

Shannon Flood Risk State Agency Co-ordination Working Group - Work Programme 2016

Question	Statutory and Administrative Roles/Responsibilities	From your Agency's 2016 Work Programme, describe the activities that relate to or impact flooding, flood risk or flood risk management of the Shannon Catchment			Where on the Shannon Catchment will this activity occur	When will this activity occur	External Factor(s) necessary to complete this Activity	Details of the Expected Output from this Activity. This will be the Output KPI for this activity.	Details of the Expected Outcome from this Activity.	
Guide to question	Please state <b>EACH</b> statutory and administrative role and/or responsibility that relates to, impacts on or benefits, flooding, flood risk or flood risk management in the Shannon catchment. Please state also at the end of these roles and responsibilities any future roles and responsibilities expected during 2016, making clear that they are future/expected (and not current) roles and responsibilities	For <b>EACH</b> Role/Responsibility - please describe <b>EACH</b> of the activities under the following three areas, that may relate to, impact on or benefit flooding, flood risk or flood risk management and their purpose.			Please provide a brief description of the location or extent of <b>EACH</b> activity, and also digital data (in GIS files) to identify precise locations and extents, with associated metadata for each location, extent or layer	Please describe when <b>EACH</b> activity will occur, including typical / approximate start and end dates (if not continuous) and / or duration, and the frequency of the activity	e.g. licences, permits, you need to allow the delivery of your work item	Please state <b>Output KPI</b> for <b>EACH</b> Activity and how this can be measured e.g. km of channel, number of structures, conditions or restrictions on licences/permits, maintaining water levels etc.	Please describe the <b>Outcome</b> or effect of <b>EACH</b> activity in terms of the impact on flooding and/or flood risk and also how this can be measured. Please be specific, and provide quantitative information where possible, including no of properties, levels of reduction etc.	
	Legal Role/Responsibility, State legislative basis	Administrative Role/Responsibility	Physical works such as channel cleaning/dredging; work to or operation of structures, weirs, bridges, removal of obstructions to flows vegetation etc.	Permits or licences to other bodies/organisations to permit and/or set conditions for their proposed activities	Assets that support your role/responsibility and which might impact flooding, flood risk or flood risk management.					
<b>Electricity Supply Board (ESB)</b>										
	Electricity (Supply) Act, 1927 S.19 (a)	Produce and generate electricity in the Shannon works	Operation of 4 off turbine generator sets at Ardnacrusha Generating Station for electricity production		Four Turbine Generator sets at Ardnacrusha Generating Station (85 MW)	Ardnacrusha Generating Station. See attached map and GIS data.	Ongoing	Generation Licence (CER).	Output is electricity generation. Up to 400 cubic metres per second flows in headrace at full load.	Diversion of water to Ardnacrusha Generating Station via headrace canal means that it is not flowing down the original Shannon course south of Parteen Weir. This provides flood benefit in this area.
<b>LOUGH ALLEN</b>										
	Electricity (Supply) Act, 1927 S.19 (b)	Control, manage, and maintain in good repair and condition and proper and efficient working order each and every part or section of the Shannon works.	Ongoing maintenance, consisting of lubrication of sluice gate mechanisms, regular movement of gates and clearing of debris from gate openings.	N/A	Bellantra Sluices Structure <b>Note: This is a Category C structure, where a breach would pose negligible risk to life and cause limited damage.</b>	Bellantra Sluice Structure, Lough Allen, Co.Leitrim. See attached map and GIS data.	Ongoing	N/A	Maintenance of 1 No. sluice structure to ensure dam safety and regulate water levels in Lough Allen in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon	Maintenance of dam safety, prevention of inundation due to dam failure and regulation of water levels in Lough Allen in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon
			Formal annual inspection, consisting of visual inspection of sluice structure, gates and operating mechanisms, test operation of gates and checking of gauges.	N/A	Bellantra Sluices Structure	Bellantra Sluice Structure, Lough Allen, Co.Leitrim. See attached map	Summer/Autumn 2016	N/A	Annual inspection carried out on 1 No. sluice structure	Maintenance of dam safety, prevention of inundation due to dam failure and regulation of water levels in Lough Allen in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon
			Ongoing maintenance - grass cutting and repairs	N/A	Lough Allen Embankment <b>Note: This is a Category C embankment, where a breach would pose negligible risk to life and cause limited damage.</b>	Southwest shore of Lough Allen. See attached map and GIS data.	Ongoing	N/A	Maintenance of approximately 1km of embankment to maintain dam safety and regulate water levels in Lough Allen in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon	Maintenance of embankment safety, prevention of inundation due to embankment breaches and regulation of water levels in Lough Allen in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon
			Fortnightly inspections of embankment	N/A	Lough Allen Embankment	Southwest shore of Lough Allen. See attached map and GIS data.	Ongoing	N/A	Maintaining safety of approximately 1km of embankment and regulating water levels in Lough Allen in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon	Maintenance of embankment safety, prevention of inundation due to embankment breaches and regulation of water levels in Lough Allen in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon
			Formal annual inspection comprising visual inspection of the entire length of embankment from the crest and upstream toe.	N/A	Lough Allen Embankment	Southwest shore of Lough Allen. See attached map and GIS data.	Summer/Autumn 2016	N/A	Annual inspection of approximately 1km of embankment carried out	Maintenance of embankment safety, prevention of inundation due to embankment breaches and regulation of water levels in Lough Allen in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon
			Regulation of discharge at outlet from Lough Allen	N/A	Water control equipment	Bellantra Sluice Structure, Lough Allen, Co.Leitrim. See attached map and GIS data.	Ongoing as lake levels vary	N/A	Water levels in Lough Allen regulated in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon	Regulation of water levels in Lough Allen in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon. Note that lake levels are varied for the purposes of ensuring minimum navigation levels in summer and to maintain minimum flow in the downstream channel. Maximum level is set by embankment safety consideration.
			Ongoing maintenance of water control equipment	N/A	Bellantra Sluices Structure and associated Water control equipment	Bellantra Sluice Structure, Lough Allen, Co.Leitrim. See attached map and GIS data.	Ongoing	N/A	2 No. sluice gates maintained to ensure dam safety and regulate water levels in Lough Allen in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon	Water control equipment is reliable to ensure regulation of water levels in Lough Allen in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon

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			Daily recording of Lough Allen water level and rainfall	N/A	Upstream and downstream level gauges and rain gauge	Bellantra Sluice Structure, Lough Allen, Co. Leitrim. See attached map and GIS data.	Ongoing	N/A	Daily recording of water levels and rainfall	Daily monitoring and recording of hydrometric data - essential input water management decisions, particularly during floods
			<b>LOUGH REE</b>							
	Electricity (Supply) Act, 1927 S.19 (b)	Control, manage, and maintain in good repair and condition and proper and efficient working order each and every part or section of the Shannon works.	Regulation of discharge at outlet from Lough Ree by Waterways Ireland under instruction from ESB. Note that ESB exercises no control on Lough Ree water levels during floods when all sluices gates on Athlone Weir are closed.	N/A	Athlone Weir (owned by Waterways Ireland)	Athlone Weir at southern end of Lough Derg. See attached map and GIS data.	Ongoing as lake levels vary	N/A	Water levels in Lough Ree in regulated in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon	Regulation of water levels in Lough Ree in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon. Note that lake levels are varied for the purposes of ensuring minimum navigation levels in summer .
			Daily recording of Lough Ree water level	N/A	"The Thatch" water level gauge on eastern side of Lough Ree	"The Thatch" water level gauge on eastern side of Lough Ree. See attached map and GIS data.	Ongoing	N/A	Daily recording of water levels	Daily monitoring and recording of water levels - essential input water management decisions, particularly during floods
			<b>LOUGH DERG</b>							
	Electricity (Supply) Act, 1927 S.19 (b)	Control, manage, and maintain in good repair and condition and proper and efficient working order each and every part or section of the Shannon works.	Embankment raising in order to maintain the original design crest level to compensate for settlement.	N/A	Meelick, Whitesford and Boula Embankments	Meelick, Whitesford and Boula Embankments on river upstream of Lough Derg. See attached map and GIS data.	Summer 2016	Possible requirement for National Parks and Wildlife Service licence for certain works in SACs	Integrity and design crest level of approximately 20km of embankments maintained	Embankment integrity maintained during floods and agricultural land protected for river levels up to the design crest level
			Embankment maintenance and repairs - grass cutting, drain cleaning and repairs to damage following Winter 2015/16 flood	N/A	Meelick, Whitesford and Boula Embankments	Meelick, Whitesford and Boula Embankments on river upstream of Lough Derg. See attached map and GIS data.	April - September 2016	Possible requirement for National Parks and Wildlife Service licence for certain works in SACs	Integrity and design crest level of approximately 20km of embankments maintained	Embankment integrity maintained during floods and agricultural land protected for river levels up to the design crest level
			Fortnightly inspections of embankment	N/A	Meelick, Whitesford and Boula Embankments	Meelick, Whitesford and Boula Embankments on river upstream of Lough Derg. See attached map and GIS data.	Ongoing	N/A	Integrity of approximately 20km of embankments maintained	Embankment integrity maintained during floods and agricultural land protected for river levels up to the design crest level
			Seepage detection and repair as required. There is a history of seepage developing in the material under the embankments. These seepages are repaired by grouting as required.	N/A	Meelick, Whitesford and Boula Embankments	Meelick, Whitesford and Boula Embankments on river upstream of Lough Derg. See attached map and GIS data.	Ongoing	Possible requirement for National Parks and Wildlife Service licence for certain works in SACs	Integrity of approximately 20km of embankments maintained	Embankment integrity maintained during floods and agricultural land protected for river levels up to the design crest level
			Maintenance of land drainage pumps and pumping stations and ongoing operation at three locations.	N/A	Land drainage pumps and pumping stations at Meelick, Whitesford and Boula	Meelick, Whitesford and Boula Embankments on river upstream of Lough Derg. See attached map and GIS data.	Ongoing	N/A	Reliable operation of 3 No. Pumping stations	Agricultural land protected for river levels up to the design crest levels of embankments
			Daily recording of Lough Derg water levels and rainfall	N/A	Portumna, Ballyvalley and Pier Head (Killaloe) Gauges	Portumna, Ballyvalley and Pier Head (Killaloe). See attached map and GIS data.	Ongoing	N/A	Daily recording of water levels and rainfall	Daily monitoring and recording of hydrometric data - essential input water management decisions, particularly during floods
			<b>ARDNACRUSHA / PARTEEN WEIR</b>							

