WHERE DID THE 300 FEET COME FROM???

There has been considerable negative reaction to the interim widths for Riparian Habitat Conservation Areas (RHCA) proposed in PACFISH. Generally this reaction is accompanied by a statement such as: "the proposed 300' RHCA is not supported by the literature and completely arbitrary". This statement is not true and the following is an explaination for these widths:

The Interim RHCA width causing all the uproar are as follows:

Fish bearing streams = 300 feet - (slope distance) each side of the stream (600' total RHCA)

Non-fish bearing streams, ponds, reservoirs and wetlands >1 acre = 150 feet (slope distance) each side of the stream (300' total RHCA)

Intermittent streams, wetlands > 1 acre, and unstable landslide areas = 100 feet (slope distance) each side of the stream (200' total RHCA)

Interim RHCA widths incorporate uncertainties in knowledge and protect sensitive riparian areas against unforseen events. Understanding of riparian function and how this varies with distance from streams is primarily based on studies conducted west of the Cascades and in California (Brazier and Brown 1973, Steinblums et. al. 1984, Gregory et. al. 1987, McDade et. al. 1990, Robinson and Beschta 1990, Sedell and Beschta 1991, Bisson, 1992). Since this information is some of the best available, it was considered in establishing interim RHCA widths, along with data collected east of the Cascades (Haupt 1959a and 1959b, Packer 1967, Burroughs and King 1989, Ketcheson and Megahan 1990). **These widths are considered sufficient to maintain the integrity of riparian areas until new information becomes available either through watershed and site-specific analysis or at a regional scale, through the scientific assessment for geographically specific EISs.**

Riparian areas are particularly dynamic portions of the landscape. They are subject to disturbances characteristic of uplands, such as fire and windthrow, and those processes unique to streams, such as lateral channel erosion, peakflow, deposition by floods, and debris flows (Naiman et. al. 1992; Gregory et. al. 1991). A conservative approach for these areas requires measures that minimize disturbance from management activities and that do not exacerbate the effects of natural disturbance. Thus, it is prudent to maintain a high level of protection for riparian ecosystems until primary disturbance mechanisms are characterized through a watershed analysis, providing the appropriate context for decisions on watershed-specific RHCA widths.

To protect the attributes responsible for influencing aquatic systems and salmonid populations and to prevent further degradation of currently poor habitat, it is necessary to protect riparian areas along all stream types. Riparian areas function in maintaining the quality of aquatic habitat by influencing the delivering of woody debris, coarse sediment, and organic matter to streams; providing root strength for channel stability; offering shade for summer and winter thermal regulation; and protecting water quality (Naiman et. al. 1992). These functions should be sufficiently maintained by the prescribed interim RHCA widths.

The effectiveness of riparian buffer strips in influencing sediment delivery from non-channelized flows is quite variable. Belt et. al. 1992, citing numerous studies conducted throughout the range of anadromous salmonids, reported sediment travel distances and filter strip efficiencies varied

considerably from study to study. Belt et. al. 1992, concluded based on studies conducted in Idaho (Haupt 1959a and 1959b, Ketcheson and Megehan 1990, Burroughs and King 1985 and 1989) and elsewhere (Trimble and Sartz 1957, Packer 1967, Swift 1986) "that for non-channelized flow, sediment rarely travels more than 300 feet." and "Filter strips on the order of 200-300 feet are generally effective in controlling sediment that is not channelized". Trimble and Sarrtz 1957, recommended that where the "highest possible water quality standard" was required, this could be maintained with 330 foot buffer strips on 70 percent slopes. **The prescribed 300 foot RHCA widths for fish bearing streams should maintain stream function of sediment inputs from non-channelized sources.**

A review of the literature indicates interim RHCA widths adequate to protect fish bearing streams from non-channelized sediment inputs should be sufficient to provide other riparian functions (Gregory et. al. 1984, Beschta et. al. 1987, Brazier and Brown 1973, Steinblums et. al. 1984, McDade et. al. 1990, Sedell and Beschta 1991, Belt et. al. 1992):

Litterfall and nutrient input/retention in streams	75-150 ft.
Shade Function (summer temperature)	75-150 ft.
Woody Debris Delivery	100-150 ft.
Stream Bank Stability	75-150 ft.

Channelized flow into fish bearing streams is a primary source of sediment in mountainous regions (Belt et. al. 1992). In steep, highly dissected areas, intermittent streams can channelize sediment flows and move them thousands of feet, through buffer strips, and into fish bearing streams. Channelized sediment flows are limited primarily by the amount and frequency of flow and by the storage capacity of the channel. Flows in forested, intermittent streams are generally insufficient to move the average sized piece allowing large wood to accumulate in small channels (Bisson et. al. 1987). These accumulations increase the channel storage capacity and reduce the likelihood of normal flows moving sediment downstream. As indicated above, interim RHCA widths for intermittent streams are consistent with those suggested for supplying large woody debris and should supply wood volumes to ensure adequate storage capacities.

Interim RHCA widths for intermittent streams include any unstable or potentially unstable areas. This should protect small channels from large volumes of sediment and water that could be generated by land management activities and be channeled into fish bearing streams.

Interim RHCAs widths are designed to maintain ecological connections and processes in healthy systems and to allow restoration of these connections and processes in degraded systems. Additionally, they provide a safety margin for the possibility of large, rare natural disturbance events and for gaps in our knowledge and understanding about these systems. **This approach will maintain the integrity of aquatic systems and aquatic habitats until geographically specific RHCA widths can be established through watershed analysis.**

The Preceeding has been adapted from PACFISH/FEMAT and Sedell and Burnett, 1994 (unpublished)):