse are permitted.

## 3.2 Spatial development plan

The Spatial Planning Act requires that municipalities draw up a spatial development plan, a strategic policy document which broadly outlines the proposed land use policy and how the local authority plans to achieve this. The plan may include how the local authority will anticipate mill management and conservation, developments in the mill landscape, and the instruments they propose to deploy.

An effective spatial development plan begins by charting the spatial developments anticipated in the municipality, including their implications for cultural heritage. It is a good idea to involve all stakeholders – such as mill owners, managers, mill trusts and other interest organisations – as early as possible in the policy development process. Together with these stakeholders, the local authority can draft a plan aimed at preserving and strengthening cultural heritage. The local authority will then develop this plan into a spatial development plan.

In the spatial development plan, and especially in the implementation section, the local authority may state that the land use plan will be deployed as an instrument for the protection of mill biotopes in order to guarantee wind capture. The plan may include certain provisions with regard to wind capture, such as a maximum height for buildings or vegetation, or a ban on building and planting, with possible exemptions under certain conditions.

## 3.3 Land use plan

The Spatial Planning Decree (BRO) stipulates that local authorities must take account of cultural historical values, which includes mills and their surroundings, when establishing their land use plans. The local authority can stipulate in the plan which kinds of use and reuse of grounds and buildings are permissible. The plan sets out the current



The former oil-mill section of the reconstructed Wijmarse watermill at Arcen (Limburg) has been converted into a traditional roasting house, distillery and tavern.



The mill at Herwijnen (Gelderland), which was partially demolished in 1937, was a classic example of an early conversion to a private dwelling.

Photo right: The Grafelijk tower mill of Zeddam (Gelderland) is one of the oldest windmills and one of the four surviving mills of its type in this country.

and permissible uses for the present and future, as well as what can be newly built or installed, and where. Local authorities are responsible for information on developing and establishing specific land use plans. Advice about mills, land use plans and public consultation can be obtained from the Dutch Mill Association.

Thus the land use plan may allocate another use to a mill, but this option must be specified in the plan. If that is not the case, a longer decision-making procedure must be initiated, such as drawing up a new land use plan. If a national monument is altered or converted as part of the reuse, a permit is required under the Historic Buildings and Monuments Act.

The rules of a land use plan allow subsidiary functions, such as a tearoom or office (see § 4.6 New uses). This contributes to a mill's economic viability and hence to its preservation. However, in the event of a change in function or the granting of a subsidiary function, it is important to consider whether that function is consistent with the mill's cultural historical values. The land use plan may include conditions designed to protect the cultural historical and landscape qualities. The plan may also anticipate changes in the function and subsidiary functions of mills. For example, an authorisation can change the designation from 'mill' to 'museum', 'home', 'office' or 'restaurant/catering'.

The land use plan may also include building regulations. The protection of national monuments is regulated by the Historic Buildings and Monuments Act 1988. The local authority must issue a monument permit for any alterations

(such as conversions) to a heritage building. Even for mills that are not designated as monuments, it is a good idea to include protective rules in the land use plan. Supplementary rules for mill conversions can be included in the building aesthetics policy or the visual quality plan.

The land use plan may incorporate rules for the protection of the cultural historical landscape, the mill yard and buildings and the surrounding vegetation. For example, it may stipulate that building or planting can only take place on lands adjacent to the mill under stringent conditions. It is important in the event of land use changes and when drafting the land use plan that local authorities look closely at both mills and their environment in order to safeguard the relationship between the two.

The land use plan may include general rules about the protection of heritage buildings. In the case of mills, it is important to pay specific attention to the preservation of their valuable surroundings. This is because although monuments designated as such by the government are protected under the Historic Buildings and Monuments Act 1988, their surroundings generally are not. The same applies to municipal heritage buildings.

Local authorities can also call on additional instruments to facilitate the use of mills and to stimulate investments in building and landscape (see the Protocol for heritage and space/Handreiking ergoed en ruimte on the RCE website). These can strengthen cultural historical values and regional identity. A growing number of local authorities are making creative use of these instruments.





## Old property rights

Good wind capture and/or water intake has been a point of concern for millers throughout the ages as encroaching development, rising vegetation and interventions in a mill race can create obstructions. For a long time these matters were regulated under what is known as seigneurial rights. When these rights were abolished in the 18th century, wind rights were replaced by other arrangements. Rights still apply to watermills to this day.

### Wind rights

Traditionally, landowners owned the wind. A permit to build and operate a mill, known as wind rights, went hand in hand with the obligation to pay an annual wind lease to the landowner. In return the miller was granted a 'privilege' (windbrief) guaranteeing him the right to free wind. The wind rights, together with all the other rights and privileges, were abolished in 1798 during the Batavian Republic. For drainage mills, a good wind intake was traditionally guaranteed by means of drainage regulations (polderkeuren).

Today land use plans are the best, and often the only, way to protect the mill landscape. They can stipulate, for example, that an area of 400 metres around a mill must be kept free in order to safeguard wind capture. However, these agreements often prove subordinate to a local authority's desire to build houses. An economically viable mill can try to claim damages if its economic interests are jeopardised. Land use plans can also include rules for protecting the cultural historical landscape, the mill yard and the buildings and vegetation around it.

### Mill rights, water rights and damming rights

Water and damming rights refer respectively to the right to use and to dam the water in a stream. Watermills also traditionally had mill rights, which is the right to build and operate a mill along a particular waterway. A watermill may have mill rights without water or damming rights, and the opposite is also possible. Whereas wind rights no longer have a valid legal basis today, mill, water and damming rights still do.

For watermills, the weir level and weir are just as important as the water wheel or turbine. Deterioration of the stream situation (which is often historical), water or weir level and/or the weir can have a major impact on the mill's operation because these elements are inextricably bound up together.



## Fish ladders

Fish ladders are stepped structures that enable fish swimming upstream to pass an obstacle that would otherwise be too high, such as a dike, dam or sluice, in order to reach higher inland waterways. These obstacles prevent many native fish species (including salmon, trout and small species such as dace and ide) from reaching their original spawning grounds, which has a major detrimental effect on the population. This was less of a problem in the past, when streams and rivers regularly overflowed their banks because of damming at watermills and other reasons.

Weirs and weirs with reservoirs often present insurmountable barriers. A bypass incorporating a fish ladder can be installed to enable fish to migrate. This allows the fish to bridge the height difference step by step. The disadvantage of fish ladders for the operation of a watermill is that some of the water will flow through the bypass. In the case of streams and rivers with a small flow, this can reduce the water supply to the mill.

To enable fish to migrate, to prevent flooding and to serve cultural history, further research is needed on the integration of fish ladders or on alternative or supplementary options, such as permitting regular, controlled flooding. This is an area where nature, water and heritage institutions can work together.





Photos above: Trees present a severe obstruction to wind capture. Reduction in wind capture due to the construction of housing. Centre: Het Prinsenhof hulling mill in Westzaan (North-Holland). The mill trio in the Driemanspolder in Leidschendam (South-Holland). Below: De Pieper mill in Rekken (Gelderland). De Eendracht in Gieterveen (Drenthe). The rebuilt De Vlijt mill in Meppel (Drenthe). Photo left: The Vlasbloem sawmill circa 1910 in Dordrecht (South-Holland). Dordrecht was one of the Dutch centres that had many sawmills at one time.



## The role of the Cultural Heritage Agency

The RCE prefers to make its expertise and knowledge available to local authorities as early as possible in the planning process and to advise the mill owner or developer about the options for restoring, renovating or finding a new use for a heritage building. The RCE is able to draw on many years of knowledge and experience, and possesses a broad national overview of this country's heritage. The RCE is part of a large network and takes part in projects that grant access to digital information, such as the 'new uses' project bank (accessible via [www.cultureelerfgoed.nl](http://www.cultureelerfgoed.nl)) and the substantive website [www.allemolens.nl](http://www.allemolens.nl). Grants are also allocated in certain cases.



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The flour chute in the De Graanhalm in Gapinge (Zeeland) shows us a magnificent piece of corn milling history. It has a high heritage value and contains vulnerable original material.

