Fish Passage Assessment Form

Back-up paper form for the NIWA Citizen Science Fish Passage Assessment App

☐ *(!) Tick once this form has been entered into the the NIWA Citizen Science Fish passage assessment app*

A - General information

Photos taken?* (tick box below)	**Photo reference** (time, file name etc.)
☐ Upstream - upstream side of structure	
☐ Downstream - downstream end of structure	

Location* (NZTM)	
E	
N	

Date*	
Time*	
Organisation*	
Your name*	
Site name**	
Waterway name**	

Flow*
- ☐ No flow
- ☐ Low
- ☐ Normal
- ☐ High
- ☐ Unknown

Tidal*
- ☐ Yes
- ☐ No
- ☐ Unknown

Stream width* (m)	
Bankfull width* (m)	

Structure type* (tick box below)
- ☐ Culvert (B)
- ☐ Ford with culvert (C)
- ☐ Ford without culvert (C)
- ☐ Weir (D)
- ☐ Dam (E)
- ☐ Flap gate with culvert (F)
- ☐ Flap gate without culvert (F)
- ☐ Pump station (G)
- ☐ Natural (H)
- ☐ Bridge (I)
- ☐ Other (J)
- ☐ Structure removed (K)

(!) Please go to the corresponding section in brackets once this section has been completed.

Asset ID no.		
Assest owner	☐ DOC	☐ Private
	☐ KiwiRail	☐ Territorial authority
	☐ NZTA	☐ Regional council
	☐ Other	☐ Unknown
Other description		

B - Culvert

Number of culvert barrels*	

Culvert barrels the same?
☐ Yes
☐ No
☐ Unknown
In a multi-barrel culvert do all the barrels have the same characteristics?

Culvert shape*
☐ Pipe
☐ Box
☐ Arch
☐ Other:
Specify for each barrel if different, e.g. 1-2=arch, 3=box

Culvert material
☐ Concrete
☐ Metal
☐ Wood
☐ Plastic
☐ Other:
Specify for each barrel if different e.g. 1+3=plastic, 2=concrete

	Barrel 1	Barrel 2	Barrel 3	Barrel 4	Barrel 5
Culvert length* (m) - from upstream inlet to downstream outlet					
Culvert width* (m) - at its widest point					
Culvert height* (m) - from the stream bed to the highest point					
Culvert drop* (m) - from the bottom of culvert bed to the level of downstream water surface					
Culvert undercut* (m) - from the lip of the culvert back to the furthest point					
Culvert water velocity* (m/s) - culvert length (m)/ time to float through culvert (sec)					
Culvert water depth* (m) - average water depth in the culvert					

Culvert substrate*					
☐	Bare	☐	Boulders	☐	Corrugated
☐	Sand/ silt	☐	Bedrock	☐	Other:
☐	Gravel	☐	Weir baffles	☐	Not observed
☐	Cobbles	☐	Spoiler baffles	Specify for each barrel if different e.g. 1-4=bare, 5=cobbles	
		☐	Spat rope		

*Required field

**Not required for the assessment but useful for reference

B - Culvert cont.

Low velocity recirculation zones present* - in the stream below the culvert outlet		Yes		No		Unknown
Culvert wetted margins present* - suitable for climbing fish at the outlet		Yes		No		Unknown
Specify for each barrel if different, e.g. 1&2=No, 3&4=Yes						

Structure slope	
	Steeper than stream
	Same as stream
	Less than stream
Specify for each barrel if different e.g. 1=same, 2=less	

Structure alignment			
	Straight in, straight out		Curved in, straight out
	Straight in, curved out		Curved in, curved out
Specify for each barrel if different, e.g. 1=curved in and curved out, 2=curved in and straight out			

(!) Please go to section K once this section has been completed.

C - Ford

Ford drop height* (m) - surface of the ford to the downstream water surface	
Ford width (m) - from one side of the stream to the other, perpendicular to the flow	
Ford length (m) - from the upstream side to the downstream side	

Ford substrate*			
	Bare		Weir baffles
	Sand/ silt		Spoiler baffles
	Gravel		Spat rope
	Cobbles		Other:
	Boulders		Not observed
			Bedrock

Ford material
Concrete
Metal
Wood
Plastic
Other:

Culvert present?
Yes - *please complete section B*
No - *please complete section K*

D- Weir

Weir type*
Broad crested
V-notch
Crump
Stepped
Other:
Sharp crested

Weir crest shape*
Sharp/ angular
Rounded/ smooth
Overhanging
Other:

Weir height* (m)	
Weir width (m)	
Weir slope* (°)	
Number of steps	
Height of largest step (m)	

Weir wetted margins present* - are there wetted margins suitable for climbing fish on the weir		Yes		No		Unkown

Weir substrate*			
	Bare		Spat rope
	Sand/ silt		Weir baffles
	Gravel		Spoiler baffles
	Cobbles		Other:
	Boulders		Not observed
			Bedrock

Weir material
Plastic
Concrete
Wood
Metal
Other:

Backwater distance
<10m
10-50m
>50m

(!) Please go to section K once this section has been completed.

