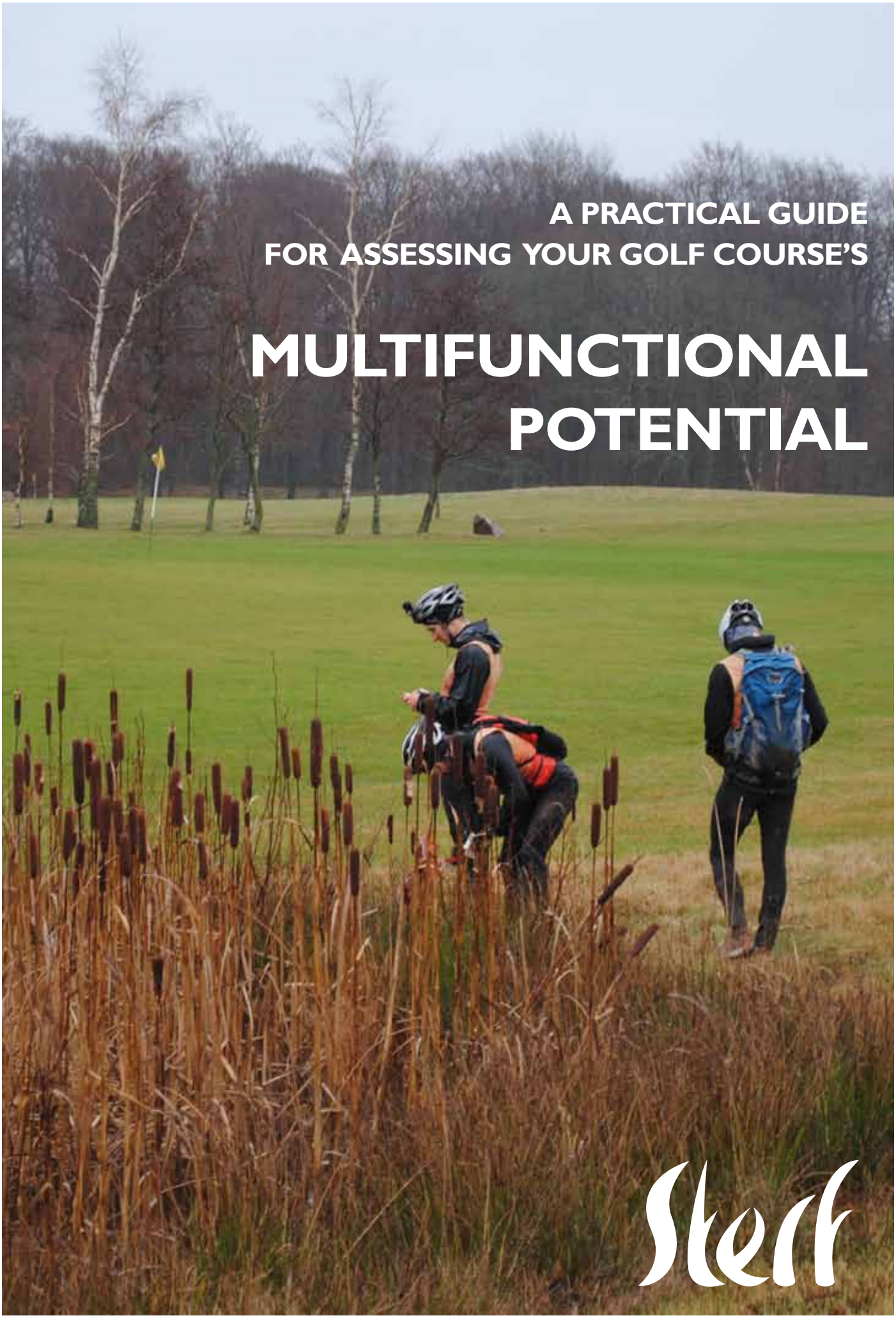

A PRACTICAL GUIDE
FOR ASSESSING YOUR GOLF COURSE'S

MULTIFUNCTIONAL POTENTIAL

Sterk

INTRODUCTION

This handbook is intended as a tool for a multifunctional process and can be used to visualize the multifunctional potential of a golf course.

This booklet presents the results from a STERF research project – *Experience mapping and multifunctional golf course development - enhanced possibilities for increased and more varied use of golf courses* (Caspersen, O.H. et al. (2014): Multifunctional Golf Courses. IGN Rapport, December 2014, Department of Geosciences and Natural Resource Management, University of Copenhagen, Frederiksberg). The full report can be downloaded from the STERF website, **www.sterf.org**

The goal of this project was to describe the development of a method for mapping and description of recreational experiences on golf courses. The objective was to provide a planning tool that can facilitate development of a broader multifunctional use of the golf course landscape.

The Danish Golf Union and The Danish Orienteering Federation have contributed to the project. Additional support was given from The Danish Outdoor Council (Tips og Lottomidler).

