



PensionDanmark

---

# BIODIVERSITY REPORT

Urban development areas  
and new construction

---

2022

# Contents

**01** Report

**02** Project status

**03** Overall status

**04** Methodology

**05** Data

**01**

**Report**

# Report

Biodiversity is in sharp decline all over the world. Increasing numbers of species are going extinct and ecosystems are being degraded and destroyed. One cause of this is human land use, and the real estate industry bears substantial responsibility for this.

At PensionDanmark, we prioritise biodiversity highly. As an investor, we feel a strong obligation to help to reverse the negative trend. We therefore take great pleasure and pride in introducing our first annual report on biodiversity.

The report is a preliminary culmination of a process that began in 2021 when we signed the Finance for Biodiversity Pledge, by which we, along with a number of Danish and international institutional investors, have committed ourselves to protecting and restoring biodiversity through financing activities and investments.

In May 2022 we launched our first biodiversity strategy, which is called *Investments for Life*. With this strategy, we undertake to ensure that all our investments in urban areas and new construction contribute positively to biodiversity by 2030 at the latest. As of 2022, we are also working to counteract net biodiversity loss by meeting DGNB minimum requirements regarding nature and biodiversity and by gradually aligning with the EU's taxonomy requirements regarding biodiversity and ecosystems.

With our biodiversity strategy, we have also set ourselves the goal of documenting and evaluating the impacts of our projects. That is the purpose of this annual report.

We believe that the work we have instigated with our biodiversity strategy is a huge, important step towards improving the conditions for biodiversity. In October 2022, along with more than 300 international companies, we therefore called on the heads of state at the 2022 United Nations Biodiversity Conference (COP15) to ensure that the impacts of financial institutions on nature and biodiversity are covered by mandatory reporting requirements. We also fully support the work being done to develop a joint global reporting framework under the auspices of the Taskforce on Nature-related Financial Disclosures (TNFD).

## **This report is a tool**

PensionDanmark's 2022 biodiversity report (urban areas and new construction) is the first of its kind – not only for our organisation, but for the Danish real estate industry in general. We are proud of this. Not least because we are acting on a situation in which common international guidelines for measuring and evaluating biodiversity do not yet exist. To oversimplify somewhat, climate efforts can be measured by how much we can reduce the prevalence of a single molecule in our atmosphere, while biodiversity is a term for all life – species and ecosystems – in our entire biosphere.

PensionDanmark has chosen to document the impacts of our projects by measuring six different biodiversity indicators which cover both space for biodiversity and the quality of biodiversity, to ensure that there are enough good-quality habitats for a diversity of species. The methodology must ensure that our report operates as a tool that can keep us on

track relative to the overall promise of the strategy and the five key principles, which span all phases from land purchase, project development, construction and evaluation.

We also value the fact that, as a tool, the report can provide a qualified contribution to the actions we have committed as a signatory to the Finance for Biodiversity Pledge, including:

- To collaborate and share knowledge on assessment methodologies, and biodiversity-related metrics, targets and financing approaches for a positive impact on biodiversity.
- To exercise active ownership in working with companies to reduce their negative impact and increase positive impacts on biodiversity.
- To measure the impact of investments on potential and negative impacts on biodiversity.
- To set and disclose targets based on the best available science.
- To report annually and be transparent about the significant positive and negative contribution to global biodiversity goals linked to our investment portfolio.



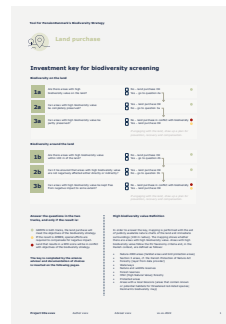
# Report

## Comprehensive implementation

In 2022, we began using a number of new tools. In addition to the report, we have determined an investment key for land purchases, which will ensure that we follow the preliminary guidelines in the EU Taxonomy Regulation and primarily invest in areas with low biodiversity. We have made project-specific biodiversity strategies mandatory, and as part of this work, we have laid down guidelines to ensure that in our projects we always work to preserve and develop local nature qualities, while ensuring a basis for data against which the project's impact on biodiversity can be evaluated.

Several new tools follow at the start of 2023, including a catalogue of nature-based solutions in urban development and a guide to nature-based management, which will ensure that we are supporting biodiversity development in fully established projects and meaningfully engaging residents in tending to biodiversity, so that nature becomes a source of community, learning and experience. Compared with traditional green arenas, nature requires another way of working, so we have also begun a dialogue with our facility management partners, who will play a key role in preserving and developing biodiversity for us.

The implementation of our biodiversity strategy will evolve over the coming years. We foresee that more of our activities will need to be involved, such as existing properties and project supply chains – a progression described in more detail in the biodiversity strategy. We are learning and improving as we go, and we hope that others will follow us down this path, allowing us to compare experiences and work together for a positive future for biodiversity.



# Report

## Overall status

Our first biodiversity report covers our six ongoing development projects, of which three involve new constructions and three are urban development areas. Baseline data has been obtained for each project, while the expected biodiversity status upon completion has been estimated based on current project plans. In addition, the current status at the end of the year has been estimated for each project using aerial photos. We have described our approach and biodiversity indicators in detail in the section on *Methodology* at the end of this annual report.

By comparing the overall project data for the year and evaluating it in relation to the overall promise and principles of the strategy, we arrive at the following overall status for 2022:

## 01

### *On track to becoming Nature Positive*

PensionDanmark makes a positive difference to biodiversity in our projects from land purchase to project plan measured on several indicators. In the six projects evaluated, the quantitative indicators show an overall increase in the area of canopy cover, while green/blue space and biofactor have decreased. The qualitative indicators show an increased area of habitats of high value for biodiversity – one of the parameters where our design makes a significant positive difference. The area of protected nature remains constant in the projects evaluated. We find these results satisfactory and promising given that our biodiversity strategy had not yet been implemented when these projects were developed. This year's evaluation clearly shows that our projects are designed in such a way as to support conditions for biodiversity and that we are on the right track.

## 02

### *Loss of biodiversity in the construction phase*

In all of the six projects evaluated that were under construction in 2022, there was an anticipated fall in both the quantity and quality of biodiversity as a result of ongoing construction work. Among other things, this is a consequence of either a very green or a very blue starting point in some of the projects, and in the future we expect to see a smaller loss in green/blue space and a greater increase in area of high quality for biodiversity as a result of changing practices in the construction phase, the baseline for biodiversity for new investments and the inclusion of more projects in the evaluation.

## 03

### *Investment predominantly in areas with low biodiversity*

The properties evaluated in 2022 show that investment is predominantly in areas with a low proportion of habitats of high value to biodiversity (18% on average, 4 out of 6 plots with 0%). At the same time, only one of the plots (Fælledby) includes a protected natural area, and the project ensures that this area is completely preserved.