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	Electricity (Supply) Act, 1927 S.19 (b)	Control, manage, and maintain in good repair and condition and proper and efficient working order each and every part or section of the Shannon works.	Ongoing maintenance - grass cutting, drain cleaning and repairs	N/A	Fort Henry (3.1km), Ardcllooney (1.2km), Ardnacrusha Headrace Left (11.6km) and Ardnacrusha Headrace Right (11.6km) Embankments (Category A). <b>Notes: (a) Category A dams and embankments are those where a breach could endanger lives in a downstream community. (b) A breach or significant damage to either Headrace Embankment would require the Headrace to be closed. The result of this would be that during a flood no water could be diverted into the Headrace and the entire flood flow would have to pass down the Shannon River channel, increasing the flood risk to areas downstream of Parteen Weir.</b>	Fort Henry and Ardcllooney embankments upstream of Parteen Weir. Ardnacrusha embankments on headrace canal. See attached map and GIS data.	Ongoing	N/A	Approximately 27.5km of embankments maintained to ensure dam safety and regulate water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon	Maintenance of embankment safety, prevention of inundation due to embankment breaches, regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Daily inspections and seepage measurements for Category A embankments	N/A	Fort Henry (3.1km), Ardcllooney (1.2km), Ardnacrusha Headrace Left (11.6km) and Ardnacrusha Headrace Right (11.6km) Embankments (Category A)	Fort Henry and Ardcllooney embankments upstream of Parteen Weir. Ardnacrusha embankments on headrace canal. See attached map and GIS data.	Ongoing	N/A	Daily inspections of approximately 27.5km of embankments and seepage measurements carried out and daily seepage measurements entered into Dam Monitor database	Maintenance of embankment safety, prevention of inundation due to embankment breaches, regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Monthly piezometer measurements for Category A embankments. These measurements are taken to monitor the phreatic surface in the embankments, which influences the stability of the embankments. Alert levels are set to warn of potential stability issues.	N/A	Fort Henry (3.1km), Ardcllooney (1.2km), Ardnacrusha Headrace Left (11.6km) and Ardnacrusha Headrace Right (11.6km) Embankments (Category A)	Fort Henry and Ardcllooney embankments upstream of Parteen Weir. Ardnacrusha embankments on headrace canal. See attached map and GIS data.	Ongoing	N/A	Monthly piezometer measurements carried out and entered into Dam Monitor database	Maintenance of embankment safety, prevention of inundation due to embankment breaches, regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Formal annual inspection	N/A	Fort Henry (3.1km), Ardcllooney (1.2km), Ardnacrusha Headrace Left (11.6km) and Ardnacrusha Headrace Right (11.6km) Embankments (Category A)	Fort Henry and Ardcllooney embankments upstream of Parteen Weir. Ardnacrusha embankments on headrace canal. See attached map and GIS data.	Summer/Autumn 2016	N/A	Annual inspections of 4 No. embankments carried out, i.e. Fort Henry, Ardcllooney and Headrace Left and Right Embankments	Maintenance of embankment safety, prevention of inundation due to embankment breaches, regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Annual cleaning of Kilmastulla River (adjacent to Fort Henry Embankment) and Black River (adjacent to Ardcllooney Embankment)	N/A	Fort Henry (3.1km), Ardcllooney (1.2km) Embankments (Category A)	Fort Henry and Ardcllooney embankments upstream of Parteen Weir. See attached map and GIS data.	Summer 2016	N/A	3km of river channels cleaned adjacent to embankments	Maintains river channel conveyance
			Leak detection and repair as required	N/A	Fort Henry (3.1km), Ardcllooney (1.2km), Ardnacrusha Headrace Left (11.6km) and Ardnacrusha Headrace Right (11.6km) Embankments (Category A)	Fort Henry and Ardcllooney embankments upstream of Parteen Weir. Ardnacrusha embankments on headrace canal. See attached map and GIS data.	Ongoing	N/A	Embankment safety maintained	Maintenance of embankment safety, prevention of inundation due to embankment breaches, regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Continuous monitoring of water levels and rates of drawdown to ensure embankment stability. Levels either above maximum allowed or below minimum allowed can have adverse effects on embankment stability.	N/A	Fort Henry (3.1km), Ardcllooney (1.2km), Ardnacrusha Headrace Left (11.6km) and Ardnacrusha Headrace Right (11.6km) Embankments (Category A)	Fort Henry and Ardcllooney embankments upstream of Parteen Weir. Ardnacrusha embankments on headrace canal. See attached map and GIS data.	Ongoing	N/A	Embankment safety maintained	Maintenance of embankment safety, prevention of inundation due to embankment breaches, regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace

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			Ongoing maintenance - grass cutting and drain cleaning	N/A	Kilmastulla Embankment	Kilmastulla embankment. See attached map and GIS data.	Ongoing	N/A	Approximately 2.5km of embankment maintained	Embankment maintains its integrity during floods and protects agricultural land for river levels up to the design crest level
			Daily inspections of embankment	N/A	Kilmastulla Embankment	Kilmastulla embankment. See attached map and GIS data.	Ongoing	N/A	Daily inspections of approximately 2.5km of embankment carried out	Embankments maintain their integrity during floods and protect agricultural land for river levels up to the design crest level
			Maintenance of land drainage pumps and pumping stations and ongoing operation at three locations.	N/A	Kilmastulla land drainage pumps and pumping stations (3No.)	See attached map and GIS data.	Ongoing	N/A	Reliable operation of 3 No. Pumping stations	Protection of agricultural land for river levels up to the design crest level of embankment
			Inspection, cleaning and maintenance of 3 No. siphons under Ardnacrusha Headrace (Newtown, Errinagh and O'Brien's Bridge)	N/A	Ardnacrusa Headrace Left and Right Embankments (Category A)	Ardnacrusa headrace. See attached map and GIS data.	Summer 2016	N/A	3 No. siphons inspected, cleaned and maintained	Ensures integrity of siphons and channel conveyancy, facilitates natural stream drainage, reduces risk of localised flooding and protects Headrace Embankments
			Monitoring of levels and alarms, upstream of culverts and siphons, on seven rivers and streams draining under Ardnacrusha Headrace	N/A	Ardnacrusa Headrace Left and Right Embankments (Category A)	Ardnacrusa headrace. See attached map and GIS data.	Ongoing	N/A	Continuous monitoring of levels and alarms	Facilitates natural stream drainage, reduces risk of localised flooding and protects Headrace Embankments
			Upgrading of level devices and alarms upstream of culverts and siphons, on seven rivers and streams draining under Ardnacrusha Headrace	N/A	Ardnacrusa Headrace Left and Right Embankments (Category A)	Ardnacrusa headrace. See attached map and GIS data.	Spring/Summer 2016	N/A	Level and alarm devices upgraded at the inlets of 7 No. culverts and siphons	Facilitates natural stream drainage, reduces risk of localised flooding and protects Headrace Embankments
			Cleaning of screens at inlets to culverts and siphons, on rivers and streams draining under Ardnacrusha Headrace during floods	N/A	Ardnacrusa Headrace Left and Right Embankments (Category A)	Ardnacrusa headrace. See attached map and GIS data.	Ongoing - as required	N/A	Screens kept clean, particularly during floods	Facilitates natural stream drainage, reduces risk of localised flooding and protects Headrace Embankments
			Annual inspection of Headrace Bridges	N/A	Ardnacrusa Headrace Left and Right Embankments (Category A)	Ardnacrusa headrace. See attached map and GIS data.	Ongoing	N/A	Annual inspections of O'Briens Bridge, Clonlara Bridge and Blackwater Bridge are carried out	Bridges are public road bridges and also facilitate works access to ESB dams and embankments
			Annual cleaning of Kilmastulla River adjacent to Fort Henry Embankment (2.5km) and Black River and open drain (1km) adjacent to Ardcloney Embankment.	N/A	Fort Henry and Ardcloney Embankments (Category A)	Fort Henry and Ardcloney embankments upstream of Parteen Weir. See attached map and GIS data.	Summer 2016	N/A	Approximately 3.5km of channels cleaned	Facilitates channel conveyance, reduces risk of localised flooding and protects Headrace Embankments
			Daily inspections of dams and checking of water level (upstream and downstream of dams) and rainfall gauges and instruments	N/A	Parteen Weir (Category A) and Ardnacrusha Dam (Category A)	Parteen Weir and Ardnacrusha Dam. See attached map and GIS data.	Ongoing	N/A	Daily inspections of 2 No. dams and associated gauges are carried out	Maintenance of dam safety, prevention of inundation due to dam failure, regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Monitoring of uplift, movements and seepages	N/A	Parteen Weir (Category A) and Ardnacrusha Dam (Category A)	Parteen Weir and Ardnacrusha Dam. See attached map and GIS data.	Ongoing	N/A	Measurements are taken at required frequencies and entered into Dam Monitor database	Maintenance of dam safety, prevention of inundation due to dam failure, regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Maintenance of water control gates and equipment	N/A	Parteen Weir (Category A) and Ardnacrusha Dam (Category A)	Parteen Weir and Ardnacrusha Dam. See attached map and GIS data.	April - September 2016	N/A	Scheduled maintenance is carried out on 7 No. spillway gates, 7 No. intake gates and 4 No. navigation gates	Water control equipment is reliable to ensure regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Formal annual dam inspection	N/A	Parteen Weir (Category A) and Ardnacrusha Dam (Category A)	Parteen Weir and Ardnacrusha Dam. See attached map and GIS data.	Summer/Autumn 2016	N/A	Annual inspections are carried out on 2 No. dams	Maintenance of dam safety, prevention of inundation due to dam failure, regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace

