

United States Forest R-6
Department of Service
Agriculture

Reply to: 2670

Date: August 14, 1995

Subject: PACFISH Grazing Guidelines Revision

To: PACFISH Forest Supervisors

Enclosed is a revision of Enclosure B - Recommended Livestock Grazing Guidelines, sent to you in a memo dated May 24, 1995, providing feedback to questions raised at the PACFISH Implementation Workshops. Please replace the original Enclosure B with this revision dated July 31, 1995. It should be understood that this revision does not alter the intent or intended implementation of the subject guidelines as originally written but rather attempts to further clarify them to avoid possible misinterpretation.

If you have any questions, please contact Ron Wiley (503-952-6418), Wayne Elmore (503-447-4115), or Don Nelson (503-326-5917).

/s/Gordon Haugen
GORDON HAUGEN
Columbia River
Basin/PACFISH Coordinator

Enclosure

ENCLOSURE B

RECOMMENDED LIVESTOCK GRAZING GUIDELINES (Rev. 7/31/95)

KEY ASSUMPTIONS

- * Influences of livestock grazing must result in riparian restoration at a minimum of "near natural" rates. We recognize that some environmental effects are inherent with the presence of livestock. However, we believe that "near natural" rates of recovery can be provided if we limit environmental effects to those that do not carry through to the next year, thereby avoiding cumulative, negative effects.
- * Adverse affect to aquatic habitat associated with livestock grazing can be avoided, and riparian restoration provided by controlling:
 - season of use (tied to plant phenology and soil characteristics rather than calendar dates); and
 - amount of use.
- * Providing for the health, form and function of riparian systems should remain the focus of management efforts.
- * Stream gradient, inherent stability characteristics, potential vegetative communities, and type of degradation (i.e., vegetation vs. bank/channel characteristics) are important factors in determining restoration potential and guidelines that will lead to restoration.
- * Guidelines for developing allotment specific prescriptions can be identified at the programmatic level. However, in general, the prescriptions themselves must be developed to fit "on-the-ground" conditions within the context of those guidelines.
- * In some definable cases, avoiding adverse affects can only be accomplished by suspending livestock grazing. These cases include problems related to ecological status.
- * Effective monitoring using specific measurement approaches, as well as administration, are essential.

PROGRAMMATIC GUIDELINES FOR LIVESTOCK GRAZING

As noted in the assumptions above, the goals, or desired outcomes of management efforts provide the foundation for the recommended programmatic livestock grazing guidelines. The guidelines and resulting site specific prescriptions are of value only to the extent they contribute to meeting these goals. The Environmental Assessment for PACFISH interim direction provides suitable riparian goals for the land management agencies (See PACFISH EA, APPENDIX, pages C-3 and

C-4). All management activities implemented, including non-livestock related activities, should contribute to accomplishment of these goals.

Where these goals are met, the following on-the-ground attributes will be evident (See BLM Technical Reference 1737-9, Process for Assessing Proper Functioning Condition):

- (1) Floodplains are inundated by relatively frequent events (i.e., 1-3 years).
- (2) Stream sinuosity, width/depth ratio, and pool frequency reflect the capabilities of the setting (i.e., landform, geology, and bioclimatic region).
- (3) Lateral stream movement is associated with natural sinuosity (i.e., streambank stability reflects the inherent capabilities of the setting).
- (4) The overall system is vertically stable.
- (5) Streambank morphology reflects the inherent capabilities of the ecological setting.
- (6) Upland watershed conditions within the allotment are not contributing to degradation of riparian habitat conservation areas.
- (7) Riparian vegetation characteristics:
 - diverse age structure for woody species (where such species are a part of the natural system);
 - plants exhibit high vigor;
 - species present indicate maintenance of riparian soil moisture;
 - streambank vegetation protects stream banks and dissipates energy during high flows (i.e., consider community type composition, rooting characteristics, and plant density); and
 - provide an adequate source of coarse and/or large woody debris (where such debris is a part of the natural system).

