

**Draft Nez Perce–Clearwater National Forests  
Forest Plan Assessment**

**8.0 Multiple Uses**

**October 26, 2012**



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## 8. Multiple Uses

### 8.1 RECREATION

Please see section 9.0 of the Assessment for a full discussion of recreation resources on the Nez Perce–Clearwater National Forests.

### 8.2 RANGE

#### 8.2.1 *Existing Information*

Relevant existing information available regarding range management resources can be found in the following documents for the plan area:

- INFRA data base for permitted livestock numbers, animal unit months (AUMs), grazing permittees.
- Allotment status map by Forest
- Rescission Act schedule for completing Allotment NEPA/Management Plans
- PACFISH/INFISH Biological Opinion (PIBO) Implementation Monitoring documenting required post season compliance with riparian and streambank use standards
- PIBO Effectiveness Monitoring
- Nez Perce National Forest Properly Functioning Condition (PFC) stream surveys
- Nez Perce National Forest Range suitability/capability determination (Burton et al. 2009)
- Rangeland Suitability for Livestock Grazing at the Forest Plan Level and Standards for NEPA Display (2003)
- Nez Perce National Forest Design Criteria for Christie Sherwin Allotment NEPA (Desired Future Condition and Grazing Management Standards/Guidelines)
- Nez Perce National Forest Range Specialist report on timber encroachment affects to forage capacity
- Island Ecosystem Analysis at the Watershed Scale (EAWS), intensive vegetation plot data (Forest Service 2005)
- Nez Perce National Forest East Side Allotment Analysis
- Interior Columbia Basin Final Environmental Impact Statement (ICBEMP 2000)

#### 8.2.2 *Informing the Assessment*

##### 8.2.2.1 **Current Condition—Grazing**

Current grazing within the planning area is summarized in Table 1. Records for the Nez Perce National Forest for 2011 report 4,433 head of cattle and 2,301 head of sheep were permitted to graze at various times throughout the year, with the primary grazing season of June 1 through September 30. A total of 26,872 animal unit months (AUMs) were authorized to graze under a Term Grazing Permit on National Forest System (NFS) lands, and another 646 AUMs were authorized to graze in association with private lands intermingled throughout the allotments. Within the Nez perce National Forest, 25 permittees are authorized to graze livestock on 21 allotments. Records for the Clearwater National Forest in 2011 indicate 1,053 head of cattle

were permitted to graze at various times throughout the year on NFS lands, with the primary grazing season of June 1 through September 30. A total of 6,523 AUMs were authorized to graze under a Term Grazing Permit on NFS lands, and another 8,331 AUMs were authorized to graze in association with private lands intermingled throughout the allotments. Within the Clearwater National Forest, 13 permittees are authorized to graze livestock on 21 allotments.

**Table 1. Grazing Within the Planning Area**

	<b>Nez Perce National Forest (acres)</b>	<b>Clearwater National Forest (acres)</b>
Permitted Cattle Term Forest Service	4,433	1,053
Permitted Cattle Private and on/off	40	1,310
Permitted Sheep Term Forest Service	2,301	0
Permitted Sheep Private and on/off	149	0
Permitted AUMs Term/Forest Service	26,872	6,523
Permitted AUMs Private and on/off	646	8,331
Grazing Permittees (Permit Entities)	25	13
Active Allotments	21	16
Active Allotment (total)	476,528	212,527
Active Allotment (Forest Service)	474,709	132,533
Active Allotment Waived (private)	810	79,994
Vacant Allotments	8	0
Closed Allotments	4	3

### 8.2.2.2 Current Condition—Rangelands

The term “rangeland” is often applied to suitable and capable lands within a grazing allotment which produce forage for livestock and wildlife. Rangeland is comprised of a variety of vegetation types, including many timbered plant communities, grasslands, shrub lands, and riparian areas. Range condition is an assessment of the current health of the plant communities, often expressed as the degree of similarity or dissimilarity of current plant composition and abundance relative to potential or natural/historic conditions.

Specific information regarding range condition within the planning area is limited. Intensive vegetation plot data were collected in 2005 for the Island EAWS (Ecosystem Analysis at the Watershed Scale) area, located between the Salmon and Snake Rivers (Forest Service 2005). This analysis, which may typify range conditions in the Salmon River canyons, determined approximately 52% of sampled areas retain high native species integrity. However, a significant portion of the assessment area is highly susceptible to invasive weeds and a high risk of continued weed expansion exists. Vegetation plots showed grassland integrity to be low (approximately 25% of samples). Low integrity grasslands and the presence of invasive species suggest the grasslands to be in very poor to perhaps fair condition and in a very early to early ecological condition.

Although grasslands, shrub lands, and transitory range typically produce abundant forage, potential resource impacts from livestock grazing are more frequently encountered in riparian areas. Instream habitat condition data were also collected in 2005 for the Island EAWS area. Sampling included a variety of parameters used to determine if streams met the Forest Plan

Standards (as amended by PACFISH). Several reaches of Deer Creek, Johnson Creek, Joe Creek, Christie Creek, and Sherwin Creek were determined to exceed the standards for width/depth ratio, percent cobble embeddedness, percent fines, and bank stability. These streams do not meet the PACFISH Grazing Management standards (Forest Service 2005) and were also determined to be *Functioning at Risk* with *Static Trend* by an interdisciplinary team conducting Properly Functioning Condition (PFC) assessments.