Photo 1. *Copenhagen Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

CONTENT

MULTIFUNCTIONALITY

Photo 2. *Adventure race at Hornbæk Golf Course, Denmark. Photo: Jens Peter Nielsen.*

WHY MULTIFUNCTIONALITY?

The concept of multifunctionality on a golf course is based on the premise that the course provides more than golf. Examples of multifunctionality could be ecosystem services such as biodiversity preservation, environmental protection, preservation of landscape values or recreational services for non-golfers. Social values can also be relevant in terms of creating a good relationship between the golf course and the local community. In other words, there are many benefits for golf courses adopting a multifunctional use profile. Examples of multifunctionality can be found in a STERF handbook on multifunctionality entitled *Multifunktionelle golfbaner – en uudnyttet resource* (Multifunctional golf courses: an unexploited resource).

The main driver for multifunctionality on the golf course might be economy, and some of the above mentioned facilities and functions may also contribute economic benefits for the individual golf course. The golf industry, especially golf clubs and golf courses, have been severely affected by the economic crisis, and there is strong competition among golf clubs to attract players. Much effort is used to identify what factors help to attract golfers in order to plan a marketing strategy. However, the focus of these efforts has largely been limited to attracting customers who already play golf. In order to make the golf courses attractive to people who have never played golf, the concept of the 'multifunctional golf course' may be useful.

A multifunctional golf course offers facilities other than golf that could be attractive to non-golfers. Hopefully this will eventually spur their interest in playing golf as well and may eventually stimulate them to join the club.

Three types of multifunctionality exist:

1. Different functions on different land units.

2. Different functions on the same land unit but at different times.

3. Different functions on the same land unit at the same time.

The traditional perception of a golf course is that of an isolated green space where golfers (club members and their playing guests) are the only users. In this view, the golf course is considered to be mono-functional. However golf courses normally occupy large tracts of land. These land areas are often strategically located in the landscape and typically associated with landscape- and environmental values that are important not only to golf players but to the society in general.

Accessibility to green surroundings in urban areas has become a topic of increasing interest due to the fact that green environments are beneficial to human well-being. The main health effects of such green areas are 'reduced stress, improved attention capacity, facilitating recovery from illness, enhancing physical well-being in elderly people, and behavioural changes that improve mood and general well-being. Additional health benefits are related to the advantages of exercise and making social contacts.

It is well know that golf courses offer many of these recreational and physiological benefits to their members. Due to different planning laws and rights of public access specific to the Scandinavian context, some golf courses offer these assets to non-members. Golf courses thereby contribute to increasing the general health specifically amongst the users but also in the society in general.

Due to the different type of users and activities, some golf courses in Scandinavia have developed in a multifunctional direction, such that these courses appeal to a broader public. This development is beneficial to both the golf courses and to the local community. The multifunctional usage contributes to acceptance of the golf course in the local area while presenting the club to prospective members in a more well-rounded light. For the citizens who use the course for recreational purposes, it offers a well-managed green area often quite close to their residence along with facilities such as a restaurant, parking space and toilets. Nevertheless, for several of the multifunctional golf courses, this development has occurred largely by coincidence.

In order for a golf course not to be seen as an isolated facility, multifunctional use could present it with a new image, as an integrated part of the surroundings interacting with people and the landscape outside the course.

In order to provide the golf clubs with a tool for a more systematic approach to multifunctionality and to provide the clubs with a tool for assessing possible benefits of multifunctionality at their golf course, this project has developed a systematic approach. The aim of this approach is to provide benefits to golf club players, visitors and the golf course management so as to ensure that the resources of the specific course can be utilized properly and developed in a planning context that includes the surroundings.

There are three main steps that have to be considered in a multifunctional process:

1. Discussion of the goals of developing a multifunctional approach; e.g., to attract new club members, to improve our relation to the local community, etc.

2. Description of the potential of the course by using the mapping tool. (The contents of this handbook).

3. Discussion with club members to identify what they want.

Photo 3. *Golfers on the green on hole 7, Viksjö Golf Course, Sweden. Photo: Karin Schmidt.*

Photo 4. *Social gathering at Hornbæk Golf Course, Denmark. Photo: Jens Peter Nielsen.*

GOLF PLAYERS AND MULTIFUNCTIONALITY

Before a golf club initiates multifunctional activities, it is always important to have a preliminary discussion with the players and to obtain a sense of their attitude about the multifunctional approach. At some point, the players/club members must give their approval of the multifunctional activities. Otherwise, there is a chance that the club will lose members. In the dialogue with the members, it is important to focus on the potential of multifunctionality.

DIALOGUE WITH CLUB MEMBERS

There are different methods of approaching club members. They type of approach depends on the objective. If it is members' attitudes that is the goal, a user survey or workshop is an appropriate method, whereas information about decisions taken can be disseminated on the club home page or at a members meeting.