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			Monthly tests of headrace intake gates and spillway gate operations	N/A	Parteen Weir (Category A)	Parteen Weir. See attached map and GIS data.	Ongoing	N/A	Monthly tests are carried out on 6 No. spillway gates and 3 No. intake gates	Water control equipment is reliable to ensure regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Regulation of discharge at outlet from Lough Derg	N/A	Parteen Weir (Category A)	Parteen Weir. See attached map and GIS data.	Ongoing as lake levels vary	N/A	Water levels in Lough Derg regulated in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon	Regulation of water levels in Lough Derg in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon
			Annual headrace intake gates and spillway gates tests and operator training by Supervising Engineer	N/A	Parteen Weir (Category A)	Parteen Weir. See attached map and GIS data.	December 2016	N/A	Annual tests and training are carried out by the Supervising Engineer	Water control equipment is reliable to ensure regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Six monthly test operation of Ardnacrusha spillway gate	N/A	Ardnacrusha Dam (Category A)	Ardnacrusha Dam. See attached map and GIS data.	Ongoing	N/A	Six monthly tests are carried out on the spillway gate	Water control equipment is reliable to ensure regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Concrete repairs	N/A	Ardnacrusha Dam (Category A)	Ardnacrusha Dam. See attached map and GIS data.	Summer 2016	N/A	Concrete repairs completed	Provides for long-term availability of water control and generating equipment to ensure regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Annual overhauls of four turbine generator units	N/A	Ardnacrusha Generating Station <b>Note: Unavailability of the turbine/generator units during a flood would result in no water being diverted into the Headrace and the entire flood flow would have to pass down the Shannon River channel, increasing the flood risk to areas downstream of Parteen Weir.</b>	Ardnacrusha Generating Station. See attached map and GIS data.	Summer 2016	N/A	Annual overhauls are carried out on 4 No. turbine generator units	Generation equipment is reliable to assist regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including ensuring that water can be diverted from the River Shannon through Ardnacrusha Headrace
			Repair and reslating of Ardnacrusha Generating Station Roof (Phase 1)	N/A	Ardnacrusha Generating Station	Ardnacrusha Generating Station. See attached map and GIS data.	June-October 2016	Section 57 Declaration required to permit execution of this project	Phase 1 of Ardnacrusha Roof Project completed	Ensures availability of water control and generating equipment to ensure regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Inspection of Tailrace channel	N/A	Tailrace Channel (2.2km)	Ardnacrusha tailrace. See attached map and GIS data.	Summer 2016	N/A	Inspection of tailrace channel carried out	Ensures that any issues relating to the Tailrace are identified at an early stage and remedial measures implemented if necessary in order to assist regulation of water levels in Lough Derg and Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Annual inspection of Tailrace Bridge	N/A	Tailrace Channel (2.2km)	Ardnacrusha tailrace. See attached map and GIS data.	Summer 2016	N/A	Annual inspections of Parteen Bridge is carried out	Bridge is a public road bridge and also facilitates works access to ESB infrastructure
			<b>GENERAL</b>							
	Electricity (Supply) Act, 1927 S.19 (b)	Control, manage, and maintain in good repair and condition and proper and efficient working order each and every part or section of the Shannon works.	Implementation of the requirements of the Regulations and Guidelines for the Control of the River Shannon, at all times, but particularly during flood periods	N/A	Ardnacrusha Generating Station	N/A	Ongoing	N/A	Water management is carried out in accordance with the Regulations and Guidelines for the Control of the River Shannon	Maintenance of dam and embankment safety, prevention of inundation due to dam failure or embankment breaches, regulation of water levels in Loughs Allen, Ree and Derg, as well as in Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace

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			Daily management of water levels in Loughs Allen, Ree and Derg	N/A	Ardnacrusha Generating Station	N/A	Ongoing	N/A	Daily generation targets prepared, sluice gates adjusted as required at Bellantra Sluices, instructions given to Waterways Ireland regarding required changes to sluice gates at Athlone Weir and spillway gates adjusted as required at Parteen Weir	Ensures regulation of water levels in Loughs Allen, Ree and Derg, as well as in Parteen Basin in accordance with ESB's Regulations and Guidelines for the Control of the River Shannon, including diversion of water from the River Shannon through Ardnacrusha Headrace
			Twice weekly forecasts of water levels in Loughs Allen, Ree and Derg	N/A	Ardnacrusha Generating Station	N/A	Ongoing	N/A	Lake level forecasts prepared and issued to stakeholders on Mondays and Thursdays	Lake level forecasts assist stakeholders in preparing for potential adverse conditions during floods or low levels
			<b>FISHERIES</b>							
S 8. Shannon Fisheries Act, 1935	In addition, but subject and without prejudice to, the primary function of maintaining, working, and developing the Shannon hydro electric works ESB has a duty of managing, conducting, and preserving the Shannon fisheries		Selective bankside clearance and instream works			<b>Nenagh River</b> (area downstream of Ballyclogh Weir)	Selective bankside clearance will be outside of the bird nesting season (1st March to the 31st September) and instream works will be for the duration of Mid-June to the end of September.	A 'screening report' has been completed. Inland Fisheries Ireland (IFI) have been notified as have the local landowners. The work is being carried out according to an IFI Habitat Development Plan.		Improved instream conditions for migrating fish and bank side access for anglers.
			Selective bankside clearance and instream works			<b>Big Brosna River</b> (the area upstream of Roscrea town) - near the IFI operated Fish Farm.	Selective bankside clearance will be outside of the bird nesting season (1st March to the 31st September). There will be no instream works.	A 'screening report' has been completed. Inland Fisheries Ireland (IFI) have been notified as have local landowners. The work is being carried out according to an IFI Habitat Development Plan.		Improved instream conditions for migrating fish and bank side access for anglers.
			Selective bankside clearance and instream works			<b>Mountshannon River</b> (the area upstream of the local public park).	Selective bankside clearance will be outside of the bird nesting season (1st March to the 31st September) and instream works will be for the duration of Mid-June to the end of September.	A 'screening report' has been completed. Inland Fisheries Ireland (IFI) have been notified as have the local angling club and local landowners. The work is being carried out according to an IFI Habitat Development Plan.		Improved instream conditions for migrating fish and bank side access for anglers.
						<b>Cappagh / Duniry Rivers</b> (The Tomany River)	Selective bankside clearance will be outside of the bird nesting season (1st March to the 31st September) and instream works will be for the duration of Mid-June to the end of September.	A 'screening report' has been completed. Inland Fisheries Ireland (IFI) have been notified as have the local angling club and local landowners. The work is being carried out according to an IFI Habitat Development Plan.		Improved instream conditions for migrating fish and bank side access for anglers.

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			Selective bankside clearance and instream works			<b>The Ballyfinboy River.</b> The area immediately below the local Public Park/Co Co. sewage treatment plant (downstream of Borrisokane town).	Selective bankside clearance will be outside of the bird nesting season (1st March to the 31st September) and instream works will be for the duration of Mid-June to the end of September.	A 'screening report' has been completed. Inland Fisheries Ireland (IFI) have been notified as have the local angling club (The Ormond Angling Club), and local landowners. The work is being carried out according to an IFI Habitat Development Plan.		Improved instream conditions for migrating fish and bank side access for anglers.
			Selective bankside clearance and instream works			<b>The Little Brosna River.</b> The area below Birr town (Croughan Bridge to Derrinsallagh).	Selective bankside clearance will be outside of the bird nesting season (1st March to the 31st September) and instream works will be for the duration of Mid-June to the end of September.	A 'screening report' has been completed. Inland Fisheries Ireland (IFI) have been notified as have the local angling club (The Birr and District Angling Club), and local landowners.		Improved instream conditions for migrating fish and bank side access for anglers.
			Selective bankside clearance and instream works			<b>The Lecarrow River.</b> The area above Lecarrow village	Selective bankside clearance will be outside of the bird nesting season (1st March to the 31st September) and instream works will be for the duration of Mid-June to the end of September.	A 'screening report' has been completed. Inland Fisheries Ireland (IFI) have been notified as have the local angling club (The Lough Ree Angling Association), and local landowners.		Improved instream conditions for migrating fish and bank side access for anglers.
			Selective bankside clearance and instream works			<b>The Cornmissogue River.</b>	Selective bankside clearance will be outside of the bird nesting season (1st March to the 31st September) and instream works will be for the duration of Mid-June to the end of September.			Improved instream conditions for migrating fish and bank side access for anglers.
			Selective bankside clearance and instream works			<b>Scarriff River</b> (area adjacent to Scarriff GAA club):	Selective bankside clearance will be outside of the bird nesting season (1st March to the 31st September). There will be no instream works.	A 'screening report' has been completed. Inland Fisheries Ireland (IFI) have been notified as have local landowners. The work is being carried out according to an IFI Habitat Development Plan.		Improved instream conditions for migrating fish and bank side access for anglers.