# 4 TOOLS FOR DEALING WITH MILLS

## 4.1 Founded on knowledge and research

Sound monument management is based on knowledge, experience and building history. This means that research into the structural, historical, architectural and art historical, sociological, landscape and technological aspects, as well as into the history of use, is a precondition for ensuring responsible management. This research then serves as the basis for an integrated value assessment, which in turn guides the type of use to which a building can be put, and for conservation and restoration. The *Guidelines for building history research (Richtlijnen bouwhistorisch onderzoek, 2009)* provide a protocol on how to plan a building history survey, as well as how to implement it, embed it in the restoration and/or maintenance process and present it. The brochure *Building history research works! (Bouwhistorisch onderzoek werkt! 2011)* sets out the legal options open to local authorities when it comes to commissioning a building history survey.

A building history exploration or survey constitutes the point of departure for restoration and is conducted prior to restoration. The survey looks not only at a mill's technical operation, but also the nature, condition, execution, dating and interrelationships of the different elements in their historical context. Less salient or obvious parts of a monument, such as its interior, foundations and later additions, also form part of a building history survey. The survey may even extend to encompass historico-geographical aspects.

A building history survey documents the building's condition prior to restoration. The survey is an important point of departure for conducting a value assessment of the building and its parts. It may include an assessment of the mill as a machine and the possibility of restoring it to a functioning state.

The survey prior to restoration produces readily accessible documentation, in both text and image form, of the mill's state before restoration. But the research doesn't end there. It continues during the restoration, when aspects may come to light that will influence the plan and the decision making. The result is a report on the entire restoration process.

The RCE considers building history research to be of vital importance and for this reason makes it eligible in principle for subsidy. The RCE does not see a need to unilaterally set

detailed guidelines for building history research. Rather, it supports the view that the executing parties – building history experts – should draw up guidelines in consultation with umbrella organisations and the RCE. These guidelines are also recommended for non-material matters. The above-mentioned *Guidelines for building history research* can serve as a guide here.

## 4.2 Conservation: use, management and maintenance

Heritage value also plays a prominent role in day-to-day dealings with mills – in other words, in mill use, management and maintenance.

In order to best tailor this daily management with a mill's possibilities and vulnerabilities, it is recommended that the miller, perhaps in consultation with other experts, draw up guidelines and compile them in a mill handbook. The mill's heritage values should serve as the guiding principle here – in other words, what heritage components does the mill contain and how can they best be safeguarded? The inventory, which covers both movable and immovable property, must be stored in a clean, safe place, including in the period prior to restoration as this is a time when heritage elements are at great risk of being damaged or getting lost. The mill handbook also covers safety aspects relating to people and buildings.

Maintenance is best carried out in a systematic fashion and in accordance with the mill handbook. The conservation plan provides an overview of the proposed activities insofar as these are eligible for subsidy under the *Decree for government subsidies for monument conservation 2011 (BRIM 2011)*. However, a well-considered action plan also has important added value for components that are not eligible for subsidy, such as the inventory. This approach as a whole could be described as a form of 'good stewardship'. The *Regulation for government subsidies for monument conservation 2011 (RRIM 2011)* provides information on conservation costs that are eligible for subsidy.



## Sustainability

Mills are a perfect example of the sustainable generation of energy and jobs. They are machines that date from before the industrial revolution, carrying out heavy work without burning fossil fuels and emitting carbon dioxide. Equipped with a few adaptations, some watermills are even used to generate green energy.

Traditionally, many renewable and local materials have been used in the construction of mills, such as native timbers, thatch and shell lime. Some mills are built almost entirely of renewable materials, which means they have a small environmental footprint. Although mills also contain non-renewable materials such as bricks and stone, their environmental impact is also relatively minor because they last so long in heritage buildings. In addition, these materials often come from the immediate vicinity, which means a modest environmental impact in transportation terms.

Many mills are constructed in such a way that they can be dismantled. This relatively simple method of construction means that repairs can usually be made as the affected parts are easily replaceable. In order to minimise the impact on nature and the environment, the RCE advises that renewable, local and preferably certified materials be used in mills wherever possible. If tropical hardwood must be used, this should preferably be FSC-certified.





Modern restoration techniques can prevent the need to replace authentic parts.

Photo left-hand page: A major role for millwrights: restoration or reconstruction?



Thermogalvanised mill stocks are an innovation in the field of mill conservation.

### 4.3 Restoration

The purpose of restorations (refer also to the definition elsewhere in this brochure) is to future-proof a monument from a technological point of view. Restoration differs from maintenance in that the latter only covers regular, ongoing work which in principle does not involve the replacing of material, but simply repairs. Restorations, on the other hand, entail work of a more far-reaching nature.

In past decades, the only activities eligible for subsidy under the subsidy schemes have been ones that are 'simple and efficient'. This is work that in a technical sense aims at a basic condition in terms of quality. A reasoned exception was regularly made for mills, with reconstructions and completions occurring more often than with other monuments. Mills are also subject to frequently recurring partial restorations of some components, one example being the tail pole, which has a short lifespan.

It is recommended that maintenance be carried out as regularly and effectively as possible so as to render extensive, and often expensive, restorations unnecessary, or at least only once every 100 years. For other monuments, a frequency of once every 30 to 50 years is adhered to.

If restoration nevertheless proves necessary, various aspects need to be considered, ones that will help determine whether government subsidies are made available. The large-scale replacement of heritage components in order to save costs is not eligible for subsidy if restoration of these components is also an option. However, the expected lifespan of the monument following restoration must be set off

against the costs of material and labour. The most important principle here is the preservation of heritage values.

### 4.4 Innovative technologies and materials

The use of contemporary, innovative technologies and materials deserves special attention. In order to preserve heritage values, it is imperative that original techniques and materials be used wherever possible. While it is true that mills continued to evolve as important economic machines in the course of their existence, their present-day value as testaments to history calls for restraint in terms of technological and material innovations.

There is scope for innovation in areas where heritage values are not compromised. In some instances, this is even desirable, especially if it significantly increases the mill's safety or lifespan, or if the original building material is scarce or unavailable. Innovative restoration techniques are used to solve centuries-old problems (e.g. moisture in the bodies of stone mills or replacing rotten beam ends). Other examples are the use of concrete; synthetic components (e.g. rollers and neck bearings); sectionable stocks; EPDM roofing material; stainless steel screws, nuts and bolts; torx or crosshead screws; bitumen substitutes and alkyd resin-based paints.

There are not usually any objections to the replacement of components that have already lost their heritage value during an earlier intervention, and where the use of innovative materials and technologies will not lead to a further loss of value. The building history survey is a good point of

departure for determining the extent to which innovative technologies can be implemented. A further consideration is intensity of use.

Sometimes new technologies and materials can be used deliberately in order to clearly differentiate between new and historical components.

#### 4.5 Differentiated milling intensity

The industrial heyday of mills, when they were at the height of their economic importance, is far behind us. Today, because mills are appreciated for their heritage values, preservation accordingly aims at the conservation of both material and non-material aspects.

It goes without saying that a mill that can turn and mill usually has an added value over a stationary mill. Mills were originally machines and the cultural historical picture of mills would be incomplete without working mills. A good deal of artisanal knowledge would be lost, much of the vital dedication of mill owners, enthusiasts and volunteers would disappear, mills would lose a key element of their attraction as a tourist drawcard and their appearance in the landscape would be devalued as a result.

However, using a mill to mill, and keeping it – or making it – fully operational, can have negative, neutral and positive ramifications for the preservation of material heritage

*The outbuildings were demolished during the restoration of De Bataaf in Winterswijk (Gelderland). Only very few of these distinctive complexes have been preserved in the Netherlands.*



values. On the one hand, intervening for the sake of milling capability can lead to the loss of heritage components as operating the mill results in their wear and tear. On the other hand, mills tend to be very well cared for if they are kept in operation. Not only do the millers (voluntary or professional) operate ‘their’ mills, they also invest time and money in maintenance, thereby reducing the risk of expensive, large-scale restorations as a result of overdue maintenance. Moreover, it is generally easier for a working mill to generate income.

