FLOOD RESILIENCE

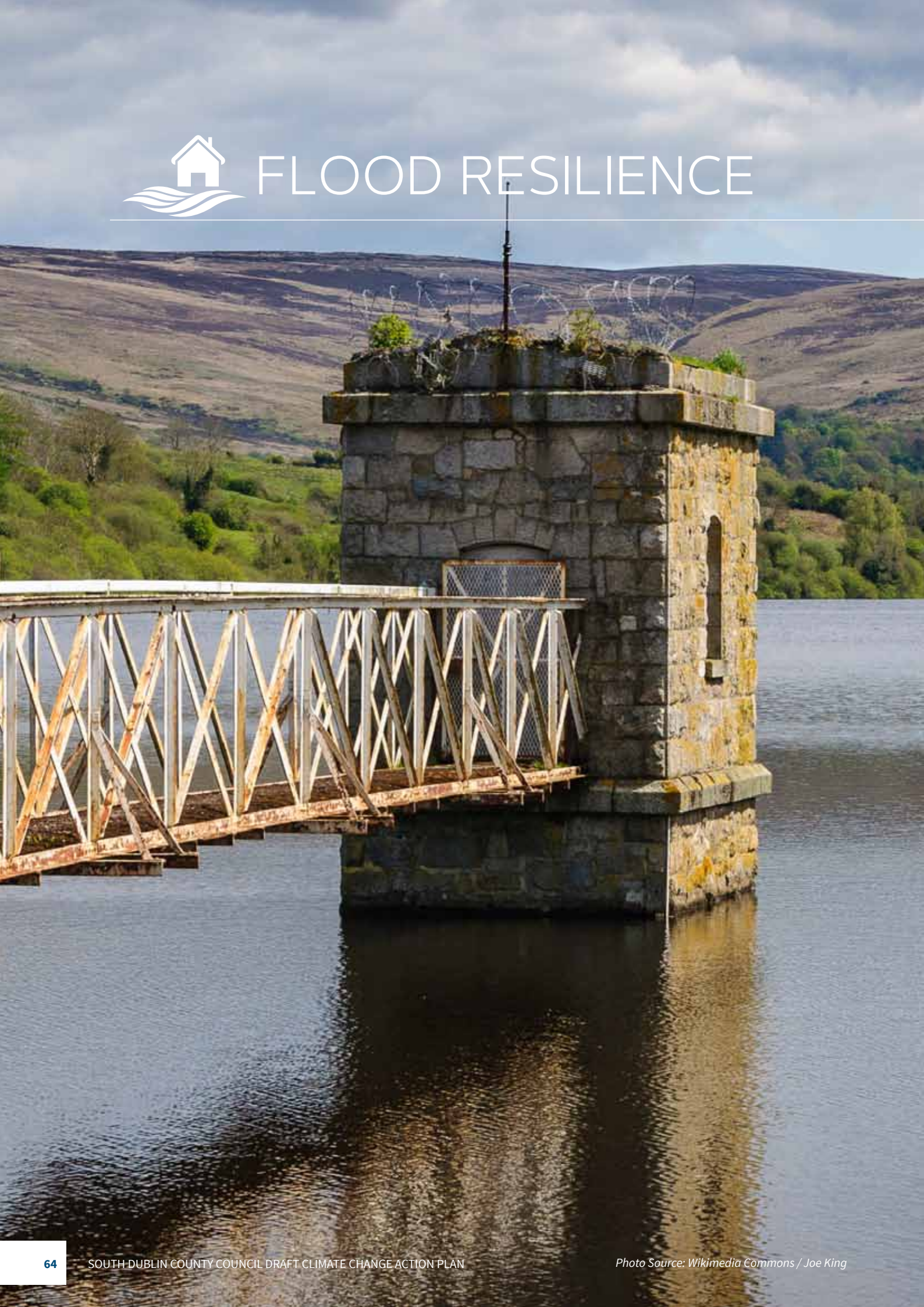
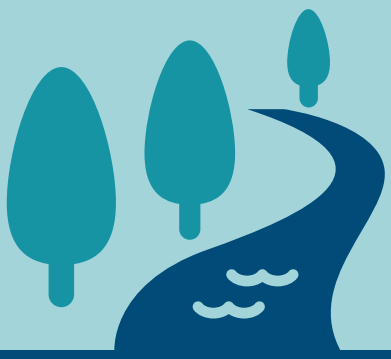