# Report

Although PensionDanmark is on the right track in terms of creating nature-positive investments in urban areas and new construction, we are a long way off-target in terms of halting the decline in biodiversity. “You get what you measure” has long been our approach to reporting in connection with the climate, gender diversity and active ownership. This means that we are only as close to the target as we can document. We need a global consensus to be reached on common standards for measuring and reporting on biodiversity, as well as common incentives and obligations to act.

In PensionDanmark we act now because we feel nature can no longer wait. We are eagerly waiting to see how the UN’s Global Biodiversity Framework (GBF) will be used in future, and following developments in the work being done as part of the Taskforce on Nature-related Financial Disclosures (TNFD) and Science-Based Targets for Nature (SBTN).

In 2023, we look forward to continuing to work on achieving both measurable and appreciable results for biological diversity and for our many members.

Torben Möger Pedersen  
CEO, PensionDanmark



**02**

**Project status**

# Project status

This section describes developments in biodiversity at project level. The basis for this year's evaluation of biodiversity is six in-progress development projects over which we have ownership. Trælasten in Aarhus and Fælledby in Copenhagen are urban areas with different starting points regarding the baseline for biodiversity. Sirius and Kronløbsøen in Copenhagen are housing developments, the first in a former industrial area in central Copenhagen, the second a man-made island in one of Copenhagen's harbour basins. Søndre Kyst in Køge consists of five coastal blocks on a scale between urban area and housing development. Flegmade is a housing development in Vejle.

Baseline data has been obtained for each project, and the expected biodiversity status upon completion has been estimated based on current project plans. In addition, the current status at the end of the year has been estimated for each project using aerial photos.

In addition to a figure showing the percentage development for each biodiversity indicator, key figures are highlighted accompanied by a brief section of text providing an overall assessment of the biodiversity of each project.

All underlying reporting figures from the six evaluated projects appear in the table in the section entitled *Data*.

## Biodiversity indicators

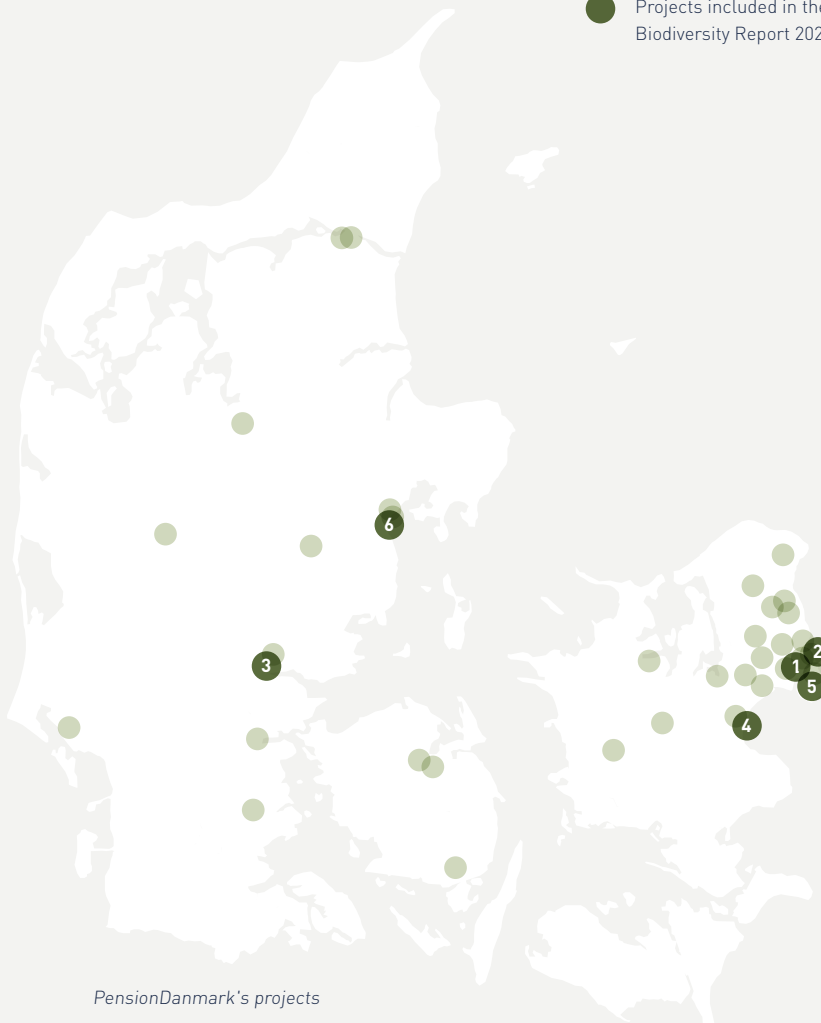
The biodiversity status is evaluated using a total of six selected indicators: three indicators that measure space for or quantity of biodiversity, and three indicators that measure the quality of biodiversity.

QUANTITY	<b>Total green/blue space</b>	Space for biodiversity. Measurement on a map or drawing of green and blue space, i.e. space containing vegetation or water.
	<b>Canopy cover</b>	Volume of biodiversity. Measurement of area with tree canopy on a map or estimation based on the number and size of trees.
	<b>Biofactor</b>	Measurement of the volume of green and area of blue, used in DGNB certification. Based on measurement of the area for various vegetation and surface types.
QUALITY	<b>Habitat quality Ab/Ac</b>	Areas with habitats of high quality for biodiversity. Habitat quality Ab refers to areas of high quality for biodiversity in the baseline (including existing protected and valuable natural areas). Habitat quality Ac refers to areas designed to support biodiversity in project development, which will often require several years of development to reach the standard of habitat quality Ab.
	<b>Protected nature</b>	Area of spaces that are designated as protected natural areas, and thus are of particularly high quality for biodiversity.
	<b>Species diversity</b>	The diversity, and thus the quality, of flora and any other selected groups of organisms. No data has been obtained for this indicator in 2022, but it will be included in the reporting from now on.



