

<b>Location: Annacarriga, Co. Clare</b>		<b>Unique ID: 250405</b> (from PFRA database)	
<b>Initial OPW Designation</b>	<b>APSR</b> <input type="checkbox"/>	<b>AFRR</b> <input checked="" type="checkbox"/>	<b>IRR</b> <input type="checkbox"/>
<b>Co-ordinates</b>	<b>Easting: 168000</b>	<b>Northing: 177750</b>	
<b>River / Catchment / Sub-catchment</b>	<b>Lough Derg and tributary / Shannon</b>		
<b>Type of Flooding / Flood Risk</b> (identify all that apply)	<b>Fluvial non-tidal</b> <input checked="" type="checkbox"/> <b>Fluvial tidal</b> <input type="checkbox"/> <b>Coastal</b> <input type="checkbox"/>		

<b>Stage 1: Desktop Review</b>	
<b>1.1 Flood History (include review of Floodmaps.ie)</b>	<p><b>River Flow Path</b></p> <p>Annacarriga is located on the right bank of Lough Derg. The R463 is the main trunk road through Annacarriga and it crosses minor watercourses which are draining to Lough Derg.</p> <p><b>Flood Event Records</b></p> <p>There are no records of flood events for Annacarriga on floodmaps.ie.</p>
<b>1.2 Relevant information on flooding issues from OPW and LA staff</b>	<p><b>PFRA database comments (<i>in italics</i>):</b></p> <p><b><i>OPW comments</i></b> <i>Not designated as APSR, no historical record. Some wedges - Very small community - No history of flooding - Check strength of support</i></p> <p><b><i>LA comments</i></b> <i>APSR Score = 459, Lakeside development, marina and Holiday Homes at risk, Local Authority agreed to leave as an APSR.</i></p> <p><b>Meeting / discussion summary comments:</b></p> <p><b>OPW comments</b></p> <ul style="list-style-type: none"> <li>OPW not familiar with flood risk at Annacarriga and had no formal comments.</li> </ul> <p><b>LA comments</b></p> <ul style="list-style-type: none"> <li>No significant issues identified to date.</li> <li>The land upstream of the village is flat, marshy/boggy lands. Although the gradient of the river becomes steep through the village.</li> </ul>

<b>1.4 PFRA Data</b>			
<b>1.4.1 PFRA hazard mapping</b>	<b>PFRA mapping available in GIS layer:</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	<b>PFRA mapping included on FRR map:</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<b>1.4.2 Summary of Principal Receptors</b>	<b>Type</b>	<b>FRI score (if available)</b>	
	No principal receptors within the area for flood risk review. The FRI score is from residential and commercial properties.  <b>Total</b>	<b>251</b>	
<b>1.7 Stage 1 Evaluation</b>	<b>Aspect</b>	<b>Clearly APSR</b>	<b>Uncertain</b>
	<b>Flood History (1.1)</b>		<b>X</b>
	<b>OPW / LA Information (1.2)</b>		<b>X</b>
	<b>PFRA Evaluation (1.4)</b>		<b>X</b>
	<b>Overall Desktop Evaluation</b> (if any above aspect is uncertain then overall designation is uncertain)		<b>X</b>
<b>1.8 Proposed level of assessment for Stage 2 site visits</b>	<b>Level A Site Visit</b>	<b>X</b>	
	<b>Level B Site Visit</b>		

<b>Stage 2: Site Inspection</b>		<b>Level A Assessment</b>		
<b>Date and Time of Inspection</b>		<b>Date: 07/06/11</b>		
		<b>Time: 14:00</b>		
<b>Names of inspection team (including OPW/LA staff if present)</b>		<b>Mathieu Valois</b>		
		<b>James Murray</b>		
<b>2.1 Ground-truthing of Hazard Mapping</b>	<b>Fluvial non-tidal</b> <input checked="" type="checkbox"/> <b>Fluvial tidal</b> <input type="checkbox"/> <b>Coastal</b> <input type="checkbox"/> <b>Not available</b> <input type="checkbox"/>			
	Flood risk from the tributary seems to be overestimated by the PFRA. The main flood risk identified on-site is from the River Shannon.			
<b>2.2 Spot check ground-truthing of selected receptor vulnerability (also note any key receptors noted during visit that are not identified by PFRA)</b>	<b>Receptor Type</b>	<b>Location description (if not obvious)</b>	<b>Exists?</b>	<b>Overall Vulnerability / Risk (L / M / H)</b>
	Properties – there are two separate groups of properties considered during the flood risk review	Location 1 The Marina – there are several holiday homes situated on the left bank of Lough Derg	Yes	Low
		Location 2 – further upstream on a tributary to Lough Derg, there is a small group of properties on the left bank near a bridge crossing. These are situated on high ground.	Yes	Low
<b>2.3 Local knowledge - on-site comments (OPW, LA and any info volunteered by local residents during visit)</b>	No on-site comments.			
<b>2.4 Comments on hydraulic constrictions (bridges, etc.) and conveyance routes</b>	Tributary to Lough Derg has a single arch bridge with several adjacent properties. Good capacity through bridge which is unlikely to be a constriction to flow.			