Photo Source: Wikimedia Commons / Joe King

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
- GOVERNMENT DEPARTMENTS
- GENERAL PUBLIC
- COMMUNITY GROUPS
- ENVIRONMENTAL 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 increases the frequency and duration of heavy rainfall events, which increases 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*, which call for member states to undertake strategic flood risk assessments and to employ Sustainable urban Drainage Systems (SuDS,) with an emphasis on nature-based solutions to be used 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.

CASE STUDY

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
ACTIONS CURRENTLY BUDGETED					
FLOOD RISK MANAGEMENT					
1	Transpose national legislation and regulations on climate change adaptation and flood management into development guidelines	Ongoing	Environment, Water and Climate Change	Guidelines produced	
2	Implement flood risk management guidelines	Ongoing	Environment, Water and Climate Change	# of projects following guidelines	
3	Cross-boundary flood management with neighbouring local authorities	Ongoing	Environment, Water and Climate Change	Quarterly meetings with neighbouring local authorities	
4	Flood event emergency response plans	Ongoing	Environment, Water and Climate Change	Plans completed and updated yearly	
5	Support the development of flood forecasting and warning system	Ongoing	Environment, Water and Climate Change	System developed	
6	Implement and demonstrate SuDS guidelines in own buildings, SDZs and LAPs	Ongoing	Planning, Parks and Biodiversity	Case studies completed and reports prepared	
7	Undertake strategic flood risk assessment of all LAPs, SDZs and Development Plans	Ongoing	Multi-departmental	Assessment completed	
8	Tree planting for water attenuation	Ongoing	Public Realm	# of trees planted	GHG
9	Develop demonstration sites to show how to combine SuDS/flood attenuation systems with existing land uses	Ongoing	Multi-departmental	# of demonstration sites developed	
10	Protect and conserve floodplains, wetlands, rivers and watercourses subject to flooding	Ongoing	Environment, Water and Climate Change	Map of vulnerable areas and species' habitats	
11	Integrated constructed wetlands for water attenuation and purification	Ongoing	Environment, Water and Climate Change	# of wetlands created	
12	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	
13	Develop template to capture impacts, response and costs for all major climate events	2019	Environment, Water and Climate Change	Template developed and issued	
14	Update DLA urban drainage and flooding policies for current knowledge of flood risk and the latest best practice in drainage design	2019	Environment, Water and Climate Change	Policies updated	

NO	ACTION	TIMEFRAME	LEAD DEPT(S)	INDICATORS	TARGET(S) IMPACTED
15	Establish a Working Group to deal with the issue of pluvial flood risk. This shall include: • How to manage "urban creep" and the increase in impermeable surfaces • Promotion of SuDS early in design process • Development of pluvial flood forecasting through use of point rainfall forecasting	2019	Multi-departmental	Working group established	
FLOOD DEFENCE					
16	Risk workshops to assess impacts on Council services	2019	All departments	Risks identified	
17	Whitechurch Flood Alleviation Scheme	To be decided	Environment, Water and Climate Change	Project completed	
18	Poddle Flood Alleviation Scheme	Ongoing	Environment, Water and Climate Change	Project completed	
19	River Camac Flood Alleviation Scheme	To be decided	Environment, Water and Climate Change	Project completed	
20	Minor flood schemes and general maintenance	Ongoing	Environment, Water and Climate Change	# of projects completed	
ACTIONS AWAITING BUDGET					
21	*Communication and awareness campaigns on flood risk management*	*2020*	*Environment, Water and Climate Change, Communications*	*# of households reached*	
22	*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
- Planning System and Flood Risk Management Guidelines
- 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)