# Projects

● Projects included in the Biodiversity Report 2022



## 1 SIRIUS

Location: Islands Brygge  
Plot: 7,300 m<sup>2</sup>  
Area purpose: Housing  
Previous use: Harbour industry  
Construction period: 2019–2023

## 2 KRONLØBSØEN

Location: Nordhavn  
Plot: 9,500 m<sup>2</sup>  
Area purpose: Housing  
Previous use: Harbour basin  
Construction period: 2019–2024

## 3 FLEGMÅDE

Location: Vejle  
Plot: 9,500 m<sup>2</sup>  
Area purpose: Housing  
Previous use: Commerce  
Construction period: 2022–2024



## 4 SØNDRE KYST

Location: Køge  
Plot: 17,000 m<sup>2</sup>  
Area purpose: Housing  
Previous use: Industry  
Construction period: 2021–2026

## 5 FÆLLEDBY

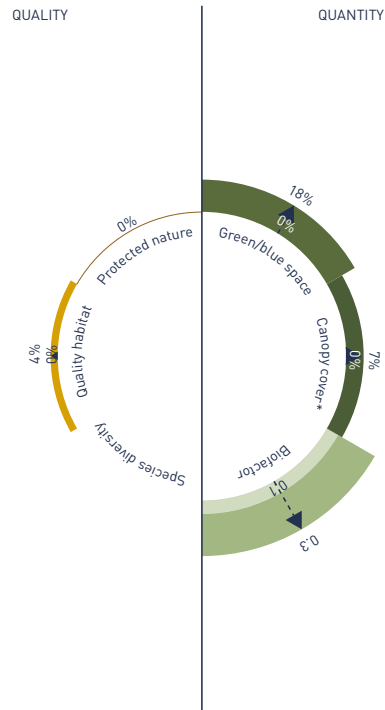
Location: Amager Common  
Plot: 181,000 m<sup>2</sup>  
Area purpose: Housing  
Previous use: Nature/camping/landfill  
Construction period: 2022–2031

## 6 TRÆLÅSTEN

Location: Århus C  
Plot: 36,000 m<sup>2</sup>  
Area purpose: Housing  
Previous use: Industry/commerce  
Construction period: 2021–2030

# Sirius

The project consists of two identical, 14-floor residential blocks. The blocks feature balconies that run more or less all the way around the buildings. The balconies have built-in balcony boxes with a sprinkler system based on collected rainwater. The planting will be varied, including native trees, shrubs and herbs with berries, pollen and seeds, providing food for the city's fauna. There are also several species of host plants and good habitats for birds and insects.



## FACTS

**Total area** 7,300 m<sup>2</sup>

### New nature

Approximately 150 trees and shrubs  
 Approximately 20 species of trees, shrubs and climbing plants, of which 10 are native species  
 Approximately 35 species of herbs of which 21 are native

### Nature-based solutions

Rainwater management on terrain as part of landscape design and green balconies.

### Involvement of residents in tending to nature

The house rules of the owner's association stipulate that the residents must manage the planting. This includes description of which plant species must be in the planters.

The figure shows the development of the six biodiversity indicators for Sirius from baseline to project plan. Since the baseline was 0 for all indicators, there is a net increase in both space for biodiversity and quality of habitats. Note that biofactor is measured on a scale of 0-1, while the other indicators are given in %. There is no data for species diversity in 2022.

Selected indicator:

**Canopy cover\***

**7%**

### PROJECT PLAN 2023

Proportion of the plot that is established with trees and thus has new crown cover.

**0%**

### STATUS 2022

The project was under construction in 2022 and no new nature has yet been established.

**0%**

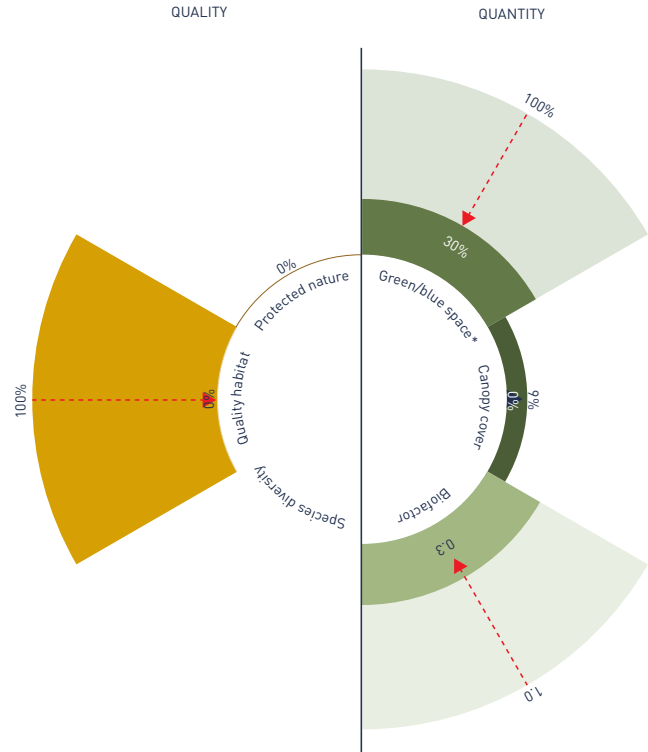
### BASELINE 2019

Before the project started, the area was a former industrial site and there was no nature on the site.



# Kronløbsøen

The project will be located as an island in inner Nordhavn between Sundmolen and Fortkaj. The island has been established by filling in the existing harbour basin. Bottom sediment in the harbour basin is contaminated and does not contain special marine nature qualities. On the new island, vegetation will be established on the ground, balconies and roof, with an emphasis on shrubs and trees.



## FACTS

**Total area** 9,500 m<sup>2</sup>

**New nature**  
12 species of trees, of which 7 are native species

**Nature-based solutions**  
New trees and green roofs, façades and balconies.

**Involvement of residents in tending to nature**  
None planned.

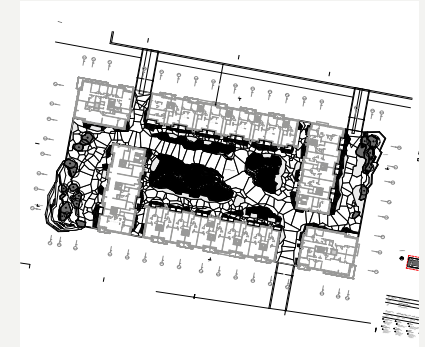
The figure shows the development of the six biodiversity indicators for Kronløbsøen from baseline to project plan. Since the land consisted of a marine area before the project started, three indicators show a reduction, while crown cover increases and protected nature is 0. Note that biofactor is measured on a scale of 0-1, while the other indicators are given in %. There is no data for species diversity in 2022.

Selected indicator:  
**Green/blue space\***

# 30%

## PROJECT PLAN 2023

The project plan includes a large proportion of green space. However, it should be noted that it is difficult to compare marine areas and land areas in purely natural terms, as the areas provide habitats for very different species.



# 0%

## STATUS 2022

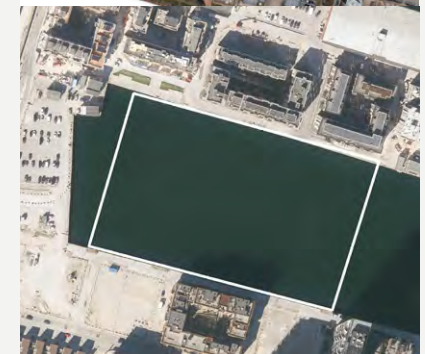
In the construction phase, there is no green or blue nature.



