Appendix Z:
Discussion of Proper Functioning Condition

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Z. PFC – PROPER FUNCTIONING CONDITION

Z.1 WHAT IT IS - WHAT IT ISN'T

PFC is: A methodology for assessing the physical functioning of riparian and wetland areas. The term PFC is used to describe both the **assessment** process, and a defined, on-the-ground **condition** of a riparian-wetland area. In either case, PFC defines a minimum or starting point.

The PFC **assessment** provides a consistent approach for assessing the physical functioning of riparian-wetland areas through consideration of hydrology, vegetation, and soil/landform attributes. The PFC assessment synthesizes information that is foundational to determining the overall health of a riparian-wetland area.

The on-the-ground **condition** termed PFC refers to how well the physical processes are functioning. PFC is a state of resiliency that will allow a riparian wetland system to hold together during a 25 to 30 year flow event, sustaining that system's ability to produce values related to both physical and biological attributes.

PFC isn't: The sole methodology for assessing the health of the aquatic or terrestrial components of a riparian-wetland area.

PFC isn't: A replacement for inventory or monitoring protocols designed to yield information on the "biology" of the plants and animals dependent on the riparian-wetland area.

PFC can: Provide information on whether a riparian-wetland area is physically functioning in a manner which will allow the maintenance or recovery of desired values, e.g., fish habitat, neotropical birds, or forage, over time.

PFC isn't: Desired (future) condition. It is a prerequisite to achieving desired condition.

PFC can't: Provide more than strong clues as to the actual condition of habitat for plants and animals. Generally a riparian-wetland area in a physically nonfunctioning condition will not provide quality habitat conditions. A riparian wetland area that has recovered to a proper functioning condition would either be providing quality habitat conditions, or would be moving in that direction if recovery is allowed to continue. A riparian-wetland area that is functioning-at-risk would likely lose any habitat that exists in a 25 to 30 year flow event.

Therefore: To obtain a complete picture of riparian-wetland area health, including the biological side, one must have information on both physical status, provided through the PFC assessment, and biological habitat quality. Neither will provide a

complete picture when analyzed in isolation. In most cases proper functioning condition will be a prerequisite to achieving and maintaining habitat quality.

PFC is: A useful tool for prioritizing restoration activities. By concentrating on the "at risk" systems, restoration activities can save many riparian-wetland areas from degrading to a non functioning condition. Once a system is non functional the effort, cost, and time required for recovery is dramatically increased. Restoration of non functional systems should be reserved for those situations where the riparian wetland has reached a point where recovery is possible, when efforts are not at the expense of "at risk" systems, or when unique opportunities exist. At the same time, systems that are properly functioning are not the highest priorities for restoration. Management of these systems should be continued to maintain PFC and further recovery towards desired condition.

PFC is: A useful tool for determining appropriate timing and design of riparian-wetland restoration projects (including structural and management changes). It can identify situations where instream structures are either entirely inappropriate or premature.

PFC is: A useful tool that can be used in watershed analysis. While the methodology and resultant data is "reach based", the ratings can be aggregated and analyzed at the watershed scale. PFC, along with other watershed and habitat condition information helps provide a good picture of watershed health and the possible causal factors affecting watershed health. Use of PFC will help to identify watershed scale problems and suggest management remedies and priorities.

PFC isn't: Watershed analysis in and of itself, or a replacement for watershed analysis.

PFC is: A useful tool for designing implementation and effectiveness monitoring plans. By concentrating implementation monitoring efforts on the "no" answers, greater efficiency of resources (people, dollars, time) can be achieved. The limited resources of the local manager in monitoring riparian-wetland parameters can be prioritized to those factors that are currently "out of range" or at risk of going out of range. The role of research may extend to validation monitoring of many of the parameters.

PFC wasn't: Designed to be a long term monitoring tool but it may be an appropriate part of a well designed monitoring program.

PFC isn't: Designed to provide monitoring answers about attainment of desired conditions. However, it can be used to provide a thought process on whether a management strategy is likely to allow attainment of desired conditions.

PFC can: Reduce the frequency and sometimes the extent of more data and labor intensive inventories. PFC can reduce process by concentrating efforts on the most significant problem areas first and thereby increasing efficiency.

