Fish Passage and Waterway Barrier Works

Operational works associated with the construction or modification of instream infrastructures have the potential to impede fish passage within the stream. The Queensland Government have implemented legislation to mitigate any potential impacts. Under this legislation, such developments have to meet the *Accepted development requirement for operational work that is construction or raising waterway barrier work* (self-assessable code) OR, be assessed against the State Development Assessment Provisions (SDAP) code for construction or raising waterway barrier works.

To ensure that legislative requirements are met and adequate provisions for fish passage are provided, design input from fish passage specialists is recommended. Developments which are assessed against the SDAP code often include conditions for construction of fish passage components to be supervised by *a person or entity that is suitably qualified and experienced in fish passage biology and fish passage design and construction*, and also that monitoring programs be implemented to ensure that the fish passage provisions are functioning as designed. Catchment Solutions' Fisheries and Aquatic Ecosystems team have extensive experience in fish passage and offer a range of services including:

- Fishway design,
- Waterway barrier works development approval facilitation,
- Construction supervision,
- Monitoring and evaluation,
- Waterway fish community assessment (electrofishing), and
- Barrier assessment & prioritisation.

Demonstrated Projects with State Development Approval

Catchment Solutions have provided fish passage services to local and state governments and natural resource management groups. Many of these projects involved the retrofit of fishways to existing barriers to improve ecosystem health, but increasingly our services are being requested for new developments such as causeway replacements, weir upgrades and bed control structures. Recent state development approved projects undertaken by Catchment Solutions include;

Project Title	SDA Number	Client	Project Outline	Design	DA Process	Construction Supervision	Evaluation
Dougherty's Rd, Boundary Creek, Mackay	1908-12712 SDA	Mackay Regional Council	Replacement of flood damaged causeway incorporating rock ramp and baffle fishway	Technical Support	Facilitated	TBA	TBA
Clews Rd, Murray Creek, Mackay	1807-6114 SDA	Mackay Regional Council	Replacement of flood damaged causeway incorporating rock ramp fishway	Technical Support	Facilitated	Supervised	TBA
Jolimont Weir, Jolimont Creek, Mackay	1907-12040 SDA	Mackay Regional Council	Retrofit of cone and rock ramp fishway to existing weir	Led	Facilitated	TBA	TBA
Petrie St, Floodgate Upgrade, Mackay	SDA-0717-040705	Mackay Regional Council	Floodgate upgrade incorporating tidally automated gates.	Technical Support	Technical Support	TBD	TBD-
Woodleigh Station Dam Upgrade, Innot Hot Springs	1809-7603 SRA	Terrain	Spillway upgrade and bed control incorporating rock ramp fishway.	Technical Support	Facilitated	NA	NA
Sandy Creek Fishway, Mackay	1712- 3095 SDA	Mackay Regional Council	Retrofit of rock ramp fishway to existing weir.	Led	Facilitated	TBA	TBA

Slacks Creek Fishway, Logan	SDA- 0417-038416	Logan City Council	Retrofit of rock ramp and horizontal baffle fishway to existing causeway.	Led	Facilitated	Led	Led
South Pine River Fishway, Brendale	SDA- 0916-033206	Moreton Bay Regional Council	Retrofit of rock ramp to existing causeway.	Led	Facilitated	Supervised	Led
Berrys Weir Fishway, Ipswich	SDA- 0516-00273	Ipswich City Council	Retrofit of rock ramp to existing weir.	Led	Facilitated	Led	Led
Blackrock Creek Fishway, Calen	SDA- 0516-030503	Mackay Regional Council/ Reef Catchments	Retrofit of rock ramp to existing causeway.	Led	Facilitated	Led	Led
Boundary Creek Eastern Fishway, Koumala	SDA- 0516-030218	Reef Catchments	Retrofit of cone ramp fishway to existing causeway.	Led	Facilitated	Led	Led
Condamine Town Weir Fishway, Condamine	SDA- 0915-024060	Queensland Murray Darling Committee	Retrofit of rock ramp fishway to existing weir.	Support	Facilitated	Led	Led
Clyde Creek Bank Stabilisation and Fish Habitat Improvement Project, Gladstone	1711-2501 SRA	Fisheries Queensland	Installation of large log-jam structures in to stabilise bank and provide structurally complex habitat improvement.	Led	Facilitated	Led	Led

Figure 1. Clews Road causeway was upgraded in 2019 with a concrete flooded causeway. Fish passage provisions incorporated a low flow rock ramp and high flow graded scour protection to the width of the main channel.

Figure 2. Berry's weir on the Bremer River at Ipswich, A historic weir retrofitted with the longest rock-ramp fishway in Queensland.

Figure 3. South Pine River fishway at Leitch's Crossing in Brendale, retrofitted to a pedestrian causeway under state development approval in 2017.

Figure 4. Boundary Creek cone ramp fishway was retrofitted to a ponded pasture spillway to provide connectivity between the estuary and wetland nursery fish habitats upstream.