**7/22/2021**

**Bitterroot Forest Collaborative**

**Special Habitats Position Statement**

**Background:**

Special habitat, as used in this document, is a collective term that includes unique habitat conditions and/or unusual habitat attributes that require extraordinary management attention and/or protection. They include: (1) riparian and wetland habitats that support a disproportionate number of species relative to the amount of habitat that occurs across the landscape; (2) unique habitats such as bogs, fens and old-growth forests that are naturally rare or have been degraded by human activity and (3) habitat conditions that result from stochastic events such as wildfire, unusually high winds, floods and insect and disease outbreaks. Special habitats also include unique habitat features such as snags, dead and downed wood, talus slopes, cliffs and waterfalls that often make habitat suitable for species that would otherwise be absent. All special habitats are extremely important in that they contribute to overall wildlife species richness and diversity.

Anthtropogenic (human caused) activities create habitat conditions that do not generally exist under normal circumstances. Such situations normally have negative consequences that limit fish and wildlife populations because of some negative attribute that reduces the suitability of otherwise high quality habitat. Liquidation of late seral (old-growth) forests from past logging activities is a prime example of this type of man-caused habitat change. In addition, areas of excessive habitat disturbance resulting from motorized recreation and/or abnormally high levels of human activity, barriers to free movement such as roads, highways, culverts and dams and dramatic changes in habitat suitability or availability resulting from phenomena like climate change also have negative consequences to habitats for fish and wildlife.

Because special habitats support disproportionately greater species richness or provide the only habitat suitable for obligate species, special habitats need greater consideration in managed landscapes. Depending on the specific circumstances, different types of management may be necessary. Maintaining appropriate representation of old-growth forests, for example, may need complete protection in some cases, recruitment of replacement habitat in other cases, silvicultural treatment to maintain old-growth conditions (tree diameter, stand density, composition and structure in ponderosa pine habitat, for example) in other situations and actions such as treating adjacent timber stands in a manner that helps reduce the risk of losing existing old-growth to wildfire in yet others. Similarly, snag retention in timber sale areas or the actual creation of snags may be necessary to meet Forest Plan standards and provide sufficient snags to meet the needs of cavity nesters.

Providing sufficient and quality old growth habitat remains a contentious issue on the Bitterroot National Forest and therefore merits disproportionately greater discussion and consideration from other special habitats. Old growth forests are ecosystems distinguished by old trees and related structural attributes such as snags, down woody material, and multiple canopy layers. According to Principle 6 in Hessburg et. al. (2015): “Widely distributed large, old trees provide a critical backbone to dry pine and dry to mesic mixed-conifer forest landscapes.”

Large, old trees store disproportionate amounts of carbon, as carbon storage dramatically increases with size (dbh) (Mildrexler et al, 2020; Stephenson et al, 2014). With future climate crises probable, retaining large, old trees will not only help mitigate or buffer climate change, but will benefit ecosystems in other ways through their biodiversity and resilience to fire, disease, and drought.

Certain species on the Bitterroot Forest are associated with mature forest habitats or old growth. These animals require habitat with structural components such as snags, down logs, and large, old trees for cover, denning, food, or nesting. Examples include fisher, flammulated owls, pileated woodpeckers, and pine marten, the latter two being old growth management indicator species.

For our region Green et. al. (1992) has helped define minimum screening criteria of different tree species for old growth. The principal criteria are age, size (dbh), and # qualifying trees/acre. As an example, for our western Montana region, ponderosa pine, Douglas-fir, and western larch have a 170 year minimum and 8 or more trees per acre of 21” dbh or greater. Green et al (1992) examined 4847 old growth plots of these species, on warm to warm, dry environments and found an average of 17 trees per acre that met the old growth criteria, more than double the minimum criteria. Fiedler et al (2007b) state that “old-growth functions increase as numbers of large trees, snags, and downed logs increase”, again suggesting more is better.

For the BNF the exact amount of old growth habitat historically on the Forest is unknown. However, Lesica (1996) estimated that “old growth occupied 20-50% of the pre-settlement forest landscape in low and many moderate elevation habitats, and between 18 and 37% in mid to upper elevation habitats.” (Gold Butterfly DEIS)

Collectively, special habitats contribute to overall habitat and species diversity across the Forest and contribute significantly to meeting the desires of non-consumptive wildlife enthusiasts (non-hunters, anglers and trappers). The interaction of managed forests, working agricultural lands and residential and/or urban environments at relatively large scales creates the conditions that determine the species diversity for individual landscapes over time. Supporting a wide variety of wildlife species not only contribute to adding stability to ecosystems, but also increases the opportunity for wildlife viewing and photography.

**Issues, Concerns, Opportunities:**

Past timber harvest activities have reduced the amount and distribution of old-growth forest on the Bitterroot Forest creating a situation where the Forest fails to meet Forest Plan Standards in some areas. For example, in the Gold Butterfly DEIS the current “Percent Old Growth” estimate Forest-wide is 12.8%, MA1: 14.4%, MA2: 6.0%, MA3a: 8.0%, and MA5: 16.7%. The Sapphire Geographic Area was estimated at 10.0%. These figures display a significant disparity in current conditions compared to pre-settlement estimates.