# 100%

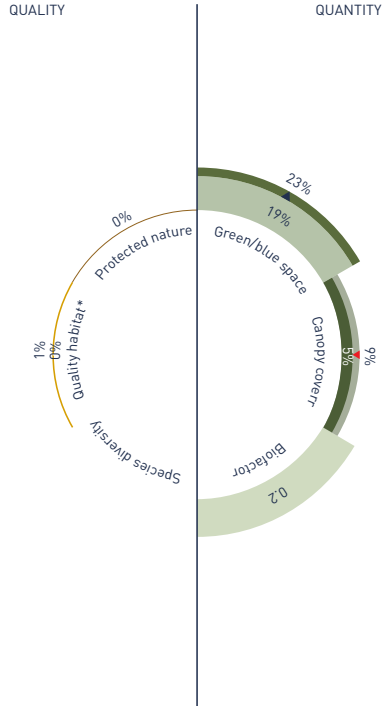
## BASELINE 2020

Before the start of the project, this was a marine area with potential habitats for marine species including birds. However, the area was assessed as being of low quality due to poor conditions in the harbour bottom.



# Flegmade

The project is being built in an existing urban area which was previously used for commerce. Between the buildings there will be recreational areas containing features such as playgrounds and a conservatory. Existing trees along the road will be preserved and the new green areas will be planted with grass and scattered trees. The increased size of the green area results in a higher biofactor, regardless of the quality of the planting.



## FACTS

**Total area** 9,500 m<sup>2</sup>

### New nature

There has been no focus on creating habitats for wild species and the species list for planting is not known. The potential is regarded as limited, but the green area is expected to attract some common urban species.

### Nature-based solutions

New trees and planting that sequester carbon and retain rainwater.

### Involvement of residents in tending to nature

None planned.

The figure shows the development of the six biodiversity indicators for Flegmade from baseline to project plan. The plot consists of existing buildings with small green areas. From the baseline to the project plan, 3 indicators show an increase, but crown cover is slightly reduced. Note that biofactor is measured on a scale of 0–1, while the other indicators are given in %. There is no data for species diversity in 2022.

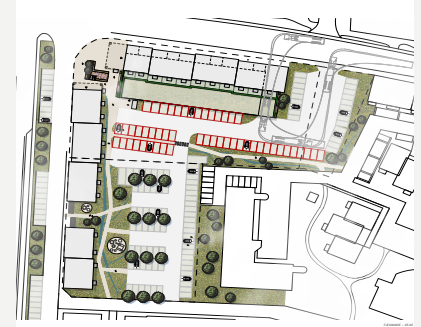
Selected indicator:

**Habitats of high quality for biodiversity (Ab + Ac)\***

1%

### PROJECT PLAN 2024

The project plan adds more greenery in the form of more trees and more structure in the vegetation, thus leading to a small increase in the area of quality habitat.



0%

### STATUS 2022

The status for 2022 is the same as the baseline, as no vegetation has been established yet.



0%

### BASELINE 2022

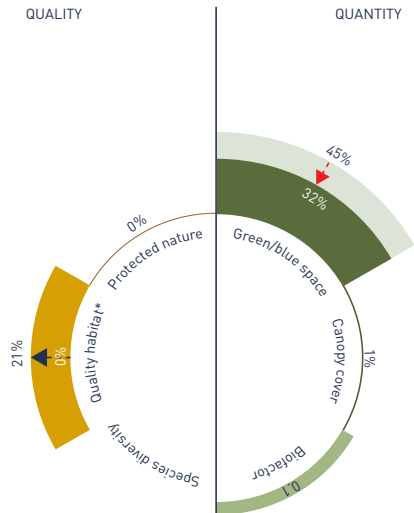
The biodiversity baseline contains a few green structures in the form of trees, hedges and lawns, which do not constitute quality habitat for biodiversity.





# Søndre Kyst

The project is located on a former industrial site on the southern tip of Køge Kyst with the sea and beach to the east and salt marsh to the south. This is where buildings and nature meet. The meadow promenade south of the construction site is designed for climate adaptation to sea level rise. All open spaces – courtyards and common areas between the building plots – will be established on concrete decks with underground parking basements. Species composition is based on the local coastal nature and aims to establish a large proportion of natural vegetation that can function as habitat for local fauna.



## FACTS

**Total area** 17,000 m<sup>2</sup>

### New nature

- Approximately 126 plant species
- Emphasis on domestic herbs and woody plants from salt marsh and coastal grassland

### Nature-based solutions

New trees and planting as well as rainwater management on terrain and planting on buildings in the form of green roofs, façades and balconies.

### Involvement of residents in tending to nature

There are plans for the residents to be responsible for the management of planters in common areas.

The figure shows the development of the six biodiversity indicators for Søndre Kyst from baseline to project plan. The green area has decreased because spontaneous vegetation on the plot has been cleared, but the habitat quality has increased significantly. Note that biofactor is measured on a scale of 0–1, while the other indicators are given in %. There is no data for species diversity in 2022.

Selected indicator:

**Habitats of high quality for biodiversity (Ab + Ac)\***

**21%**

### PROJECT PLAN 2023

The project plan for the site encompasses 21% vegetation in green wedges and courtyards with a character of coastal nature.



**0%**

### STATUS 2022

The area is under construction and none of the planned new nature have yet been established.



**0%**

### BASELINE 2017

Before construction began, a few areas contained spontaneous vegetation, but no quality habitat.





# Fælledby

The project will be an urban area close to nature with the highest possible DGNB certification (Platinum). The project is established on Amager Common in an area with existing natural ecosystems. Protected nature is preserved, but green areas are removed. Green areas with qualities from the area's local nature will be established in the new urban area, and habitats will be created for insects and birds.



## FACTS

**Total area** 181,000 m<sup>2</sup>

### Existing and new nature

All protected nature is preserved  
Area of high-quality habitat increases after construction (habitat qualities Ab + Ac) due to sowing of locally collected seeds and use of locally occurring plant species in planting.

### Nature-based solutions

Wetlands for rainwater management with local flora and fauna; habitats for local fauna, new trees and planting that sequester carbon, and structures as habitats for fauna on buildings.

### Involvement of residents in tending to nature:

Residents are involved in the management of nature areas, wetlands, courtyards, green roofs, nature playgrounds, campfire sites.  
Organised cultivation of herbs and vegetables in raised beds and greenhouses for residents.

The figure shows the development of the six biodiversity indicators for Fælledby from baseline to project plan. Since the plot consisted mainly of green space at baseline, indicators for the quantity of biodiversity have decreased, while the area of quality habitat has increased. Note that biofactor is measured on a scale of 0–1, while the other indicators are given in %. There is no data for species diversity in 2022.

Selected indicator:

**Habitats of high quality for biodiversity (Ab + Ac)\***

**37%**

### PROJECT PLAN 2026

The project plan for Fælledby includes new areas of natural vegetation resulting in a larger area of high-quality habitats for biodiversity compared with the starting point.