*Required field
**Not required for the assessment but useful for reference

E - Dam

Dam height* (m)						
Spillway present?*		Yes		No		Unknown

(!) Please go to section K once this section has been completed.

F - Flap gate

Number of flap gates*				
Flap gates the same?		Yes		No		Unknown

Gate type*			Automatic
	Top hung		Sluice
	Side hung		Other:

Specify for each gate type if different

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5	Gate 6
Gate height (m) - bottom to top of the gate						
Gate width (m) - width of the gate						

Gate material		Wood	
	Concrete		Plastic
	Metal		Other:

Specify for each gate if different

Culvert present?
Yes - *please complete section B*
No - *please complete section K*

G - Pump station

Pump type		**Gravity feed present?**		Yes		No		Unknown

(!) Please go to section K once this section has been completed.

H - Natural

Barrier type*		Dry	
	Waterfall		Pond/ lake
	Rapid		Other:

Barrier height* (m)	
Measure from the top of the feature to the downstream water level	

(!) Please go to section K once this section has been completed.

I - Bridge

Bridge type		Single-span	
	Multi-span		Other:

Single span=no bridge supports in the river

(!) Please go to section K once this section has been completed.

J - Other

Structure description If a structure you're assessing is not on the list	

(!) Please go to section K once this section has been completed.

*Required field

**Not required for the assessment but useful for reference

K - Structure add-ons

Upstream add-on*	
☐	None observed (O)
☐	Apron (O)
☐	Headwall (O)
☐	Wingwall (O)
☐	Screen (O)
☐	Other (O):

Downstream add-on*	
☐	None observed (O)
☐	Apron (L)
☐	Headwall (M)
☐	Ramp (N)
☐	Screen (O)
☐	Wingwall (O)
☐	Other (O):
☐	Unknown (O)

(!) Please go to the corresponding section in brackets, if multiple have been ticked then all corresponding sections must be completed. ***Note,*** *N will only need to be completed if you're assessing a flap gate.*

L - Apron

Apron drop height* (m)	
Apron length (m)	
Apron water depth* (m)	
Apron water velocity (m/s)	

Apron material			
☐	Plastic	☐	Metal
☐	Concrete	☐	Other:
☐	Wood		

Apron substrate									
☐	Bare	☐	Gravel	☐	Boulders	☐	Spat rope	☐	Spoiler baffles	☐	Not observed
☐	Silt/ sand	☐	Cobbles	☐	Bedrock	☐	Weir baffles	☐	Corrugated	☐	Other:

(!) Please go to section O once this section has been completed if M and N are not required.

M - Headwall

Headwall height (m) - from the top of the gate to the top of the headwall	

(!) Please go to section O once this section has been completed if M is not required.

N - Ramp

Ramp surface*					
☐	Bare	☐	Rock	☐	Other:
☐	Brush	☐	Gravel		
☐	Miradrain	☐	Sand		

Ramp slope (°)	
Ramp length (m) - top of ramp to the water surface	

Ramp wetted margins present* - are there wetted margins suitable for climbing fish on the ramp	☐	Yes	☐	No	☐	Unkown

(!) Please go to section O once this section has been completed.

O- Fish friendliness and general comments

Fish passage improvement present?							
☐	None observed	☐	Artificial ramp	☐	Spoiler baffles	☐	Trap and transfer
☐	Backwatering	☐	Spat ropes	☐	Fish pass	☐	Removed
☐	Rock ramp	☐	Weir baffles	☐	Fish friendly flap gate	☐	Other:

*Required field
**Not required for the assessment but useful for reference

O- Fish friendliness and general comments cont.

Fish passage improvement date - if present	

Fish passage improvement effectiveness - if present

- ☐ High - highly likely to notably improve passage for most fish species
- ☐ Moderate - moderate chance of some improvement to passage for some fish species
- ☐ Low - low likelihood of notable improved passage for most fish species
- ☐ Not assessed

Protecting native species/ habitats

- ☐ Yes
- ☐ No
- ☐ Unknown

Is the structure providing protection to a key species or ecosystem area or preventing access for exotic species?

Risk to fish passage

- ☐ Very low risk – Movements are unimpeded for most or all fish species and life stages for most or all of the time.
- ☐ Low risk – Some chance that movements of weaker swimming species are restricted some of the time.
- ☐ Medium risk – moderate chance that movements of some fish species and life stages are commonly restricted.
- ☐ High risk – High chance that the movements of many fish species and life stages will be restricted for much of the time.
- ☐ Very high risk – very high chance that most or all fish species will be blocked most or all of the time.
- ☐ Not assessed – if you are not confident or do not have the right knowledge to determine the likely risk.

Comments: add any other information that may be useful

*Required field
**Not required for the assessment but useful for reference