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			Selective bankside clearance and instream works			Castleconnell:	Selective bankside clearance and removal of trees which have fallen into the river during recent storms will be outside of the bird nesting season (1st March to the 30st September) and instream works will be for the duration of Mid-May to the end of September. The instream works will take place on Beat 3 (adjacent to the footbridge and the Castle Oaks Hotel). It is proposed to construct a wall at low water height for a distance of approximately 250 metres, parallel to the river bank and provide a series of pool/riffle/glide formations, to aid salmon spawning and juvenile fish survival.	An 'Appropriate Assessment Report' has been completed. Inland Fisheries Ireland (IFI) have been notified as have the local Angling Club/Development Association (The Castleconnell Angling Association), and local landowners. The work is being carried out according to a Habitat Development Plan. The National park and wildlife service (NPWS) have also been informed of this work		Improved instream conditions for migrating fish and bank side access for anglers.
<b>Bord na Móna (BNM)</b>										
	None	None	Inspection of 3 Rail Crossing bridges to assess their condition after the December 2015/January 2016 flooding events	In channel inspection procedure and programme to be submitted and agreed with Waterways Ireland	Internal Engineering resources. Specialist Engineering Test Consultants.	Locations of the 3 bridge sites will be supplied on a GIS file.	Plan to complete inspections during Q2 2016, dependant on flood levels and availability of specialist consultants to complete in channel works.	In channel inspection procedure to be submitted and agreed with Waterways Ireland	Number of structures inspected	Outcome will be an inspection report for each bridge which will identify any remedial actions / repairs which are deemed to be required.
	None	None	Implementation of any remedial actions / repairs on Rail Crossing bridges which have been identified by inspections.	Any in channel remedial works will be submitted and agreed with Waterways Ireland	Internal Engineering resources. Consulting Engineers. Civil works contractors.	Locations of the 3 bridge sites will be supplied on a GIS file.	Any remedial actions / repairs or further investigations deemed necessary will be completed in accordance with requirements and timeframes of inspection reports.	Any in channel remedial works required will be submitted and agreed with Waterways Ireland	Percentage of remedial actions / repairs completed.	Remedial actions completed. Repair works completed.
	None	None	Inspection of peatland flood protection embankments to assess their condition after the December 2015/January 2016 flooding events.	None required	Internal engineering and land survey resources.	The locations of the flood embankments will be supplied on a GIS file.	Inspections are scheduled to be carried out in Q2 2016 dependant on flood levels and ground conditions.	None	Kilometer of embankment inspected.	Outcome will be an inspection report which will identify any investigations, remedial actions or repairs which are deemed to be required.
	None	None	Implementation of any investigations, remedial actions or repairs on flood protection embankments which are deemed to be required.	None required	Internal engineering and land survey resources. BnM machines and operators. Civil works contractors.	The locations of the flood embankments will be supplied on a GIS file.	A prioritised action plan will be developed following the completion of the inspections. Works will typically be completed between June to October (dependant on weather and ground conditions). Works will commence in 2016 and may extend beyond 2016.	None	Percentage of investigations, remedial actions and repairs completed.	Investigations completed. Remedial actions completed. Repair works completed.

**Environmental Protection Agency (EPA)**



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	Preparation and implementation of a national hydrometric monitoring programme (section 64 of EPA Act 1992)	Implemented through the national hydrometric monitoring group, jointly chaired by the EPA and the OPW.	Minor physical works required for upkeep and maintenance of monitoring locations (which are owned and operated by local authorities)	n/a	The main assets are the monitoring stations themselves and the associated telemetry equipment and IT services for analysis and dissemination of information. The EPA plan to have all of these stations connected through telemetry by the end of Q2 2016.	Please refer to Hydronet at <a href="http://www.hydronet.epa.ie">www.hydronet.epa.ie</a> which includes a full register of all hydrometric stations in the Shannon RBD and GIS interactive maps for the stations	Monitoring is on-going at all sites either for flow, level or both.	The stations are owned by local authorities so all planning, access, upkeep and maintenance issues are managed by the relevant local authority. With the establishment of Irish Water, there is some ambiguity as to how these sites will be owned and managed in the future.	Up to date information on water flows and levels and their accessibility through <a href="http://Hydronet.epa.ie">Hydronet.epa.ie</a> .	Up to date information on water flows and levels and their accessibility through <a href="http://Hydronet.epa.ie">Hydronet.epa.ie</a> .
	Technical coordination of Water Framework Directive planning and implementation (European Union (Water Policy) Regulations 2014)	Implemented through the three tier governance arrangements introduced by the 2014 Water Policy Regulations with the EPA leading tier 2 (technical coordination). DECLG is leading Tier 1 (national coordination and oversight) and local government is leading Tier 3 (local implementation and public engagement). The OPW is involved at all levels of WFD implementation and there is strong coordination between the EPA and OPW to provide for a streamlined and joined-up approaches to the implementation of the WFD and the Floods Directive.	A programme of measures for the WFD for the period 2018-2021 is currently in preparation and some of these measures may require physical works to be either undertaken, restricted or controlled. In compiling a programme of measures a key consideration will be the synergies and interplay between flood management, water quality management and habitat management. The WFD also has provision for extensions, less stringent objectives and exemptions, which may apply in certain situations where flood prevention or control measures are required in the broader public interest which have a negative impact on the achievement of WFD objectives.	Many bodies and agencies will be involved in the implementation of agreed measures under the WFD. This will become clearer as the programme of measures is developed and finalised. The programme of measures currently under development will be for the period 2018-2021 and will be available for consultation in the first half of 2017.	The main assets are IT and GIS systems under development to support the implementation of the WFD and the sharing and dissemination of relevant information through the EPA's Environmental Data Exchange Network (EDEN) shared service and through the web. These will include detailed information on the sub-catchments within the Shannon region which will help inform decision making about flood management as well as water quality management.	The WFD application (still under development by the EPA) is available to public bodies through the EDEN shared service. A public facing WFD web-site is currently under development by the EPA for release at the end of Q2 2016 which will make much of this information openly available to the public.		n/a	1. Characterisation information for each sub-catchment in the Shannon river basin (to be completed by the end of 2016); 2. Draft National River Basin Management Plan and associated Programme of Measures for the period 2018-2021 (to be published for public consultation by end of 2016 and which will include specific proposed measures for the Shannon catchments)	A key outcome from the draft river basin management plan and associated programme of measures will be clarity about the interaction between flood prevention and management and water quality protection and management. It will include specific proposals, where relevant, for extensions, less stringent objectives or exemptions that might apply where required to facilitate flood mitigation measures that have a negative impact on WFD objectives.
	Climate Change related roles including secretariat to the newly formed climate change advisory council and the coordination of national climate change research to support mitigation and adaptation measures (Climate Action and Low Carbon Development Act, 2015 and section 71 of EPA Act 1992)	Implemented through the newly established climate change secretariat in the EPA (supporting the work of the climate change advisory council) and through the EPA's national research programme.	n/a	n/a	Research outputs from projects that address the linkages between climate change and flood risk.	n/a	n/a	n/a	1. From the EPA Research Programme: Identification of priority research topics and their inclusion in annual research calls; Completion of relevant research projects and publication and dissemination of reports and findings. 2. Through the work of the Climate Change Advisory Council: advice to Government on national plans for mitigation and adaptation.	1. Research outputs will lead to greater understanding and knowledge of the linkages between climate change and flood risk and what can be done to alleviate such risks. 2. The national plans for mitigation and adaptation will provide national road maps for the transition to a low carbon future. The national adaptation plan will need to include plans for how Ireland needs to adapt to greater flooding risks associated with climate change.
<b>Inland Fisheries Ireland (IFI)</b>										
<b>1959 Fisheries Consolidation Act:</b>	Section 115 - provision of fish passes in weirs	Enforce compliance with subsection to ensure the provision of fish passage; advise minister and seek ministerial order if necessary; liaise with weir owner/s and advise on approach; approve plans and oversee repairs/works	Provision of fish passage at barrier on the Bunowen River at Ahascragh, County Galway. Options report to be provided - could be removal, partial removal or fish pass. To go for public consultation.	No licence or permit applicable.	none	At mill headrace on main Bunowen River, Ahascragh Village	June - Sept 2016 and/or in to Summer 2017	Section 59 authorisation; section 47 Arterial Drainage Act; Planning Act 2000 Article 5 A (planning exemption for fish pass).	Opens up 8km of river to Salmonid spawning. Some reduction in water levels and improved spawning habitat above barrier (depending on option preferred).	Any works to fish improvement will in theory benefit flood levels by lowering water levels above the impoundment. If full removal, it will lower levels to near natural conditions and improve salmonid spawning habitat above. It's impact will be positive on flood levels by reducing levels above the obstacle.
<b>1959 Fisheries Consolidation Act:</b>	Section 116 - damaged fish passes - order to repair	Enforce compliance with subsection to ensure the provision of fish passage; advise minister and seek ministerial order if necessary; liaise with weir owner/s and advise on approach; approve plans and oversee repairs/works	None planned at the moment	No licence or permit applicable.	none	n/a	n/a	n/a	n/a	n/a