The logical consequence of all this is to introduce different levels of milling intensity. In other words, the government advises that the vulnerability of and wear and tear on rare, historical components be borne in mind when operating a mill. Being operational is a subordinate concern for mills that have an exceptionally high heritage value. In such cases, the RCE advises the mill owner, manager and miller, in their role as ‘good stewards’, to limit for example the number of revolutions annually in order to minimise the wear and tear on the historical components. In special cases, involving very valuable mills or mill components, the logical advice would be to permit turning or milling only as an exception, or even not at all.

A mill that is relatively young, for example due to rebuilding or large-scale reconstruction, or which is operated professionally, can derive significant added value from the very fact that it is fully operational. In these instances too, the various stakeholders naturally give careful considerati-

*The engine room at De Korenbloem in Kortgene (Zeeland) has been converted into a private dwelling. The mill has been restored to working order.*



on to how to use the mill, while at the same time protecting the historical components as much as possible. In practice, however, there is often no need to limit the number of revolutions.

Replacing historical parts in order to improve a mill's operation can only be justified under certain conditions. The government views as undesirable any rigorous and far-reaching renewals aimed at making the mill operational if this leads to the loss of historical components.

#### 4.6 New uses

It is not always financially and functionally possible to preserve monuments unchanged. In certain cases, new uses can both foster the use of a monument and strengthen its position within society. Promoting reuse is therefore one of the cornerstones of the updated heritage policy.

As with other monuments, the reuse of mills is desirable if it secures their survival. In some cases a new function will produce an important added value, especially if it encourages the use of a mill or mill remains, thereby granting the mill a renewed social significance. In the past too, it was not unusual to equip mills that were in danger of losing their economic function with engines, milling houses or silos, or to make empty mills habitable.

A wider range of functions for mills has become commonplace. Many corn mills, for example, contain a shop selling the mill's own products, or an exhibition has been set up, or the mill has been adapted to receive clients and visitors. Mills that are open to the public usually attract a good deal of interest and can become major tourist attractions, essentially making tourism a new function. It should be remembered that tourism and interest from the local community can often add to the financial scope for preserving the mill. Ready accessibility for locals and tourists can thus support-

*Open mill landscape at De Grosmolen in Hoogmade (South-Holland)*





## Generating sustainable energy

The first experiments in electricity generation using authentic mills were made in the mid-twentieth century. The results were disappointing, however, and the modifications that were required had major ramifications for the structure. Too great a burden was placed on the mills, dislocating the fixed and moving parts. Interventions made to prevent this happening damaged the heritage values of the mechanism and structure. When modern wind turbines proved to be much more profitable, experiments with classical mills died a quiet death. The trial mills still house the remains of those experiments. Because of the possible impact on heritage value, but more particularly because of safety risks, the RCE does not advocate the use of windmills to generate electricity.

The situation is different for watermills, which lend themselves more readily to interventions of this kind. The advent of the modern water turbine, used to operate machinery or generate electricity, goes back to 1824. Although this development certainly helped the miller's trade to survive, it also led to far-reaching changes to a mill's moving parts and interior. Today, however, these refurbished interiors are often regarded as good examples of the transition from a traditional to a mechanised operation.

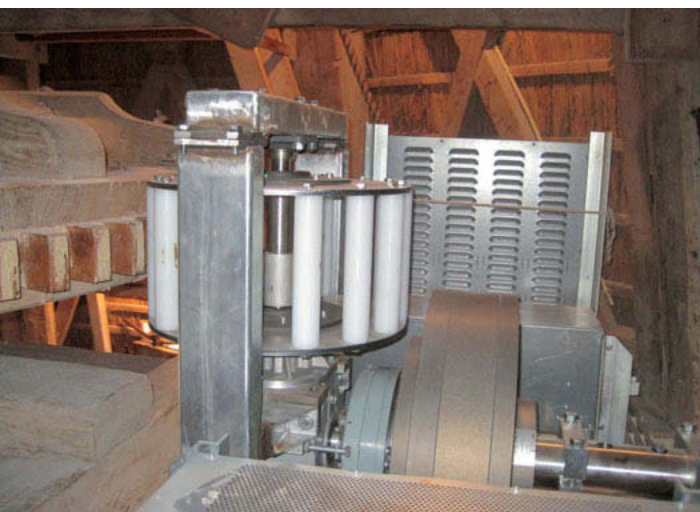
the mill's future. As is the case with many monuments, there is a negative side to making mills accessible. Over and above safety aspects, this generally requires additional facilities (such as toilets) and leads to increased wear and tear.

The preservation of heritage values is always the bottom line when it comes to changes in function. However, this does not mean an all-out effort to 'freeze' the existing situation. The guiding principle is that the historical character, the original layout and layering, and the decoration of the monument (inasmuch as these are still present) should not be violated. A change in function requiring drastic changes is therefore undesirable. The principle is that any changes should show respect for the monument and should be reversible.

Of course, not all mills have equal potential for a new function. Some of their characteristic features impose restrictions on possibilities for reuse, both because of the heritage value of the machinery and for safety reasons. Some of these mills can be converted into museums or adapted to host groups.

New uses can be more radical in the case of mills and mill remains whose machinery and interior have largely been lost or which retain little heritage value, or in mills and outbuildings that offer ample free space (such as some watermills, industrial mills and grain mills). Possible new functions here include dwellings, office spaces or workshops.

*A promising experiment to generate green energy at the Zwiapse Molen in Zwiap (Gelderland – 2011).*



#### 4.7 Relocating mills

As described above, the link between a mill and its site and surroundings represents an important heritage value. Relocating a mill always leads to the loss of heritage value, partly because this entails the replacement of original parts, but more particularly because the historical context is lost. Relocations lead to a dehistoricising of the original location on the one hand and contribute to the museumisation of the ever-shrinking green areas on the other. Even if a mill can only turn in a limited fashion at its original location, it still adds to the experiential value and to the historical anchoring of that site.

In the past the mill landscape was sometimes assessed too one-sidedly from the point of view of the biotope guideline, which is in fact based on the availability of sufficient wind, expressed in a calculation of the wind capture. Ironically, a strict application of the biotope guideline often provided an argument for relocation because it showed that some mills could no longer function properly as machines at their current site.

Many relocations are made not because a mill is in the way, but because the mill biotope, expressed in terms of wind capture, permits a limited number of operating hours. The implicit idea here is that the mill no longer fits within its much changed setting. Opportunistic reasons often come into play as well, such as disputes between neighbours, growing vegetation that hampers wind capture, a reluctant mill

*The De Commandeursmolen in Mechelen (Limburg) still operates every day and has a fully automated hydropower plant.*



Photos above: As well as government subsidies, there are other sources of funding, such as lotteries, for mill restorations. Traditional mill restoration also uses certified timber. Centre/right: Working machinery. Below: Wind engines belong to the younger generation of mills. The language of the sails, and dressing a mill with flags and ornaments are part of the non-material heritage of mills. Photo right: Typical Holland landscape with clouds and water, mills and houseboats.







The Kilsdonkse grain- and oil mill, a combined wind and watermill in Beugt/Heeswijk-Dinther (North Brabant), is a fully reconstructed working mill.



Some mills are equipped with a sprinkler system.

owner, the possibility of obtaining a financial contribution for a poorly maintained mill, or even relocating a mill to a new housing development as an attention-grabber. Some relocations have proved unsustainable, with the new location again proving untenable after just a few decades.

The basic position adopted by the RCE is that mills should not be relocated. Significant additional support for this standpoint is contained in the first cornerstone of the *Policy Letter on the Modernisation of Heritage Conservation (MoMo, 2009)*. Local authorities are required to take account of cultural historical values in land use planning. Cultural heritage is also part of spatial quality, and a monument cannot be conceived of separately from its local history. Land use plans are therefore a key instrument in the protection of an area's cultural historical values (see chapter 3). A broad approach to the mill landscape, one in which both cultural historical values and the biotope guideline have a place, offers possibilities for safeguarding mills and their environment for the long term.