User survey

A user survey provides data about how club members feel about the different multifunctional ideas. A well-designed survey can contribute valuable knowledge. The survey will typically be used to assess the members' overall mood if some general ideas have been presented.

Member workshop

The meeting can be used to brainstorm about multifunctional activities. The workshop form requires that members of the club are already receptive to the concept of multifunctionality.

Member meeting

Dialogue and discussion are appropriate when you have some concrete proposals and would like to proceed with an implementation.

Web information

It is always a good idea to provide information on the club's website. It provides members with a feeling of being part of the process.

GENERAL OPINION CONCERNING MULTIFUNCTIONALITY

The research project on 'Experience Values' carried out a user survey on multifunctionality among members of six golf clubs in the Nordic countries. Some of the general findings obtained are worth considering in the planning process.

- Club members expressed a more positive attitude for new initiatives related to the club house compared to initiatives linked to the golf course itself.
- If activities should be placed on the course, winter activities are viewed more favourably than summer activities.
- Most golf players are in favour of new activities on the course when they are not playing golf (in the evenings and in the winter months).

GUIDELINES FOR A USER SURVEY

A user survey is suitable for exploring the concept of multifunctionality in cases where the club has not yet decided on what direction it will take. A number of free online programs for creating surveys are available (e.g., Survey Monkey, etc.).

Questions

- Ask for background data, such as age, handicap, sex etc. This might help to determine whether the respondents represent the majority of the club members.
- Allow the respondents to be able to express their views in free text. This provides additional information and helps to give nuance to their answers.

Photo 5. *Winter activities at Oppegard Golf Club, Norway. Photo: Pål Melbye.*

MAPPING TOOL

This handbook introduces a mapping tool for assessing the multifunctional potential of your golf course. The tool is based on systematic mapping of experience values. The method has been developed so that it can be carried out mainly by non-specialists. This means that the mapping procedure can be carried out by selected volunteer members, and specialist knowledge can be added only when needed.

The mapping gives the golf club/golf course an overview of the potential and actual experience values on the golf course and/or in the surroundings. It can thus form the basis for a discussion in the club regarding the feasibility of certain multi-functional activities on the golf course.

MAPPING OF EXPERIENCE VALUES

The mapping procedure is based on registration of recreational experiences and their potential. In order to create the necessary overview for future planning and management, this relatively simple method divides the experiences into different classes, which are then displayed as maps of the golf course in detail. The maps can then serve as a basis for future development plans.

Each class of experience is defined in terms of characteristic activities, settings and probable experience outcomes. The mapping procedure is based on the use of a number of indicators for each of the experience classes. The eight classes represent a spectrum of multiple motives for outdoor recreation or desired recreation experiences. Together, the eight classes represent a set of different experiences, from pristine environments to experiences strongly influenced by human activity.

The following eight categories are to be mapped:

- Category 1: Pristine environments
- Category 2: Habitat experience
- Category 3: Panoramic views
- Category 4: Biodiversity and landform
- Category 5: Cultural history
- Category 6: Activity and challenge
- Category 7: Service and social gatherings
- Category 8: Safety

For each category, a description and several indicators are given. Their purpose is to ease the mapping procedure of each experience class. The indicators consist of specific elements and features that should be present in order to designate the presence of the particular experience. For certain experience, a specific object must be present, while other experiences require certain features to be absent; traffic noise, for example, will degrade a possible pristine experience. In order to ease the mapping procedure of the different classes, we provide a number of photos to illustrate each experience class.

Photo 6. *Example of cultural history: an old stone dike at Gräppås Golf Course, Sweden. Photo: Karin Schmidt.*

MAPPING CATEGORY 1

PRISTINE ENVIRONMENTS

This experience offers opportunities to experience a serene, undisturbed and untouched environment. Noise must be absent in order for this experience to be present.

In a multifunctional context, these pristine areas can be of interest for the local community because the biodiversity (animal and plants) might be unique. In addition, these areas might be of interest in order to attract people to use a walking trail. Areas designated as pristine environments tend to be characterised by tranquillity and peaceful surroundings.

This category is divided into two sub-categories: pristine forest and pristine coast.

PRISTINE FOREST

These areas have old growth forest, nature forest, and forest swamps. In these areas, trees are often gnarled, twisted and old, with high possibilities of encountering dead wood and dying trees.

Indicators: Old trees > 100 years, nature forest (native species, no production plantation), forest bogs and ponds.
Absence: Noise and technical installations (power lines, wind turbines).

Photo 7. *Pristine forest at Sydsjællands Golf Course, Denmark. All the tree species are native, and they grow wild. The only maintenance carried out is clearing the path to make it passable. Photo: Ole H. Caspersen.*

PRISTINE COAST
Coastal areas where no regulation has taken place, no breakwater installations, no coastal regulation and no dikes.

