General Instructions for Implementation and Effectiveness Monitoring

To begin the qualitative monitoring process, the evaluator must first review the FRGP grant agreement to determine the project's objectives, statement or scope of work (SOW), location(s), and other supplemental information. It is also advisable to review the original project proposal submitted to the FRGP if it is available. After this initial review the evaluator should list the project's different features, and which monitoring checklist(s) best evaluates those features. Next, check with the FRGP's grant manager to determine any changes which may have occurred regarding the projects SOW, feature types and/or their locations. Any changes should have been approved by the grant manager.

FEATURE:

A feature is a distinct physical implementation at a location within a project work site intended to interact with the environment to improve anadromous salmonid habitat. Features consist of one or more restoration treatments.

Within one project site there can be numerous features. For implementation monitoring, features are divided by treatment type and location. However, functional groups of structures or treatments can be grouped as one feature. For example, a group of tightly spaced willow baffles should be considered one feature. It is impractical to separate each baffle because they interact and work together as a group for the same objective at the same location. A string of closely spaced grade control weirs is another example of this situation. However, willow baffles and rip-rap bank stabilization at the same location would need to be separated into different features because they have different objectives.

SITE:

A project site is defined as a point, length (reach), or area which spatially describes a work area where specific restoration activities take place.

Many projects employ multiple treatment types within a given work site. *Example of dividing a project into sites:* A project that included instream restoration and riparian treatments in a contiguous area would require two sites; a line for the instream activities and a polygon for the riparian plantings. The reach of stream may have instream habitat structures, streambank stabilization structures, and a log jam barrier removal and be considered as one line site, provided the distance between any two individual features is less than 0.5 miles apart. Similarly, the area of riparian habitat where Himalayan blackberry was removed and conifer trees were planted would be one polygon site.

PROJECT:

For restoration project implementation and effectiveness monitoring, a project is defined as all work taking place under one FRGP grant number or the CHRPD number assigned to a non-FRGP funded project that is carried out under DFG's U.S. Army Corps of Engineers Section 404 Permit RGP-12.

Which Checklist to Use?

- Choose which checklist to use based on the objectives of the individual feature(s).
- Checklists purposely do not share names or initials with FRGP project types.
- There is no direct correspondence between a checklist and a project's FRGP project type, but the following information will help choose the right checklist.

Note: If you are using the correct checklist, you should be able to easily answer the majority of the questions. Sometimes the checklist itself contains guidance as to which checklist(s) are needed to evaluate the feature treatments employed. *For example, if an instream or upslope project includes a planting component, a note directs the user that revegetation is a separate feature, and the RT or revegetation checklist should be used.*

Frequently not all questions on a checklist will be applicable, but that is okay, the goal is to use the checklist questions that best illustrate and evaluate the feature that is being monitored. Sometimes one feature will require multiple checklists, but this generally does not occur. If you have any doubts on which to use, please e-mail FConsolati@dfg.ca.gov with your questions.

Checklist Titles

1. **IN - INSTREAM HABITAT & BANK RESTORATION**
2. **CB - CHANNEL RECONSTRUCTION & BANK STABILIZATION**
3. **FS – FISH SCREENING OF DIVERSIONS**
4. **SF – STREAM FLOW TREATMENTS ***
5. **FC – FISH PASSAGE AT STREAM CROSSINGS**
6. **FB – FISH PASSAGE AT BARRIERS**
7. **RT – REVEGETATION TREATMENTS**
8. **VC – VEGETATION CONTROL & REMOVAL**
9. **LU – LAND USE TREATMENTS & EXCLUSION FENCING**
10. **CD – STREAM CROSSING DECOMMISIONING**
11. **RD – ROAD SEGEMENT DECOMMISIONING**
12. **CU – STREAM CROSSING UPGRADING**
13. **RU – ROAD SEGMENT UPGRADING**
14. **US – UPSLOPE STABILIZATION & DELIVERY PREVENTION**

* 2010 SF-STREAM FLOW TREATMENTS checklist are not available at this time.

Checklist Descriptions

FRGP project type: HI- Instream Habitat Restoration and HS – Instream Bank Restoration

For typical features of FRGP projects classified as HI or HS, there are three checklists to use: IN, CB, and RT.

IN – INSTREAM HABITAT & BANK RESTORATION checklist is for ***habitat unit specific*** instream features. The feature may have instream restoration objectives, streambank restoration objectives, or both as long as each feature is installed in a small (less than 100' length), discreet treatment area; preferably installed in one habitat unit. The implementation checklist focuses on traditional types of structures that are installed within the bankfull channel width of a wadable stream. The effectiveness checklists include habitat unit specific measures of effectiveness such as shelter rating and residual depth.