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<b>1959 Fisheries Consolidation Act:</b>	Section 117 - removal of defunct weirs/provision of fish pass	Enforce compliance with subsection to ensure the provision of fish passage; advise minister and seek ministerial order if necessary; liaise with weir owner/s and advise on approach; approve plans and oversee repairs/works	1) Provision of fish passage at barrier on the Bunowen River at Ahascragh, County Galway. Options report to be provided - could be removal, partial removal or fish pass. To go for public consultation. 2) Carry out a barriers assessment survey for the entire river Shannon (survey and mapping exercise). 3) Partial removal of barrier on the Greenhills Tributary (Kilmastulla Catchment, Tipperary).	Section 59 Authorisation, 2010 Fisheries Act	none	1) At mill headrace on main Bunowen River, Ahascragh Village 2) Shannon wide survey 3) Bottom of Greenhills Trib, Birdhill, County Tipp. Design	1) June - Sept 2016 and/or in to Summer 2017; 2) Summer 2016; 3) June-Sept 2016	Section 59 authorisation; section 47 Arterial Drainage Act; Planning Act 2000 Article 5 A (planning exemption for fish pass). AA under Habitats Directive	1) Opens up 8km of river to Salmonid spawning. Some reduction in water levels and improved spawning habitat above barrier (depending on option preferred). 2) Assesses impacts posed by barriers on the Shannon to fish passage. 3) Opens up 2-3km of salmonid spawning habitat and lamprey and eel habitat on the Greenhills Trib.	1) Any works on fish improvement at barriers will in theory benefit flood levels by lowering water levels above the impoundment. If full removal, it will lower levels to near natural conditions and improve salmonid spawning habitat above. It's impact will be positive on flood levels by reducing levels above the obstacle. 2) Provide an inventory of barriers to fish migration for the Shannon. These barriers also impact conveyance and any priority works to address these barriers (in consultation with statutory authorities) will in theory benefit flood conveyance also, as these barriers hold water at a higher height above the impoundment. 3) Removal of the barrier will improve conveyance in the Greenhills Tributary and lower water height levels above the impoundment. This will benefit conveyance and flooding in the catchment area immediately above the impoundment.
<b>1959 Fisheries Consolidation Act:</b>	Section 118 - fish passage through natural barriers (not used as contrary to objectives of WFD)	not used as contrary to objectives of WFD)	None planned at the moment	No licence or permit applicable.	none	n/a	n/a	n/a	n/a	n/a
<b>1959 Fisheries Consolidation Act:</b>	Section 131 - obstruction of fish during annual closed season	Provide consultation/advise and ensure compliance to other parties regarding protection of fish, their spawn, their spawning beds and habitat	Any physical instream works planned by any agency, landowner will fall under this heading.	No permitting or licencing system is applicable during open season. Closed season requires Ministerial derogation	none	This can occur in any part of the catchment	1st March - 30th September is open season generally and closed season is opposite this	none	No of infrastructural projects/civil works assessed	There should be no impact on flooding - apart from the timing of works
<b>1959 Fisheries Consolidation Act:</b>	section 138 - Must provide free passage of young salmonids during annual closed season	Enforce compliance with subsection to ensure the provision of fish passage; advise minister and seek ministerial order if necessary; liaise with weir owner/s and advise on approach; approve plans and oversee repairs/works	Provision of fish passage at barrier on the Bunowen River at Ahascragh, County Galway. Options report to be provided - could be removal, partial removal or fish pass. To go for public consultation.	Section 59 Authorisation, 2010 Inland Fisheries Act	none	At mill headrace on main Bunowen River, Ahascragh Village E177521 N238946	June - Sept 2016 and/or in to Summer 2017	Section 59 authorisation; section 47 Arterial Drainage Act; Planning Act 2000 Article 5 A (planning exemption for fish pass).	Opens up 8km of river to Salmonid spawning. Some reduction in water levels and improved spawning habitat above barrier (depending on option preferred).	Any works to fish improvement will in theory benefit flood levels by lowering water levels above the impoundment. If full removal, it will lower levels to near natural conditions and improve salmonid spawning habitat above. It's impact will be positive on flood levels by reducing levels above the obstacle.
<b>1959 Fisheries Consolidation Act:</b>	Section 178 - several fisheries - private fisheries	Private fisheries	Any physical instream works planned by any agency, landowner will fall under this heading.	No permitting or licencing system is applicable during open season. Closed season requires Ministerial derogation	none	This can occur in any part of the catchment	1st March - 30th September is open season generally and closed season is opposite this	none	No of infrastructural projects/civil works assessed	There should be no impact on flooding - apart from the timing of works
<b>1959 Fisheries Consolidation Act:</b>	Section 171 - protection of waters from pollution	Prevent pollution - Deleterious matter entering a watercourse	Any physical instream works has the potential to cause increased suspended solids/organic material which could be classed as deleterious matter	No permitting or licencing system - those that are licenced are done under Local Authority or EPA IPC	none	This can occur in any part of the catchment	This can occur anytime	none	No of samples taken	There should be no impact on flooding
<b>1959 Fisheries Consolidation Act:</b>	Section 172 - owner of a receptacle containing deleterious matter	Prevent pollution - deleterious liquid in a receptacle capable of causing pollution	Any receptacle that holds deleterious matter/liquid that could or is causing pollution	No permitting or licencing system - those that are licenced are done under Local Authority or EPA IPC	none	This can occur in any part of the catchment	This can occur anytime	none	No of pollution inspections	There should be no impact on flooding
<b>1959 Fisheries Consolidation Act:</b>	Section 173 - taking spawn or juvenile fish, damage to spawning bed	Provide consultation/advise and ensure compliance to other parties regarding protection of fish, their spawn, their spawning beds and habitat	Any physical instream works planned by any agency, landowner will fall under this heading.	No permitting or licencing system is applicable during open season. Closed season requires Ministerial derogation	none	This can occur in any part of the catchment	This can occur anytime	none	No of infrastructural projects/civil works assessed	There should be no impact on flooding - apart from the timing of works
<b>1959 Fisheries Consolidation Act:</b>	Section 173 - wilfully obstructs the passage of the smolts or fry of salmon, trout or eels	Protection of the passage of migratory fish and the young of migratory fish	The provision of fish passage at Ahascragh on River Bunowen; 2) Provision of fish passage at Greenhills Tributary, Birdhill, Tipperary	Section 59 Authorisation, 1959 Fisheries Act; Appropriate Assessment (Habitats Directive); Planning Act 2000; Arterial Drainage Act	none	1) E177521 N238946 2) E172550 N169734	1) June-Sept 2016 and maybe in to summer 2017; 2) Summer 2016	Section 59 authorisation; section 47 Arterial Drainage Act; Planning Act 2000 Article 5 A (planning exemption for fish pass).	1) Opens up 8km of river to Salmonid spawning. Some reduction in water levels and improved spawning habitat above barrier (depending on option preferred). 2) Open up approx 2km of channel for salmonid and lamprey spawning and for eel habitat	1 + 2: Any works to fish improvement will in theory benefit flood levels by lowering water levels above the impoundment. If full removal, it will lower levels to near natural conditions and improve salmonid spawning habitat above. It's impact will be positive on flood levels by reducing levels above the obstacle.

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1959 Fisheries Consolidation Act:	Section 327 - right of owner to take materials from a stream	This section is not used as habitats legislation supercedes it	Only applies to landowners/fishery owners	No permitting or licencing system applicable	none	This can occur in any part of the catchment	This can occur anytime	none	No of infrastructural projects/civil works assessed	
Inland Fisheries Act 2010	Section 7 - role of IFI is protection, management and conservation of the inland fisheries resource	Provide consultation/advice and ensure compliance to other parties regarding protection of fish, their spawn, their spawning beds and habitat	Any physical instream works planned by any agency, landowner will fall under this heading.	No permitting or licencing system applicable	Staff resources, boats and equipment	This can occur in any part of the catchment	This can occur anytime	none	Various metrics eg No of infrastructural projects/civil works assessed	There should be no impact on flooding - apart from the timing of works
Inland Fisheries Act 2010	Section 59 - fishery improvement works by IFI	Instream Enhancement (conservation and development function; favourable status under WFD; Habitats Directive - improved conservation status for Annex I + II species and habitats)	Lecarrow River & Cornamisogue River in conjunction with ESB Fisheries. Also Fisheries improvement works R Loobagh and catchment. Reinstating thalweg, insertion of spawning gravel, deepening holding pools. Rehabilitation due to poor drainage practice	Section 59 authorisation (2010 Inland Fisheries Act); AA under Habitats Directive	none	Lecarrow River (E 196465 N 255076); Cornamisogue River (E 197888 N 252131)	Summer 2016	exempt	Improvement to 2km of channel in each River.	These rehabilitation works are necessary to replenish lost fisheries habitat due to indiscriminate drainage practices (mostly pre 1970's). The features involve low grade features (if any) which are only inserted where there is gradient and the impact of such will only be for a few meters above the structures. These features actually improve sinuosity in the channel and improve conveyance. They also retain thalweg and conveyance through middle deeper section. as a consequence these works will also improve habitat for all fish and aquatic species with subsequent knock-on effects for riparian biodiversity.
Inland Fisheries Act 2010	Section 59 - fishery improvement works by IFI	Possible projects under the Salmon Conservation Fund (SCF); National Strategy for Angling Development (NSAD)	Various proposals under NSAD including in-stream rehabilitation, pruning and thinning of riparian and angling infrastructure development. Includes proposals for: Rehabilitation on RiverTirur (Suck catchment); others are infrastructure development with no flood impacts. SCF projects not assessed yet. Likely areas are: River Inny (Upper Inny at Oldcastle); Derravaragh sub-catchments (Yellow, Gaine and Bishops Rivers); Ennell sub-catchments (Dysart and Tudenham); Suck River (Ballyforan; Island River), Nenagh river, Derryober river (Woodford), Mulkear river (Newport)	Section 59 authorisation (2010 Inland Fisheries Act); AA under Habitats Directive	none	Potentially: River Inny (Upper Inny at Oldcastle); Derravaragh sub-catchments (Yellow, Gaine and Bishops Rivers); Ennell sub-catchments (Dysart and Tudenham); Suck River (Ballyforan; Island River)	Summer 2016	Section 59 authorisation (2010 Inland Fisheries Act); AA under Habitats Directive	If in-stream works, small scale and max 1km of River per projects. Mostly riparian work and angler access improvements.	Small scale rehabilitation works to enhance spawning of fish. No impact on floods. Increases flow over gravels if spawning gravels. Improves conservation value for salmonids. Improves conditions for other fish and aquatic species and has the knock-on effect of improving instream and riparian biodiversity generally.
	Section 59 - fishery improvement works by IFI	Possible project under Failte Ireland/ Dept of Environment re fishing infrastructure improvements - stands, platforms, slipways	Various proposals under NSAD but none agreed yet. Lough Derg at Portumna and Mota possibly	Planning permission, AA	none	Mota, Lough Derg and River Shannon at Portumna	Summer 2016	Section 59 authorisation (2010 Inland Fisheries Act); AA under Habitats Directive	No of angling spaces created/maintained	There should be no impact on flooding

