

Instructions for June 2006 Draft POST-TREATMENT checklist FC - FISH PASSAGE at STREAM CROSSINGS

To be used for fish passage improvement projects at stream crossings only.

Y = Yes, the question applies and the answer is yes, comment if needed. **P** = Partially, the question cannot be answered definitively yes or no, comment suggested. **N** = No, the question applies and the answer is no, comment if needed. **D** = Don't know, the answer is unknown and cannot be found; preferable to blank. **A** = Not applicable, the question or sub-question does not apply to the feature.

See Manual Part IX and X for guidance. See below for 3-letter code key; see glossary for definitions.

THE SAME TREATMENT AREA THAT WAS DEFINED DURING THE PRE-TREATMENT EVALUATION MUST BE CONSIDERED WHEN COLLECTING THE FOLLOWING DATA. CONFIRM THAT THE FEATURE LOCATION WAS SUFFICIENTLY DESCRIBED USING THE PROTOCOL FOR DOCUMENTING THE LOCATION OF HABITAT RESTORATION FEATURES. USE LOCATION DOCUMENTATION UPDATED DURING IMPLEMENTATION MONITORING AS NEEDED.

Stream CROSSING questions pertain to crossings upgraded or decommissioned for fish passage reasons.

1. Refers to location of the structure linearly and laterally in the channel.
 2. Refer to design standards.
 3. Refers to visual evidence of structure malfunction or lack of structural integrity. If yes, answer sub-question.
 - a. Actual problems, list all that apply.
 4. Specify the current structural condition of feature: *EXCL* = (Excellent) the treatment is intact and structurally sound. *GOOD* = the treatment is intact and generally sound but some wear or undermining is evident. Components may have shifted slightly, but the treatment is intact. *FAIR* = the treatment position or condition has been altered significantly. *POOR* = the treatment is visible but has suffered significant movement or damage. *FAIL* = (Failed) The treatment is not visible or remnants are not in any form of designed configuration. (To be better defined)
 5. Answer Y if a back flooding weir was constructed *and* necessary to the functioning of the fish passage structure.
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CHANNEL questions should be answered regardless of goals.

6. Pertains to any structure prescribed to control channel bed elevation as part of a barrier modification or structure installation. Refer to design specifications.
 7. Applies to features where sediment had aggraded upstream of the barrier. Post-treatment, does that sediment remain?
 8. Applies to features where there was scour, incision and/or head-cutting resulting from the barrier. Post-treatment has the channel stabilized or ceased to down cut?
 9. Refers to other localized undesirable channel conditions such as braiding, flow obstructions, grade controls, undesirable lateral migration, narrowing, straightening, widening, etc. near the feature, not at a stream or reach level.
 10. If listed as a goal, answer based on visual evidence using best professional judgment.
 11. ***This question always applies; answer Y, N, D.*** Compare current conditions in the vicinity of the former barrier to pre-treatment conditions. Enter Y, if there were any detrimental or beneficial effects on substrate composition that were not specified in goals and explain in comments.
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BANK questions should be answered regardless of goals.

12. Stream bank erosion or apparent instability caused or affected by the former barrier.
 - a. Location of erosion or instability relative to the former barrier. Record location as upstream of, downstream of and/or within the barrier AND left and/or right bank determined looking downstream (e.g. DNS – LBK, RBK UPS – LBK WIN – LBK). Use comment space if needed.
 - b. Determine using visual evidence and knowledge of land use and erosion processes.
13. If listed as a goal, answer based on visual evidence using best professional judgment.
14. ***This question always applies; answer Y, N, D.*** Compare current conditions in the vicinity of the former barrier to pre-treatment conditions. Enter Y, if there were any detrimental or beneficial effects on substrate composition that were not specified in goals and explain in comments.

Instructions for FISH PASSAGE IMPROVEMENT at BARRIERS POST-TREATMENT checklist (pg 2)

SEDIMENT DELIVERY questions should be answered regardless of goals.