CB – CHANNEL RECONSTRUCTION & BANK STABILIZATION checklist is for larger instream features that cannot be associated with one habitat unit or small treatment area. These types of instream and streambank features may: 1) ***extend the length of many habitat units***, 2) ***be in non-wadable stream or river***, 3) be in ***a dry stream reach at the time of survey***, or 4) be ***bank or channel reconstructions*** where no habitat or stream channel currently exists. The implementation checklist focuses on construction of larger structures and reconstruction/recontouring treatments. The effectiveness checklists do not focus on habitat specific measures of effectiveness, but more general indicators of channel and bank restoration.

RT – REVEGETATION TREATMENTS checklist is used to supplement IN or CB for features where bioengineering methods are used to stabilize the streambank or channel. The CB or IN checklists are used to answer general channel and bank questions. Using the same feature number, one will answer all the applicable questions on the RT checklist. When using RT as a supplement to another checklist, one does not need to "duplicate answer" any questions and can simply cross out the BANK or CHANNEL sections on the RT checklist.

FRGP project type: HR- Riparian Restoration and HA – Habitat Acquisition

For typical features of FRGP projects classified as HR, there are three possible checklists to use – RT, VC, and LU.

RT – REVEGETATION TREATMENTS checklist is for ***any type of riparian or upland planting feature,*** therefore it can be used in combination with any of the checklists as long as a planting feature is proposed and implemented. The implementation checklist focuses on planting of vegetation. Effectiveness checklists focus on the vegetation composition and cover from planted vegetation. This checklist can also be used when nothing is planted, but an area is treated by fencing or acquisition and has the same objectives as a planting feature.

VC – VEGETATION CONTROL & REMOVAL checklist is for ***any type of riparian or upland feature that removes vegetation, usually non-native invasive species***. This type of feature may have the same objectives as a planting project, but achieves them by removing certain types of vegetation to increase targeted vegetation. The implementation checklist focuses on the location of removal, type of vegetation removed, and removal methods. Effectiveness checklists focus on composition and abundance of native versus non-native species. When vegetation control is done in conjunction with planting, there are two overlapping features, one RT and one VC, and both checklists are used.

LU – LAND USE & EXCLUSION FENCING checklist is for project features that are land use related. Land use related features 1) ***impose land use restrictions***, 2) ***change pre-existing land use,*** 3) ***install exclusion fencing***, or 4) ***install stock watering stations***. Implementation checklists establish the type of land use restriction agreement, and covers installation of fencing and watering stations. Effectiveness checklists cover the basics about adherence to restrictions and the condition and success of fencing. Additionally, it directs the user which other checklist to use for specific objectives such as riparian enhancement, streambank stabilization, instream habitat improvement, or upslope stabilization.

FRGP project type: FP – Fish Passage at Stream Crossings and FL – Fish Ladders

For typical features of FRGP projects classified as FP or FL, there are four possible checklists to use – FC, FB, CU, or CD,.

FC – FISH PASSAGE AT STREAM CROSSINGS checklist is used for fish passage improvement projects at stream crossings only, even if the crossing itself is a barrier to fish passage. The effectiveness checklist focuses on fish passage criteria for adults and juveniles, passage problems and passage objectives. The implementation checklist evaluates the stream crossing, channel, and performance measures.

FB- FISH PASSAGE AT BARRIERS checklist is used during implementation monitoring at stream crossings when evaluating grade control or back-flooding weirs or structures associated with the crossing.

CU- STREAM CROSSING UPGRADING checklist is used when a FP project intends to replace or upgrade a *pre-existing* stream crossing type. Only for effectiveness, the CU checklist is used with the FC checklist to describe the proposed treatment for the stream crossing. When using the CU in conjunction with the FC disregard all categories except *Stream Crossing* on the CU. The FC implementation checklist addresses both the stream crossing upgrade as well as the fish passage criteria, therefore does not need to be used with the CU.

CD- STREAM CROSSING DECOMMISSIONING checklist is used when a FP project proposes to decommission a stream crossing type. For effectiveness this checklist is used in addition with the FC checklist to address the stream crossing treatment. When using a CD in conjunction with an FC disregard all categories except *Stream Crossing* on the CD. The implementation checklist addresses the crossing decommission as well as the fish passage criteria, therefore does not need to be used with the CD.

FRGP project type: HB – Instream Barrier Modification

FB- FISH PASSAGE AT BARRIERS checklist is used on ***instream*** barrier modifications or removal that occurs anywhere other than a stream crossing (i.e. debris jams or dams). The implementation checklist evaluates structure installation and modification. Also, the implementation form can be used to evaluate grade control or back-flooding weirs/structures associated with stream crossings. The effectiveness checklist addresses barrier and passage problems and objectives.