**9%**

### STATUS 2022

Most of the area has been cleared in connection with the construction phase, except for part of the plot with high-quality habitat, including areas with protected nature.



**21%**

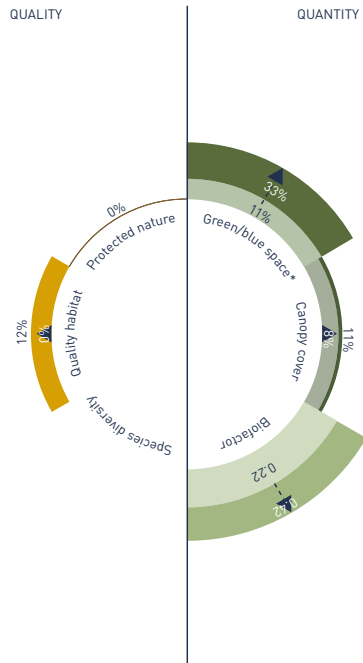
### BASELINE 2021

Before the start of the project, 21% of the site was assessed as areas of high-quality habitat for biodiversity.



# Trælasten

The project will be a green urban area with the highest possible DGNB certification (Platinum). The plot is situated close to Aarhus River. The project's biodiversity strategy describes how local nature will inspire the new planting, creating habitats for insects, and how as many trees as possible are preserved and dead wood is allowed to decompose in the area.



## FACTS

**Total area** 36,000 m<sup>2</sup>

### New nature

Based on the biodiversity baseline for the site and surrounding nature, new nature is designed to support local biodiversity.

### Nature-based solutions

Wetlands for rainwater management with local flora and fauna; new trees and planting that sequester carbon, and green façades.

### Involvement of residents in tending to nature

There are plans for temporary and permanent resident-run planted areas, which may involve both cultivation of food and/or a contribution to biodiversity.

The figure shows the development of the six biodiversity indicators for Trælasten from baseline to project plan. The land was previously used for commerce with few green spaces, and the development of the area thus adds more space for nature and habitats of a higher quality compared with the baseline.

Note that biofactor is measured on a scale of 0–1, while the other indicators are given in %. There is no data for species diversity in 2022.

Selected indicator:

**Green/blue space\***

**33%**

### PROJECT PLAN 2024

The green space will increase significantly with the development of the project, while variation in greenery will also increase.



**2%**

### STATUS 2022

The southern part of the plot is under construction, but green space and trees along the road and the southern edge of the plot are preserved.



**11%**

### BASELINE 2022

Before the start of the project, 11% of the plot was green space, primarily trees, hedges and lawns.



**03**

**Overall status**

# Overall status

This section outlines the overall development in biodiversity based on the data collected from all the evaluated projects.

The focus is to evaluate on our overall promise to be Nature Positive by 2030 as well as on the underlying principles that will help us to act in accordance with the nature positive goal at all stages of project implementation.



## NATURE POSITIVE

PensionDanmark supports the global biodiversity goal “Nature Positive by 2030”, and commits to ensuring that all our investments in urban areas and new construction make a positive contribution to biodiversity by 2030 at the latest.

We also reiterate our ambition that, as of 2022, we will work to counteract net biodiversity loss.



## INVESTMENT

We invest primarily in areas of low nature value so we can build in places that cause the least possible harm to existing ecosystems and habitats.



## LOCAL NATURE QUALITIES

In our project development, we always work to preserve and support local nature qualities.



## NATURE-BASED SOLUTIONS

We attach great importance to nature in our building and construction processes and we prioritise nature-based solutions.



## NATURE MANAGEMENT AND RESIDENT INVOLVEMENT

We manage on nature’s premises, and we involve residents in the work of tending to nature so that it becomes a source of community, learning and experience.

# Nature Positive



PensionDanmark supports the global biodiversity goal “Nature Positive by 2030”, and commits to ensuring that all our investments in urban areas and new construction make a positive contribution to biodiversity by 2030 at the latest.

To achieve this goal, we commit with immediate effect to working to counteract net biodiversity loss, partly by meeting DGNB minimum requirements regarding nature and biodiversity, and partly by gradually meeting EU taxonomy requirements regarding biodiversity and ecosystems.

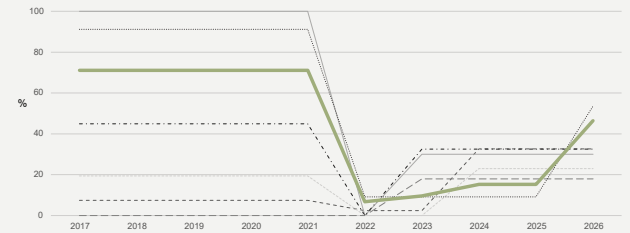
This goal has been set to halt the decline in global and national biodiversity. The primary reason for the acceleration of species extinction is human use and degradation of land and habitats. As a measure of biodiversity, we therefore use the quantity of green and blue space as well as the quality of biodiversity. If we ensure that overall progress is made on these parameters, we will have improved the conditions for biodiversity in our project areas, thus also contributing positively to biodiversity on a larger scale.

## Status

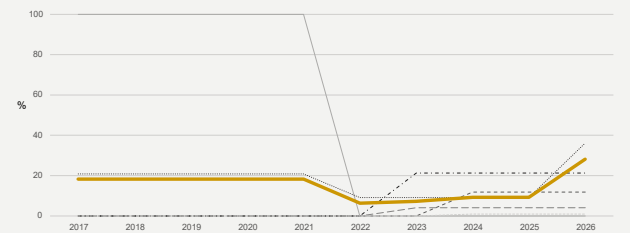
Evaluation of the overall impact of the projects on biodiversity is based on data from the project biodiversity baselines, the situation at the end of 2022 and the expected end result according to the current project plan.

The result shows that the overall quantity of space for biodiversity is reduced for the six projects evaluated. This is because two projects are being established in areas where there was originally a lot of green/blue space (Fælledby and Kronløbsøen). The total green space is increased for the other four projects. At the same time, the overall result shows a positive development in the quality of space for biodiversity, since the total area of habitat of high value for biodiversity increases.

Based on the small sample of projects evaluated in this first biodiversity report, we have not yet achieved the 2030 goal of being nature positive, while an expected loss of biodiversity has been recorded in 2022 due to construction work. This is partly because the biodiversity strategy has not yet been fully implemented in our activities. With the tools that have been developed for activities such as land purchase and project development, in future our projects are expected to contain a lower proportion of existing nature and an even higher proportion of habitats of high quality for biodiversity after construction. Differentiated clearing activities and the inclusion of nature-based solutions in the construction phase will also prevent biodiversity loss in the future.



**Figure 1. Total green and blue space** as a proportion of the total project area. The chart shows the total green and blue space for the six projects evaluated in 2022. The total area with space for biodiversity is reduced during and after construction compared with the overall baseline before 2022.



