Aquatic Connectivity Program Crossing Assessment

Site Information					
Crossing ID		Watershed Group Name			
Crossing Type	☐Culvert ☐Bridge* ☐Dam ☐Ford ☐Other	# of Culverts			
Field Crew		Date (dd/mm/yyyy)			
Stream Name		Time			
Road Name		Projection	☐ WGS 84 ☐ NAD 83		
Ownership of Crossing	☐ Public Road ROW ☐ Rail Bed ROW ☐Private	Lat (deg, min, sec)			
Debris Blockage Present	☐Yes ☐No	Long (deg, min, sec)			
Description of Debris		Fish Habitat**	☐Yes ☐No		

*If crossing is a bridge or other open bottomed structure, complete bridge section
**If crossing is identified as being on a fish bearing stream, then proceed with further data collection

Photo Files			
Upstream	File Name	**Downstream**	File Name
Toward Inflow		Toward Outflow	
Through Culvert		Through Culvert	
Looking Upstream		Looking Downstream	
Other		Other	

Bridge Dimensions			
Span (m)		Wetted Width Under Bridge (m)	
Rise (m)		Average Water Depth Under Bridge (m)	
Bridge Width (m)		Stream Width Ratio	

Rapid Assessment	
Is there a visible outflow drop?	☐Yes ☐No
Is the water depth less than 15cm anywhere in the culvert?	☐Yes ☐No
Is the culvert backwatered only part of the way or not at all?	☐Yes ☐No
Is the stream width noticeably different above and below the culvert?	☐Yes ☐No

If the response to any of these questions is YES then continue with the full assessment.

Stream Characteristics					
Water Quality					
Air Temp (°C)		pH		DO (mg/L)	
Water Temp (°C)		Conductivity (µS/cm)		TDS (mg/L)	
Substrate Sizes (taken upstream of culvert in percent composition)					
Fines (<0.2cm)		Cobble (6.4-25.6cm)		Bedrock	
Gravel (0.2-6.4cm)		Boulder (>25.6cm)			

Channel Measurements (taken upstream)

	Pool	Riffle	Run	Average
Wetted Width (m)				
Bankfull Width (m)				
Stream Width Ratio				

Culvert Information							
Culvert Material	☐ Concrete ☐ Corrugated Metal Pipe (Spiral) ☐ Corrugated Metal Pipe (Annular) ☐ Corrugated Plastic ☐ Wood ☐ Other	Culvert Shape	☐ Circular ☐ Box ☐ Pipe Arch ☐ Open Arch ☐ Other	Entrance Type	☐ Projecting ☐ Headwall ☐ Mitered ☐ Wingwall ☐ Other		
		Is Culvert Deformed?	☐ Yes ☐ No	Deterioration	☐None ☐Moderate ☐Severe	Baffles	☐ Present ☐ Absent
Culvert Bottom	☐ Unnatural ☐ Natural If Natural, Dominant Substrate:_____			Variable Slope in Culvert	☐ Yes ☐ No		

Culvert Dimensions

Culvert Measurements (m)	WIDTH	HEIGHT	Corrugation (cm)	WIDTH	HEIGHT

Additional Information

Inflow Habitat Type	☐ Pool ☐ Riffle ☐ Run ☐ Drop	Beaver Dam Present	☐ Yes ☐ No
Backwatered	☐ 0% ☐ 25% ☐ 50% ☐ 75% ☐ 100%	Fish Observed	☐ Upstream ☐ Downstream
Embedment	☐ Embedded From Upstream ☐ Embedded From Downstream	Degree of Embedment	☐ 0% ☐ <20% ☐ >20%
Length of Culvert with Embedment	☐ 0% ☐ 25% ☐ 50% ☐ 75% ☐ 100%		

Upstream of Culvert

Elevations				Measurements		
	HI (m) (10 + change in tripod height)	FS (m) (survey rod reading)	Elevation (m) (HI - FS)	Water Depth at Inflow (cm)		Velocity (m/s)
				Stagnation Depth at Inflow (cm)		
Crest of Riffle Upstream				Upstream Riffle to Inflow Invert (m)		
Inflow				Culvert Length (m)		
Upstream Channel Slope (%)						

Downstream of Culvert

Elevations				Measurements		
	HI (m) (10 + change in tripod height)	FS (m) (survey rod reading)	Elevation (m) (HI - FS)	Water Depth at Outflow (cm)		Velocity (m/s)
				Stagnation Depth at Outflow (cm)		
Outflow				Plunge Pool Bankfull Width (m)		
Plunge Pool Bottom				Outflow to Tailwater Control (m)		
Tailwater Control				Tailwater Control to 2nd Riffle Downstream (m)		
Crest of 2nd Riffle				Culvert Slope		
Pool Surface Elevation				Outflow Drop (cm)		
Downstream Channel Slope						

Tailwater Cross Section

Widths	Elevations				Measurements
	Station	HI (m) (10 + change in tripod height)	FS (m) (survey rod reading)	Elevation (m) (HI - FS)	Water Depth (m)
Wetted Width (m)	1 (Left Bankfull)				
	2 (1/5 Bankfull Width)				
Bankfull Width (m)	3 (1/5 Bankfull Width)				
	4 (1/5 Bankfull Width)				
Bankfull Width / 5	5 (1/5 Bankfull Width)				
	6 (Right Bankfull)				

Baffle Information (Complete if culvert is baffled)					
Baffle Height (cm)		Baffle Material			☐ Concrete ☐ Metal ☐ Wood ☐ Other
Notch Depth (cm)		Baffle Type			☐ Straight ☐ Diagonal ☐ Right Angled ☐ Other
Notch Width (cm)		Notch Chutes			☐ Yes ☐ No
Number of Baffles		Notch Chute Material			☐ Concrete ☐ Metal ☐ Wood ☐ Other
Distance Between Baffles (m)		Elevations	HI (m) (10 + change in tripod height)	FS (m) (survey rod reading)	Elevation (m) (HI - FS)
Distance from Bottom Baffle to Outflow (m)		U/S Baffle			
		Adjacent D/S Baffle			
Drop Between Baffles (m)					

Notes

Sketch