Indicators: Pristine coast without any views of residential or industrial areas.
Absence: Noise and technical installations (power lines, wind turbines).

Photo 8. *Pristine coastline near Nes Golf Course, Iceland. Photo: Ole H. Caspersen.*

Photo 9. *Pristine coast at The Glen Golf Course, Scotland, Photo: Karin Schmidt.*

MAPPING CATEGORY 2

HABITAT EXPERIENCE

This category consists of areas where the visitor can obtain the full experience of a single habitat without interference from man-made installations.

This category is divided into four sub categories: forest, park experience, common and meadow.

FOREST

The experience of being in a forest surrounded by large trees. On a golf course, the visitors are very seldom totally surrounded by forest. More often, the forest only partly surrounds, but despite this, the visitor can have the experience of being in a forest.

Indicators: Coniferous or deciduous trees, unmanaged forest floor, scrubs, minimum with 25m.
Absence: Technical installations, busy roads (traffic noise).

Photo 10. *Helsingør Golf Course, Denmark. This course is also surrounded by unmanaged forest. Photo: Jens Peter Nielsen.*

Photo 11. *Kristianstad Golf Course, Sweden. The course is surrounded by a pine forest with an unmanaged forest floor. Photo: Anne Mette D. Jensen.*

PARK EXPERIENCE

Open forest with trees and bushes in smaller groups and where the management is relatively intensive due to animal grassing or other kinds of management.

Indicators: Coniferous or deciduous trees, managed forest floor, scrubs, minimum with 25m.
Absence: Technical installations, busy roads (traffic noise).

Photo 13. *Park experience at Furesø Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

Photo 12. *Park experience at Sydsjællands Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

Photo 14. *Park experience at Örkelljunga Golf Course, Sweden. Photo: Jens Peter Nielsen.*

Photo 15. *Park experience at Kileen Golf Course, Ireland. Photo: Karin Schmidt.*

COMMON
Open area covered by grass and/or herbs, often with a few scattered trees in groups or single trees.

Indicators: Extensively managed areas covered by grass and/or herbs, scattered trees in groups or single trees. Management sometimes carried out by animal grazing, no wetland.
Absence: Larger coherent groups of trees, hedgerows, busy roads.

Photo 16. *Red fescue common at Gyldensten Golf Course, Denmark. Photo: Jens Peter Nielsen.*

Photo 17. *Common areas among fairways at the Copenhagen Golf Course in the deer park area, Denmark. Photo: Anne Mette D. Jensen.*

MEADOW
Open grass area, extensively managed.

Indicators: Open grass area with very few scattered groups of trees, single trees or scrub. Sometimes the area is managed by grazing. Often close to wetland, or periodic wetland.
Absence: Forest, coherent scrub, hedgerows, busy roads.

Photo 18. *Meadow with grazing sheeps at Hornbæk Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

Photo 19. *Meadow with grazing cows at Smørum Golf Course, Denmark, Photo: Per Rasmussen.*

Photo 20. *Wetland meadow at Hornbæk Golf Course, Denmark. Photo: Jens Peter Nielsen.*

PANORAMIC VIEWS

Locations with good viewing opportunities facilitate experiences of wide space and freedom. Hilltops, open landscapes, lake and sea shores are examples of such locations. Visitor preferences for viewing points, lakes and coastline are well supported in recreation research.

PANORAMIC VIEWS
In a multifunctional context, if a public pathway is being considered, then these sights will be of interest.

Indicators: Potential viewing point, view of larger contiguous landscapes, coastal and lake shore.
Absence: Dominating technical installations.

Photo 21. *Panoramic view over Nordsjö, Nordsjö Golf Course, Norway. Photo: Jens Peter Nielsen.*

Photo 22. *Panoramic view over the sea and small islands at Fåborg Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

Photo 23. *Panoramic view at Thingeyri Golf Course, Iceland. Photo: Edwin Roald.*

Photo 24 *Panoramic view over Smørum Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

Photo 25. *Panoramic view of Kattegat from Kalundborg Golf Course, Denmark. Photo Anne Mette D. Jensen.*

Photo 26. *Panoramic view over Lillebælt strait, Lillebælt Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

Photo 27. *Panoramic view over Hornbæk Golf Course, Denmark. View from tee at hole 7. Photo: Jens Peter Nielsen.*

BIODIVERSITY AND LANDFORM

In areas with high biological diversity, there is a good opportunity to get close and discover animals and plants. Natural history can be communicated in many places but is especially noticeable in areas with significant land forms and geological single sites.

BIODIVERSITY AND LANDFORM
The experience of 'biodiversity' is complex and expert knowledge and additional information might be needed in order to fully comprehend biodiversity-rich settings.

Indicators: Areas with high or potential biodiversity, nature-based management, not fertilized or sprayed areas.
Absence: Use of fertilizer and pesticides.

