Fremont-Winema National Forests
Prioritizing Work at the Watershed Scale

Introduction

At the National and Regional levels it is recognized that a watershed based approach to restoration is necessary for healthy and productive watersheds and can only be achieved through collaborative partnership efforts since watersheds are larger than national forests. It also recognizes that we will not be able to restore all degraded areas at once even with the most aggressive proposed management. Therefore, we must focus watershed restoration efforts on selected watersheds where we can hope to make a meaningful difference. Prioritization of watersheds and treatments is one of the primary elements of Aquatic Restoration Strategy Framework for the Pacific NW Region recognizing that we can provide the highest likelihood of success and completion of terrestrial and aquatic restoration by focusing treatments on a limited number of watersheds. Individual business (restoration) plans for restoring priority watersheds will enable the Forest to compete with other forests within the region for limited restoration program dollars.

The purpose of the prioritization process is to identify watersheds (5th field HUCs) best suited for priority actions. The primary objectives of the process are: 1) manage by watersheds (treat each watershed as a unique entity that is managed effectively for ecosystem conservation based on site-specific information); 2) organize Districts/Zones as teams on a watershed basis; 3) fund activities at the watershed scale; 4) track accomplishments by watersheds (direct accountability); and 5) provide leadership in restoring watersheds. Priority watersheds will be the site of focused efforts in order to maximize forest, range, soil, water and habitat improvement or protection. Selection of priority watersheds is a dynamic process that builds on current efforts and recognizes ongoing coordination with other agencies and the public.

The prioritization process identifies the highest priority watershed(s) in which to conduct management. A primary goal of Ecosystem Management at the Watershed Scale is to protect the "best of the best", while improving baseline condition on all watersheds. While funding will be focused on those watersheds that will respond most quickly, all watersheds will receive regular maintenance regardless of priority rank so that no watershed condition will decline. Although it is recognized that on any given year not all project work can occur in a few geographic areas due to management issues, challenge cost-share opportunities, etc., focusing restoration activities on a few high priority watersheds will allow decision-makers to make better use of limited funds by increasing efficiency and reducing the overall work load.

Once the prioritization process is complete, watershed assessments will be completed for the priority watersheds if they have not already been done. Using the assessments, a watershed restoration plan (business plan), identifying specific management activities and a timeframe for accomplishing the activities, can be developed for the watersheds.

<u>Watershed Prioritization Process</u>

The process used to prioritize watersheds for the Fremont-Winema National Forests has proceeded in two phases.

Phase I – Zone Prioritization Process

Prioritization of watersheds for each Zone was conducted by Interdisciplinary Teams. Using the current 5th level hydrologic unit code (HUC) watersheds as the focus areas, the teams estimated the values (substantial physical, biological or social uses, benefits, or services) provided in each watershed, identified the relative risk (threat, exposure, or vulnerability) to each of the substantial values identified in the watershed, and determined which watersheds have the best opportunities (favorable operational, social, or financial circumstances) for maintenance or restorative actions. Important objectives in this process included identifying watersheds where there are ample opportunities to integrate activities and reach a shared goal, and identifying watersheds where we can readily demonstrate accomplishments as a result of focusing limited resources.

Examples of values include: water (domestic use, irrigation, wildlife/livestock water, recreation use, riparian habitat maintenance, aquatic species habitat); soil (nutrient cycling, hydrologic function, floodwater attenuation); vegetation (biodiversity, soil protection, wood/grass production, recreation use, sensitive plant species, wildlife habitat); special uses (subdivisions, interface areas, scenic areas, campgrounds, etc.); and special designations (wilderness, wild and scenic, etc.). Examples of risks include: water (disruption of hydrologic regimes, water quality degradation, habitat degradation); soil (erosion, disruption of nutrient cycling, hydrologic functions); vegetation (catastrophic fire, insect/disease or noxious weed infestations, loss of vegetation diversity, habitat loss); and special uses/designations (fire, insect/disease). Examples of opportunities include: percent of watershed on Federal lands; cooperative watershed planning areas; ability to integrated and coordinate Forest Service programs; ability to leverage funds; availability of grants; technical and practical feasibility; other non-FS entities are working in the watershed; Federal, State, Tribal, local and non-governmental partnerships; rural economic opportunities; extent of public interest; and NEPA ready work.