The only exceptions to the principle of non-relocation are if major infrastructural works of national or international importance threaten the survival of a mill, or if the milling capability of a mill with a primarily economic function is in jeopardy and the professional miller risks loss of income. The RCE does not fund relocations.

#### 4.8 Raising mills

The reason for raising existing mills is to ensure that they will have sufficient wind capture to operate despite being hemmed in by encroaching development. Given the im-

mense pressure on available space, the need to raise mills will certainly continue into the future. However, the RCE is cautious about initiatives to elevate mills and does not fund this work. From a historiographical point of view, elevations do seem justified to some degree. Just as mills were relocated in the past for economic reasons, they were also raised. And yet there are good grounds for exercising restraint in this regard. Economic reasons for raising mills – in other words, improving the operation of a professional working mill – are uncommon, and original components and building history values are inevitably lost with this intervention. Raising a mill can also affect its image value and proportions. The increase in wind capture and operating hours is often no compensation for the expected loss of heritage values.

Instead of choosing to raise a mill, land use planning needs to take far greater account of the importance of mills in terms of landscape and history. MoMo offers some pointers here. The RCE's position is therefore that mill elevations are in principle undesirable. An exception is made in the case of mills that are already very tall, in which case raising them by no more than one storey is not ruled out in advance, provided that the proportions of the mill are not fundamentally affected.

#### 4.9 Reconstructing mills

Heritage policy does not in principle advocate the full or partial reconstruction of buildings, although this is regarded as desirable in exceptional cases. In the past, mills constituted such exceptions within the policy. Recent years have seen many mills being reconstructed – numbers have





## Property insurance

Under BRIM 2011, the subsidy scheme for the conservation of national monuments, the mill owner can be required to insure the monument against fire and lightning damage. The premium for this property insurance is not eligible for subsidy. However, within the context of the conservation subsidy, the RCE does make subsidy provisions for the maintenance of and periodic checks on fire-prevention and fire-fighting equipment, such as lightning rods, fire extinguishers and fire hose reels. The government may sometimes require a fire alarm system and a sprinkler system in mills with a high heritage value and/or an isolated location, although not an automatic alarm report to an emergency centre. Installation and maintenance in this context is eligible for subsidy (see also the 'Safety' section).

The insurance premium is a hefty budget item for many mill owners. If a mill burns down completely, one could ask what the heritage value would be if the mill were rebuilt. Why insure a mill if it risks being removed from the National Heritage List after a fire? However, mills do not usually burn down entirely, in which case part of the heritage value may be preserved. This is why a value assessment is always made following a fire so that a decision can then be made on whether to maintain the mill's heritage status. In the event that relatively little of the historical structure remains after a fire, the mill can also be rebuilt with the insurance money.

risen from a historical low point of 300 working mills in the mid-twentieth century to more than one thousand turning mills today. Mills have recaptured their place in the Dutch landscape, with many mills now identifiable once again as working machines. For various reasons, the RCE views the reconstruction of still more mills as both unnecessary and undesirable.

Around the recent turn of the century, mill reconstructions gained still further momentum. Frequently only a body, stump or perhaps just the foundations served as the starting point and parts such as the sail cross, tail pole, cap, or even the entire internal mechanism were reconstructed. The structures of these reconstructed mills have only a limited heritage value. Moreover, the number of reconstructed mills is now many times larger than the number of mill remains, whereas this latter group also represents a significant phase in mill history. The value of these incomplete mills to illustrate the 'death of mills', their decline as important economic machines, tends to be seriously underestimated. Mill remains often have important building

history values, which can be lost during reconstruction. In some cases the cultural historical value of mill bodies and stumps derives from the fact that their new function has evolved directly from, and bears witness to, the old. For example, some are now used for pumping plants, storage, as pet shops or homes.

Nor should we lose sight of the fact that the highly successful reconstruction policy has brought with it a major conservation task for the future. On occasions, mills may suffer some degree of damage through fire, prompting the owners to want to restore or rebuild them. Whether the RCE views reconstruction as desirable and therefore eligible for subsidy is largely dependent on the mill's surviving heritage value. The 'Property insurance' section briefly outlines how the RCE deals with this matter. By and large, the RCE recommends reconstruction in the case of partial destruction, but not in the event of total loss.

*At the end of last century, the De Ster sawmill in Utrecht (Utrecht), which was demolished in 1911, was rebuilt on top of its old sheds. The photo on the left shows the old sheds without the mill, and the photo on the right with the new mill.*

*Photo right-hand page: High-rise buildings in the centre of Spijkenisse (South-Holland) threatened the wind capture of the Nooitgedacht corn mill. The mill was raised considerably in 2010, an initiative that was not supported by the Cultural Heritage Agency.*







*The Middelste Molen in Loenen (Gelderland) is one of three working mills in the Netherlands for making paper. Interventions in the upstream spring area, such as drowning the landscape for the benefit of flora and fauna, meant that the water supply to the mill virtually dried up. The traditional mill landscape of the Veluwe has been made subordinate here to nature restoration.*

#### **4.10 Knowledge development and the National Heritage List**

We already know a good deal about mills, and yet there are some important gaps in our knowledge, both in numerical terms (important for policy and scholarship) and on reflective issues (important for policy, scholarship and the public). The RCE recognises the need to plug these gaps, and to that end, will draw up a knowledge agenda in consultation with the various stakeholders. The government will chiefly take up those matters relating to policy on the protection, conservation and preservation of the mill landscape. For other matters, the government will adopt a supporting and facilitating role, for example by setting research standards, certifying researchers, providing a platform, helping to make data available via the internet and, to a limited extent, by granting subsidies.

These gaps in knowledge can be grouped into three target areas:

#### **1. Building history and the assessment of heritage buildings**

Information on the building history of individual mills is only available to a very limited extent and there is poor linkage to heritage assessments. Nor is there a general synthesis setting out the heritage assessment of mills. Although mills are well-documented in many respects, there is a good deal of information missing about potentially valuable heritage elements such as mill yards, outbuildings, engines, archaeological features, mill foundations, etc. This applies to a significant number of later additions, or to objects that are older than the present-day mill. It also applies to watermills.

The RCE will concentrate mainly on heritage listings and supplementary listings (e.g. of mill yards and archaeology), on constantly refining the National Heritage List and occasionally delisting a monument, and on developing the requisite knowledge. In addition, the RCE will make every effort to further expand the expertise on mills, as well as the digital access to this information. The Sipman archive and the website [www.allemolens.nl](http://www.allemolens.nl) will serve as the point of departure here.



*De Phoenix in Nes on Ameland (Friesland) is a fine example of a village grain mill.*

Several major changes are expected in the next few years within the practice of building history research on mills. Not only will there be a more specific framework for research into mills, but it is also vital that the number of specialist building historians should increase. The RCE will promote this by funding the research and by providing input into the professionalisation and certification of building history bureaus.

## **2. Conservation and management**

The management and use of mills continue to be frequently overlooked aspects of knowledge development. There are no numerical studies of the number of mills in operation, with a professional or voluntary miller or no miller at all. Nor is there always information on hand about the actual intensity of use (expressed, for example, in the number of revolutions per year) and the desired intensity of use from a heritage point of view.

For the development of knowledge about conservation, the RCE will concentrate mainly on the use of contemporary technological innovations and materials (such as sectionable stocks or sustainable timber).