MANAGEMENT CONSIDERATIONS

Based on the key assumptions previously outlined, the following guidelines are recommended for use in modifying applicable allotment management plans/annual operating plans/project decision documents/instructions to permittees to provide a high degree of assurance that objectives for conservation and restoration of anadromous fish habitat will be met.

These recommendations do not specifically address "priorities" for taking action. Taking action to conserve Columbia River Anadromous Fish is not optional. However, we believe priorities can be identified where there are insufficient resources to "do it all." Those priorities are as follows:

- 1) Maintain or improve conditions, where the criteria for "late seral" ecological status are met or exceeded (i.e., it is easier to protect healthy riparian systems than restore degraded ones).

- 2) Adjust management practices, where the criteria for "mid-seral" ecological status are met but the trend is static or downward. This is especially important, where vegetative factors are primarily responsible for the mid-seral rating (i.e., making adjustments at this stage is likely to prevent stream bank/channel damage of a lasting nature).
- 3) Adjustments in management practices, where the criteria for "early seral" ecological status are met, and primarily tied to deteriorated stream bank/channel conditions (especially in cases of severe channel downcutting where channel evolution has not re-created a floodplain), may contribute little to the recovery of the system in the near term.

RECOMMENDATIONS

- * Continue current grazing prescriptions in pastures/allotments where ecological status is "late seral" (or better) based on either riparian vegetation or stream bank/channel conditions. Ensure residual herbaceous vegetation heights of at least 4 to 6 inches, and that no "condition thresholds" are exceeded. (See Key Definitions - Ecological Status and Residual Herbaceous Vegetation Heights)
- * Where ecological status is "mid-seral," limit grazing in pastures/allotments to provide at least 6 inches of residual herbaceous vegetation and to ensure that no "condition thresholds" are exceeded. For moderate and low gradient (i.e., Rosgen "B" and "C" channel types) channels, with substrates composed of medium to fine easily eroded materials, also limit use to early season grazing to provide for recovery of stream bank/channel characteristics. (See Key Definitions - Early Season Grazing)
- * In pastures/allotments where ecological status is "early seral", the following is strongly recommended:
 - In moderate and low gradient (i.e., Rosgen "B" and "C" channel types) channels, with substrates composed of medium to fine easily eroded materials, consider rest.
 - In all moderate to high gradient stream systems (Rosgen "A" and "B" type channels) with coarse substrate materials that provide inherent stability, whose ecological status rating of early seral is tied entirely to vegetation characteristics, grazing may be permitted if limited to early season use, residual herbaceous vegetation heights of at least 6 inches are met, and no "condition thresholds" are exceeded.
- * Where early season grazing, as prescribed above, would result in adverse affects or is impractical, mid- or late-season grazing may be alternatives. However, residual herbaceous vegetation requirements would still have to be met and no "condition thresholds" could be exceeded.
- * Appropriate "condition thresholds" will be monitored in all pastures/allotments. Results are to be reported on an annual basis, and appropriate adjustments made to the annual operating

plans. (See likely consequences of implementation of this recommendation in the following section.)

KEY DEFINITIONS

Condition Thresholds: A number of indicators of impending impacts that would carry over to the next year would be monitored during the period of use and act as "triggers" to prevent damage. These should not be exceeded anytime during the grazing season. The recommended triggers and associated threshold values are as indicated below:

New bank alteration: bank instability that becomes evident after livestock grazing is initiated in a pasture/allotment in a given year. This assumes that early season use occurred following peak flows, when most of the additional bank damage can be tied to land use activities. The recommended threshold is 5% of the lineal bank distance (includes both sides of the stream).

Riparian area alteration: two measures of riparian area alteration are proposed. Each keys on areas away from stream banks that are good early indicators of impending riparian damage. The first relates to use of "riparian islands" - those portions of riparian areas slightly higher and drier than the rest of the riparian area. These are often dominated by Kentucky bluegrass. The recommended threshold is 25% of the areas with visible trampled soils or a vegetation height of 2 inches, which ever is reached first.

