

Block Ramp fishway for weirs, grade control, aprons and drops DS02

Fishway configuration and suitability

- low gradient structure comprising a series of transverse ridges formed from V-slot blocks, with short pool sections between the ridges to create a series of miniature pools and riffles
- block ramp fishways have localised drops ranging from 50 mm to 100 mm at ridges, spaced from 1200 to 1800 mm apart, with overall longitudinal slope ranging from 1 in 24 to 1 in 8
- suited for use in free standing grade control structures in an open channel or as attached structures to the inlet or outlet of road culverts, on aprons, or downstream of weirs or drops
- used to overcome water surface drops / steep channels or to raise tailwater levels at structures



(Photo: Ross Kapitzke 21/05/10)

Performance characteristics

- provides for fish passage using continuous or burst and rest swimming pattern through low velocity zones and shelter areas for range of flows within and surcharging the block ridges
- provides for juvenile and adult native fish species with range of fish movement characteristics
- ridges and pools provide favourable hydraulic conditions for fish movement / resting areas – monitoring and adaptation continuing, including microhabitat / artificial substrate in channel
- open channel block configuration submerged at high flows provides favourable self-cleaning and through-flow attributes for sediment and debris – monitoring and adaptation continuing



(Photo: Ross Kapitzke 21/05/10)

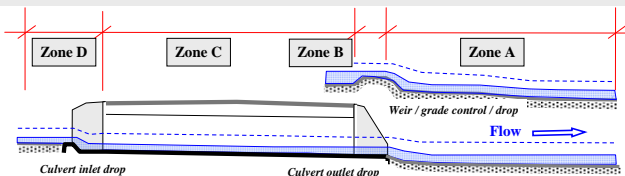
Kapitzke 2010, *Culvert fishway planning and design guidelines*, available from <http://www.jcu.edu.au/fishpassagedesign/>

Prefabricated components and fishway assembly (see product sheets for full configurations and sizes)

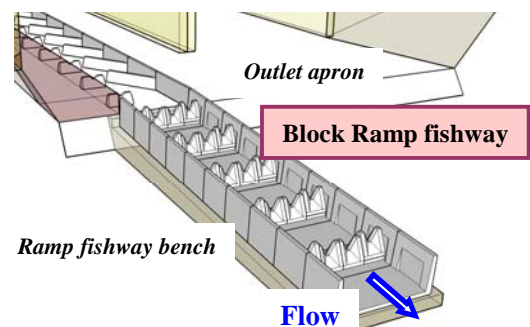
Fishway system	W (nom)	A	B (nom)	C
1200 x 300 mm	1200	300	300	150
1200 x 230 mm	1200	230	300	110
1500 x 375 mm	1500	375	375	190
1500 x 300 mm	1500	300	300	150
1500 x 230 mm	1500	230	300	110
1800 x 450 mm	1800	450	450	225
1800 x 300 mm	1800	300	300	150

Application within hydraulic zones of culverts and other waterway structures

- Zone D: Box / pipe culvert inlet drop and upstream apron
- Zone C / B: Steep box culvert barrel / Steep downstream apron
- Zone A: Culvert outlet drop / Weir and grade control drop
- Zone A: Channelised waterway



Longitudinal Section: Culvert, grade control and drop hydraulic zones



Walaman Fishways

Walaman Fishways provide a range of prefabricated fishways for installation at culverts and other small waterway structures to overcome hydraulic barriers to fish migration, provide for aquatic fauna connectivity, and meet other multipurpose design requirements.

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