2.5 SVRS Assessment Matrix												
<b>Weightings:</b> <b>A - x1 - reasonable expectation of flooding</b> <b>B - x2 - high expectation of flooding</b> <b>C - x5 - risk to life</b>												
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			
<b>Critical Infrastructure (local)</b> [hospital, school, police/fire/ambulance station, substation, WTW/WWTW, gov bldg, other (specify)]	50				500				1000			
<b>Critical Infrastructure (national importance)</b>	250				1000				2000			
Cultural Heritage Site	20				200				400			
Environmental Designated Site	20				200				400			
Hazardous Substances Site	50				500				1000			
<b>Total SVRS</b>									<b>100</b>			
2.6 Defence Assets												
<b>Formal and Informal Flood Defence Assets</b> <i>(include effective and ineffective assets to inform asset survey and potential mitigation measures)</i>	<b>Open Channel Watercourses</b> 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"/>											
	<b>Bridges and Culvert crossings</b> 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 type="checkbox"/> Pipe culvert(s) <input type="checkbox"/> Arch Culvert(s) <input type="checkbox"/>											
	<b>Culverted Watercourses</b> (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"/>											
	<b>Walls and Embankments</b> Embankment(s) <input type="checkbox"/> Raised wall(s) <input type="checkbox"/> Retaining wall(s) <input type="checkbox"/>											
	<b>Control Structures – weirs, gates, dams</b> 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"/>											
	<b>Storage</b> On-line storage (natural) <input type="checkbox"/> On-line storage (artificial) <input type="checkbox"/> Off-line storage <input type="checkbox"/>											
	<b>Outfalls</b> 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><b>Other</b></p> <p>Pumping Station <input type="checkbox"/> Erosion Protection <input type="checkbox"/> Sand Dunes <input type="checkbox"/></p> <p><b>Additional notes (if required):</b></p>
<p><b>2.8 Initial Potential Mitigation Measures</b></p>	
<p><b>Non-structural measures</b></p>	<p>Planning and Development control <input checked="" type="checkbox"/></p> <p>Sustainable Urban Drainage Systems <input type="checkbox"/></p> <p>Flood forecasting / warning <input checked="" type="checkbox"/></p> <p>Change in Operating Procedures for water level control: <input checked="" type="checkbox"/></p> <p>Public awareness campaign <input checked="" type="checkbox"/></p> <p>Individual property protection <input type="checkbox"/></p> <p>Land use management <input checked="" type="checkbox"/></p>
<p><b>Structural measures</b></p>	<p><b>Strategic development management for floodplain development:</b> <input checked="" type="checkbox"/> <i>(integration of measures into strategic development proposals)</i></p> <p><b>Storage:</b> On-line <input checked="" type="checkbox"/> Off-line <input type="checkbox"/></p> <p><b>Flow diversion:</b> Flood relief channel <input type="checkbox"/> Flood relief culvert <input type="checkbox"/></p> <p><b>Increase conveyance:</b> Bridge works <input type="checkbox"/> Channel works <input type="checkbox"/> Floodplain <input type="checkbox"/></p> <p><b>Flood defences:</b> Walls <input type="checkbox"/> Embankments <input type="checkbox"/></p> <p><b>Localised works:</b> Defence raising <input type="checkbox"/> In-fill gaps <input type="checkbox"/> Trash screen <input type="checkbox"/></p> <p><b>Maintenance works:</b> Culvert / channel clearance <input type="checkbox"/> Asset maintenance <input type="checkbox"/></p> <p><b>Relocation of properties:</b> <input checked="" type="checkbox"/></p> <p><b>Improve existing defences:</b> <input type="checkbox"/> (describe)</p> <p><b>Other (describe):</b></p>

<p><b>Outcomes</b></p>				
<p><b>PFRA Designation</b></p>	<p>APSR <input type="checkbox"/> not an APSR <input checked="" type="checkbox"/> IRR <input type="checkbox"/></p>	<p><b>FRI Score: 251</b></p>		
<p><b>Site Ground-truthing of PFRA Assessment (hazard mapping and receptors)</b></p>	<p><b>High Confidence (good)</b></p>	<p><b>Uncertain</b></p>	<p><b>Low Confidence (poor)</b></p>	<p><b>Not available</b></p>
		<p>X</p>		
<p><b>Site Visit Review Score</b></p>	<p>100</p>			
<p><b>Recommended Designation</b></p>	<p>APSR <input type="checkbox"/> not an APSR <input checked="" type="checkbox"/> IRR <input type="checkbox"/></p>			
<p><b>Summary Comments (if required)</b></p>	<p>All properties at the marina have raised threshold levels (1-1.5m above top of bank). Road and access may be flooded in lower return periods but the properties themselves are not at significant risk from flooding.</p> <p>Properties away from the marina are situated on sufficiently high ground. The nearby bridge does not pose a constriction to flow and there is no back water effect from Lough Derg.</p> <p>There are an insufficient number of critical receptors at significant risk of flooding to warrant designation as an APSR.</p>			



**Photo1:** Bridge at location 2 (See Section 2.2)



**Photo 2:** Marina



**Photo 3:** Watercourse immediately upstream of Marina



**Photo 4:** Lough Derg