The second measure relates to livestock use of "riparian sinks" - those portions of riparian areas slightly lower and more moist than the rest of the riparian area. These are often dominated by carex species. The recommended threshold is utilization in excess of a vegetation height of 3 inches.

Riparian "island" and "sinks" are not significant components of all riparian areas. Generally only one of these features would be used as an indicator of impending riparian damage (i.e., the one that represents a significant component of the riparian area away from the stream side and/or which first shows signs of damage).

Woody vegetation utilization: proposed limitations on season and amount of use, suggest that woody vegetation utilization would seldom be of concern. Monitoring of this feature would generally be limited to those circumstances where the prescription calls for mid- or late-season grazing or where there is a documented problem with woody vegetation utilization. The recommended threshold is 30% of the current year's growth, measured as incidence of use.

Early Season Grazing: Early season grazing is defined in terms of the phenology of the vegetation. Early season grazing is limited to that period where upland vegetation is green but not drying. It typically begins about the second to third leaf stage and ends between boot and flowering of perennial upland bunch grasses. Caution should be used to avoid soil compaction and bank alteration from physical damage that can occur in some settings with early season grazing.

Ecological Status: Al Winward, in Clary and Webster (1989), defined "ecological status" as a measure of the degree of similarity between current vegetation and potential vegetation for a given

riparian area. Our definition of "ecological status" adds to Winward's definition, recognizing the importance of stream bank and channel features. Definitions follow for each of the categories:

Early Seral *

- Percent similarity of riparian vegetation to the potential natural community/composition $\leq 25\%$; or,
- Stream bank/channel condition rating "poor".

Mid-Seral *

- Percent similarity of riparian vegetation to the potential natural community/composition 26-50% or better; and,
- Stream bank/channel condition rating of at least "fair".

Late Seral *

- Percent similarity of riparian vegetation to the potential natural community/composition $\geq 50\%$; and,
- Stream bank/channel condition rating "good" or better.

* If similarity of riparian vegetation information is lacking or cannot be readily obtained, use BLM Technical Reference 1737-9, Process for Assessing Proper Functioning Condition, or other rating systems. In using the previously mentioned technical reference, the following approximate crosswalk may be applied to relate functioning condition and ecological status:

- Proper Functioning Condition - continue current management if monitoring data supports or use recommendations for late seral.
- Functional-At Risk, upward trend - continue current management if monitoring data supports or use recommendations for mid-seral.
- Functional-At Risk, static trend - use recommendations for mid-seral or early seral depending on site specific conditions.
- Functional-At Risk, downward trend; or,
- Non-Functional, use recommendations for early seral.

Greenline: That specific area on or near the waters edge where a more or less continuous cover of perennial vegetation is encountered. Natural plant species forming the greenline are composed primarily of large, hydric species such as beaked sedge, Nebraska sedge, bluejoint reedgrass, or other especially strong rooted species capable of buffering the forces of water at the bankfull

discharge level. Disturbance activities, such as overgrazing or trampling by animals or people, result in changes to shallow rooted species such as Kentucky bluegrass, which have a reduced ability to buffer water forces.

Late Season Grazing: Late season grazing generally begins after sugar storage in woody vegetation is complete and leaf fall has started. Upland plant seeds have shattered and mean air temperatures begin to cool.

Near Natural Rate of Recovery: Synonymous with PACFISH requirement not to "retard" or "measurably slow" recovery of degraded riparian features. Further defined in these recommendations within the context of effects that "carry over to the next year." Any effect that carries over to the next year is likely to result in cumulative negative effects, and measurably slow recovery of degraded riparian features.

Residual Herbaceous Vegetation Height: Residual herbaceous vegetation height, measured at the end of the growing or grazing season (which ever occurs latest), is used as an indicator of a system's ability to withstand erosive stream flows, filter sediment and build stream banks. Residual herbaceous vegetation height measurements are to be taken on those hydric species along the greenline with the capability to buffer water forces. (See above discussion of "greenline.")