## **3. The relationship of mills to society**

The historical and contemporary place of mills in society must play a key role if we wish to offer mills a future. Although there has been some research into mills in art (see the book *Meesters en molens*, 2007), there is no comprehensive survey of current public appraisal of mills. There are also no numerical studies of the economic role that mills play, directly and indirectly, in the tourism sector. Also deserving of further study is the subject of mills as part of our national identity, as an internationally recognised trade mark. Where does this image come from, when did



*The gallery main shore cramps made of stainless steel.*

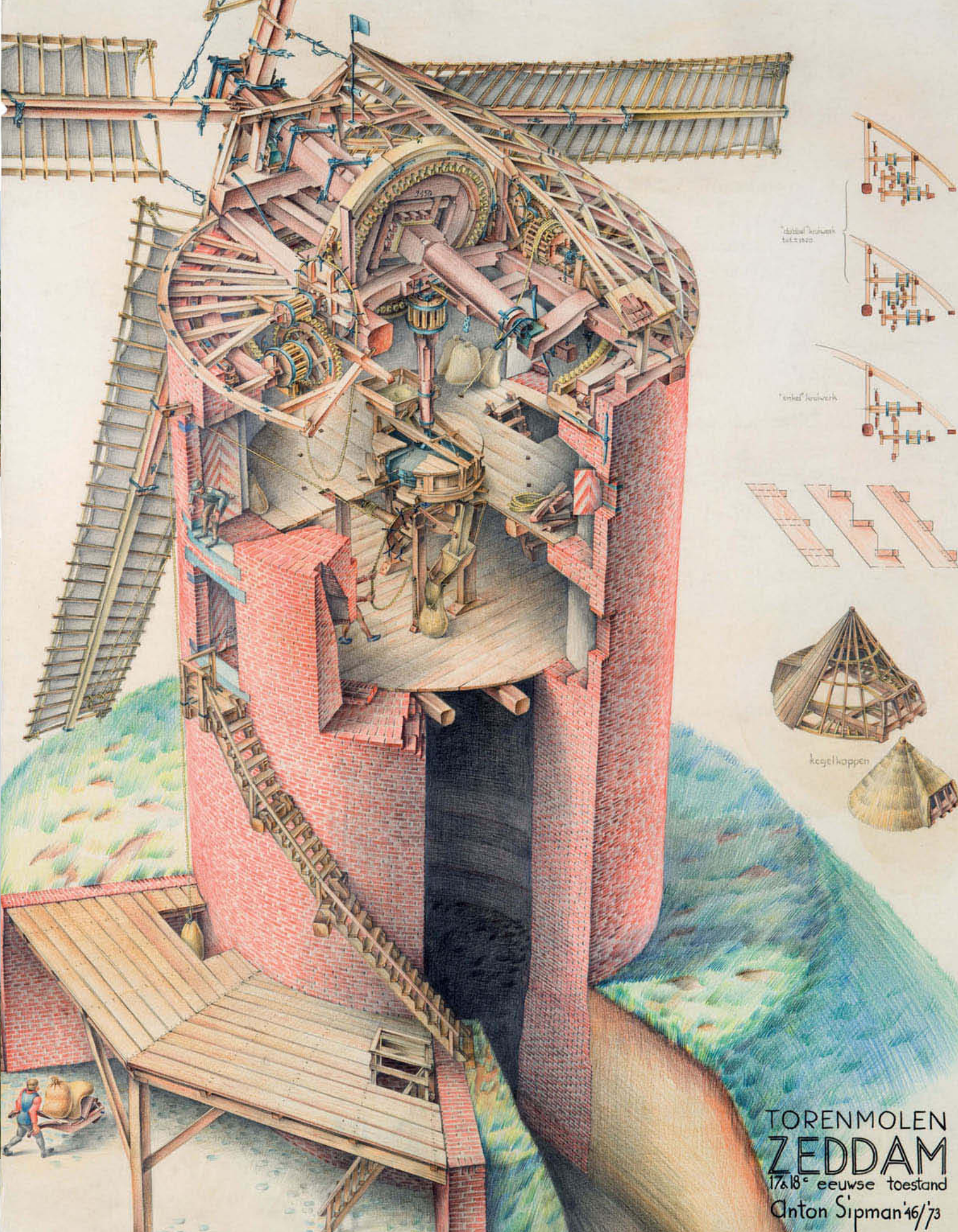
it develop at home and abroad, and what makes it so enduring? Other aspects of mills, including the non-material values of professions, merit further study.

Over the past decades it is not only ideas about restoration, maintenance and approaches to mills that have changed, this is also true of the role and function of mills and millers. They no longer form a single economic entity; instead, mills have become monuments and millers have become managers and hosts.

Although a few grain and drainage mills still continue to operate, most mills are managed and operated by voluntary millers. Thanks to the efforts of the Dutch Mill Association, the Guild of Voluntary Millers, the Guild of Artisanal Grain Millers and thousands of volunteers, both the material and non-material heritage can be preserved. The RCE will continue to support and encourage these initiatives wherever possible.

Photos above: Logo of the traditional cornmillers guild. RCE fact-finding mission to England 2010, Pockey drainage mill Norfolkshire.  
Photo below: RCE fact-finding mission to Poland 2009. Although in poor condition, many Polish mills like this one in Zadawa are veritable time machines inside.  
Illustration right: One of the many drawings from the work of Anton Sipman. Collection: Cuturel Heritage Agency, Amersfoort, The Netherlands.





"Kegelkappen"  
toestand

"Kegelkappen"  
toestand

Kegelkappen

TORENMOLEN  
ZEDDAM  
17&18<sup>e</sup> eeuwse toestand  
Anton Sipman '46/73



The mill complex of 19 drainage mills and a pumping plant in Kinderdijk (South-Holland) was designated a UNESCO World Heritage site in 1997.



# 5 IMPLEMENTATION AGENDA

## Introduction

The revised government policy on mills expands the principles to be taken into consideration in mill preservation. These fundamental principles are the heritage and cultural historical values, a mill's relationship to its site and the mill as a functioning machine.

Mill conservation calls for joint responsibility on the part of the different tiers of government, mill owners, organisations and umbrella organisations, millers and volunteers, businesses and citizens.

The RCE has drawn up an implementation agenda for the future to give the policy concrete shape. Alongside the tasks that the RCE plans to undertake itself, the revised policy contains many challenges for all the authorities, mill owners and organisations active in the field of mill preservation. The RCE hopes that all these organisations will take up the challenge.

## Implementation agenda of the Cultural Heritage Agency

### 1. Constantly refining the monument database

Basic information on individual mills has been expanded and made more accessible in recent decades thanks to local and provincial mill books and databases. A mill's description at the time of inclusion on the RCE's National Heritage List often no longer matches that of the current monument. For example, a mill may be described as a mill body even though it was completed to become fully operational fifteen years ago. The idea is to link the data that becomes available on mills in the coming years as supplementary information to the monument database.

### 2. A focus on listings and supplementary listings

As indicated, the RCE wishes to focus not only on mills as buildings but also on the mill environment, its origins and development. In the case of farmhouses, preservation targeted first and foremost the actual historic farmhouse and not the farmyard, stables and haystack. Thus the ensemble was lost sight of, and the resulting picture no longer formed an authentic whole. Similarly with mills, there was too much emphasis on the historic mill and too little on outbuildings and machinery. In specific cases, the aim is to

produce inventories and to make supplementary listings for typical mill complexes. This includes milling houses, the engine room, silos and outbuildings, vegetable gardens and fruit trees, stables, sheds, summer houses, clog sheds, boundary fences, sail-stock sheds and sluice gates. In accordance with MoMo, this will involve small numbers and will be regulated by means of the protection programmes.

### 3. Formulating an integrated value assessment

This involves putting together an integrated value assessment that is applicable to the Dutch stock of heritage mills. The points of departure here are the criteria referred to earlier in this brochure and an assessment pilot, which will be conducted in partnership with a designated organisation for the preservation of monuments.

### 4. Guidelines for new and sectionable mill stocks

Guidelines will be published for the manufacture of new and sectionable mill stocks.

### 5. Mill Platform

The RCE uses the Mill Platform to engage in dialogue with millwright firms, mill specialists, mill consultants and others. The Mill Platform is organised by the RCE and provides an opportunity for exchanging ideas and discussing theoretical and practical issues relating to mill preservation.

### 6. Accessing archives and collections

This involves accessing the REC's archives, photos and collections (such as the drawings in the Sipman archive) via [www.beeldbank.cultureelerfgoed.nl](http://www.beeldbank.cultureelerfgoed.nl). For information relating specifically to mills, access is granted via [www.allemolens.nl](http://www.allemolens.nl), in partnership with the Dutch Mill Association.

