



# FLOOD RESILIENCE

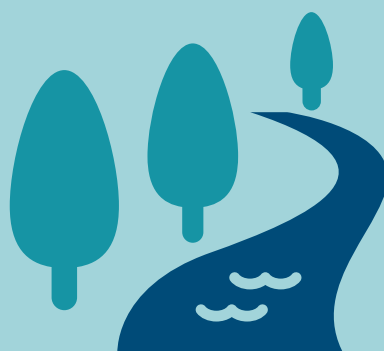






## WHERE WE'RE AT

**5** MAIN RIVERS:  
LIFFEY,  
DODDER,  
CAMAC,  
GRIFFEEN &  
PODDLE



## TARGET



A CLIMATE-RESILIENT  
REGION

REDUCTION/MITIGATION  
OF FLOOD RISKS  
IN SOUTH DUBLIN

## EXAMPLES OF MAIN ACTION TYPES

Building flood alleviation,  
defence or adaption schemes



Tree planting for  
water attenuation



Supporting the  
development of flood  
forecasting and warning  
system



Implementing sustainable  
urban drainage guidelines  
in Council buildings



Coordinating emergency  
response plans



Cross-boundary flood management  
with neighbouring local authorities



## STAKEHOLDERS TO WORK WITH AND INFLUENCE

OFFICE OF  
PUBLIC WORKS

GENERAL  
PUBLIC

ENVIRONMENTAL  
GROUPS



GOVERNMENT  
DEPARTMENTS

COMMUNITY  
GROUPS

DEVELOPERS

**South Dublin County Council is responsible for surface water management and aquifer protection in the County, with the Office of Public Works (OPW) having responsibility for flood risk management. The main objective of the EU Water Framework Directive (WFD) is to protect and restore water quality in both surface and groundwater. It includes a requirement to ‘contribute to mitigating the effects of floods’, which has been enacted through the Floods Directive. The implementation of the Floods Directive and the development of Flood Risk Management Plans (FRMPs) are closely linked to the implementation of the Water Framework Directive (WFD).**

- County Development Plan 2016-2022

Flooding is an ongoing challenge for the Dublin Region. Climate change is expected to increase the frequency and/or duration of heavy rainfall events, which would increase the risk of flooding in vulnerable areas of the County. Together with the Office of Public Works (OPW), SDCC is actively working to implement projects and programmes that align with the *EU Floods Directive* and *Water Framework Directive*. The Floods Directive calls for member states to undertake strategic flood risk assessments and to identify flood risk management measures.

Flood maps have been prepared for future climate scenarios, and the proposed community-scale measures are set out in the flood risk management plans ([www.floodinfo.ie](http://www.floodinfo.ie)). Additional local measures can include nature-based solutions such as integrated wetlands, green infrastructure and Sustainable urban Drainage Systems (SuDS) in adaptation and mitigation responses to achieve resilience.



Photo Source: Fáilte Ireland / DRTA

## FLOOD RISK MANAGEMENT

**It is the policy of the Council to continue to incorporate Flood Risk Management into the spatial planning of the County, to meet the requirements of the EU Floods Directive and the EU Water Framework Directive.**

- County Development Plan 2016-2022

In partnership with the OPW and neighbouring local authorities, SDCC is working to adapt areas that are vulnerable to flooding by using comprehensive flood risk mapping. SDCC is looking at measures that include nature and have multiple benefits beyond flood defence, such as providing new spaces for recreation and habitats for wildlife. Based on its flood maps, SDCC has identified areas such as those along the Dodder, Poddle and Camac Rivers, which will benefit from solutions involving green infrastructure, integrated wetlands and tree planting. The Council is working with a range of stakeholders including Irish Water in the management of pluvial flooding across the local authority area.



## CASE STUDY



Photo Source: SDCC

**Ballycullen Flood Alleviation Scheme**

The Ballycullen Flood Alleviation Scheme was implemented to reduce the risk of flooding of homes in the Ballycullen area. This was in response to the floods in October 2011, which caused significant damage to 50 homes in the vicinity of the Ballycullen Stream, which runs under Kilakee Road/Gunny Hill and surrounding housing estates before joining the Dodder River. In October 2017, a 1.5 kilometre pipe was inserted to alleviate pressure on the existing pipe. The new pipe is now able to withstand a 1-in-100-year flood event.

**FLOOD DEFENCE**


















While flood alleviation using nature-based solutions is SDCC's preferred response, there are certain areas of the County that are not suited to soft solutions, such as planting trees. Therefore, SDCC is building physical flood defences that take into consideration current and future risks. Additionally, SDCC is actively researching alternatives to physical flood defences, such as zoning policies to restrict further development in at-risk areas.