Photo 28. *Old tossing tree trunks about to rot are characterized by a high biodiversity and specialized ecosystems. Smørum Golf Course, Denmark Photo: DGU.*

Photo 29. *Small streams with varying plant flora, including plants that live in water, at Hornbæk Golf Course, Denmark. Photo: Jens Peter Nielsen.*

Photo 30. *A pond with a peat bog. Vegetation with Calla. Hornbæk Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

Photo 31. *A ponds constructed for storm water management at Værløse Golf Course, Denmark, can over time become an excellent habitat for flora and fauna. Photo: Lulu Charlotte Harteg Jacobsen.*

Photo 32 *Dead tree at Skjoldenæsholm Golf Course, Denmark. It is a perfect habitat for a lot of insects and fungi. Photo: Anne Mette D. Jensen.*

Photo 33. *Ancient stone assemblage at Skjoldenæs holm Golf Course, Denmark. An optimal place for small animals and insects to hide. Photo: Anne Mette D. Jensen.*

Photo 34. *A lake on a golf course is often an area with a high degree of biodiversity. A variety of plants and animals can be found in the water or in the shallows. Gränna Golf Course, Sweden. Photo: Karin Schmidt.*

MAPPING CATEGORY 5

CULTURAL HISTORY

Experiencing cultural history and landscape with a long time depth is supported by exposed cultural relics in the landscape. This experience category allows us to maintain our heritage and contact with our cultural past.

In the context of multifunctionality, cultural history can play an important part in the high rating of 'enjoyment of landscape' as the main motive for recreation in nature settings. Visits to (pre-) historical monuments (e.g. burial mounds, cairns) are seldom the main purpose of a nature experience, but they can be combined with visits to other nature types, while walking on a trail, for example. The experience of cultural history and landscape time depth on the golf course can also be supported by visible cultural historical traces in the landscape. In some cases, cultural history can also become a marketing tool for the golf course.

CULTURAL HISTORY
This experience category allows us to maintain our heritage and contact with our cultural past.

Indicators: Specific cultural historical elements and areas. Houses, churches, burial cairns, stone and earthen walls, historic roads.
Absence: Modern technical installations.

Photo 35. *Old hunting castle in the Deer Garden. Copenhagen Golf Course, Denmark. Photo: Jens Peter Nielsen.*

Photo 36. *Stone dike along the forest line; the dike is more than 100 year old. Hornbæk Golf Course, Denmark. Photo: Jens Peter Nielsen.*

Photo 37. *Rune carving at Viksjö Golf Course, Sweden. Photo: Gert Straschewski.*

Photo 38. *Old historic trail at Skjoldenæsholm Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

Photo 39. *The famous 13th hole at West Links Golf Course, Scotland, where the green lies behind an old stone wall. Photo: Karin Schmidt.*

Photo 40. *Burial mound leftovers at Korsør Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

Photo 41. *Ancient stone assemblage at Skjoldenæsholm Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

ACTIVITY AND CHALLENGE

In these areas, various activities other than golf are being carried out. 'Activity and challenge' covers a broad field of activity-oriented experiences in nature, from dog-walking to hiking, mountain biking and horseback-riding. This map can be used to visualise these non-golf activities.

Areas where activities are taking place must be specified and the specific activity must be specified.

ACTIVITY AND CHALLENGE

Indicators: Trail, ride trail, mountain biking/hiking trails, fitness equipment installed, canoeing, kayaking, rowing, sailing, bathing, campfire, bird tower, marina, nature school, playground, miniature golf, areas where activities other than golf can take place, etc.

Photo 42. *Dog walking on Copenhagen Golf Course, Denmark. Photo DGU.*

Photo 43. *Marking of a riding trail at Hornbæk Golf Course, Denmark. Photo: Jens Peter Nielsen.*

Photo 44. *Biking trail at Copenhagen Golf Course, Denmark. Photo: DGU.*

Photo 45. *Horseback riding on Copenhagen Golf Course in the Deer Garden, Denmark. Photo: DGU.*

Photo 46. *Taking a walk on a path on a golf course, Stockholm Golf Course, Sweden. Photo: SGF.*

Photo 47. *Horse-drawn carriage riding through Copenhagen Golf Course in the Deer Garden, Denmark. Photo: Anne Mette D. Jensen.*

MAPPING CATEGORY 7

SERVICE AND SOCIAL GATHERINGS

This experience class is subject to the possibility of experiencing gatherings of family and friends. It is often associated with various services and information features and high accessibility.

If a golf club is working towards multifunctionality, some activities will require a number of special facilities/ services such as toilets, garbage cans, etc. The use of the golf course and the local area can be increased if these basic facilities are available. The presence of various facilities promotes social gatherings. Conversely, if you want to promote a social gathering function for your golf club/course, the mapping exercise will indicate the facilities that need to be constructed.