Many areas of the Forest have recently lost significant amounts of old-growth to wildfires. The increased frequency, size and intensity of the wildfires have resulted to a great degree from anthropogenic changes in forest conditions that did not occur prior to European settlement. To counteract this loss of old-growth, specific management actions may be necessary to protect remaining old-growth or recruit and expand existing old-growth stands. This is particularly appropriate on the more arid low elevation ponderosa pine sites.

Unauthorized motorized routes and overused areas that reduce habitat suitability for fish and wildlife, especially in sensitive habitats like lake shores and along streams, may require restoration.

Well planned recreation facilities such as scenic turnouts, trails, overlooks and photographic blinds can be designed to increase watchable wildlife opportunities.

There are opportunities to effectively minimize conflicts with wildlife by seasonally or permanently closing certain areas to specific recreational activities especially motorized vehicle, snow machine and bicycle use.

There are opportunities to coordinate access to public lands and maintaining special habitats by working with adjacent private land owners.

Wildlife and fish contribute to the recreation experience by providing traditional hunting and fishing as well as other uses such as wildlife watching, nature study and wildlife photography.

**Desired Future Condition:**

The Bitterroot Forest has a representative amount of special habitats and special habitat elements distributed across the landscape in a manner that resembles that which existed at the time of European settlement.

Special habitats such as riparian areas, wetlands and bogs should be given priority management considerations to maintain their natural appearance and ecological function.

The amount, condition and distribution of special habitat elements such as snags and down wood should meet or exceed Forest Plan Standards.

Relatively rare plant communities such as sagebrush should be protected and maintained, especially where historical habitat on private lands have reduced such habitat because of agriculture and/or residential development.

Road construction, culvert placement and other physical barriers should be planned and implemented to minimize the restriction of free movement of fish and wildlife (especially amphibians, reptiles and small mammals) between and among special habitats such as riparian habitat, bogs and streams.

Invasive species such as knapweed, cheat grass and hoary alyssum should be controlled or contained, especially adjacent to special habitats and on important big game habitat and winter ranges.

The Forest and county should work together to identify areas where they can work across public/private land boundaries to maintain or enhance wildlife use and retain the ecological function of special habitats.

Fire and fuels management should give special consideration to protection and maintenance of special habitats when planning fuels projects or during fire suppression actions.

**Reccommendations:**

* Give priority and protect riparian areas, wetlands and bogs to the extent possible during any ground disturbing activity.
* Meet or exceed Forest Plan Standards for snags and downed wood at the local scale. Snags and downed wood can be clumped in patches across the landscape and do not need to be evenly distributed across the Forest or within specific vegetation types.
* Avoid management activities that reduce the amount or quality of rare or declining habitats such as sagebrush. Prescribe vegetation treatments that help mitigate loss or restore these habitats wherever possible.
* Correct man-made barriers, such as culverts, to animal movement between important habitats. For new projects, assess potential impacts to animal movement and mitigate for potential adverse impacts such as installing arch culverts at critical stream crossings.
* Conduct an invasive species assessment for all landscape level project plans and, to the extent practical, include mitigation measures to correct potential problems associated with invasive species.
* For prescribed burning or fuels treatment projects, develop prescriptions that protect rare habitats. Establish or restore rare habitats that may be lost because of management or through normal plant succession.
* To the extent possible, retain all or nearly all old/large trees. Retain and expand on existing relict trees, old forests, and post-disturbance large snags and down logs in these types.
* Forest managers should protect existing old-growth habitat and manage vegetation to accelerate the replacement of ecologically functioning old growth where there is a deficit of existing old growth or where old -growth habitat is likely to be lost to normal forest succession and/or wildfire in the immediate future.
* Management actions in old growth should strive towards preserving secondary old growth structural components such as snags and down logs, characteristics that crucially add to the complexity and functionality of old growth and for which many old growth-associated animals rely on for denning, nesting, or cover
* Any prescriptive vegetation management in old growth should not decrease old growth percentages in any 3rd order drainages in a given project area.
* The Forest should justify the rationale for entering any old-growth habitat and avoid any designated “old growth” except where absolutely necessary. Definitions for old growth in Green et al should only be used when recruiting stands to meet minimum old growth acreage requirements.
* The Forest should provide a greater emphasis and follow-up on monitoring. Effective monitoring is essential for tracking trends in the amount and quality or rare and declining habitats, especially old growth forests. The Bitterroot Forest should initiate an aggressive “rare habitat monitoring program” that tracks the abundance and distribution of rare habitats through time and supplements such monitoring with statistically valid field verification.
* Encourage the county to evaluate positive and/or negative consequences of activities on adjacent private land when soliciting comments from the county regarding landscape level projects proposed by the Forest. Require the county to address impacts from private lands when they comment on potential Forest Service projects.

**References:**

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