

Location: Ballaghaderreen, Co. Roscommon		Unique ID: 260450 (from PFRA database)	
Initial OPW Designation	APSR <input checked="" type="checkbox"/>	AFRR <input type="checkbox"/>	IRR <input type="checkbox"/>
Co-ordinates	Easting: 161500	Northing: 294249	
River / Catchment / Sub-catchment	Lung and tributaries / Lung / 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</p> <p>Tributaries to the Lung River flow south and south east through the town of Ballaghaderreen. The Lung River is located to the east and south of the town. The Lung generally flows east into Lough Gara.</p> <p>The tributaries are crossed at several locations within the town boundary. The most noteworthy of these occur along Pound Street, Park View and the drainage ditch running parallel with Barrack Street.</p> <p>Flood Event Records</p> <p>Two flood records are listed in floodmaps.ie. Minutes of a meeting with the Ballaghaderreen Area Engineer (December 2004) are available which identifies 20 areas prone to flooding throughout Ballaghaderreen. These areas are generally roads and fields.</p> <p>With indications that at least some if not all of the flooding identified by the Area Engineer is a result of severe rainfall overwhelming the storm water network. According to the report a sewage scheme has alleviated most, if not all, of this flood risk.</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>Combine with Ballaghaderreen. (260450) Need to identify this as part of other APSR - List in Shannon CFRAM Docs specifically as being part of other APSR Designated APSR on the basis of predictive analysis. (Two scores combined 280 + 150 = 430.) ??? - Marginal predictive - No History - No LA support (works to south may have addressed issue) - Split areas with combined score appx. 430</i></p> <p>LA comments <i>South of town, works may have addressed the issue, that the model may not have taken into account. Generally would feel that risk is lower Land fill site Northern side drainage may be suspect River Lung drainage system has also improved situation. New STW has also improved situation. Landfill to be capped in 2011.</i></p> <p>Meeting / discussion summary comments:</p> <p>OPW comments</p> <ul style="list-style-type: none"> The tributaries to the Lung River have flooded in the past. Works have been completed via arterial drainage scheme, the roads used to flood. Flood risk in the town itself is generally low.

	<ul style="list-style-type: none"> The flood risk is associated with the roads into and around the town. These are of critical importance, particularly the main road to Dublin, the N5. <p>LA comments</p> <ul style="list-style-type: none"> Ballaghaderreen did not flood in 2009 – historic flooding of the sewage treatment works is now not an issue. The OPW carried out a scheme in Ballaghaderreen / on the Lung River in the 1980s and 1990s. This included lowering of the River and increasing flow capacity through bridges. Landfill site to the south may be at risk of flooding. No significant flood history on the tributaries. Maintenance regime needed to be updated by the OPW as there is some silt gathering in the Lung River. 		
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)
	No principal receptors within the area for flood risk review. The FRI score is from residential and commercial properties.		
	Total		430
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: 12/05/11		
		Time: 15:00		
Names of inspection team (including OPW/LA staff if present)		Peter Smyth		
		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 hazard mapping generally good, however flooding on the tributaries may be overestimated.			
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)
	Private Dwellings - Properties at four locations were identified at being at risk in Ballaghaderreen	Location 1 and 2 - adjacent to culverts over two separate tributaries on Pound Street. Location 3 – adjacent to culvert on Convent Road Location 4 – at the end of a housing estate off Pound Street which seems to have been constructed in the Lung River Floodplain	Yes	Low
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	There are four tributaries to the Lung River in Ballaghaderreen. All of these tributaries have culverts which are likely cause hydraulic constrictions.			

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				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									100			
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>	<div> Open Channel Watercourses Man-made river channel <input type="checkbox"/> Flood relief channel <input type="checkbox"/> Canal <input type="checkbox"/> Mill leat <input type="checkbox"/> Drainage channels / back drains <input checked="" type="checkbox"/> </div> <div> Bridges and Culvert crossings Single Arch bridge <input type="checkbox"/> Multi-Arch bridge <input type="checkbox"/> Single Span bridge <input checked="" 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 type="checkbox"/> </div> <div> 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"/> </div> <div> Walls and Embankments Embankment(s) <input type="checkbox"/> Raised wall(s) <input type="checkbox"/> Retaining wall(s) <input type="checkbox"/> </div> <div> 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"/> </div> <div> Storage On-line storage (natural) <input type="checkbox"/> On-line storage (artificial) <input type="checkbox"/> Off-line storage <input type="checkbox"/> </div> <div> 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> </div>											

	Other Pumping Station <input type="checkbox"/> Erosion Protection <input type="checkbox"/> Sand Dunes <input type="checkbox"/> Additional notes (if required):
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	Strategic development management for floodplain development: <input type="checkbox"/> <i>(integration of measures into strategic development proposals)</i> Storage: On-line <input 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 checked="" type="checkbox"/> Channel works <input type="checkbox"/> Floodplain <input type="checkbox"/> Flood defences: Walls <input checked="" 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 checked="" type="checkbox"/> Improve existing defences: <input type="checkbox"/> (describe) Other (describe):

Outcomes				
PFRA Designation	APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/>		FRI Score: 430	
Site Ground-truthing of PFRA Assessment (hazard mapping and receptors)	High Confidence (good)	Uncertain	Low Confidence (poor)	Not available
		X		
Site Visit Review Score	100			
Recommended Designation	APSR <input type="checkbox"/> not an APSR <input checked="" type="checkbox"/> IRR <input type="checkbox"/>			
Summary Comments (if required)	There are a number of watercourses flowing through Ballaghaderreen, each with different hydrological conditions. There are several properties potentially at risk of flooding along most of these watercourses, but they are all hydrologically independent. Generally, there are an insufficient number of critical receptors of significant risk of flooding within Ballaghaderreen to warrant its designation as an APSR.			



Photo1: Tributary to the River Lung in Ballaghaderreen.



Photo 2: Culvert on Tributary to the River Lung in Ballaghaderreen.



Photo 3: Tributary to the River Lung in Ballaghaderreen.



Photo 4: Tributary to the River Lung in Ballaghaderreen.



Photo 5: Tributary to the River Lung in Ballaghaderreen.



Photo 6: Culvert on Tributary to the River Lung in Ballaghaderreen.

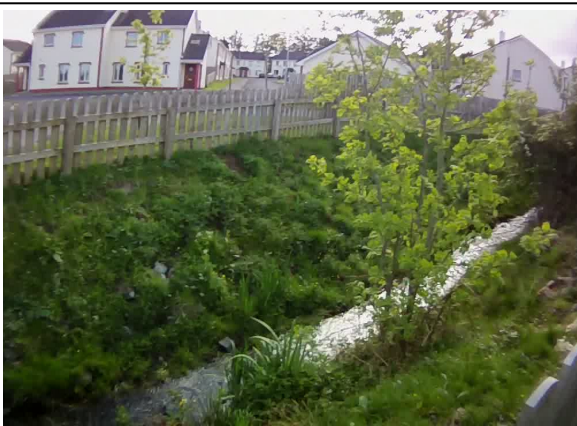


Photo 7: Tributary to the River Lung in Ballaghaderreen.



Photo 8: River Lung South of Ballaghaderreen.

