

<b>Location: Ballyfarnon, Co. Roscommon</b>		<b>Unique ID: 263286</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: 186623</b>	<b>Northing: 313762</b>	
<b>River / Catchment / Sub-catchment</b>	<b>Feorish River / 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</b> (include review of Floodmaps.ie)	<b>River Flow Path</b> <p>The River Feorish flows through Ballyfarnon and meanders southward towards Lough Skean, approximately 1.5 kilometres downstream.</p> <p>The River Feorish is crossed by the R284 which is the main trunk road through Ballyfarnon.</p> <b>Flood Event Records</b> <p>Two flood records are listed on floodmaps.ie, one is from November 2009 while the other is un-dated.</p>
<b>1.2 Relevant information on flooding issues from OPW and LA staff</b>	<b>PFRA database comments (<i>in italics</i>):</b> <p><b>OPW comments</b>  <i>STW at risk OPW Regional Office House But history, and 2009. STW at risk at all times. 5-6 houses at risk. 1-2 flood regularly. OPW have carried out drainage – River Feorish. Refer to John C. Murphy Decision should be based on OPW Regional Office confidence in works.</i></p> <p><b>LA comments</b>  <i>Not designated APSR as failed to reach predictive analysis threshold. Additional info provided by LA as requested - upgrade from RR to APSR?</i></p> <p><b>Meeting / discussion summary comments:</b></p> <p><b>OPW comments</b></p> <ul style="list-style-type: none"> <li>Flood risk, flooded pre-2009, possibly due to blockage in bridge following a landslip upstream.</li> <li>Channel cleaned out downstream to the sharp meander.</li> <li>3-4 properties are considered at risk</li> <li>Bridge has been refurbished, banks upstream maintained in 2010.</li> <li>Tree cutting was completed in 2009.</li> <li>Works not considered sufficient to remove flood risk.</li> <li>Very flashy and did not get full rainfall intensity in Nov 2009.</li> </ul> <p><b>LA comments</b></p> <ul style="list-style-type: none"> <li>The river is flashy and has a history of flooding.</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>	
	Receptors not considered as part of the PFRA process.  FRI score not calculated in PFRA.		
<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: 27/04/11</b>		
		<b>Time: 15:00</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"/> PFRA hazard mapping seems reasonably accurate.			
<b>2.2 Spot check ground-truthing of selected receptor vulnerability</b>  <b>(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>
	Garda Station, 4 properties and a car repair garage	upstream of town on right bank	Yes	High
	WWTW	downstream of town on left bank	Yes	Medium
<b>2.3 Local knowledge - on-site comments</b>  <b>(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>	<p>One main bridge in the town consisting of stone arch (downstream) and box culvert (upstream) probably widened in the recent past with the box sections. Area has been cleared and drainage works carried out. However, due to the flashy nature of the catchment this bridge could still cause a constriction to flow.</p> <p>There are two further bridges downstream and well outside Ballyfarnon. These bridges seem to have reasonable capacity; however there is a lot of overgrowth on the banks of the river which increases the possibility of blockages. If these bridges were blocked it would likely only affect floodplain downstream of the village.</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		X		100				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		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			
<b>Total SVRS</b>									<b>160</b>			

## 2.6 Defence Assets

**Formal and Informal Flood Defence Assets**  
(include effective and ineffective assets to inform asset survey and potential mitigation measures)

### Open Channel Watercourses

Man-made river channel ☒ Flood relief channel ☐ Canal ☐  
Mill leat ☐ Drainage channels / back drains ☐

### Bridges and Culvert crossings

Single Arch bridge ☒ Multi-Arch bridge ☐  
Single Span bridge ☒ Multi-Span bridge ☐  
Box culvert(s) ☒ Pipe culvert(s) ☐ Arch Culvert(s) ☐