**Figure 2. Total area of habitats of high quality for biodiversity** (habitat qualities Ab and Ac) as a proportion of the total project area. The chart shows the total area of habitat quality A for the six projects evaluated in 2022. The proportion of habitat of high quality for biodiversity increases in 2023 compared with the overall baseline before 2022.



# Investment

We invest primarily in areas of low nature value and we build in places that cause the least possible harm to existing ecosystems and habitats.

This principle recognises that the first important step in securing and promoting biodiversity is to avoid degrading existing areas of high biodiversity value. Where possible, these areas must therefore be kept free from urban development.

## Status

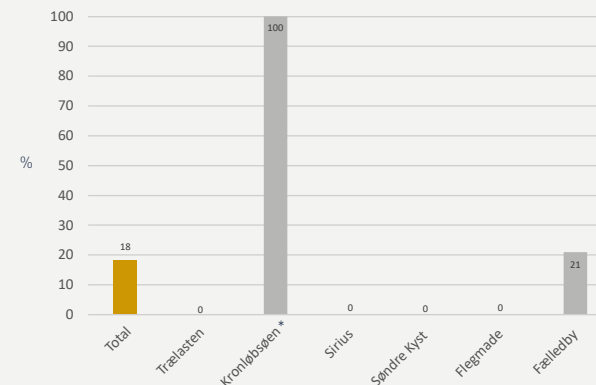
Evaluation of this principle is based on the area with existing high value for biodiversity when land is purchased (habitat quality Ab) as a proportion of the total project area (Figure 3).

The six plots in the present evaluation were acquired before the implementation of the biodiversity strategy, and were thus acquired without regard to the principle of avoiding building on sites with existing natural value.

**Areas of high value for biodiversity are defined in accordance with the EU Taxonomy criteria and include, in the Danish context:**

- Natura 2000 areas cf. EU's Habitat and Birds Directives
- Section 3 areas, cf. the Danish Protection of Nature Act
- Waterways
- Nature and wildlife reserves
- Woodland, forest reserves, HNV (High Natural Value) forests
- Protected areas
- Areas that contain known or potential habitats for threatened red-listed species
- Marine areas

Despite that, the result shows that four out of the six plots do not contain existing habitats of high value for biodiversity.



**Figure 3. Area with existing high value for biodiversity** (habitat quality Ab) at land purchase/baseline as a proportion of the total project area. \*: Marine space is categorised as high value for biodiversity regardless of condition (for example, knowledge of contamination), as no method has been developed for differentiating quality habitats at sea.



# Local nature qualities



In our project development, we always work to preserve and support local nature qualities.

Continuity is vital to ensure the presence of habitats for wild species. If a habitat disappears for a few years due to project development, the species will depend on habitats in neighbouring areas. If these are not available, populations may decline or species disappear from an area.

In order to improve biodiversity, it is crucial to strengthen local nature qualities. This is done by creating new green and blue spaces and by ensuring that the quality of the spaces is adapted to local biodiversity and contains local nature typologies and habitats for local species.

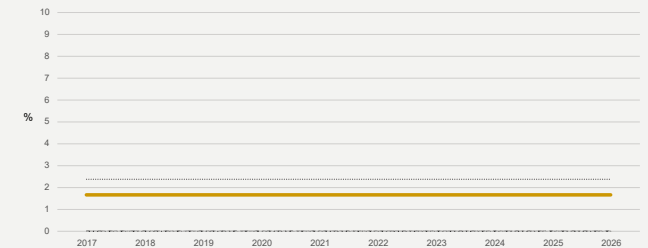
## Status

Evaluation of this principle is based on the area of protected nature (Figure 4) in the project areas, the area of habitats of high quality for biodiversity (Figure 2, page 19) and canopy cover (Figure 5).

Only one out of the six plots evaluated in 2022 contains existing protected nature (section 3 areas, Fælledby). In this project, all protected nature is preserved, meaning that the overall status of the area of protected nature is the same as before.

The area of habitats with high biodiversity value increases overall in the completed projects compared with the baseline, while canopy cover decreases across the evaluated projects.

The status of the projects evaluated in 2022 is concluded to comply with the principle of preserving and strengthening local nature qualities in project development.



**Figure 4. Area of protected nature** for all six plots evaluated in 2022. The area remains constant, meaning that protected nature is preserved in the development of the only project containing section 3 areas (Fælledby).



**Figure 5. Area of canopy cover** from trees is reduced in 2022 due to land clearing under construction and increases with establishment of new vegetation. Canopy size of trees develop slowly and will increase for many years.

# Nature-based solutions



We attach great importance to nature in our building and construction processes and we prioritise nature-based solutions.

The project development process for PensionDanmark's projects focuses on optimal use of spaces and thus on incorporating nature into multifunctional design solutions that support local ecosystems while also helping to support urban life, the local environment and the climate as a whole.

Each project is adapted to the site and local conditions, meaning that the best nature-based solutions differ from place to place. This subject is evolving quickly and new solutions are continuously being put into practice.

In the 2022 evaluation, information has been collected from the projects about planning for nature-based solutions in four overall categories: early nature improvements, terrain solutions, green solutions for buildings and marine solutions.

## Status

The use of nature-based solutions is evaluated qualitatively based on the collection of information from the individual projects.

The status of the six projects evaluated is that they all use nature-based solutions, since they contain areas that are planted and which therefore naturally contribute to the absorption of rainwater, temperature regulation and carbon sequestration.

Across four overall categories, all projects have worked actively with terrain solutions, while only Fælledby and Trælåsten use knowledge of local nature in the conservation and design of new nature. Four out of six projects have implemented green rainwater solutions, and three out of six projects feature green building solutions. Marine solutions are only relevant to one project (Kronløbsøen), which is located in a marine area, but this is not incorporated into the project design.

None of the six evaluated projects worked with early nature improvements prior to the construction phase.



# Nature management and resident involvement



We manage green areas on nature's premises, and we involve residents in the work of tending to nature so that it becomes a source of community, learning and experience.

Biodiversity develops over time. In fact, that development often only begins when a project is finished and handed over to users. It is therefore essential for subsequent management of the areas to support the dynamic development of biodiversity. The result of a well-planned project and appropriate management only becomes apparent when real development in biodiversity is recorded years after implementation, but a nature-based management approach is a prerequisite for success.

Biodiversity in common spaces in urban areas appeals to some people, while others need to get used to the green areas having a more natural aesthetic. Involving residents in the management of green spaces helps to communicate the natural characteristics of the areas, it creates shared experiences and can also contribute with knowledge about the development of biodiversity, which can be used actively to adapt management.

## Status

The principle of managing on nature's premises is evaluated on the basis of the preparation of a project-specific biodiversity strategy which outlines an approach to management that supports biodiversity at that specific site.