Photo Source: Fáilte Ireland / Paul Condron



# FLOOD RESILIENCE

| NO                                | ACTION  | TIMEFRAME | LEAD DEPT(S)  | INDICATORS   | TARGET(S) IMPACTED  |
|-----------------------------------|---|-----------|---|--|---|
| <b>ACTIONS CURRENTLY BUDGETED</b> |   |           |   |  |   |
| <b>FLOOD RISK MANAGEMENT</b>      |   |           |   |  |   |
| <b>F1</b>                         | Transpose national legislation and regulations on climate change adaptation and flood management into development guidelines  | Ongoing   | Environment, Water and Climate Change                               | Guidelines produced                                    |       |
| <b>F2</b>                         | Implement flood risk management guidelines  | Ongoing   | Environment, Water and Climate Change                               | # of projects following guidelines                     |    |
| <b>F3</b>                         | Cross-boundary flood management with neighbouring local authorities   | Ongoing   | Environment, Water and Climate Change                               | Quarterly meetings with neighbouring local authorities |    |
| <b>F4</b>                         | Flood event emergency response plans  | Ongoing   | Environment, Water and Climate Change                               | Plans completed and updated yearly                     |    |
| <b>F5</b>                         | Support the development of flood forecasting and warning system   | Ongoing   | Environment, Water and Climate Change                               | System developed                                       |    |
| <b>F6</b>                         | Implement and demonstrate SuDS guidelines in own buildings, SDZs and LAPs   | Ongoing   | Planning, Parks and Biodiversity                                    | Case studies completed and reports prepared            |   |
| <b>F7</b>                         | Undertake strategic flood risk assessment of all LAPs, SDZs and Development Plans   | Ongoing   | Multi-departmental  | Assessment completed                                   |    |
| <b>F8</b>                         | Tree planting for water attenuation   | Ongoing   | Public Realm  | # of trees planted                                     |   |
| <b>F9</b>                         | Develop demonstration sites to show how to combine SuDS/ flood attenuation systems with existing land uses  | Ongoing   | Multi-departmental  | # of demonstration sites developed                     |   |
| <b>F10</b>                        | Protect and conserve floodplains, wetlands, rivers and watercourses subject to flooding   | Ongoing   | Environment, Water and Climate Change                               | Map of vulnerable areas and species' habitats          |    |
| <b>F11</b>                        | Integrated constructed wetlands for water attenuation and purification  | Ongoing   | Environment, Water and Climate Change                               | # of wetlands created                                  |    |
| <b>F12</b>                        | Develop a climate change impact GIS risk map with scenarios for the Dublin Region   | 2020      | Climate Ireland, Environment and Transportation, Multi-departmental | GIS map developed                                      |    |
| <b>F13</b>                        | Develop template to capture impacts, response and costs (including ecosystem services/ natural capital costs) for all major climate events  | 2019      | Environment, Water and Climate Change                               | Template developed and issued                          |    |
| <b>F14</b>                        | Update DLA urban drainage and flooding policies for current knowledge of flood risk and the latest best practice in drainage design, promoting natural flood measures as a priority | 2019      | Environment, Water and Climate Change                               | Policies updated                                       |    |





| NO         | ACTION  | TIMEFRAME | LEAD DEPT(S)       | INDICATORS                | TARGET(S) IMPACTED |
|------------|---|-----------|--------------------|---------------------------|--------------------|
| <b>F15</b> | Establish a Working Group to deal with the issue of pluvial flood risk. This shall include: <ul style="list-style-type: none"> <li>How to manage “urban creep” and the increase in impermeable surfaces</li> <li>Promotion of SuDS early in design process</li> <li>Development of pluvial flood forecasting through use of point rainfall forecasting</li> </ul> | 2019      | Multi-departmental | Working group established |                    |

## FLOOD DEFENCE

|            |   |         |                                       |                         |  |
|------------|---|---------|---------------------------------------|-------------------------|--|
| <b>F16</b> | Risk workshops to assess impacts on Council services  | 2019    | All departments                       | Risks identified        |  |
| <b>F17</b> | Whitechurch Flood Alleviation Scheme  | Ongoing | Environment, Water and Climate Change | Project completed       |  |
| <b>F18</b> | Poddle Flood Alleviation Scheme   | Ongoing | Environment, Water and Climate Change | Project completed       |  |
| <b>F19</b> | River Camac Flood Alleviation Scheme  | Ongoing | Environment, Water and Climate Change | Project completed       |  |
| <b>F20</b> | Minor flood schemes and general maintenance that are designed and implemented to promote nature-based solutions where practical | Ongoing | Environment, Water and Climate Change | # of projects completed |  |

## ACTIONS AWAITING BUDGET

|            |  |      |   |                           |  |
|------------|--|------|---|---------------------------|--|
| <b>F21</b> | Communication and awareness campaigns on flood risk management and natural flood management measures | 2020 | Environment, Water and Climate Change, Communications | # of households reached   |  |
| <b>F22</b> | Promote and encourage community involvement in the retrofit of SuDS in existing developments         | 2020 | Multi-departmental                                    | # of communities involved |  |

## EXAMPLES OF RELEVANT LEGISLATION/POLICIES/GUIDANCE

- Arterial Drainage Acts
- Catchment-Based Flood Risk Management Plans (CFRMP)
- Eastern Catchment Flood Risk Assessment and Management (CFRAM) Study 2011-2016
- EU Birds Directive 2009/147/EC
- EU Environmental Liability Directive 2004/35/EC
- EU Floods Directive 2007/60/EC
- EU Habitats Directive 92/43/EEC
- Greater Dublin Strategic Drainage Study
- National Biodiversity Action Plan 2017-2021

- National Landscape Strategy for Ireland 2015-2025
- OPW website [www.floodinfo.ie](http://www.floodinfo.ie)
- OPW flood maps
- The Planning Systems and Flood Risk Management Guidelines for Planning Authorities, November 2009
- South Dublin County Council Development Plan 2016 -2022 (Policies IE1; IE2; IE3; G3; G5)
- The Ramsar Convention on Wetlands
- The 2nd Cycle River Basin Management Plan 2018 - 2021
- Water Framework Directive 2000/60/EC
- Water Services Strategic Plan (2015)