15. Answer based on visual evidence of crossing fill entering the stream since implementation. If Y, answer a-c. See DFG Restoration Manual chapter X for guidance.
 - a. Enter the estimated range of cubic yards delivered to the stream since implementation.
 - b. Look for visual evidence of type of erosion. See DFG Restoration Manual page X-3.
 - c. Determine using visual evidence and knowledge of land use and erosion processes.
16. Estimate the potential for significant future erosion at the feature, based on observations. This is a probability estimate, not an estimate of how much erosion is likely to occur. See DFG Restoration Manual page X-A-7.
 - a. Low, moderate, high likelihood of erosion. Remember, this is potential not volume. High means erosion is very likely to occur at the crossing.
17. If a goal, was potential for future erosion decreased at least one full degree of severity (e.g. reduced from high to moderate, from moderate to low, or from moderate/high to low/moderate)

FISH PASSAGE questions 11 & 12 pertain to adult fish. FISH PASSAGE questions 13 & 14 pertain to juvenile fish.

18. Use the flow chart and directions on DFG Restoration Manual pages IX-31-33 to determine passage.
- 19/21. If listed as a goal, answer based on quantitative data or visual evidence using best professional judgment.
 - a. List species, by code from Restoration Manual Appendix E, for which passage improvement is aimed.
- 20/22. Answer based on quantitative data or visual evidence using best professional judgment. Refers to species listed in pre-treatment questions 11a and 13a. Answer if possible, even if they were not the targeted life stage.
 - a. Barrier category that now exists, enter only one. See IX-1.

Barrier Category Definitions: *Temporal* – Impassable to all fish at certain flow conditions. *Partial* – Impassable to some fish species, during part or all life stages at all flows. *Total* – Impassable to all fish at all flows.

- b. Conditions that are now blocking fish passage, enter all that apply. See DFG Restoration Manual page IX-3.

Movement of watershed PRODUCTS questions should be answered regardless of goal

23. Refers to an accumulation of debris, substrate, or water behind the feature.
 - a. List which are impaired - debris (e.g. LDA), substrate (e.g. grade control) or water (e.g. at a dam or tide gate).
24. If listed as a goal, answer based on visual evidence using best professional judgment.

Effectiveness RATING is feature specific.

25. Rate the features effectiveness, not the structural condition. Keep in mind the degree to which it met the specific goals. (To be better defined)
 - EXCL = (Excellent) the project feature is performing according to objectives.
 - GOOD = there are some deficiencies in the projects feature's performance, but it is still performing in a satisfactory manner.
 - FAIR = there are some deficiencies in the project feature's performance and, these may cause problems in the future. Some characteristics of the feature, although not enough to cause corrective action at this time, require further scrutiny.
 - POOR = the feature is not performing in a satisfactory manner. Remedial action is required.
 - FAIL = (Failed) the feature has completely failed to meet objectives and/or is causing deleterious effects of habitat.
26. Enter all that apply, give details in comments.
27. Y if the feature needs or deserves further restoration effort, N if the site doesn't need further restoration or is not suitable for restoration activity.

Code definitions

ALN	Alignment problem	CHIN	Chinook salmon	CUT	Road cutbank failures
APP	Approach problem	CNR	Concentrated runoff	DBR	Debris
BAR	Lack of stabilizing vegetation, bare	COHO	Coho salmon	DIV	Stream diversion
CGA	Culvert gravel absent	COR	Corroded	DNS	Downstream
		CRS	Crushed	EFL	Earthflows and large, slow moving landslides
		CT	Cutthroat trout		

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EMG	Emergent groundwater	NON	None	SCW	Stream crossing washouts (gullies)
ENH	Enhancement	NRG	Non-road gullying	SFE	Surface erosion
FJH	Fish jump height	NRL	Non-road (hillslope) debris	SH	Steelhead trout
FLS	Road fillslope failures		landslides	SLA	Fillslope angle problem
GRZ	Grazing/grazing animal	NRP	No resting pool	SUB	Substrate
HIG	High potential	NTG	Not to grade	TEM	Temporal barrier
HYD	Hydrologic processes	OTH	Other	TOT	Total barrier
LAN	Landing failures	OVT	Overtopped	UND	Undercut/Undermined
LBK	Left bank	PAR	Partial barrier	UNS	Undersized
LOW	Low potential	PIP	Piping	UPS	Upstream
MNT	Maintenance	PLG	Plug potential	USG	Unstable soils/geology
MOD	Moderate potential	RBK	Right bank	WIN	Within
		REP	Repair	WSH	Washed out
		RRG	Other road-related gullying	WTD	Water depth
		SBE	Streambank erosion	WTR	Water
		SBL	Streambank landslides	WTV	Water velocity