SERVICE AND SOCIAL GATHERINGS
Indicators: Parking space, bus stop, information and other facilities such as rest area, campfire, bird tower, playground, restaurant (restaurant, kiosk, camping, B & B).

Photo 48. *Bench and waste container at hole 7 at Hornbæk Golf Course, Denmark. Photo: Jens Peter Nielsen.*

Photo 49. *Restaurant at Hornbæk Golf Course, Denmark. A restaurant offers dining facilities, toilets, etc. Photo: Jens Peter Nielsen.*

Photo 50. *Dining and rest area at Korsør Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

Photo 51. *Information map describing the historic trail at Skjoldenæsholm Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

Photo 52. *Lightning shelter at Sydsjællands Golf Course, Denmark. Photo: Per Sørensen.*

Photo 53.. *Toilet facilities at Skjoldenæsholm Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

SAFETY

Safety (here understood as risk of being hit by a golf ball) is an important issue in relation to multifunctional golf course use. In order to have others than golfers entering the golf course and for planning multifunctional activities/elements on the course, a number of safety concerns must be considered and mapped. Registration of safety areas (areas with a low risk of being hit by a golf ball) must be carried out together with an experienced player from the club or the golf course architect.

It is possible to map those areas where there is a significant risk of being hit by a golf ball. It should be pointed out that such risks exist anywhere on the course, but the likelihood is much greater in some areas than others.
Golf courses, however, are natural facilities, with many variations in their design and layout. Therefore, courses may have different safety issues according to distances and local conditions.

Studies from the United States and Great Britain provide data on how far golf balls will travel when hit with different strokes. These projections may be included in the drawing of a safety map. The national golf federations often issue guidelines for safety and design of golf courses. These should be obtained and applied. These guidelines also often indicate factors to be taken in account, such as wind, blind areas, forested areas, etc.

AREAS WITH A HIGH POSSIBILITY OF BEING HIT

Areas designed for playing golf include the greens, tee, fairway, semi-rough and parts of the rough.
Areas where people can be struck by a golf ball include landing areas and areas in front/around the tee area.

Photo 54. *A river on a golf course is not a safe area, and activities such as paddling on the river might not be a good idea. Fjällbacka Golf Course, Sweden. Photo: Anne Mette D. Jensen.*

Photo 55. *A zone that is not safe is the area where golf is being played. Simon's Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

MAPPING GUIDE

Mapping of experience values can have several benefits:

1. The mapping exercise establishes an overview of existing recreational experiences and the present multifunctional use on the course.

2. The mapping can be used as a basis for discussion regarding further multifunctional development and for future planning measures.

Mapping of the experience values is the first step. A relatively detailed large scale map is needed as a basic map on which the experience classes can be designated and the boundaries drawn. This map could be a detailed map of the course or it could be an aerial photo of good quality.

The mapping procedure is conducted by walking through the course and simultaneously plotting the experience classes on the map by identification of the indicators. Typically it is most convenient to map each class on a separate map. Afterwards they can be combined in a common map that illustrates the different classes.

MAPPING PROCEDURE IN DETAIL

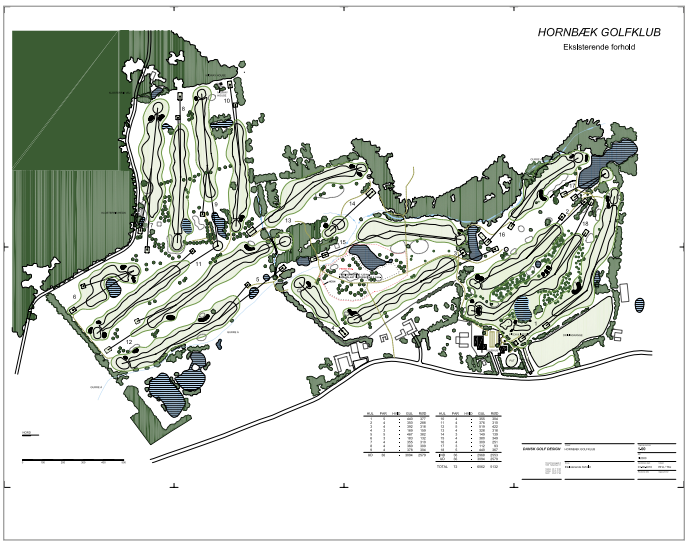

Photo 56. *Example 1.A map created by the golf course architect.*

Photo 57. *Example 2.A map from Google Maps*

1. PROVIDE A MAP OF YOUR GOLF COURSE

Possible map types;

- The map that the golf course architect have created (example 1).
- A print from Google Maps (example 2).
- The map that has been used for the course guide (example 3).
- High resolution aerial images.

The map needs to be printed in large scale and in 8 copies – one for mapping of each experience category.

