

Location: Kinnitty, Co. Offaly		Unique ID: 253069 (from PFRA database)	
Initial OPW Designation	APSR <input type="checkbox"/>	AFRR <input checked="" type="checkbox"/>	IRR <input type="checkbox"/>
Co-ordinates	Easting: 218,670	Northing: 205,190	
River / Catchment / Sub-catchment	River Camcor / Brosna / Shannon		
Type of Flooding / Flood Risk (identify all that apply)	Fluvial non-tidal <input checked="" type="checkbox"/> Fluvial tidal <input type="checkbox"/> Coastal <input type="checkbox"/>		

Stage 1: Desktop Review	
1.1 Flood History (include review of Floodmaps.ie)	<p>River Flow Path The Camcor River is located to the north of Kinnitty. The Ballincur River flows south and west of the village, confluencing with the Camcor River to the west. The associated tributaries which pass through the village of Kinnitty are of greater flood risk concern than the Camcor River itself.</p> <p>An existing culvert located under Village Street in the centre of Kinnitty has been noted in reports to have inadequate capacity to cope with increasing volumes of water discharge from the upstream catchment (Slieve Bloom Mountain). This has caused the public house and adjacent private homes to be flooded on numerous occasions.</p> <p>Flood Event Records There are two records of flood events in Kinnitty, relating to fluvial flooding which occurred in 1995 and 2005.</p>
1.2 Relevant information on flooding issues from OPW and LA staff	<p>PFRA database comments (<i>in italics</i>):</p> <p>OPW comments <i>Local knowledge indicates the area is prone to some degree of flood risk, but this and the predictive / historic assessments do not provide sufficient evidence to indicate that the area is prone to potentially significant risk as defined</i></p> <p>LA comments <i>Treatment works flooded. Lots of infrastructure damage. Flooded in the pass. Culvert has caused flooding. Silt problems from Slieve Bloom mountain. Carried in Rural area.</i></p> <p>Meeting / discussion summary comments:</p> <p>OPW comments</p> <ul style="list-style-type: none"> OPW not familiar with flood risk at Kinnitty and had no formal comments. <p>LA comments</p> <ul style="list-style-type: none"> There are surface water drainage issues here. A new culvert under Village Street has alleviated a lot of flood risk but the area is prone to fluvial flooding. There was a flood event in August 2008. The Camcor river is a flashy river. Drumconnel Bridge and Walk Bridge (both of which cross the River Camcor to the north of the village) are at risk of failure from severe floods and there is a lot of bank erosion in these areas. There is a WWTW and some properties on the River Camcor north

	<p>of the village that are at risk of flooding. The outfall to the treatment works was washed away in August 2005.</p> <ul style="list-style-type: none"> There has also been some localised flooding from tributaries but no properties are at risk from flooding of the Ballincur River, to the south of the village 		
1.4 PFRA Data			
1.4.1 PFRA hazard mapping	PFRA mapping available in GIS layer:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	PFRA mapping included on FRR map:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
1.4.2 Summary of Principal Receptors	Type	FRI score (if available)	
	Receptors not considered as part of the PFRA process. FRI score not calculated in PFRA.		
1.7 Stage 1 Evaluation	Aspect	Clearly APSR	Uncertain
	Flood History (1.1)	X	
	OPW / LA Information (1.2)		X
	PFRA Evaluation (1.4)		X
	Overall Desktop Evaluation (if any above aspect is uncertain then overall designation is uncertain)		X
1.8 Proposed level of assessment for Stage 2 site visits	Level A Site Visit	X	
	Level B Site Visit		

Stage 2: Site Inspection		Level A Assessment		
Date and Time of Inspection		Date: 25/05/11		
		Time: 17:00		
Names of inspection team (including OPW/LA staff if present)		Alan Dew		
		James Murray		
2.1 Ground-truthing of Hazard Mapping	Fluvial non-tidal <input checked="" type="checkbox"/> Fluvial tidal <input type="checkbox"/> Coastal <input type="checkbox"/> Not available <input type="checkbox"/>			
	PFRA mapping indicates that there is no risk of flooding in the village which would appear to be a slight under-estimation.			
2.2 Spot check ground-truthing of selected receptor vulnerability (also note any key receptors noted during visit that are not identified by PFRA)	Receptor Type	Location description (if not obvious)	Exists?	Overall Vulnerability / Risk (L / M / H)
	Public house	Downstream of village green	Yes	H
	Residential properties	Left bank, downstream of village green	Yes	M
	Bed and breakfast	Left bank, downstream of village green	Yes	M
2.3 Local knowledge - on-site comments (OPW, LA and any info volunteered by local residents during visit)	No on-site comments.			
2.4 Comments on hydraulic constrictions (bridges, etc.) and conveyance routes	<p>A box culvert of ~0.50m height and 1.50m width with a trash screen fitted was observed adjacent to a new housing development upstream of the village green. During high flows, when combined with the overgrown channel, the channel could overtop but the likely bypass route would take water away from left bank without affecting any properties.</p> <p>There is a canalised section of the same tributary within the village green area, which enters the village green through a box culvert of ~1.50m width x 0.50m height. The culvert at the downstream exit from the village green is of a reduced capacity, comprising 2 arch culverts of ~0.50m height x 0.50m width. This reduced capacity is known to have been the cause of previous flood events.</p>			