None of the six evaluated projects has yet prepared a section on management and tending to nature in the project-specific biodiversity strategies, meaning that no further evaluation of this point can be given in 2022.

In regard to the involvement of residents in tending to nature, ambitions have been formulated in four of the six evaluated projects (Fælledby, Trælåsten, Sirius and Søndre Kyst) for residents to play an active role in the management of urban nature. Going forward, we are also working on communicating with owner, tenant and district associations about the quality and value of common areas with high biodiversity.

A general guide to nature-based management in PensionDanmark's projects is being prepared and will be available for all projects in 2023. This work is expected to result in all projects being informed and inspired to work on management of green areas that provide good habitats for all life.



**04**

# **Methodology**



# Methodology

In 2022, PensionDanmark settled on a practice for evaluating the biodiversity status of urban areas and new construction, as described in more detail in the following sections.

## Indicators

There is no single clear measurement for biodiversity. Biodiversity covers all life and is therefore a complex quantity that depends on both physical and biological factors. However, it is clear from both national and international biodiversity analyses that lack of space and habitats is the primary cause of global decline in biodiversity.

Biodiversity encompasses the number of species, variation in habitats and genetic variation. The number of species is positively correlated with area and variety of habitats, and since it is difficult to record many species via a representative method, diversity of flora as well as the area and quality of habitats are often used as a good proxy for biodiversity.

In order to comply with both scientific recommendations for biodiversity measurement and Danish sustainability certification requirements (DGNB), we have chosen the following six biodiversity indicators. These indicators are divided between those that measure the quantity of biodiversity and those that measure the quality, and the method of data collection depends

on the project phase. Typically, the area of habitat is measured on maps and aerial photographs, while quality also includes field mapping of species and habitat quality.

In addition to the quantifiable indicators described in the table, the following indicators are also evaluated for each individual project:

- Nature-based solutions
- Involvement of residents in tending to nature

	INDICATORS	DEFINITION	DATA COLLECTION
QUANTITY	Total green/blue space	Surfaces with vegetation or a tract of water	Orthophoto, drone photo, project plan
	Canopy cover	Canopy area of trees (> 3 m)	Orthophoto, drone photo, project plan
	Biofactor	Measurement of green volume Method from DGNB	Field mapping, orthophoto, project plan
QUALITY	Habitat quality Ab/Ac	Areas with habitats of high quality for biodiversity. These areas contain natural diversity of locally adapted plant species, variation in physical habitat structures and habitats for diverse local fauna. Separate definition for baseline (Ab) and established habitat (Ac)	Field mapping, project plan
	Protected nature	Section 3 areas and watercourses, cf. the Danish Protection of Nature Act Natura 2000 areas, cf. the EU Habitats Directive and the EU Birds Directive Section 25 High natural value forestry, cf. the Danish Forest Act (Skovloven)	Public mapping
	Species diversity	No. of species per m <sup>2</sup> for selected groups of organisms (not assessed in 2022)	Field mapping, online databases, project plan

# Methodology

## Data collection

Data is collected in collaboration with external advisers who are associated with the individual projects. The basis for data collection is PensionDanmark's template for project-specific biodiversity strategy, which ensures that data for the same indicators is collected for all projects.

In each project, a baseline, i.e. the status before construction starts, is calculated for all indicators. The expected values for the completed project are then calculated on the basis of the project plan/drawing material. The project plan may contain several sub-areas developed in phases, and the assessment may therefore be divided into sub-areas to obtain a more precise view of the construction phase. At the turn of the year, the projects will be in different phases from preliminary planning to planning, construction and operation. This has implications for the biodiversity status, but also for the data that can be obtained. The annual report therefore includes individual evaluations of the projects as well as an overall evaluation of the portfolio.

The advisers' reporting of the baseline and project plan is supplemented in the annual report with statements of the current status, based on orthophotos that PensionDanmark has taken at the end of the year.

Data is collected from all projects over which PensionDanmark has ownership. Projects that PensionDanmark does not own are thus not included in the reporting. Projects that are in the preliminary planning phase but have not yet been acquired by PensionDanmark are not included in the reporting until formal ownership is in place.

Properties owned by PensionDanmark that are now in operation are not included in 2022, as no data is available on biodiversity from these areas. From 2023, however, properties and urban areas in operation will be included in the evaluation as the biodiversity strategy is fully implemented with a monitoring programme (measurements every 3 years) and follow-up evaluation for all projects.

The *Biodiversity Report 2022* thus only incorporates current projects within urban areas and new construction. At the turn of the year 2022–2023, PensionDanmark has ownership of six ongoing projects, and the evaluation of biodiversity for 2022 is therefore solely based on these six projects.

## Communication

Development in biodiversity for the evaluated projects is communicated individually and as an overall status for all projects.

The *Project status* section highlights key figures and background information, while indicating the particular conditions that apply to each project. Orthophotos and project plans are included as part of the description. The underlying reporting figures appear in the *Data* section at the back of the annual report.

The *Overall status* section outlines the development in biodiversity based on data from all indicators and from all the projects evaluated. The development is visualized in charts for each indicator, depicting the data for individual projects together with a curve illustrating the overall trend across all projects.

In connection with PensionDanmark's ESG reporting, a special note has been prepared on the accounting practices used for biodiversity, based on the above statement.