**Irish Water (IW)**

	National water utility responsible for providing public drinking water and waste water services throughout Ireland. Water Services Acts, 2007 to 2014 and		WWTP Plant Upgrade	Exempt Development	Bunlicky (Limerick City) Wastewater Treatment Plant - Interim Upgrade	Plant Upgrade	Complete by mid 2017	Not Applicable	Not Applicable	No Impact
	Urban Waste Water Discharge (Authorisation)		WWTP Plant Upgrade	LA Planning Permission	Athlone Wastewater Treatment Plant - Interim Upgrade	Plant Upgrade	Start mid 2016. Complete end 2017	Not Applicable	Not Applicable	No Impact
	Regulations, 2007		WWTP Plant and Drainage Network Upgrade	LA Planning Permission	Shannon Town Sewerage Scheme	Plant and Drainage Network Upgrade	Complete end 2016	Not Applicable	Not Applicable	No Impact
			WWTP Plant Upgrade	LA Planning Permission	Mohill Wastewater Treatment Plant	Plant Upgrade	Start mid 2016. Complete by mid 2018	Not Applicable	Not Applicable	No Impact

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			WWTP Outfall Works	Not Applicable	Bunlicky (Limerick City)Wastewater Treatment Plant-Outfall Works	Capital Maintenance	Start mid 2016. Complete by end 2016	Not Applicable	Not Applicable	No Impact
<b>Waterways Ireland (WI)</b>										
	Management, maintenance and development of the Shannon Navigation principally for recreational use vested in Waterways Ireland - British-Irish Agreement Act, 1999	Navigation Authority	Management of Weirs, Sluices, Locks and River Channel for navigation purposes to defined Ordinary Summer Level and within defined limits.	Waterways Ireland issues permit, licence or lease as appropriate for works and activities on the Shannon and subsidiary lakes which are defined by limits of the Shannon Commission jurisdiction & property maps.	Management of Water Levels at specific water control structures along the Shannon in order to maintain sufficient level to enable vessels to move freely in navigation channel (Ordinary Summer Level). Operation at the following sites; Clarendon/Knockvicar, (Fixed Weir and Lock) Jamestown (Fixed Weir & Sluices) Jamestown (Lateral Canal & Albert Lock), Roosky (Fixed Weir, Sluices, Lock) Tarmonbarry (Fixed Weir, Sluices, Lock). Clondra (Fixed Weir) Meelick Weir (Fixed Weir, sluices and Lock) and New Cut (Sluices) Operation of sluice gates at Athlone on instruction from ESB	GIS co-ordinate map of structures can be made available	Daily monitor, assess and change if appropriate.	Athlone operated under instruction of ESB. Overall consultation with ESB on other levels.	Water levels managed daily at interim river control structures to maintain navigable channel levels. ESB maintain water levels within agreed operating control limits on lakes.	Controls storage to minimise risk while accommodating requirements of all operating and impacted bodies. Maintain Navigation open during boating season.
			Cut back overhanging vegetation impacting on the navigation channel. Maintain navigation channel and bed free from obstruction. Maintain water control structures free from obstruction.		In navigation channel and at sites listed above		Annual Inspection, cut back of vegetation in canals where navigation may be restricted. Removal of obstructing debris from structures	Consultation NPWS, IFI		
			On going maintenance & operation of pumping systems to canals				Annual Inspection and defect response as arise.			
<b>Office of Public Works (OPW)</b>										
	Arterial Drainage Maintenance: The Commissioners of Public Works have a duty under Section 37 of the Arterial Drainage Act, 1945 to maintain drainage works carried out under said Act "in proper repair and effective condition"	Full	Yes to all.	Channels and embankments are to be maintained on the following schemes: Boyle, Knockroghery, Inny, Brosna, Killimor/Cappagh, Carrigahorig, Nenagh/Clareen, Mulkear, Groody, Maigue, Deel, Feale, and those embankment schemes administered collectively by OPW as Shannon Embankments North and Shannon Embankments South.		Attached find GIS layers showing channels and embankments under our care and those stretches programmed for work in 2016	Ongoing throughout the year	We have agreed protocols with IFI and consult with DAHG (NPWS) on Habitats Directive requirements and DAHG (DAU) on possible impact on Archaeology. Appropriate Assessments must be carried out where our work is likely to have a significant effect on an SAC. In the event that species covered by the Wildlife Act are to be the subject of interference licences need to sought from NPWS	In 2016 829.7 kms of channels and embankments are to be maintained on the following schemes: Boyle, Knockroghery, Inny, Brosna, Killimor/Cappagh, Carrigahorig, Nenagh/Clareen, Mulkear, Groody, Maigue, Deel, Feale, and those embankment schemes administered collectively by OPW as Shannon Embankments North and Shannon Embankments South. Progress to be reported on quarterly.	The Programme ensures that flood risk in these cases is kept at the current relatively low level.

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	Restrictions on The Construction or Alteration of Weirs and Bridges: Sections 47 and 50 prohibit the alteration or erection of weirs and bridges without the prior consent of the Commissioners. (The ESB has a derogation in the case of the former as do works carried out under certain provisions of Fisheries legislation.)			Yes. Consent from OPW is part of the approval process but in many instances other consents are needed such as planning permissions, railway orders, ABP sanction etc.		Defined by each individual application	Ongoing throughout the year	No consent may be given without prior consultation with The Minister for Agriculture or in contravention of certain orders made of notices served under certain Fisheries Acts	Decision within 8 weeks of receipt of complete application	These consents reduce enormously the risk that flooding might arise from the inappropriate erection or alteration of the classes of structures covered.
		OPW hydrometric programme	The OPW Hydrometric Section operates and maintains 118 surface water monitoring stations in the Shannon RBD. Real time water level data at 15 minute intervals is available at 109 (92%) of these stations, on the waterlevel.ie portal.		Hydrometric network – public data dissemination via waterlevel.ie and hydro-data	At various locations	Ongoing in real time	None	N/A	Helps quantify severity of event and aids all organisations in provision and management of flood response measures
	The 'Floods' Directive [2007/60/EC], and SI Nos. 122 of 2010 and 495 of 2015 - Preparation of Flood Maps and of Flood Risk Management Plans	Competent Authority	N/A	N/A	Hydrological analysis and hydraulics models used to prepare flood maps for High Priority Watercourses (HPW) and Medium Priority Watercourses (MPW) around the catchment	HPWs in 66 AFAs around the Catchment, with MPW Reaches interconnecting the AFAs and running downstream from Areas for Further Assessment (AFAs) to the sea	Ongoing and continuous until the end of 2016	Public and Stakeholder Engagement, Coordination with NI Competent Authority and with EPA/DECLG on implementation of the Water Framework Directive (WFD), Public and Council	Final Flood Maps - Q2 2016 ---- Draft FRMPs, with preferred flood risk management measures - Q2 2016 ----- Final FRMPs, Q4 2016	Flood Maps - Identification of flood prone areas (include Flood Zones A and B for planning) ----FRMPs - Identification of proposed flood risk management measures
<b>Clare County Council</b>										
	Responsibility for a number of Drainage Districts under the Arterial Drainage Acts.	Administered by Clare Co Council	Maintenance works in a number of drainage districts throughout Co Clare - cleaning of drains and other waterways, dredging, sluice repair and maintenance, clearing around inlets and outlets and remediation works to River Fergus Barrage, south of Ennis. Effectiveness restricted by funding curtailment.	By and large, no permits required for day to day maintenance works	Direct labour , plant, materials and contract works where appropriated	Drainage districts include Fergus, Quin, Manus, Tiernaclane, Inagh, Newmarket, Sixmilebridge/Kilkishen, Kilmaley and Scarriff.	No particular timing other than during Summer/Autumn in so far as feasible	Agreements with landowners	In relation to maintenance of natural drainage systems - restoration to established unrestricted capacity. In relation to constructed infrastructure - restoration to original conditions.	Efficient operation and management of drainage district/systems - facilitation/ restriction/prevention of flow as appropriate.
	Various Legislation depending on nature of particular problem to be dealt with	Ditto	Identification of need for implementation of Minor Flood Relief Scheme (supported by OPW), design, organise statutory approvals,application for funding and implementation - schemes can vary in nature from culvert and drain construction/enhancement, provision overflow systems, sluices, pumped solutions, etc	Planning approvals - Part 8 or An Bord Pleannala, Section 50 approvals - OPW, liaison with and compliance with requirements of Fisheries, NPWS and other State Agencies.	Direct labour , plant, materials and contract works where appropriated. Asset delivered by schemes.	Numerous locations throughout County Clare - including Ennis, North Clare - centred around Burren area and a number of sites in East Clare	Varies - depends on timing of approvals, availability of funding - mostly Summer/Autumn	See 4th column to left	Achievement of Benefit Ratio of 1.5 or more. Design to defend against 100 year flood.	Resolution of flooding problem without adverse impact to other locations, either from flooding or environmental perspectives.
	Schemes carried out under OPW legislation and powers	OPW primarily - in consultation with Clare Co Council	Major Flood Relief Schemes - urban centres - river channel capacity increase, strengthening and raising of river walls and banks, culvert and pumping capacity provision, etc	Planning approvals under OPW Exhibition Process - consultation with various statutory national bodies.	Direct labour, plant, materials and contract works where appropriate. Assets delivered by schemes	2 major schemes delivered in Ennis Town within past 10 years	2 2 year continuous contracts	Ditto	Ditto	Ditto
		Managing Flooding in Mountshannon Co Clare				As Flood Levels in Lough Derg rise and Flows on the Shannon Increase, Flooding occurs in Low Lying Areas in Mountshannon	Rainfall and Shannon Flow Dependant. Flooding in Nov 2009			
		Managing Flooding in Scarriff Co Clare				Fluvial Flooding from Scarriff River	Rainfall and Shannon Flow Dependant. Flooding in Nov 2009 and Dec 2015			