Photo 58. *Example 3.A map used in the course guide*

2. CREATE ONE MAP FOR EACH EXPERIENCE VALUE

Prepare the mapping of experience values on the golf course by getting familiar with the experience values described in in this folder. More people from the club might be needed for the mapping procedure. It could be an idea to contact the local historical society, the local society for nature conservation, local bird watchers etc. They might be able to contribute with valuable information on specific experience classes.

3. DESCRIBE WHAT YOU SEE

Indicate on the maps where you register the indicators that are related to each experience category (there can be several indicators for the same category located on different places). The pictures below are examples of maps for a specific experience value – different signatures are used. Take a picture for each map point and describe what you see (see the following examples). This can help in the discussion of multifunctional potentials afterwards and in the discussion with the club members.

EXAMPLES FROM TWO CATEGORIES

Panoramic views and **Biodiversity** (next page) - the white dots on the photos show the location on the map.

A panoramic view from the tee place at hole 7. You overlook most of the golf course and the surrounding agricultural landscape. Photo: Jens Peter Nielsen.

Panoramic view of the golf course, the lake and the surrounding areas where the sheep's are grazing. The slope in the front is an area protected under Danish law of nature conservation. Photo: Jens Peter Nielsen.

A panoramic view over a lake near hole 17. In the background behind hole 16 one can see the fringe of a forest where Gurre river defines the transition to the forest. Photo Jens Peter Nielsen.

Photo 59. *Mapping examples with signature. Photo: Ole H. Caspersen.*

4. USE CONSISTENT LEGEND / COLOURS

Use a consistent and understandable legend (different colours/patterns, etc.) in connection with the illustration of the different experience values so that the map can be easily deciphered by others. If there are multiple types of experience values covering the same area, different colours must be used, so that hatching can be made. Hatching must be made in the same colour of the respective classes. Certain elements/indicators must be included in their entire length e.g. trails. Other elements are indicated only in the form of a point, such as a view point or service function (e.g., toilet). Areas can be illustrated as shown in **photo 59** i.e. with the strongest colour in the centre and progressive greying towards the edge. This shading would illustrate that the land boundary is only approximately indicated.

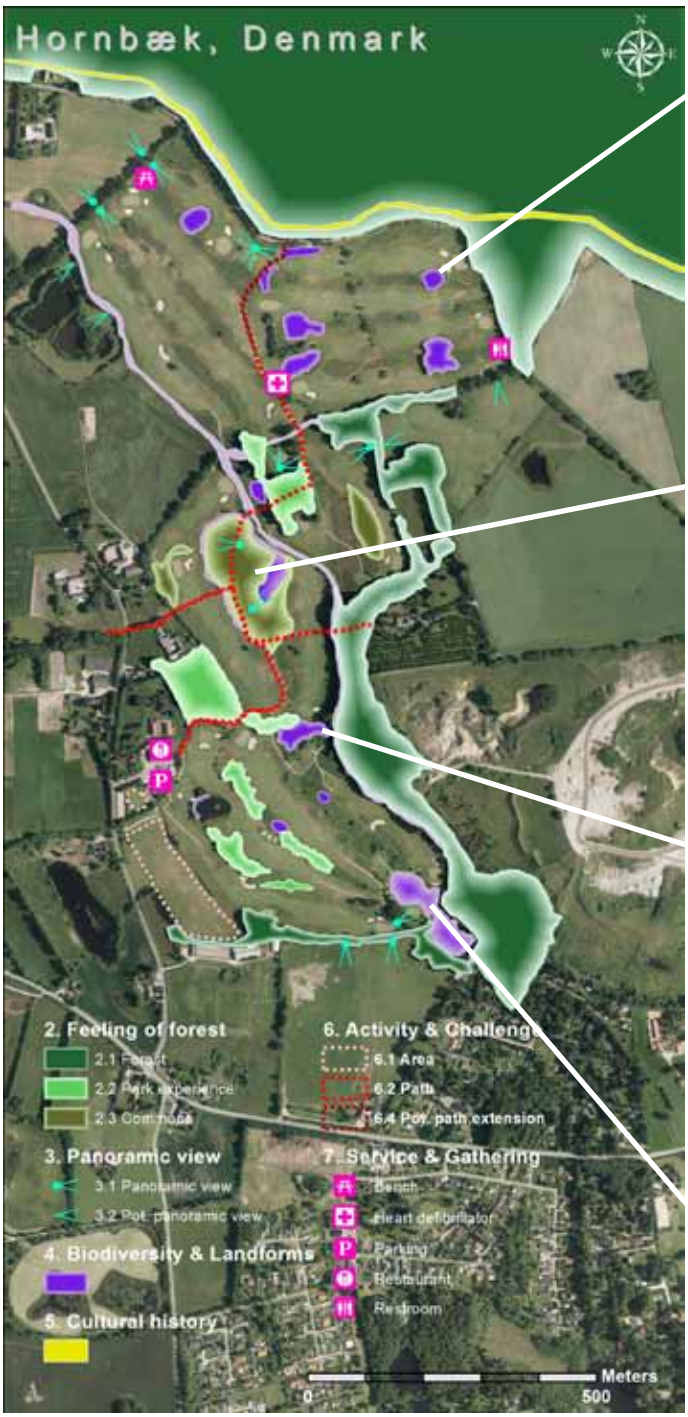

Photo 59. *Mapping examples with signature. Photo: Ole H. Caspersen.*

A small pond with a quake. The vegetation in these types of ponds is specialised. Photo: Anne Mette D. Jensen.

