Instructions for June 2006 Draft POST-TREATMENT checklist

RT – REVEGETATION TREATMENTS

To be used for riparian and upslope planting projects.

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 XI 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.

FEATURE

1. Measure and record the length of bank monitored for each project feature separately.
2. Calculate the area monitored based on total length and average width of the feature being evaluated.
3. Record only one location for each feature. If the planting area spans more than one, it should be separated into multiple features.

VEGETATION TYPE & COVER *should be answered regardless of goals*

4. Count the number of live plantings and compare to the actual number of plants planted (see question #5a on the implementation checklist (ImpQ 5a)) to calculate percent survival.
5. Enter Y if the percent survival meets or exceeds the minimum adequate percent survival recorded on the implementation checklist (ImpQ 5b). Enter P if the actual percent survival is 15% or less below the stated minimum adequate percent survival. Enter N if the percent survival is deficient.
6. Enter Y if 0-25% of plants in the feature show signs of plant deficiency (such as disease, lack of foliage, low vascular pressure, stunted growth). Enter P if 25-50% of plants within the project feature show signs of deficiency. Enter N if the majority of plants within the project feature show signs of deficiency.
    a. Using your best professional judgment, rate the growth and vigor of surviving plants. Vigor refers to strong, active, healthy, well-balanced growth. Be sure to consider seasonal and site conditions affecting plant growth. Enter a rating of FAIL if there are no surviving plants.
7. Consider whether irrigation was conducted *as agreed* and *for the duration of time specified* (ImpQ 8a-c). Specify deviations in the comments section. Enter A if no irrigation provisions were proposed.
8. Enter the *one* vegetation type that has the greatest percent cover within the treatment area.
    a. Record whether the dominant vegetation type is composed of native or non-native species.
9. See pre-project checklist question #5a (PreQ 5a) for the targeted dominant vegetation type. Enter P if there is evidence of a change in dominant vegetation type towards the desired goal. Enter A if change in dominant vegetation type was not a goal of the project feature.
10. Enter the species code for the *one* species that has the greatest percent cover within the treatment area (e.g. QUAG4). Use the information from Chapter XI of the *DFG Restoration Manual* and the CREMP plant species code list to determine species codes. If species is not found on that list, go to the USDA website to look up the species code (http://plants.usda.gov/index.html). Include comments on other prolific species within the treatment area. ***Always use the species code when referring to plant species.***
11. See PreQ 7a for the targeted dominant species. Enter P if there is some evidence of a change in species composition towards the desired goal. Enter A if change in species composition was not a goal of the project feature.
12. Total vegetation cover refers to the percent of ground within the treatment area that is *not* bare soil. Estimate visually.
13. Compare current percent vegetation cover to that recorded in PreQ 8 to determine if percent cover was increased. Enter A if increase in vegetation cover was not a goal of the project feature.
    a. Enter Y if the percent cover meets or exceeds the targeted percent cover (PreQ 9a). Enter N if the percent cover is deficient.
14. Compare the current length of the largest gap in bank vegetation to that recorded in PreQ10a to determine if the size of gaps was reduced. Enter A if reducing size of gaps in bank vegetation was not a goal or if planting occurred at an upslope site.

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14. a. Estimate the length of the largest gap in bank vegetation over 3ft. tall when the feature is located on the LBK, RBK, or FLD. Enter A if planting occurred at an upslope (USL) site.
15. Measure the percent over-channel canopy cover within the treatment area using a densiometer (see Appendix M of DFG's Restoration Manual). Total canopy cover should represent the *average* throughout the treatment area. For treatment areas longer than 100 feet, canopy measurements should be taken every 50 feet; from the center of the channel, in the center of each 50-foot section. For exceptionally long treatment areas, canopy measurements can be taken every 75-100 feet. Note: percent cover will be the same for features located on opposite banks of the same distance of channel. For upslope projects that are not intended to affect canopy cover, enter A.
16. Enter A if a change in channel canopy cover was not a goal of the project feature.
    a. Measure the length of channel with increased canopy in ft. Note: length will be the same for features located on opposite banks of the same channel reach, and should not be added together when completing project totals.
    b. Enter Y if the length of channel with increased canopy meets or exceeds the targeted length (PreQ12a). Enter N if the length is deficient.

