

Location: Mohill, Co. Leitrim		Unique ID: 260466 (from PFRA database)	
Initial OPW Designation	APSR <input checked="" type="checkbox"/>	AFRR <input type="checkbox"/>	IRR <input type="checkbox"/>
Co-ordinates	Easting: 208838	Northing: 296957	
River / Catchment / Sub-catchment	River Rinn / 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	
<p>1.1 Flood History (include review of Floodmaps.ie)</p>	<p>River Flow Path</p> <p>To the south of Mohill are the Creenagh, Errew and Rinn Loughs and their associated rivers the Lurge, Errew and Rinn. Tributaries to these Loughs are located within the Mohill town boundary.</p> <p>Watercourse flowing alongside Castle Street includes pedestrian and vehicular access crossings.</p> <p>Flood Event Records</p> <p>One flood record is listed on floodmaps.ie for Mohill. This event is undated.</p>
<p>1.2 Relevant information on flooding issues from OPW and LA staff</p>	<p>PFRA database comments (<i>in italics</i>):</p> <p>OPW comments <i>Designated APSR on the basis of predictive analysis. LA recommend downgrade to RR Heavily driven by school, but res + com still > 250 - No wedges Maintain as APSR and Risk Review (as required for all APSRs) can confirm status</i></p> <p>LA comments <i>NOT KNOWN. No knowledge of flooding here, even in November 2009. Not APSR. Which school? Tributary Reslin? Mohill Stream goes into Lough Rynn. Risk Review</i></p> <p>Meeting / discussion summary comments:</p> <p>OPW comments</p> <ul style="list-style-type: none"> No knowledge of flooding. Paul Costello (OPW) grew up in Mohill and is not aware of any issues. <p>LA comments</p> <ul style="list-style-type: none"> Did not flood during November 2009. Brian Kenny (Leitrim CoCo) considered to be a lower risk than Dromod. Brian Kenny was not aware of any impacts in Mohill. Sewage treatment works equipped to pump to stream if water level rises above the outfall level.

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)	
	Primary School	250	
	WWTW	25	
	Arch_Local	10	
	Arch_Regional	121	
	Monument_LV	40	
	Total	720	
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: 20/05/11		
		Time: 09:00		
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"/> Flood plain constrained along majority of main river through Mohill as per PFRA prediction. PFRA hazard mapping is reasonably accurate			
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)
	Castle		Yes	Medium
	School – National (right bank)		Yes	Medium
	School – Primary (left bank)		Yes	Medium
	Library (left bank)		Yes	Medium
	STW		Yes	Medium
2.3 Local knowledge - on-site comments (OPW, LA and any info volunteered by local residents during visit)	<p>Discussions with garden centre owner which is situated on left bank of main river downstream of Mohill. It has not flooded in 20 years, despite being located immediately adjacent to the river. Noted that maximum observed level was ~100mm below bank crest, takes.</p> <p>Discussions with homeowner on the left bank, adjacent to upstream culvert headwall Mohill town centre; has not seen flooding in past 40 years. When flooded only affected former green area in town centre on immediate right bank of river (now has statue and paving). Flow through culvert was improved 20+years ago and there have been no problems since.</p> <p>South West of town centre – homeowner has been in property on upstream left bank of eastern R201 culvert for 20+years. Historically some flooding issues but the culvert causing the problem was upsized to a 1.2m dia. Pipe and there has been no flood events since</p>			
2.4 Comments on hydraulic constrictions (bridges, etc.) and conveyance routes	The watercourse through the town is heavily modified and generally of good capacity. There are a number of crossings to this watercourse of varying capacity. All are of good capacity although several headwalls have bricks removed which could act as a flow path.			

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	X			400			
Property (large retail or business)	50				500				1000			
Road or Rail Infrastructure	30	X			300				600			
Critical Infrastructure (local) [hospital, school, police/fire/ambulance station, substation, WTW/WWTW, gov bldg, other (specify)]	50	X			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									380			
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 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 checked="" type="checkbox"/> Multi-Arch bridge <input checked="" 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 checked="" 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 checked="" 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 checked="" type="checkbox"/> Erosion Protection <input type="checkbox"/> Sand Dunes <input type="checkbox"/> Additional notes (if required):</p>
<p>2.8 Initial Potential Mitigation Measures</p>	
<p>Non-structural measures</p>	<p>Planning and Development control <input 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 type="checkbox"/> Individual property protection <input checked="" type="checkbox"/> Land use management <input type="checkbox"/></p>
<p>Structural measures</p>	<p>Strategic development management for floodplain development: <input type="checkbox"/> <i>(integration of measures into strategic development proposals)</i> 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 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 checked="" type="checkbox"/> Trash screen <input type="checkbox"/> Maintenance works: Culvert / channel clearance <input checked="" type="checkbox"/> Asset maintenance <input checked="" type="checkbox"/> Relocation of properties: <input type="checkbox"/> Improve existing defences: <input type="checkbox"/> (describe) Other (describe): Repair gaps in walls alongside river in centre of Mohill</p>

Outcomes				
PFRA Designation	APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/>		FRI Score: 720	
Site Ground-truthing of PFRA Assessment (hazard mapping and receptors)	High Confidence (good)	Uncertain	Low Confidence (poor)	Not available
	x			
Site Visit Review Score	380			
Recommended Designation	APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/>			
Summary Comments (if required)	<p>Mohill is recommended as an APSR on the basis that the heavily modified nature of the watercourse through the centre of town, although of good capacity, is believed to be insufficient to convey a modest flood flow. This is exacerbated by a number of culverts of lesser capacity than the main river channel. A number of bricks are missing from culvert headwalls and the rivers retaining walls which would reduce the standard of protection further.</p> <p>Although there is little history of flooding at Mohill it is noted that storms on the Shannon (particularly the November 2009 event) have typically been along the southern and western catchments. Therefore, because Mohill does not have a record of historic flood events, is not an accurate indication that Mohill does not have a significant flood risk.</p> <p>The main part of the town is lower than the river bank top level. If the river comes out of bank, it will flow away from the river and flood a significant area in the centre of town.</p>			



Photo 1: Twin arch culvert at watercourse in Mohill town centre



Photo 2: Constrained watercourse in Mohill town centre



Photo 3: Constrained watercourse in Mohill town centre



Photo 4: Mohill town centre with watercourse in foreground

