Instructions for 10/04/06 Draft IMPLEMENTATION checklist
FC - **FISH PASSAGE at CROSSINGS**

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

APPROVED means as stated in the contract, specified in the design, or verbally agreed upon by contract manager.

Y = Yes - as approved, no deviations. **P** = Partially - minor deviations/deficiencies, include comment. **N** = No - not as approved, include comment. **D** = Don't know - answer unknown and cannot be found; preferable to blank. **A** = Not Applicable - the question or sub-question does not pertain to feature or the component in question was not part of the approved contract.

See below for key to all 3-letter checklist codes. See DFG Restoration Manual Part IX and X for guidance.

THE FEATURE LOCATION MUST BE DESCRIBED USING THE PROTOCOL FOR DOCUMENTING THE LOCATION OF HABITAT RESTORATION FEATURES. IF PRE-TREATMENT MONITORING HAS BEEN COMPLETED, DELINEATE THE PERIMETER OF EACH FEATURE THE SAME WAY WHENEVER POSSIBLE, EXPLAIN NECESSARY CHANGES.

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

1. **Does the crossing structure meet DFG/NMFS fish passage criteria?** Refer to Manual Part IV for current CDFG fish passage standards.
2. **Was the new or upgraded crossing installed as approved?** Refer to contract and to engineering designs or accepted CDFG specifications.
   a. Materials: Materials actually used to construct the feature. Enter all that apply.
   b. Structure condition: 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 = (Fail) The treatment is not visible or remnants are not in any form of designed configuration.
   c. Estimated sediment volume prevented from entering a stream: (cy/10 yr) Estimate sediment removed or otherwise prevented from entering the stream channel during the next ten years, in cubic yards.
3. **Are problems with the crossing structure visible?** Refers to visual evidence of structure malfunction or lack of structural integrity. If yes, answer sub-question.
   a. Type: Actual problems, list all that apply.
4. **Does fish passage rely on a correctly functioning back flooding weir(s)?** Y if the back-flooding weir is essential to the fish passage design. N if there is a weir but it is not essential for fish passage. A if there is no weir.
5. **Were the fill or side slopes constructed at a stable angle?** The accepted CDFG standard for fill slopes is 2:1 (50% or 26.65°). CDFG accepted standard for decommissioned side slopes is 2:1 or matching the natural slope angle upstream and downstream of the former crossing
6. **Were the fill or side slopes treated to prevent erosion as approved?** Refers to permit requirements for erosion control treatment applied to disturbed bare soil areas.
   a. Methods: Enter all methods that were used.
7. **Were treatments to prevent plugging & inlet erosion installed as approved?** Refers to (1) treatments to protect the crossing inlet and (2) any erosion/incision controls as far upstream as deemed necessary in the design. A if none were applied. Refer to contract or designs to determine if such treatments were required.
   a. Installed at inlet: Enter all methods that were used.
8. **Were treatments to protect the outlet from erosion installed as approved?** Refers to (1) treatments to protect the crossing and (2) any erosion or incision controls as far downstream as deemed necessary in the design. A if none were applied. Refer to contract or designs to determine if such treatments were required.
   a. Installed at outlet: Enter all methods that were used.
9. **If a bridge, were bridge abutments constructed as approved?** If a bridge, refer to contract or designs to determine bridge abutment specifications.
10. **Was road surface & ditch runoff disconnected from crossings as approved?** Refers to ditches and road surfaces that drain into the crossing. If runoff was disconnected to maximum extent possible, comment.

CHANNEL ***questions pertain to the channel adjacent to or under the crossing.***

11. **Was the channel adjacent to the crossing excavated to a stable shape?** Refers to any excavation of the channel, depending on the type of treatment. For a bridge or decommissioning it may be the entire channel in the treatment area. For a culvert replacement, it may be the area just upstream of the crossing.

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11. *a. Location of excavation relative to crossing:* Enter all that apply.
12. **Was all fill and trapped sediment in the channel removed or stabilized?** Refers to removal/stabilization of the crossing fill itself or sediment trapped in the channel as a result of the stream crossing.
    a. If not, were measures to control sediment release applied as approved? Refers to any treatment designed to control the volume of sediment released or the rate of sediment release.
13. **Did channel conditions at the crossing require grade control weirs/structures?** Refers to any structure prescribed to control channel bed elevation as part of a stream crossing upgrade. Weirs are separate features and are evaluated using the FB – Fish Passage Improvement at Barriers checklist.

Excavated* SPOILS *question pertains to excess fill removed from the crossing.

14. **Were spoils placed where they cannot deliver sediment, as approved?** Refers to local spoiling or end-hauling of material to a location where there is no potential of delivery into a stream.
    a. Spoils volume estimate: (cy) Enter the estimated volume, in cubic yards, that was removed from the crossing.

Performance measures* REQUIRED *for permit reporting.

15. **Length of habitat made accessible: (mi)** Mandatory performance measure. Based on best information available information, in miles. See DFG Restoration Manual IX-45 for guidance.
16. **Length of aquatic habitat disturbed at feature: (ft)** Permit reporting requirement. Measure the length of stream channel disturbed during construction in feet.
17. **Area of the feature installed within bankfull channel: (ft^2)** Permit reporting requirement. Estimate the amount of area where something was installed; consider only area within the bankfull channel.

IMPLEMENTATION *questions are feature specific.*

18. **Does the feature meet design, contract, & permit specifications?** Standard CDFG approved design referenced in contract or another design described in the contract. If not answered Yes, a comment and appropriate documentation of deviation from the approved design are required - whether the change is beneficial or detrimental.
    a. If not, were modifications beneficial to performance? A if implemented as approved.
    b. Is non-compliance significant enough to jeopardize performance? A if implemented as approved.
    c. Are corrections needed? Y or P if the contractor will be asked to make the corrections. A if implemented as approved.
19. **Would a different treatment or design have been preferable? If Y, comment.** Yes to this question will be given serious consideration and requires a comment.
20. **Feature Implementation Rating** Rate the implementation of the feature, not the structural condition. Use the following definitions and rate according to how well the contract was executed and how closely the as-built matches the design.)

- *EXCL– (Excellent)* Installation of the project feature meets all requirements.
- *GOOD* –There are some deficiencies in the project feature, but these will not affect its overall effectiveness. Deficiencies are not enough to lead to failure.
- *FAIR* – There are some deficiencies in the feature, and these may cause problems in the future. Some characteristics of project feature, although not enough to cause corrective action at this time, require further scrutiny. The feature will probably hold up.
- *POOR* – Implementation was not done correctly. There are deficiencies in the project feature, and these are enough to cause problems in the future. Remedial action is required.
- *FAIL – (Failed)* Implementation was not done correctly or was not implemented at all. Deficiencies in the project feature have already caused enough problems that its objectives will not be met. Remedial action is required.

Code Key

ALN	Alignment problem	DBB	Debris barrier	NON	None	UCR	Under crossing
APP	Approach problem	DIV	Diversion potential	NTG	Not to grade	UNS	Undersized
ARM	Armoring	DNS	Downstream	NTM	Native Mulch	UPS	Upstream
BNC	Benching	DSP	Downspout	NTR	Native rock	WGW	Wingwalls
COM	Compacting	FLA	Flared inlet	OFR	Off-site rock	WOO	Wood
CON	Concrete	GRC	Grade control structure	PLA	Plastic	WSH	Washed out
COR	Corroded	MIT	Mitered inlet	SLF	Silt fence		
CRS	Crushed	MTL	Metal	STM	Straw mulch		

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.

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.

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.