### 7. Dialogue with Designated Organisations for the Preservation of Monuments (AOM)

The RCE will engage in constant dialogue with Designated Organisations for the Preservation of Monuments (AOM). For both parties, this is vitally important in connection with restoration regulations, funding and quality.

### 8. Quality standards and certification within the mill world

In the context of MoMo, the RCE has launched the restoration quality programme in collaboration with the restoration sector. The RCE is engaged in drawing up quality standards in close cooperation with specialist groups within the

restoration sector. Companies may request certification in accordance with quality standards, which will make them more readily identifiable and heighten their profile for clients. Certification is not mandatory. The drafting of quality standards and the certification of millwright businesses (launched several years ago), mill historians and mill advisors is all part of this.

#### 9. Publications

Since spring 2011, the RCE has held the complete archive of mill expert, writer and draughtsman Anton Sipman (1906 – 1985), a well-known figure within the mill world. His legacy comprises many cross-section drawings in a range of sizes, measurement data and mill book manuscripts. The archives contain rough manuscripts on oil mills, sawmills and Northern Netherlands drainage mills which are yet to be published.

To help give shape to the non-material mill heritage within the RCE policy, consideration is being given to a publication with the working title 'Mills, places and stories' (Molens, plekken en verhalen).

#### 10. Europe

At the European level, it is advisable in the coming years to strengthen cooperation with mill preservation organisations and policymakers in order, for example, to monitor rules and regulations relating to mill landscapes, cross-border mill landscapes and biotopes. Many countries view the Dutch mill policy as leading in this respect. (In addition to being a centre of excellence, the RCE can take on the role within Europe of trying to ensure uniformity and coordination in the field of mill policy and preservation.)

*Many mills, such as these two in Weesp (North-Holland), were built close to the water for transportation reasons.*



*Photo right hand page: Blue Band advertisement on the body of the post mill in Baexem (Limburg). Grain millers were usually independent entrepreneurs, keen to make money where they could.*

*The Den Haller watermill in Diepenheim (Overijssel).*







# APPENDIX 1: ASSESSMENT CRITERIA

The RCE has developed a standard for assessing buildings, by which the heritage values of a building can be clearly and unequivocally identified. The assessment plays a leading role in both the designation of a building as a monument and in alterations to the listed building. The assessment is based on five principal criteria, which are broken down into subcriteria. Although the basis for the assessment of the built heritage rests on disciplines of art and history, spiritual, geographic, socio-economic, administrative and technological developments also play a part, as do a building's integrity and rarity. Each monument has its own array of values.

## **I Cultural historical values**

1. importance of the object/complex as the special expression of a cultural, socio-economic and/or public administrative/policy and/or spiritual development or developments
2. importance of the object/complex as the special expression of a geographical, landscape and/or historico-spatial development or developments
3. importance of the object/complex as the special expression of a technological and/or typological development or developments
4. importance of the object/complex because of its innovative value or groundbreaking character
5. importance of the object/complex because of its special memory value
6. importance of the object/complex because of its special non-material values

## **II Architectural and art historical values**

1. special importance of the object/complex for the history of architecture and/or building technology
2. special importance of the object/complex for the work of a master builder, architectural engineer or artist
3. importance of the object/complex because of the high-quality aesthetics of the design
4. importance of the object/complex because of the special use of materials, the ornamentation and/or monumental art
5. importance of the object/complex because of the special coherence between exterior and interior or elements thereof

## **III Situational and ensemble values**

1. significance of the object as an essential (cultural historical, functional and/or architectural historical and visual) component of a complex
2. a. special, iconic significance of the object for the appearance of its environment  
b. special significance of the complex for the appearance of its surroundings, neighbourhood, town or region
3. a. special significance of the complex because of the high quality of the buildings in relation to the historico-spatial context and to the associated green areas, roads, bodies of water, soil conditions and/or archaeology  
b. special significance of the object because of its parcelling/layout/facilities

## **IV Integrity and recognisability**

1. importance of the object/complex because of the architectural integrity and/or recognisability of its exterior and/or interior
2. importance of the object/complex because of its material, technological and/or construction integrity
3. importance of the object/complex as a still readily recognisable expression of the original or an important historical function

4. importance of the complex because of a valuable accumulation of important historical construction stages and/or stages of use
5. importance of the complex because of the integrity and recognisability of the entire ensemble of constituent parts (main buildings and outbuildings, fences, garden design, etc)
6. importance of the object/complex in relation to the structural and/or visual integrity of the urban, village or landscape environment

#### **V Rarity**

1. importance of the object/complex because of its absolute rarity in architectural historical, technological, typological or functional respects
2. exceptional importance of the object/complex because of its relative rarity in relation to one or more of the qualities listed in I - III



## APPENDIX 2: ACCOUNTABILITY PROCESS

- policy review launched in 2007, the Year of the Mill, with presentations at the International Molinological Society (TIMS) conference and the RCE's conservation symposium
- 2008-2009: internet discussion, publications (including RCE's own publications and articles in *Molens*, *De Molenaar*, *Molinologie*, *Monumenten*, *Molenwereld*, *De Gildebrief*, *Vitruvius*, conference proceedings of the Dutch Mill Association, TIMS Symposium and a Dutch Mill Association vision document).
- 2009: Policy Letter on the Modernisation of Heritage Conservation (MoMo)
- 2009 and 2010: overseas fact-finding mission to Belgium, Germany, Poland and England, working visits together with representatives of the Dutch Mill Association, mill advisors and millwrights, World Heritage/designated organisations for the preservation of monuments
- March 2010: relevant articles and information brought together in the reader *Towards a revised mill policy 2010* (*Naar een herzien molenbeleid 2010*, available in analogue and digital form via the RCE website)
- 15 februari 2010 akkoord van de minister voor het voeren van de discussie voor het opstellen van *Een toekomst voor molens - Uitgangspunten voor de omgang met monumentale molens*.
- Februari 2010: Ministerial agreement on conducting a discussion to draw up *A future for mills – Principles for dealing with heritage mills*.
- summer 2010: discussion begins
- autumn 2010: field consultations involving seven contact meetings (five of which were held in regions across the country; reports made available on the RCE website)
- spring and summer 2011: drafting of *A future for mills – Principles for dealing with heritage mills*
- summer 2011: talks with experts and administrators to test the draft brochure
- virtually all information available on the RCE website
- autumn 2011: administrative decision making
- October 2011: presentation of the new principles
- implementation





## APPENDIX 3: GLOSSARY

*Building history research:* the study of the history of construction, the building trade, structures and materials in relation to the built environment, viewed from the expertise of those who created the building. This research relies on information from the structures themselves, archives, archaeological material, literature, old illustrations, etc.

*Completing:* (also complementing) adding the missing parts. Various mill bodies have been completed in the past decades to become fully operational.

*Conservation:* the maintenance work on a listed building, together with work that goes beyond routine maintenance and which is essential for the repair of the monument.

*Drainage and watermills:* In Holland a windmill that drains surplus water from a polder is called a watermill, while the lowest mill in a polder is called a drainage mill. In the east and south of the Netherlands, however, a watermill means a mill driven by flowing water. To avoid confusion, we have called a wind-driven mill that pumps water a drainage mill and a mill powered by water a watermill.

*Fixed parts:* the fixed structures in a mill.

*Heritage value:* See Appendix 1.

*Innovation:* the introduction of something new in technological or industrial terms.

*Maintenance:* caring for and/or maintaining a monument in good condition and preventing decay through the required care.

*Mill biotope:* the environment of a mill, especially where this determines wind capture and water intake.

*Mill handbook:* a mill handbook is an instrument in which to record various kinds of information about an individual mill. This information can be recorded for and by the mill owner and miller. It may function as a logbook but can also contain information on how to deal with the yard, views on preserving the mill, the policy owner, the quality of the existing heritage values, the restoration and maintenance history, safety measures (RI&E) and hygiene requirements (HACCP).

*Mill landscape:* the environment of a mill in all its aspects, including the historical relationship between mill and environment, archaeology, the present layout, and water intake/wind capture.