A numeric score of 0 (not applicable), 1 (low importance), 2 (moderate importance), or 3 (high importance) was assigned to each of the evaluation criteria (values, risks, opportunities) based on resource specialists' current knowledge of each watershed. If watershed assessments had been completed for a particular watershed, information contained in the assessment was also utilized. Zones were expected to coordinate with neighboring zones regarding shared watersheds during their evaluation and selection process. General information from knowledgeable staff and existing documents was considered sufficient for this analysis. Rationale to support the score was requested.   The scores were summed for each watershed and the watersheds with the highest scores represent the highest priority watershed.

Phase II – Forest-wide Prioritization

Phase II of the process was initiated to evaluate watersheds on a Forest-wide basis and was completed by Forest Program Managers. The process consisted of identifying a minimum set of four quantifiable (using GIS technology) evaluation criteria that could be applied consistently to each watershed across the Fremont and Winema National Forests. The four criteria selected were: 1) percent of the watershed consisting of National Forest System (NFS) lands (indicator of abiltiy of FS to be effective in improving watershed condition); 2) number of ESA (Endangered Species Act) species (both terrestrial and aquatic) present in the watershed (indicator of the presence and amount of sensitive terrestrial and aquatic habitat within the watershed); 3) road density (mile per square mile) on NFS lands within the watershed (indicator of the amount of past and current anthropogenic disturbance in the watershed resulting from management activities); and 4) perennial stream density (mile per square mile) on NFS lands within the watershed (indicator presence and amount of aquatic and riparian resource values in the watershed and potential for impact to these resources, i.e., the higher the dentsity, the more potential for disturbance).

Since each of the four criteria represent a range of possible values, each criterion was categorized into one of three groups and a value (e.g., 1, 2, or 3) assigned to each group. A higher value indicates higher importance to the process (i.e., higher number of ESA species, higher perennial stream density, etc,). A numeric weight was determined and assigned to each criterion based on perceived relative importance to the process (i.e., is road density more, less, or equal in importance than number of ESA species). For each watershed , the category value assigned to each of the 4 criteria was multiplied by the criterion weight and the product summed to derive a total score for the watershed. The score totals were used to determine watershed priority (with the highest priorty watersheds will have the highest score).

Results and Current Status of Prioritization Process

The preliminary results of the analyses are shown graphically below. Since there were differences as well as similarities in the results from each phase of the analysis, the graphic shows the high priority watersheds identified from both analyses (the moderate and low priority watersheds are not specifically identified). Additional evaluation is needed to identify only those watersheds shown in the graphic where we can provide the highest likelihood of success and completion of terrestrial and aquatic restoration, i.e., where we can hope to make a meaningful difference in a reasonable length of time. This will enable decision-makers to focus restoration activities on a limited number of the highest priority watersheds to make better use of limited funds by increasing efficiency and reducing the overall work load.

The results of the prioritization process will be submitted to the Forest Leadership Team (FLT) for review by mid-February, 2006. Additional consideration may be given to Forest Priority Areas (Lakeview Stewardship Federal Unit, Northwest Forest Plan Area, Klamath Tribal lands, The Nature Conservancy – Fire Learning Network) during the review, as well as other factors, and modifications may be recommended.

Fremont-Winema National Forests
Priority Watersheds

KLAMATH MARSH/JACK CREEK

WILLIAMSON RIVER ABOVE KLAMATH MARSH

SYCAN RIVER ABOVE SPRAGUE RIVER

WILLIAMSON RIVER BELOW KLAMATH MARSH

SYCAN RIVER ABOVE SYCAN MARSH

NORTH FORK SPRAGUE RIVER

MIDDLE CHEWAUCAN RIVER

KLAMATH LAKE

UPPER CHEWAUCAN RIVER

FOURMILE CREEK

THOMAS CREEK

SPRAGUE RIVER VALLEY

SPRAGUE RIVER ABOVE WILLIAMSON RIVER

SOUTH FORK SPRAGUE RIVER

Forest 5th Code HUCs (Watersheds)
Lakeview Federal Stewardship Unit
Northwest Forest Plan Area
Klamath Tribes 1888 Reservation
The Nature Conservancy - Fire Learning Network
Forestwide and Zone Priority Watersheds