PFC can't: Eliminate the need for more intensive inventory and monitoring protocols. These will often be needed to validate that riparian-wetland area recovery is indeed moving toward or has achieved desired conditions, e.g., good quality habitat; or simply establish what the existing habitat quality is.

PFC is: A qualitative assessment based on quantitative science. The PFC assessment is intended for individuals with local, on-the-ground experience in the kind of quantitative sampling techniques that support the checklist. These quantitative techniques are encouraged in conjunction with the PFC assessment for individual calibration, where answers are uncertain, or where experience is limited. PFC is also an appropriate starting point for determining and prioritizing the type and location of quantitative inventory or monitoring necessary.

PFC isn't: A replacement for quantitative inventory or monitoring protocols. PFC is meant to complement more detailed methods by providing a way to synthesize data and communicate results.

Z.2 PFC Checklist

The following section contains the PFC checklist as used by BLM staff and others in the field. Immediately following are the general instructions, and then the two pages of the checklist itself.

Z.3 General Instructions

1) The concept "**Relative to Capability**" applies wherever it may be inferred.
2) This checklist constitutes the **Minimum National Standards** required to determine Proper Functioning Condition of lotic riparian-wetland areas.
3) As a minimum, an **ID Team** will use this checklist to determine the degree of function of a riparian-wetland area.
4) Mark one box for each element. Elements are numbered for the purpose of cataloging comments. The numbers do not declare importance.
5) For any item marked "**No**," the severity of the condition must be explained in the "**Remarks**" section and must be a subject for discussion with the ID Team in determining riparian-wetland functionality. Using the "**Remarks**" section to also explain items marked "**Yes**" is encouraged but not required.
6) Based on the ID Team's discussion, "**functional rating**" will be resolved and the checklist's summary section will be completed.
7) Establish photo points where possible to document the site.

Standard Checklist

Name of Riparian-Wetland Area: _____
Date: _____ Area/Segment ID: _____ Miles: _____
ID Team Observers: _____

HYDROLOGIC (circle one)

Yes /No/ N/A 1) Floodplain inundated in "relatively frequent" events (1-3 years)
Yes/ No /N/A 2) Active/stable beaver dams
Yes/ No /N/A 3) Sinuosity, width/depth ratio, and gradient are in balance with the landscape setting (i.e., landform, geology, and bioclimatic region)
Yes/ No/ N/A 4) Riparian zone is widening or has achieved potential extent
Yes /No /N/A 5) Upland watershed not contributing to riparian degradation

VEGETATIVE (circle one)

Yes /No/ N/A 6) Diverse age-class distribution (recruitment for maintenance/recovery)
Yes/ No/ N/A 7) Diverse composition of vegetation (for maintenance/recovery)
Yes /No/ N/A 8) Species present indicate maintenance of riparian soil moisture characteristics
Yes /No/ N/A 9) Streambank vegetation is comprised of those plants or plant communities that have root masses capable of withstanding high streamflow events
Yes/ No/ N/A 10) Riparian plants exhibit high vigor
Yes /No /N/A 11) Adequate vegetative cover present to protect banks and dissipate energy during high flows
Yes/ No/ N/A 12) Plant communities in the riparian area are an adequate source of coarse and/or large woody debris

SOILS-EROSION DEPOSITION (circle one)

Yes/ No /N/A 13) Floodplain and channel characteristics (i.e., rocks, overflow channels, coarse and/or large woody debris) adequate to dissipate energy

Yes /No /N/A 14) Point bars are revegetating

Yes /No/ N/A 15) Lateral stream movement is associated with natural sinuosity

Yes/ No /N/A 16) System is vertically stable

Yes /No /N/A 17) Stream is in balance with the water and sediment being supplied by the watershed (i.e., no excessive erosion or deposition)

Remarks:

_____
_____
_____
_____
_____
_____
_____

Summary Determination Functional Rating:

Proper Functioning Condition _____

Functional – At Risk _____

Nonfunctional _____

Unknown _____

Trend for Functional – At Risk:

Upward _____

Downward _____

Not Apparent _____

Are factors contributing to unacceptable conditions outside BLM's control or management?

Yes _____

No _____

If yes, what are those factors?

____ Flow regulations

____ Mining activities

____ Upstream channel conditions

____ Channelization

____ Road encroachment

____ Oil Field water discharge

____ Augmented flows

____ Other (specify) _____

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