2.5 SVRS Assessment Matrix												
Weightings: A - x1 - reasonable expectation of flooding B - x2 - high expectation of flooding C - x5 - risk to life												
Approx. Number	1 to 4			5 to 20			>20					
	Weighting	A	B	C	A	B	C	A	B	C		
Property (domestic)	10				100	X			200			
Property (small retail or business)	20	X			200				400			
Property (large retail or business)	50				500				1000			
Road or Rail Infrastructure	30				300				600			
Critical Infrastructure (local) [hospital, school, police/fire/ambulance station, substation, WTW/WWTW, gov bldg, other (specify)]	50				500				1000			
Critical Infrastructure (national importance)	250				1000				2000			
Cultural Heritage Site	20				200				400			
Environmental Designated Site	20				200				400			
Hazardous Substances Site	50				500				1000			
Total SVRS								120				
2.6 Defence Assets												
Formal and Informal Flood Defence Assets <i>(include effective and ineffective assets to inform asset survey and potential mitigation measures)</i>	Open Channel Watercourses Man-made river channel <input checked="" type="checkbox"/> Flood relief channel <input type="checkbox"/> Canal <input type="checkbox"/> Mill leat <input type="checkbox"/> Drainage channels / back drains <input type="checkbox"/>											
	Bridges and Culvert crossings Single Arch bridge <input type="checkbox"/> Multi-Arch bridge <input type="checkbox"/> Single Span bridge <input type="checkbox"/> Multi-Span bridge <input type="checkbox"/> Box culvert(s) <input checked="" type="checkbox"/> Pipe culvert(s) <input type="checkbox"/> Arch Culvert(s) <input checked="" type="checkbox"/>											
	Culverted Watercourses (culvert length is greater than just a crossing) Box culvert(s) <input type="checkbox"/> Pipe culvert(s) <input type="checkbox"/> Arch Culvert(s) <input type="checkbox"/> Irregular Culvert(s) <input type="checkbox"/>											
	Walls and Embankments Embankment(s) <input type="checkbox"/> Raised wall(s) <input type="checkbox"/> Retaining wall(s) <input type="checkbox"/>											
	Control Structures – weirs, gates, dams Fixed crest weir <input type="checkbox"/> Adjustable weir <input type="checkbox"/> Dam / Barrage <input type="checkbox"/> Sluice gates <input type="checkbox"/> Lock gates <input type="checkbox"/> Radial gates <input type="checkbox"/>											
	Storage On-line storage (natural) <input type="checkbox"/> On-line storage (artificial) <input checked="" type="checkbox"/> Off-line storage <input type="checkbox"/>											
	Outfalls Flapped outfall(s) into watercourse <input type="checkbox"/> Unflapped outfall(s) into watercourse <input type="checkbox"/> <i>i.e. from smaller watercourses, drains etc. into river / estuary / sea</i> Tidal flap(s) <input type="checkbox"/> Tidal sluice(s) <input type="checkbox"/> <i>i.e. from main watercourse into estuary / sea</i>											

	<p>Other Pumping Station <input type="checkbox"/> Erosion Protection <input type="checkbox"/> Sand Dunes <input type="checkbox"/> Additional notes (if required):</p>
2.8 Initial Potential Mitigation Measures	
Non-structural measures	Planning and Development control <input checked="" type="checkbox"/> Sustainable Urban Drainage Systems <input type="checkbox"/> Flood forecasting / warning <input type="checkbox"/> Change in Operating Procedures for water level control: <input type="checkbox"/> Public awareness campaign <input checked="" type="checkbox"/> Individual property protection <input checked="" type="checkbox"/> Land use management <input type="checkbox"/>
Structural measures	<p>Strategic development management for floodplain development: <input type="checkbox"/> <i>(integration of measures into strategic development proposals)</i></p> <p>Storage: On-line <input checked="" type="checkbox"/> Off-line <input type="checkbox"/> Flow diversion: Flood relief channel <input type="checkbox"/> Flood relief culvert <input type="checkbox"/> Increase conveyance: Bridge works <input type="checkbox"/> Channel works <input checked="" type="checkbox"/> Floodplain <input type="checkbox"/> Flood defences: Walls <input type="checkbox"/> Embankments <input type="checkbox"/> Localised works: Defence raising <input type="checkbox"/> In-fill gaps <input type="checkbox"/> Trash screen <input type="checkbox"/> Maintenance works: Culvert / channel clearance <input type="checkbox"/> Asset maintenance <input type="checkbox"/> Relocation of properties: <input type="checkbox"/> Improve existing defences: <input type="checkbox"/> (describe)</p> <p>Other (describe): Increase capacity of downstream culvert or culvert through village green and utilise flood storage in area upstream of recent housing development.</p>

Outcomes				
PFRA Designation	APSR <input type="checkbox"/> not an APSR <input checked="" type="checkbox"/> IRR <input type="checkbox"/>		FRI Score: Not scored	
Site Ground-truthing of PFRA Assessment (hazard mapping and receptors)	High Confidence (good)	Uncertain	Low Confidence (poor)	Not available
		X		
Site Visit Review Score	120			
Recommended Designation	APSR <input type="checkbox"/> not an APSR <input checked="" type="checkbox"/> IRR <input type="checkbox"/>			
Summary Comments (if required)	While there is a history of flooding in the area the cause and potential solution has been documented in a letter on floodmaps.ie. The desk study and consequent site visit indicate that there are an insufficient number of critical receptors at significant risk of fluvial flooding to warrant the designation of Kinnitty as an APSR.			



Photo1: Tributary at the village green, looking upstream.



Photo 2: Tributary at the village green, looking downstream.