FRGP project type: HU – Watershed Restoration (Upslope)

For typical features of FRGP projects classified as HU, there are six possible checklists to use - RU, RD, CU, CD, US, and RT.

US- UPSLOPE STABILIZATION & DELIVERY PREVENTION checklist is used to address treatments to gullies, landslides, or eroding slopes as well as restoration of rock pits, spoil disposal sites, and other developed areas. It can be used in conjunction with an RU or RD, but also can be used singularly. The effectiveness checklist focuses on sediment delivery and feature location. The implementation checklist evaluates installed structures and sediment delivery objectives.

RU – ROAD SEGMENT UPGRADING checklist is used on projects that intend to improve road drainage to decrease erosion and stream sedimentation (*RU techniques: disconnect and disperse runoff by using road shape, road surface, and critical dips and rolling dips*). The RU evaluates roads that will continue to be accessed by vehicles. Project treatments include road drainage improvements, stream crossing upgrades (CU), and/or treatment of road related landslides (US). The effectiveness checklist

addresses sedimentation and percent connectivity. The implementation checklist evaluates road shape and drainage structures installed. *When using an RU it is important to remember that each separate road is a feature, not a site. Refer to the site definitions for the parameters of a road site.*

RD- ROAD SEGMENT DECOMMISSION checklist is used for projects that will permanently or temporarily decommission roads for use by vehicles, but may convert the road into a trail. RD treatments include stream crossing excavation, landslide treatment, road drainage improvement, decompaction, and revegetation. The effectiveness checklist covers road surface drainage and sediment delivery. The implementation checklist evaluates the road decommission treatments and spoils placement. *When using an RD it is important to remember that each separate road is a feature, not a site. Refer to the site definitions for the parameters of a road site.*

CU- STREAM CROSSING UPGRADING checklist is used to evaluate modifications, new installations, or replacements of stream crossing structures. Generally it is used in conjunction with an RU checklist. The CU evaluates the stream crossing feature located in the RU's site, but both the stream crossing and the road upgrade are separate features. The effectiveness checklist addresses the current stream crossing problems/objectives, the sediment delivery potential, and the channel and bank condition. The implementation checklist evaluates the upgraded crossing type, spoils placement, and channel conditions.

CD- STREAM CROSSING DECOMMISSIONING is used on projects that intend to remove and/or decommission a pre existing stream crossing. Generally the CD is used in conjunction with an RD. The effectiveness checklist addresses the current crossing type and condition, sediment delivery, and channel, bank condition. The implementation checklist evaluates the stream crossing decommission according to CDFG standards.

FRGP project type: SC – Fish Screening of Diversions

For typical features of FRGP projects classified as SC, there is one possible checklist to use - FS.

FS – FISH SCREENING OF DIVERSIONS is used to evaluate projects that involve the installation of fish screens or head gates at streamflow diversions. The effectiveness FS checklist addresses fish access, diversion flow, fish screen, channel and banks. The implementation FS checklist evaluates the installation of the fish screen and headgate, and diversion rate according to CDFG standards.

FRGP project type: SF- Stream Flow Treatments

For typical features of FRGP projects classified as WC or WD, there is one possible checklist to use – SF.

SF – STREAM FLOW TREATMENTS checklist is under development at this time. We apologize for any inconvenience this may cause. If you have any questions, please contact fconsolati@dfg.ca.gov.

Additional forms

After choosing the correct checklist(s) to evaluate the project's features, the evaluator will need to fill out some general forms that are ALWAYS required for each project.

These are:

- **Site Access And Location Data Form**
- **Onsite Navigation Form**
- **Photo Description Form**
- **And, if conducting annual implementation monitoring, additional site summary forms will be needed (see below for further explanation).**

Summaries

During the implementation monitoring phase, Summary checklist forms are required to organize and compile annual site metrics and evaluation ratings. The following forms are available for use:

1. ANNUAL IMPLEMENTATION MONITORING SUMMARY
   - Summarizes qualitative implementation ratings (CHRPD tab 7)
   - One per project per year when implementation has occurred.

2. SITE SUMMARY – Instream/Fish Passage Implementation Monitoring

3. SITE SUMMARY – Riparian/Instream Implementation Monitoring

4. SITE SUMMARY – Upslope Implementation Monitoring
   - Summarizes performance measures (CHRPD Tab 3)
   - Try to use a summary that captures all the possible performance measures for the site.
   - If needed, use a combination of site summaries, but answer the "ALL" metrics only once for the site.