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		Managing Flooding in Killaloe Co Clare				As Flood Levels in Lough Derg rise and Flows on the Shannon Increase, Flooding occurs in Low Lying Areas in Killaloe	Rainfall and Shannon Flow Dependand. Flooding in Nov 2009			
		Managing Flooding in O Briensbridge Co Clare				As Flood Levels in Lough Derg rise and Shannon Flows Increase, Flooding occurs in Low Lying Areas in O Briensbridge	Rainfall and Shannon Flow Dependand. Flooding in Nov 2009 and Dec 2015			
		Managing Flooding in Springfield Clonlara Co Clare				As Flood Flows on the Old Channel of the Shannon south of Parteen Weior Increase, very serious Flooding occurs in Low Lying Areas in Springfield Clonlara	Rainfall and Shannon Flow Dependand. Flooding in Nov 2009 and Dec 2015	Dependant on release of water at Parteen Weir. 325 cumecs and above ETHANE message and serious flooding. Also dependant on Mulkear river flow. Nov 2009 525 cumecs, December 2015 475 cumecs twice		
		Managing Flooding in Gillogue Clonlara Co Clare				As Flood Flows on the Old Channel of the Shannon south of Parteen Weior Increase, serious Flooding occurs in Low Lying Areas in Gillogue	Rainfall and Shannon Flow Dependand. Flooding in Nov 2009 and Dec 2015	Dependant on release of water at Parteen Weir. 325 cumecs and above ETHANE message and serious flooding. Also dependant on Mulkear river flow. Nov 2009 525 cumecs, December 2015 475 cumecs twice		
		Managing Flooding in Westbury Athlunkard Co Clare				Combination of Shannon Coastal Flooding and Fluvial Flooding	Tide Phase, Rainfall and Shannon Flow Dependand. Large residential area with some concerned residents. Maintenance and Elevation of Flood Embankments and Pump station a concern	Very high tides on January 3rs and 6th 2014 and in particular Feb 1st 2014. Very high River flow in Nov 2009 and Dec 2015. What is probability of coincidence of Coastal and Fluvial		
		Managing Flooding in Shannonsbanks Athlunkard Co Clare				Combination of Shannon Coastal Flooding and Fluvial Flooding	Tide Phase, Rainfall and Shannon Flow Dependand. Large residential area with some concerned residents. Maintenance and Elevation of Flood Embankments and Pump station a concern	Very high tides on January 3rd and 6th 2014 and in particular Feb 1st 2014. Very high River flow in Nov 2009 and Dec 2015. What is probability of coincidence of Coastal and Fluvial		

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		Managing Flooding in Shannon Co Clare				Coastal Flooding risk and Fluvial flood risk with failure of pumps	Tide Phase, Rainfall and Shannon Flow Dependant. Large residential area with some concerned residents. Maintenance and Elevation of Flood Embankments and Pump station a concern	Very high tides on January 3rd and 6th 2014 and in particular Feb 1st 2014.		
		Managing Flooding in Shannon Co Clare				Coastal Flooding risk and Fluvial flood risk with failure of pumps	Tide Phase. Large residential area with some concerned residents. Maintenance and Elevation of Flood Embankments and Pump station a concern	Very high tides on January 3rd and 6th 2014 and in particular Feb 1st 2014.		
		Managing Flooding along Shannon estuary Co Clare				Coastal Flooding risk in partical with coincinent stroms, combined storm surge, wave overtopping nad high tide causes significant damage	Tide Phase. Remote coastal locations but houses, tourism assets and road infrastruature is exposed.	Very high tides on January 3rd and 6th 2014 and in particalr Feb 1st 2014. All coincident with storm. Up to 10 different areas significantly damaged		

**Galway County Council**

	Arterial Drainage Act		Removal of trees and blockages in channel	consultation with Inland Fisheries and NPWS		Boley, Thornfield, Portumna	Sep-16		5km	maintenance
	Arterial Drainage Act		River clearing	consultation with Inland Fisheries and NPWS		Ahascragh River,	Sep-16	AA Screening	2km	maintenance
	Arterial Drainage Act		Channel clearing	consultation with Inland Fisheries and NPWS		Kellysgrove, Clontuskert, Ballinasloe	Sep-16		2km	maintenance
	Arterial Drainage Act		Channel and bridge clearing	consultation with Inland Fisheries and NPWS		Suck DD, Deerpark River	Sep-16	AA Screening	4km	maintenance
	Arterial Drainage Act		Bridge clearance	consultation with Inland Fisheries and NPWS		Mountbellew DD	Sep-16			maintenance
	CFRAM		Portumna Flood Alleviation Measures	consultation with Inland Fisheries and NPWS		Portumna Town	Jul-05	CFRAMS		Protection
	CFRAM		Ballinasloe Flood Alleviation Measures	consultation with Inland Fisheries and NPWS		Ballinasloe Town	2016	CFRAMS		Protection
			Clonfert, protection to 4 houses and upgrade culvert	consultation with Inland Fisheries and NPWS		Clonfert, Ballinasloe	2016	OPW Minor Works Funding		Protection & Improvements
			OPW Minor Works, joint inspections with OPW to identify schemes							

**Kerry County Council**

	Local Authority, Local Government Act 2001.	Local authority responsible for Local Government in County Kerry. The administrative boundary of Kerry County Council runs along the Shannon Estuary which is under tidal influence. There are no historical, pending or proposed works that could influence water levels or flow rates up stream on the Shannon Catchment.	Shannon Estuary measures 1.82 km wide at its narrowest point in County Kerry. No infrastructure or impediments exist that could influence water levels or flow rates. <u>No</u> physical works on going or proposed to the River Shannon Estuary. <u>No</u> vegetation removal proposed. <u>No</u> structures in the ownership or control of the LA that could affect water levels / flow rates. (weirs, sluices etc).	None.	None.	N/A	N/A	N/A	N/A	N/A
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**Leitrim County Council**

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1	The Department of the Environment, Heritage & Local Government and Office of Public Works, jointly produced 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (November 2009) and the guidelines are produced under section 28 of the Planning & Development Acts 2000 – 2015 and Planning Authorities shall have regard to those guidelines in the performance of their functions. Apply to both Forward Planning and Development Management.	County Development Plans, Local Area Plans, individual planning applications		None	Planning Department and Environmental Department Staff associated with Forward Planning, individual planning applications					
2	The First Schedule of the Planning & Development Acts 2000-2015 outlines purposes for which objectives may be indicated in development plan. It includes as PART I - Location and Pattern of Development Carrying out flood risk assessment for the purpose of regulating, restricting and controlling development in areas at risk of flooding (whether inland or coastal).				Fire and Resouce Service to respond to emergency situations					
	Framework for Major Emergency Management 2006	Crisis Management Process at local level on interagency basis			Fire and Rescue Service to respond to emergency situations and Civil Defence Service to provide assistance to the public during flooding incidents and as support to the fire and rescue service					
	Roads Act 2000 eg Surface Water Drainage	Flood incident management on Public Property and to assist in the protection of private property			Roads Division Staff and Machinery available for road works and the delivery of flood incident responses on public property or for the protection of private property					
	Roads Act 2002	Roads Authority	R201-30/31 Raise Road Esker/Racullen			Riasing road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	250m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	R280-2 Raise Road Leitrim Road			Riasing road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	450m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	L-3398-0 Raise Road park Lane			Riasing road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	150m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	L-3399-7 Raise Road Shannon Court			Riasing road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	150m of road raised	Road will be kept open to traffic during flood event



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	Roads Act 2002	Roads Authority	L-3401-1 Raise Road Landmark Rd			Raising road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	250m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	L-3400 Riase Road Hartley Bridge			Raising road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	150m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	R299-9 Raise Road Lough Bran			Raising road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	150m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	R280-6 Riase Road Leitrim Village			Raising road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	150m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	R284-1 Raise Road Keadue Road			Raising road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	120m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	L3390 Raise Road Church Road			Raising road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	50m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	L-1486 Raise Road Waterfront			Raising road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	150m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	L-1053 Raise Road Rinn Road			Raising road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	950m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	L-10531 Raise Road Lisdadanan			Raising road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	100m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	L-1053-4 Raise Road Lough Rinn Road			Raising road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	350m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	L-1054 Raise Road Lough Rinn Drive			Raising road level above flood level	2016	Funding from DTTAS and Part 8 Planning Approval required	50m of road raised	Road will be kept open to traffic during flood event
	Roads Act 2002	Roads Authority	N4 Raise Road Carrick on Shannon			Raising road above flood level	2016	Funding from TII and Part 8 Planning Approval required	600m of road raised	

**Roscommon County Council**

	Arterial Drainage Act 1945		Cleaning of River Channels, cleaning up banks	Inland fisheries normally notified in advance of works.	N/A	Please see attached maps of Arterial Drainage schemes where maintenance/cleaning works are normally carried out by RCC. The schemes listed below will receive some work in 2016				
						AO Cross River	Summer,one clean	Advance notice to fisheries		Works aid flow in outfall toward Shannon
						AO Ballyminton Drainge scheme	Summer,one clean	Advance notice to fisheries		Works aid flow in outfall toward Suck
						RO Hind River	Summer,one clean	Advance notice to fisheries		Works aid flow in outfall toward Shannon
						RO Clooneigh River	Summer,one clean	Advance notice to fisheries		Works aid flow in outfall toward Shannon
						CO ARM	Summer,one clean	Advance notice to fisheries		Works aid flow in outfall toward Suck
						CO Cloondacarra	Summer,one clean	Advance notice to fisheries		Works aid flow in outfall toward Suck
						SO Owenur River	Summer,one clean	Advance notice to fisheries		Works aid flow in outfall toward Shannon
						SO Scramogue River	Summer,one clean	Advance notice to fisheries		Works aid flow in outfall toward Shannon
						BO Kiluken River	Summer,one clean	Advance notice to fisheries		Works aid flow in outfall toward Shannon

