THE WILDLIFE SOCIETY
Leaders in Wildlife Science, Management and Conservation

Final Position Statement

Recognition of Wildlife Needs in Watershed Planning

The Wildlife Society recognizes that environmental resource planning at broad geographic scales (e.g., watersheds[1]) is growing in acceptance and application. Further, The Wildlife Society believes large-area planning offers many advantages over small-scale, parcel-by-parcel planning efforts. Watersheds as planning units make inherent sense for wildlife species closely linked to water availability and dynamics. Watersheds are also very useful as communication tools – they can be understood by many publics and are easily mapped. Caution should be exercised, however, when using watersheds to integrate wildlife management objectives into large-scale management plans. Because watersheds are defined by patterns of water drainage, their use as a management and planning tool for terrestrial species represents an artificial human construct that may not be applicable when addressing wildlife populations that range beyond the boundaries of a planning unit delimited by water runoff.

Planning conducted at the scale of the watershed or other hydrologic-based unit represents just one step in a hierarchical planning approach necessary for effective and long-term conservation of many wildlife species. Defining a land-based unit for planning that is founded on the principles of watershed management offers the wildlife scientist a means to simplify and organize complex ecological systems and formulate rational, explicable management goals and objectives. Furthermore, the nested geographic arrangement of hydrologic units within watersheds (e.g., associated small drainages combine to form a watershed, associated watersheds combine to form a river basin) offers a convenient way to account for, organize, and examine patterns generated by ecosystem processes, which operate at a variety of temporal and spatial scales and ecological gradients. Fire, for example, generally operates within climatic conditions and along elevational gradients that are independent of or only remotely related to watershed and other hydrologic-based boundaries. Similarly, the home ranges and populations of many wildlife species are either larger or smaller than a particular hydrologic unit. Aquatic processes and functions, in contrast, are typically confined within a watershed or other water-based physiographic unit. Thus, effective pattern recognition of ecosystem structure and function requires consideration of multiple spatial and temporal scales in order to capture the range of potential wildlife responses and influences of disturbance or succession.

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[1] *The term "watershed" generally refers to an area in which all surface waters flow to a common point. Describing the relative size of a watershed frequently results in inconsistent use of terms for size or area discrimination. The Wildlife Society subscribes to the use of a consistent set of terms established by the United States Geological Survey and the Watershed Management Council [McCammon, B.P. 1994. Recommended watershed terminology. Watershed Management Council Newsletter 6(2):12-14].*
These terms are Region, Subregion, River Basin, Subbasin, Watershed, Subwatershed, Drainage, and Site. Watersheds are generally smaller than 700 square miles in size. We also note that watersheds in the U.S. have been delineated by the U.S. Geological Survey using a national standard hierarchical system based on surface hydrologic features and are classified into four types of hydrologic units: first-field (region), second-field (sub-region), third-field (accounting unit), and fourth-field (cataloguing unit). [see http://water.usgs.gov/GIS/huc.html]

A hierarchical approach to planning efforts encourages development of a framework for meaningful ecological assessments at a variety of scales. Large-scale conservation plans for natural resource management should include: 1) a broad range of species and important ecological processes within the region; 2) specific objectives for the conservation and management of wildlife within the area that consider the relationships among the biological, physical, and socio-economic factors operating within the region; 3) expectations for public and private lands; 4) sufficient monitoring and research to provide a basis for adaptive management, and 5) attention to biological resources whose management may not be dictated by watersheds per se. Subsequent planning efforts for smaller areas should support the goals described in the large-scale comprehensive conservation plan. The result will be a readily integrated set of management objectives coordinated among planning units, at each scale providing its assigned portion of desired wildlife habitat types, the conditions and the processes upon which they are controlled, and wildlife populations.

The Wildlife Society recognizes that:

1. Ecologically acceptable and responsible watershed scale planning must include consideration of the temporal and spatial habitat requirements of wildlife.

2. Watershed scale planning, with limitations, provides an opportunity for accommodating a variety of social and ecological requirements and broader understanding of wildlife habitat relationships.

3. Ecological processes operate both within and beyond hydrologic-based planning units.

4. Scientifically sound management plans and practices are fundamental to resource use and restoration.

5. For most wildlife species, large-scale planning efforts must establish a hierarchical framework for the development of management objectives at a range of spatial scales on at least two axes: 1) hydrologic unit, and 2) plant communities. Time is a critical consideration to be understood in large-scale planning.

Therefore, the policy of The Wildlife Society in regards to recognizing wildlife needs in watershed planning is to:

1. Support development and application of hierarchical and large-scale conservation plans for natural resource management to guide or inform development of specific management strategies at the regional and local levels.
2. Advocate the coordination of nested and adjoining watershed management plans so that wildlife habitat requirements and anticipated consequences of watershed management are assessed in a scientifically sound manner.
3. Promote the use of Certified Wildlife Biologists to represent wildlife values in all large-scale planning and management processes, such as those now underway defined by watersheds.

4. Encourage rigorous research and monitoring to predict and evaluate the impact of various land and wildlife management practices on wildlife and their habitats at multiple spatial scales, such as those afforded by watersheds.

Approved by Council March 2010. Expires October 2018.