Wet meadow grazed by sheep. Grazing is part of creating/ maintaining meadow vegetation. Photo: Anne Mette D. Jensen.

Lake at hole 15, a deep lake from a former gravel pit. The vegetation around the lake is very diverse, and the depth of the lake allows for the growth of unique flora and fauna. Photo: Anne Mette D. Jensen.

Rough areas where vegetation grows wild. Photo: Jens Peter Nielsen.

ASSESSING THE MULTIFUNCTIONAL COURSE POTENTIAL

In the following, a number of examples are presented which illustrate how the maps can be used in the process of assessing a golf course's multifunctional potential. In this process, it is important to be open-minded if new potentials are to be identified.

EXAMPLE 1

The golf course participants should consider the following proposal:
Can we create a footpath that connects two residential areas on either side of the golf course and which is also safe to use?

Mapping:
Examine the map (category 7). Are there already existing paths that can be exploited? What is the safety situation for pedestrians at these patches (mapped in category 8)?
If a path already exists but there are safety issues, consideration should be given to establishing some safety-enhancing. Alternatively, a new and safe patch could be constructed on another zone of the course in order to connect the two residential areas.

EXAMPLE 2

The golf course should consider the following proposal:
The municipality would like to promote biodiversity in the urban areas, including the golf course.

Mapping:
Examine the map (categories 1, 2 and 4). Where on the course is there already a high degree of biodiversity that could be included in the municipality's strategy? Alternatively, are there areas where there is a potential for increasing the biodiversity, such as wetlands, meadows or grasslands?

EXAMPLE 3

The golf course should consider the following proposal:
We would like to obtain an overview of cultural monuments on the golf course, so that in the future, we can organize a maintenance routine that preserves the cultural heritage. We want to produce information about the historical elements on the golf course as part of our marketing strategy, in order to help attract new members.

Mapping:
Examine the map (category 5). A good example is Viksjö golf course (see map). There is a rune stone located on the course. A description of the stone's history can be elaborated. In addition, the old gully could be opened up and made usable for pedestrians together with some information maps along the gully that could describe the time-depth back to the Viking era.

THE SAFETY ISSUE

On any golf course, there is always a risk of being hit by a golf ball. The risk can be reduced by creating various safety options/elements or restricting activities to areas away from the players. The safety factor is important to keep in mind when planning for multifunctionality.

Golf courses have not been designed to be multifunctional. Hence, no established safety routines have been established to safeguard non-golfing users. Hence, it is important to identify where the safety problems will arise in relation to the desired multifunctional activity.

If there are safety issues, it is worth considering whether a potential activity can be restricted to time periods where golfers are not playing or whether other safety elements should be established.

Photo 60. *Multifunctional golf course and deer garden, Copenhagen Golf Course, Denmark. Most players approve. Photo: Anne Mette D. Jensen.*

Photo 61. *Marking of a hiking, biking and riding trail at Hornbæk Golf Course, Denmark. Photo: Anne Mette D. Jensen.*

READ MORE ABOUT

MULTIFUNCTIONALITY

Here are some examples of material that can be found on **www.sterf.org**

Project report (base for this handbook):
Experience mapping and multifunctional golf course development - enhanced possibilities for increased and more varied use of golf courses (Caspersen, O.H. et al. 2014)

Handbook:
Societal Benefits of Golf - Inspiration and Ideas for Local Partnership. Experiences from the Sigtuna Project – A Landscape for All. (Skarin, O. et al. 2015)

Brochure:
Multifunctional golf courses - an underutilised resource (Strandberg, M. et al. 2011)

Article:
Impact of golf courses on cultural landscapes (Sandberg, O.R. et al. 2015)

Article:
Multifunctionality on urban golf courses (Isaksson, M. et al. 2015)

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STERF (Scandinavian Turfgrass and Environment Research Foundation) is the Nordic golf federations' joint research body. STERF supplies new knowledge that is essential for modern golf course management, knowledge that is of practical benefit and ready for use, for example directly on golf courses or in dialogue with the authorities and the public and in a credible environ-mental protection work. STERF is currently regarded as one of Europe's most important centr es for research on the construction and upkeep of golf courses. STERF has decided to prioritise R&D within the following thematic platforms: Integrated pest management, Multifunctional golf facilities, Sustainable water management and Winter stress management. More information about STERF can be found at sterf.golf.se

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