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						Note some works are usually carried out on the River Suck if funding made available. Exact locations not known at this time.				
<b>Tipperary County Council</b>										
	Planning and Development Act 2000, as amended	Local Authority	N/A	Zoning/Planning Permissions	N/A					
	Arterial Drainage Act, 1945, as amended	Local Authority	Channel cleaning as set out in the Act	Consultation with OPW and Habitats Directives		Maps available from each Local Authority	Annual programme		Bound by terms of the Act	Bound by terms of the Act
	Note: Other Local Authority roles relate to non-statutory activities in the areas of support to those effected by flooding	Temporary accommodation, Civil Defence, Roads, Water Services and Emergency response staff								
<b>Westmeath County Council</b>										
	Maintenance of rivers in Westmeath which were part of the Ballinahown Drainage Districts under the Arterial Drainage Acts	Allocation of funding and completion of maintenance works	Minor maintenance works on the Boor, Worm and AI Rivers within county Westmeath	Generally no permits required for these works	Total budget for 2016 of €26,500. Work to be completed by direct labour, plant, materials and contract works where appropriate	Minor clearing and maintenance works on Boor, Worm and AI Rivers in the vicinity of Ballinahown and Athlone. Works Locations depend on need at time of works	Works carried out during Summer and Autumn. Duration is a few weeks each year	Consultation and agreement with landowners	Maintenance of drainage channels by removing vegetation and restrictions and repairing culverts	Maintenance of existing drainage systems
	Roads Act 1993 are related Acts. Roads Authority.	Maintenance of Public Roads Network	Raise road levels within flood plain in Athlone area to prevent future flooding. Assessment and Design of Scheme to be prepared in 2016 and works to be carried out at later date subject to funding. Total length of roads is approximately 7.5km.	Part 8 planning process - possible AA requirement (through An Bord Pleanala) as part of the affected area would be within the zone of influence Shannon Callows SAC	Funding allocation in place to appoint Consulting Engineers to carry out assessments and prepare designs and scheme details	The roads are located in the Carrickobrien, Golden Island, and Muchanagh area of Athlone	Works not yet programmed and will depend on allocation of funding	Consultation and agreement with landowners, Allocation of funding	The objective is to raise the surface level of public roads in order to prevent flooding of the road and allow the road to remain open to traffic during flood events	Raising road levels for limited extent (approx 7.5km) within flood plain. Minimal impact on flooding.
<b>Longford County Council</b>										
	Camlin Drainage District - Longford County Council has a statutory responsibility arising from the Arterial Drainage Act 1945 for this Drainage District	Responsibility arising from the Camlin River Drainage District, in addition an annual return "C25 Form" is submitted to the OPW each year	Channel Cleaning including the removal of vegetation	Longford County Council consults with Inland Fisheries Ireland and Parks & Wildlife prior to the carrying out of works	Primarily Farmland will benefit from the maintenance works in this year, however there were benefits to housing and commercial properties when maintenance was carried out in previous years near the towns of Longford and Ballinalee	Channel Cleaning for a length of circa 3km of the Camlin river which is located east of the Of Ballinalee,	June to August 2016	agreements with; the owners of the land which will be traversed, Inland Fisheries Ireland and Dept of Parks & Wildlife.	number of km of channel cleaned	1) reduction of the amount of farm land that has flooded in recent years flood 2) continuation of a multiannual programme for channel cleaning on the river Camlin
<b>Offaly County Council</b>										
	Drainage Districts on Camcor River, near Birr under Arterial Drainage Acts	Combined budget of €30,000 provided in 2016 budget for Camcor/Little Brosna	Channel Cleaning at Bridges; Cleaning gravel traps	Consultation with Inland Fisheries and landowners regarding all works prior to commencement	Primarily farmland and road structures; Prevention of erosion of riverbanks.	Locations (to be decided) on Camcor River between Birr Town and Drumcullen Bridge (near Kinnity)	Works will take place in September	Informal agreement of Inland Fisheries & Landowners	Km. Of channel/ protection of structures.	Protection of River Banks and Road Structures. Mitigation of Risk to Farmland.
	Drainage Districts on Little Brosna River, near Birr, under Arterial Drainage Acts	Combined budget of €30,000 provided in 2016 budget for Camcor/Little Brosna	Channel Cleaning /Removing Vegetation	Consultation with Inland Fisheries and landowners regarding all works prior to commencement	Primarily farmland	Little Brosna near Riverstown	Works will take place in September	Informal agreement of Inland Fisheries & Landowners	Km of channel	Protection of River Banks and Road Structures. Mitigation of Risk to Farmland.
<b>Cavan County Council</b>										
	Local Authority	Inny River Water Management Unit (WMU) is partly located in Co. Cavan	None planned	Not Applicable as no works planned	None Known	N/A	N/A	N/A	N/A	N/A
	Local Authority	Upper Shannon Water Management Unit (WMU) is partly located in Co. Cavan	None planned	Not Applicable as no works planned	None Known	N/A	N/A	N/A	N/A	N/A
<b>Cork County Council</b>										

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	Major Emergency Management Framework & Circular Letter EP 02/06	Emergency Flood Management in Milford and Charleville								
<b>Limerick City and County Council</b>										
	Planning Act	Planning Authority for new flood protection works	CFRAMS has identified a large number of areas in Limerick that are a risk of flooding and where new flood defence infrastructure will have to be constructed including, Montpellier, castleconnell, ballyvollane, Annacotty, Corbally, Kings Island, Limerick City, Condell Road, Foynes and Askeaton	An Bord Pleanala. National Parks & Wildlife Service, Department of Environment, Department of Arts Heritage and Gaeltacht, Office of Public Works, Waterways Ireland, Shannon Foynes Port company.	CFRAMS Mapping	Lower Shannon Catchment along the River in Administrative area of Limerick City & County Council	As Required	An Bord Pleanala Consent on EIS or Part 8 approval by Local authority.	Number of New Schemes Completed. Number of Homes where risk of flooding has been reduced.	Up to 1000 properties could be at risk of flooding in the Limerick area with rising flood levels if new infrastructure is not provided. In 2015 up to 200 properties were at risk of flooding and over 20 were flooded.
	Planning Act	Lead Agency on delivery of some Flood Defence Schemes funded by OPW	Currently taking the Kings Island Flood defence Works through the Design and Planning Phase. CFRAMS outlines a number of Areas in Limerick that are vulnerable to flooding and will require physical interventions to reduce flood risk.	An Bord Pleanala. National Parks & Wildlife Service, Department of Environment, Department of Arts Heritage and Gaeltacht, Office of Public Works	CFRAMS Mapping, Surge Prediction Model, OPW Water Level Gages, Met Eireann, Information from ESB on Water Release at Parteen Weir.	Kings Island, Limerick City Centre.	2016 to 2020		% Scheme completed	Severe flooding in February 2014, over 80 homes flooded.
	Arterial drainage Act 1945	Statutory Obligations under Section 30 of the Arterial Drainage Act 1945 for the following Drainage Districts, Mulkear & Cappamore, Annaslinga, and Ballinacourty. The River Mulkear is a Major Tributary River of The Shannon	Regular annual Maintenance work ios carried out on the River Mulcair, Dead River and the Reask river including channel cleaning, removal of obstructions, vegetation etc and operation of valves.	National Parks & Wildlife Service, Office of Public Works.		River Mulcair flows into the River Shannon upstream of Limerick City	Annual work	Permissions from NPWS and Inland Fisheries.	Km of Channell cleaned	
		First Response Agency in the event of flooding or threats of flooding	Main response Agency to recent flooding events including provision of temporary flood protection measures and pumping in Montpellier, castleconnell, ballyvollane, Annacotty, Corbally, Kings Island, Limerick City, Condell Road, Foynes and Askeaton.	ESB, Department of Environment, HSE, An Garda Siochana, Directorate for Fire and Emergency Management, Department of Social Protection. Red Cross. OPW.	Surge Prediction Model, OPW Water Level Gages, Met Eireann, Information from ESB on Water Release at Parteen Weir.		As Required			Minimise Flood Risk on vulnerable properties and infrastructure and aid with cleanup where flooding has occurred.
		Operator of some Demountable Flood barriers and temporary pumps			Surge Prediction Model, OPW Water Level Gages, Met Eireann, Information from ESB on Water Release at Parteen Weir.		During High Tides on river shannon.			Minimising Risk of flooding in areas where this infrastructure is available
		Management and Maintenance of Bridges including Construction of new Bridges		An Bord Pleanala. National Parks & Wildlife Service, Department of Environment, TII, Department of Arts Heritage and Gaeltacht, Office of Public Works, Waterways Ireland,			Annual work	Ministerial Consent, NPWS, EIS, AA.	No of Annual Bridge Inspections	
		Park Canal - Role to be agreed with Waterways Ireland.	Locke Gates	Waterways Ireland						
<b>Department of Arts, Heritage and the Gaeltacht - National Parks and Wildlife Service</b>										
	Prescribed body under Planning and Developments in respect of Appropriate Assessment	Government Department with responsibility regarding oversight of the implementation of the Habitats and Birds Directives	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Referral body under Regulation 42(10) EC (Birds and Habitats) Regulations 2011 in respect of AA and public authorities' own plans and projects	Government Department with responsibility regarding oversight of the implementation of the Habitats and Birds Directives	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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	Licence Authority	Licence authority in relation to various flora, fauna and habitats under the EC(Birds and Natural Habitats) Regulations 2011 (Regulation 54 and 55)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Consent Authority	Consent authority for "Activities Requiring Consent" under Regulation 28 of the EC(Birds and Natural Habitats) Regulations 2011 where in some cases certain works proposed to be undertaken by non public bodies require the consent of the Minister	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Peatlands	7 raised bog LIFE sites are within Shannon catchment as defined by CFRAMS. There will be drainage management plans to be developed with OPW and all stakeholders before any restoration works commence. The drainage management plans will be designed to ensure any restoration works will have negligible downstream impacts. Potential relocation of turf cutters to non-designated bogs within the Shannon Catchment area could have implications in terms of infrastructure and drainage works in the relocation sites and consequently possible planning implications.							