### Culverted Watercourses (culvert length is greater than just a crossing)

Box culvert(s) ☐ Pipe culvert(s) ☐ Arch Culvert(s) ☐ Irregular Culvert(s) ☐

### Walls and Embankments

Embankment(s) ☐ Raised wall(s) ☒ Retaining wall(s) ☐

### Control Structures – weirs, gates, dams

Fixed crest weir ☐ Adjustable weir ☐ Dam / Barrage ☐  
Sluice gates ☐ Lock gates ☐ Radial gates ☐

### Storage

On-line storage (natural) ☐ On-line storage (artificial) ☐ Off-line storage ☐

### Outfalls

Flapped outfall(s) into watercourse ☐ Unflapped outfall(s) into watercourse ☐  
i.e. from smaller watercourses, drains etc. into river / estuary / sea  
Tidal flap(s) ☐ Tidal sluice(s) ☐  
i.e. from main watercourse into estuary / sea

	<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>Banks near the bridge in Ballyfarnon have been maintained by the OPW and provide additional protection, however the ability of these banks to withstand severe flood events is questionable.</p>
<b>2.8 Initial Potential Mitigation Measures</b>	
<b>Non-structural measures</b>	<p>Planning and Development control <input checked="" type="checkbox"/></p> <p>Sustainable Urban Drainage Systems <input type="checkbox"/></p> <p>Flood forecasting / warning <input type="checkbox"/></p> <p>Change in Operating Procedures for water level control: <input type="checkbox"/></p> <p>Public awareness campaign <input checked="" type="checkbox"/></p> <p>Individual property protection <input checked="" type="checkbox"/></p> <p>Land use management <input type="checkbox"/></p>
<b>Structural measures</b>	<p><b>Strategic development management for floodplain development:</b> <input type="checkbox"/>  <i>(integration of measures into strategic development proposals)</i></p> <p><b>Storage:</b> On-line <input 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 checked="" type="checkbox"/> Floodplain <input checked="" type="checkbox"/></p> <p><b>Flood defences:</b> Walls <input checked="" type="checkbox"/> Embankments <input checked="" type="checkbox"/></p> <p><b>Localised works:</b> Defence raising <input checked="" type="checkbox"/> In-fill gaps <input type="checkbox"/> Trash screen <input type="checkbox"/></p> <p><b>Maintenance works:</b> Culvert / channel clearance <input checked="" type="checkbox"/> Asset maintenance <input checked="" 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>The current maintenance works could be improved and the addition of engineered embankments and walls could reduce the risk of flooding.</p>

<b>Outcomes</b>				
<b>PFRA Designation</b>	APSR <input type="checkbox"/> not an APSR <input checked="" type="checkbox"/> IRR <input type="checkbox"/>		FRI Score: None	
<b>Site Ground-truthing of PFRA Assessment (hazard mapping and receptors)</b>	<b>High Confidence (good)</b>	<b>Uncertain</b>	<b>Low Confidence (poor)</b>	<b>Not available</b>
	<b>X</b>			
<b>Site Visit Review Score</b>	<b>160</b>			
<b>Recommended Designation</b>	APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/>			
<b>Summary Comments (if required)</b>	The reasons for the recommendation of Ballyfarnon as an APSR are; <ul style="list-style-type: none"> <li>• The recent flood history which indicates that receptors are at a high expectation of flooding.</li> <li>• OPW has carried out minor works but there is concern over their suitability during significant flood events.</li> <li>• The flashy nature of the flooding at Ballyfarnon.</li> <li>• While the APSR boundary has not yet been defined the on-site visual inspection indicates that the WWTP would fall within the APSR boundary and is considered as a receptor at Ballyfarnon.</li> </ul>			



**Photo1:** View from bridge where flooding has occurred in Ballyfarnon, looking downstream



**Photo 2:** Upstream face of bridge where flooding on the right bank has occurred in the past



**Photo 3:** View from bridge where flooding has occurred in Ballyfarnon, looking upstream



**Photo 4:** Watercourse downstream of Ballyfarnon