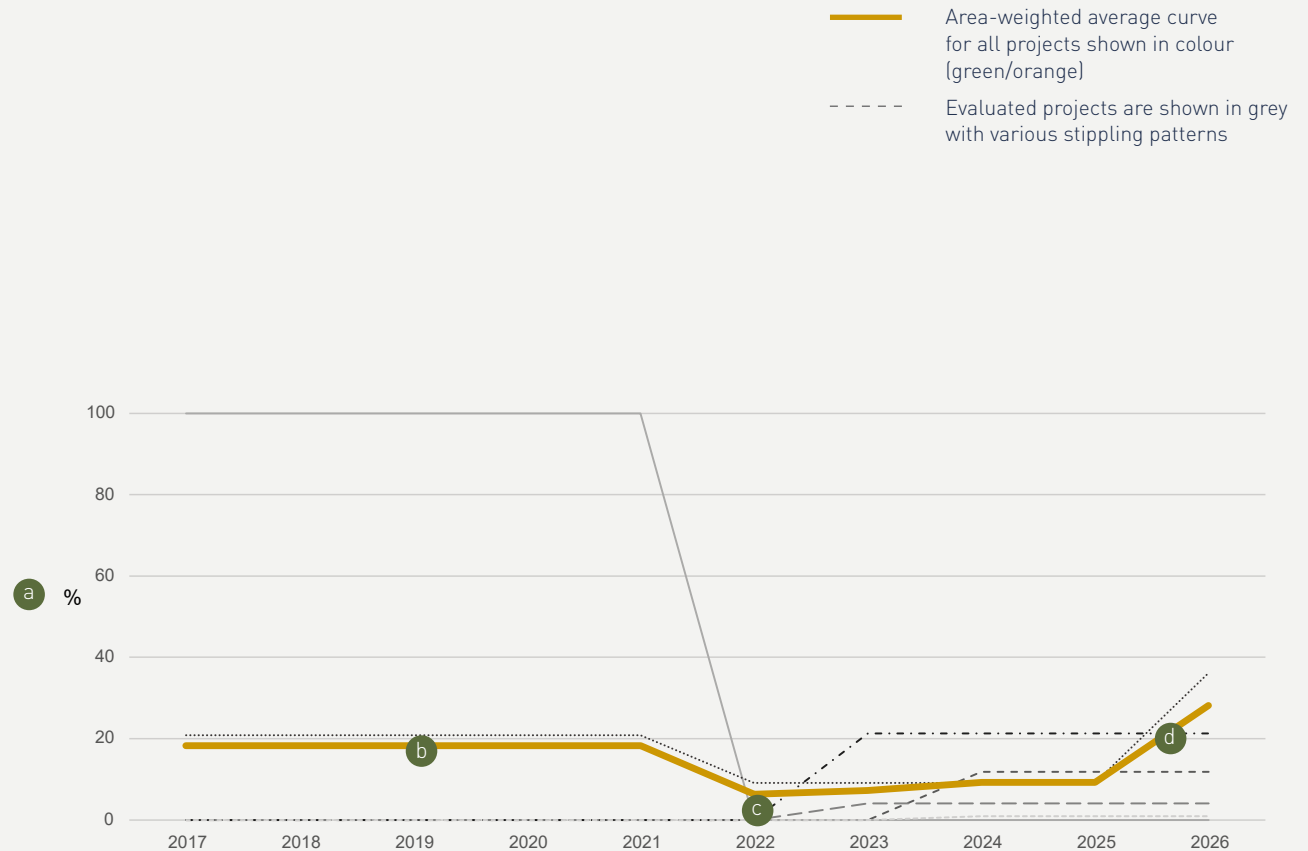
# Methodology

## Reading charts

The figure shows an example of a status curve for quality habitat Ab + Ac with a key.

Of the evaluated projects, the last one is expected to be fully established in 2026 (Fælledby). For all other projects the curve is extrapolated as constant once construction is expected to be completed until this date. Parameter value after construction is based on the project plan until post-construction evaluative monitoring of biodiversity has been performed.

- a. The Y axis shows the percentage (%) of the total project area for the given biodiversity indicator. Quality habitat Ab + Ac are shown here.
- b. Baseline record is constant until construction starts.
- c. Status as of 2022.
- d. The area increases gradually as the projects are built.



**05**

**Data**

# Data

This page shows the data collected from the six projects evaluated in 2022. Data includes quantification of six biodiversity indicators for the baseline, 2022 and project plan, with an indication of the year in which construction is expected to be complete.

For indicators that are measured in area, both square metres and % of the total area of the project area are indicated. Biofactor is expressed on a scale of 0-1.

Consolidated figures are area-weighted averages across the six projects for baseline and 2022 status.

		TRÆLASTEN			KRONLØBSØEN			SIRIUS			SØNDRE KYST			FLEGMÅDE			FÆLLEDBY			CONSOLIDATED	
		Baseline 2021	Status 2022	Project plan 2024	Baseline 2020	Status 2022	Project plan 2023	Baseline 2019	Status 2022	Project plan 2023	Baseline 2017	Status 2022	Project plan 2023	Baseline 2021	Status 2022	Project plan 2024	Baseline 2021	Status 2022	Project plan 2026	Baseline Total	Status 2022
Total area (m <sup>2</sup> )		41200			9500			7300			10100			9500			181000			258600	
QUANTITY	Total green/blue space (m <sup>2</sup> )	4548	976	13457	9500	0	2849	0	0	1308	4516	0	3263	1846	0	2190	165000	16400	97100	185410	17376
	% green/blue space	11	2	33	100	0	30	0	0	17	45	0	32	19	0	23	91	9	54	72	7
	Canopy cover (m <sup>2</sup> )	3224	819	4427	0	0	813	0	0	539	116	0	99	851	0	510	33240	6400	7900	37431	7219
	% canopy cover	8	2	11	0	0	9	0	0	7	1	0	1	9	0	5	18	4	4	14	3
	Biofactor	0.22	-	0.42	1	-	0.27	0.1	-	0.26	0.12	-	0.14	0.2	-	0.22	0.46	-	0.3	0.41	0
QUALITY	Protected nature (m <sup>2</sup> )	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4300	4300	4300	4300	4300
	& protected nature	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2
	Habitat quality Ab (m <sup>2</sup> )	0	0	0	9500	0	0	0	0	0	0	0	0	0	0	0	37700	16400	16400	47200	16400
	% habitat quality Ab	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	21	9	9	18	6
Habitat quality Ac (m <sup>2</sup> )		0	0	4862	0	0	0	0	0	292	0	0	2137	0	0	82	0	0	53600	0	16400
	% habitat quality Ac	0	0	12	0	0	0	0	0	4	0	0	21	0	0	1	0	0	30	0	0



# Data

This page shows an overview of nature-based solutions that have been incorporated into the six projects evaluated in 2022.

NATURE-BASED SOLUTIONS CHECKLIST	FÆLLEDBY	SIRIUS	FLEGMADÉ	KRONLØBSØEN	SØNDRE KYST	TRÆLASTEN
<b>Tending to nature</b>						
Preservation of existing green areas to ensure biodiversity and ecosystem services	x					
Identification of biodiversity potential on-site and in the surrounding landscape	x					x
Development of new nature prior to the construction phase						
<b>Terrain solutions</b>						
Rainwater absorption on terrain combined with natural planting	x	x			x	x
Forests and trees that sequester carbon and regulate temperature			x	x		x
Green areas and landscapes that sequester carbon and absorb rainwater	x				x	x
<b>Green solutions for buildings</b>						
Green roofs	x			x	x	
Green façades	x			x	x	x
Green balconies and other planting on built structures		x		x	x	
Fauna habitats on built structures, e.g. bird boxes	x					
<b>Marine solutions</b>						
Rock reef						
Living underwater wall						
Floating salt marsh						
<b>Communication of nature qualities to citizens and users</b>	x					

Biodiversity Report 2022  
Urban development areas and new construction

This report was prepared by SLA, Aaen Engineering and Snild for PensionDanmark.

© PensionDanmark 2023



**PensionDanmark A/S**

Langelinie Allé 43

DK-2100 Copenhagen Ø

+45 3374 8000

[info@pension.dk](mailto:info@pension.dk)

[pensiondanmark.com](http://pensiondanmark.com)

CVR no.: 16163279