BANK *questions should be answered whenever planting in the riparian zone.*

17. Look for evidence of active erosion in or adjacent to the proposed revegetation area.
    a. Location of erosion within, upstream and/or downstream of the proposed revegetation area *and* left and/or right bank (looking downstream).
    b. Determine using visual evidence and knowledge of land use and erosion processes.
18. If improving streambank conditions was a goal (PreQ 14), compare current streambank conditions to pre-treatment streambank conditions (PreQ 13a-b) to determine whether bank erosion was reduced. If it was not a goal, enter A.
19. Compare current conditions in the vicinity of the treatment area to pre-treatment conditions (see PreQ 13, use pre-project photos, if available, and your knowledge of the site). Determine if there were any detrimental or beneficial effects on streambanks that were not specified in goals. If Y, explain in comments.

LWD *questions should be answered whenever planting in the riparian zone.*

20. Count the amount of large woody debris within the treatment area in the two specified size classes. The first entry is for logs with a diameter of at least one foot that are between 6 and 20 feet in length, the second for logs with a diameter of at least one foot that are over 20 feet in length (e.g. enter 1 / 4).
21. LWD recruitment potential refers to the availability of large wood in the vicinity of the stream channel (i.e. if a tree died, would it fall over or into the channel?). If the amount of woody vegetation on the streambanks has been significantly increased, then LWD recruitment potential has been increased. Enter A if an increase in the recruitment potential of LWD was not a goal of the project feature. Enter Y if the treatment increased the recruitment potential of LWD within the project area. Enter N if the treatment did not increase the recruitment potential of LWD.

CHANNEL *questions should be answered whenever planting in the riparian zone.*

22. Record channel problems in the vicinity of the revegetation area, not at a stream or reach level. Record problems even if they are irrelevant to the project goals.
23. If improving channel conditions was a goal (PreQ 18), compare current channel conditions to targeted channel conditions (PreQ 18a) to determine whether targeted conditions were achieved. If it was not a goal, enter A.
    a. List all targeted channel conditions achieved as a result of the feature.
24. Compare current conditions in the vicinity of the treatment area to pre-treatment conditions (see PreQ 17, use pre-project photos, if available, and your knowledge of the site). Determine if there were any detrimental or beneficial effects on channel conditions that were not specified in goals. If Y, explain in comments.

Effectiveness* RATING *is feature specific.

25. Consider both the survival rate of plantings and the vigor and growth of surviving plants when rating the revegetation feature's effectiveness. Keep in mind the degree to which it met 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.

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- 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. Minor or major repair and/or maintenance. If Y, give details in comments.
27. Is the feature or former location of the feature worthy of continued restoration? E.g. a failed feature may be worth repairing or a successful feature not in need of repair may be worth enhancing. On the other hand a damaged feature may be susceptible to ongoing damage because of an unavoidable site condition.

Code definitions

AGG	Aggradation	HDC	Headcutting	STB	Stability
BAR	Bare banks/devoid of vegetation	HYD	Hydrologic processes	STT	Straightening
BRD	Braiding	INC	Incision	SWD	Small woody debris
CNR	Concentrated runoff	LBK	Left bank	TOG	To grade
DNS	Downstream	LWD	Large woody debris	UND	Undercutting
EMG	Emergent groundwater	NAR	Narrowing	UPS	Upstream
FLO	Flow obstructions	NON	None	USG	Unstable soils/geology
FPD	Floodplain deposition	OTH	Other	WID	Width/Widening
GRC	Grade control	RBK	Right bank	WIN	Within treatment area
GRZ	Grazing	SCU	Side cutting		
		SIN	Sinuosity		