*Mill machinery:* the mill's moving parts and drive mechanism.

*Non-material heritage:* the cultural historical value of mills is determined not only by material objects, but also by associated non-material aspects, such as the artisanal skills of millers and millwrights, traditional knowledge and stories, and sometimes the ownership situation.

*Operating history:* the remains and remnants in or around a mill, mill body or stump, pumping plant and/or milling house which tell the history and/or industrial history of use.

*Reconstruction*: rebuilding based on measurements, excavation, old pictures or the assumed original (or at least earlier) state of the building or part of the building.

*Renewable materials*: materials such as wood, thatch and shell lime that do not run out thanks to good management practices. Some mills are made almost entirely from renewable materials. Non-renewable materials often come from the immediate vicinity. The term 'renewable materials' comes from the sustainability sector.

*Renovation*: the repair, and if necessary partial renewal, of a building. Renovation restores it to use in accordance with accepted standards.

*Restoration*: returning buildings that are in various states of dilapidation to good condition, involving more than routine maintenance. An in-depth survey of the technical and building history information should be carried out prior to restoration. The outcomes of this survey can serve as the basis for a restoration plan.

*Umbrella organisation*: an overarching organisation uniting the parties in a sector, championing their interests and representing them where necessary.

## APPENDIX 4: LIST OF ABBREVIATIONS

AKG: Guild of Artisanal Grain Millers (Ambachtelijk Korenmolenaars Gilde)

AOM: Designated Organisation for the Preservation of Monuments (Aangewezen Organisatie voor Monumentenbehoud)

BRIM 2011: Regulation for government subsidies for monument conservation 2011 (Besluit rijkssubsiëring instandhouding monumenten 2011)

DHM: Dutch Mill Association (Vereniging De Hollandsche Molen)

DICE: Database for Registration of Incidents relating to Cultural Heritage (Database Incidentenregistratie Cultureel Erfgoed)

GVM: Guild of Voluntary Millers (Gilde van Vrijwillige Molenaars)

HACCP: Hazardous Analyses Critical Control Points, hygiene requirements for the preparation and handling of food products.

MoMo: Policy letter on the Modernisation of Heritage Conservation 2009 (Beleidsbrief Modernisering Monumentenzorg 2009)

OCW: Ministry of Education, Culture and Science (Ministerie van Onderwijs, Cultuur en Wetenschap)

RCE: Cultural Heritage Agency (Rijksdienst voor het Cultureel Erfgoed)

RI&E: Risk Inventory & Evaluation (Risico Inventarisatie & Evaluatie)

RRIM 2011: Regulation for government subsidies for monument conservation 2011 (Regeling rijkssubsiëring instandhouding monumenten 2011)

TIMS: The International Molinological Society

WABO: General Provisions of Environmental Law Act (Wet algemene bepalingen omgevingsrecht)

WRO: Spatial Planning Act (Wet ruimtelijke ordening)



## APPENDIX 5: FURTHER READING

### Websites:

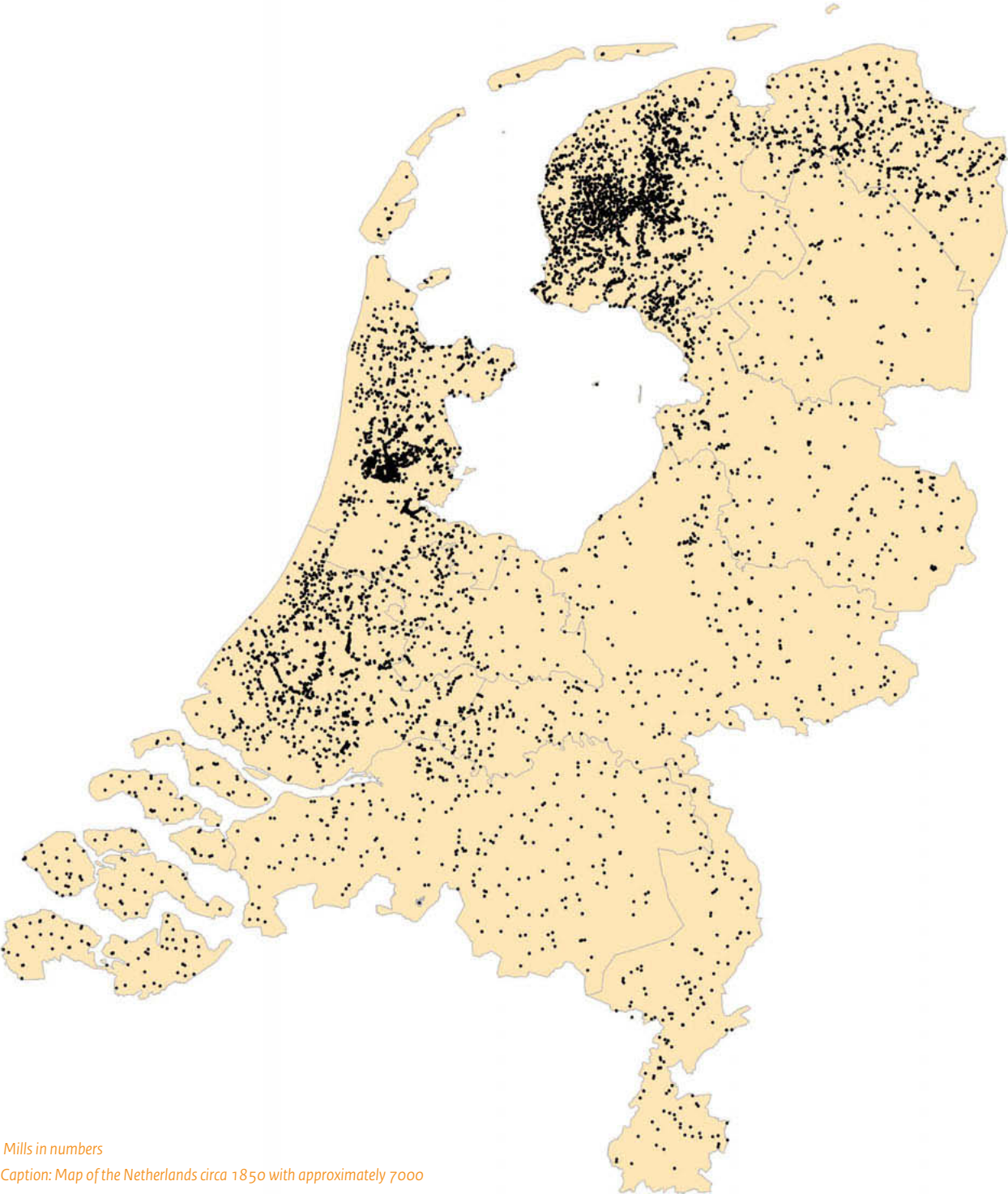
[www.cultureelerfgoed.nl](http://www.cultureelerfgoed.nl)  
[www.monumenten.nl](http://www.monumenten.nl)  
[www.allemolens.nl](http://www.allemolens.nl)  
[www.molens.nl](http://www.molens.nl)  
[www.molenbiotoop.nl](http://www.molenbiotoop.nl)  
[www.molendagen.nl](http://www.molendagen.nl)  
[www.moleneducatief.nl](http://www.moleneducatief.nl)  
[www.molendatabase.nl](http://www.molendatabase.nl)  
[www.vrijwilligemolenaars.nl](http://www.vrijwilligemolenaars.nl)  
[www.molenaarsgilde.nl](http://www.molenaarsgilde.nl)  
[www.molenkunde.eu](http://www.molenkunde.eu)  
[www.molinology.org](http://www.molinology.org)  
[www.erfgoedincidenten.nl](http://www.erfgoedincidenten.nl)

