The following material is based principally on ***Culvert Fishway Planning and Design Guidelines***, which provide designers with a basis for planning, design and implementation of fish passage facilities at road crossings and other small waterway structures.

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Fishway component types for small waterway structures

TS02

The configuration of fish passage facilities at a waterway structure is established on the basis of fish migration barrier characteristics of the structure and fish passage goals and other multipurpose requirements for the site. A number of fishway configuration options comprising several component types may be considered to overcome migration barriers within various hydraulic zones of the structure.

Offset Baffle fishway – Box culverts, aprons and channels

Valaman

- series of low baffles fixed to structure base
- suited to relatively shallow high velocity flow
- less suited to deep slow water environments
- provides low velocity / shelter / flow circulation for flows within and surcharging the baffles
- good self-cleaning and through-flow attributes

Corner "EL" Baffle fishway – Box culverts

- series of "L" shaped baffles perpendicular to wall
- suited to relatively deep low velocity flow
- less suited to shallow high velocity flow
- provides flow resistance / shelter / recirculation within baffle field for full height of baffles
- good self-cleaning and through-flow attributes

Offset Baffle fishway – Pipe culverts

- series of low baffles fixed to structure base
- suited to relatively shallow high velocity flow
- less suited to deep slow water environments
- provides low velocity / shelter / flow circulation for flows within and surcharging the baffles
- less suited to pipe culverts than to box culverts

Corner "Quad" Baffle fishway – Pipe culverts

- series of quad baffles perpendicular to wall
- suited to relatively deep low velocity flow
- more readily constructed than offset baffle
- provides flow resistance / shelter / recirculation within baffle field for full height of baffles
- good self-cleaning and through-flow attributes

Rock Ramp fishway – Open channels

- series of transverse rock ridges with small pools
- localised drops ranging from 50 mm to 100 mm
- suited for free standing or attached structures
- provides low velocity zones / shelter areas for flows within and surcharging the rock ridges
- multiple interconnected pathways for fish passage

Block Ramp fishway – Weirs, grade control, aprons and drops

Valaman

- series of transverse ridge V-slots with small pools
- localised drops ranging from 50 mm to 100 mm
- suited for weirs, grade control, aprons or drops
- provides low velocity zones / shelter areas for flows within and surcharging the block ridges
- suited for use in fishway system with offset baffle

Possible application of fishway component types for particular hydraulic zones of culverts / waterway structures

Fishway component type	Zone D: Culvert inlet and upstream channel	Zone C: Culvert barrel	Zone B: Culvert outlet & downstream apron	Zone A: Downstream channel
Offset Baffle – Box	✓	✓	✓	
EL Baffle – Box	✓	✓	✓	
Offset Baffle – Pipe		✓	✓	
Quad Baffle – Pipe		✓		
Rock Ramp – Open ch	✓			✓
Block Ramp – Drop	✓		✓	✓

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