## APPENDIX 6: THE NETHERLANDS



Map of the Netherlands and the provinces

# APPENDIX 7: FIGURES

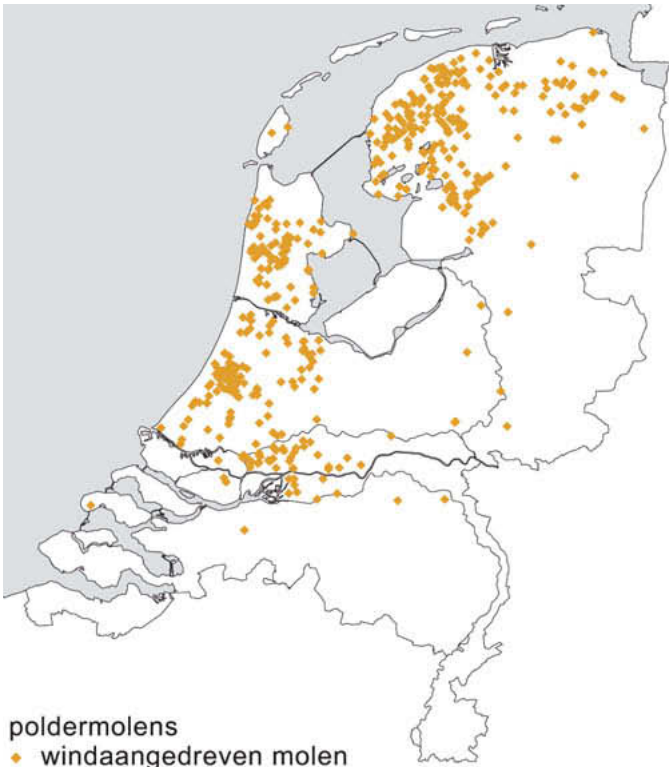


*Mills in numbers*  
Caption: Map of the Netherlands circa 1850 with approximately 7000 paper, corn, saw, oil, iron, copper and drainage mills.

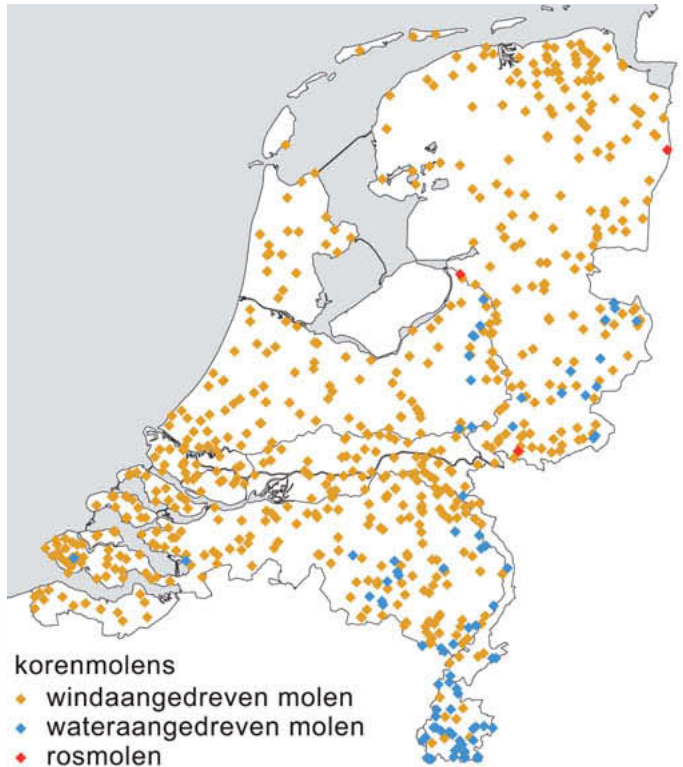


Captions: Map of the Netherlands circa 2011.  
National Monument (1243)  
Not a National Monument (244)

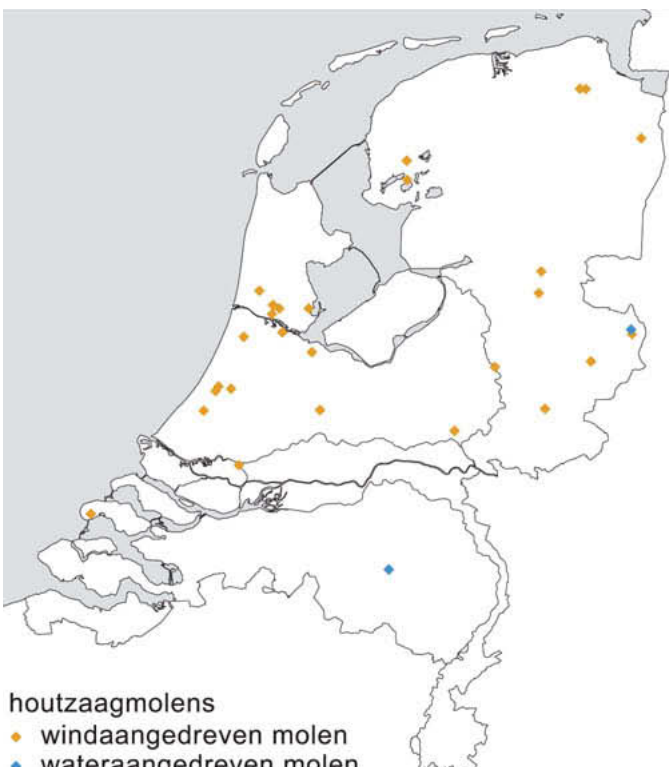




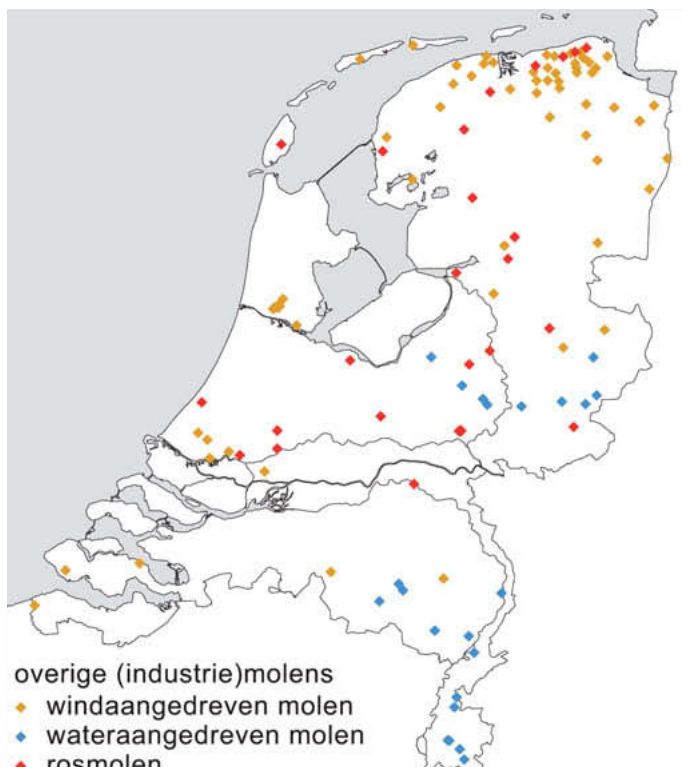
**poldermolens**  
 ◆ windaangedreven molen  
*Drainage mills: wind-powered mills*



**korenmolens**  
 ◆ windaangedreven molen  
 ◆ wateraangedreven molen  
 ◆ rosmolen  
*Corn mills: wind-powered mills, water-powered mills, horse-driven mills*



**houtzaagmolens**  
 ◆ windaangedreven molen  
 ◆ wateraangedreven molen  
*Saw mills: wind-powered mills, water-powered mills*



**overige (industrie)molens**  
 ◆ windaangedreven molen  
 ◆ wateraangedreven molen  
 ◆ rosmolen  
*Other (industrial) mills: wind-powered mills, water-powered mills, horse-driven mills*

## COLOFON

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Leo Endedijk: foto pag. 26 ro,

Ed van Gerven: foto pag. 30,

Frank de Hoogh: foto pag. 2

Willem Jans: foto pag. 35 mo,

Flip Keulemans: foto pag. 35 rb,

Wendy Kreeftenberg/Buitenbeeld/HH: foto pag. 8

Hans de Kroon: foto pag. 26 mo,

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Thijs Michielsen: foto pag. 28,

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Joop Vendrig: foto's pag. 16 lo, 35 rm

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