An assessment being conducted in the Clearwater drainage of the Nez Perce National Forest (Eastside Assessment) reveals that of 44 benchmark areas in the project area, 17 are currently meeting the desired conditions, 24 are moving toward meeting the desired conditions and 3 are not meeting or moving towards the desired conditions.

Newsome and Red River EAWS conducted in the Clearwater drainage of the Nez Perce National Forest conclude, “Data on the impacts of grazing in the watershed is limited”. Grazing in the watersheds usually occurs near roads and results in localized impacts. Professional knowledge of the area suggests that cattle do not have a large impact on vegetation. The Red River EAWS determined that the level of grazing has recently declined from loss of forage, primarily because of fire suppression and the advancement of succession, which causes a decline in undergrowth and forage. This change has shifted grazing out of early seral habitat and into road corridors, seeps, and native meadows. In addition to the changes in the forage base, operational expenses have increased as the cost of public land grazing increase. Most of the grazing in the Red River EAWS planning area occurs on private land.

Although actual data are limited, rangeland condition on the Clearwater National Forest is thought to be similar to conditions described above for the Clearwater drainage of the Nez Perce National Forest.

#### 8.2.2.3 Trends

The intensity of livestock grazing has the potential to significantly affect the trend of range conditions. In the planning area, permitted livestock numbers are expected to decline slightly over the next 10 to 20 years. Management standards and constraints governing permitted livestock grazing are anticipated to intensify to comply with sensitive species requirements and water quality standards.

In some grazing allotments, perennial grassland vegetation has declined as annual grasses, such as cheatgrass, have expanded. More recently, exotic annual grasses are being replaced by even more aggressive invasive weeds. This decline in vegetation from native perennial grasses, to exotic annual grass, to invasive weeds has resulted in the significant decline of livestock usable forage, in some areas dropping from roughly 250 to 100 to 25 pounds forage per acre respectively. Some weed infested areas no longer produce adequate usable forage to be considered “capable” for livestock grazing. Table 2 provides an example from the Christie/Sherwin Allotment Analysis that illustrates the decline in animal unit months due to site conversion to “weedy” species.

**Table 2. Christie Creek and Sherwin Creek Allotment Unsuitable Acreage and AUMs lost due to Conversion from Cheatgrass to “Weedy” Species.**

Allotment	Pasture	Weedy Acreage	AUM's lost
Christie Creek	Rhett	83	11
	Christie Creek	106	11
	Deer Creek	151	20
Sub Total		340	42
Sherwin Creek	Lower Center Ridge	238	32
Total		578	74

Timber canopy closure and conifer encroachment into meadows, shrublands, and grasslands has resulted in the loss of usable forage throughout the planning area. Timber canopy closure and encroachment has reduced forage availability by at least 21% over the past 60 years on the Christie Creek Allotment on the Nez Perce National Forest. Analysis of grazing allotments within the the Clearwater River portion of the Nez Perce National Forest indicates “grass/forb understory is decreasing in plantations of ponderosa pine and Douglas-fir due to canopy closure”. Range managers suggest that this trend in timber canopy closure and resulting loss of forage has occurred over a majority of the more timbered allotments for both the Nez Perce and Clearwater National Forests.

Over the next 20 years, it is probable that certain environmental influences will continue to negatively impact range condition and forage production. Invasive weeds will likely continue to spread and increase in abundance and density. Timber canopy on average will continue to close, and existing grasslands/shrub lands will see additional conifer encroachment and conversion to a timber dominate community. Transitory range will continue to ebb and flow as timber stands become more open due to harvest, insects, and/or fire. With time and succession, overstory canopies will close in once again.

Emphasis on protecting habitats for threatened, endangered, and sensitive fish, plants, and animals will require intensive livestock management and may necessitate fewer permitted livestock numbers or season of use to mitigate impacts.

#### 8.2.2.4 Sustainability

Livestock grazing is likely to be sustained within the planning area over the next 20 years. The amount of livestock grazing may decline to some degree due to reduced forage capacity (invasive weeds and timber canopy closure) and tighter administrative constraints for protection and enhancement of threatened, endangered, sensitive species habitat and other resource concerns such as water quality.

The Nez Perce National Forest has one domestic sheep allotment, the Allison-Berg Allotment. In 2009, the Term Grazing Permit to Carlson Company was modified due to potential conflicts between domestic sheep grazing and native bighorn sheep. The permit modification states that domestic sheep grazing will not be authorized until appropriate National Forest Management Act and National Environmental Policy Act analysis examines this potential conflict.

#### 8.2.2.5 Economic and Ecological Sustainability?

According to ICBPEMP, *Economic and Social Conditions of Communities* (1995), the communities of Grangeville, Orofino, Whitebird, Riggins, Elk City, Kamiah, Kooskia, and other

communities supported by the Nez Perce and Clearwater National Forests, rely on forage produced on NFS lands for approximately 4% to 6% of the total forage base of the county.

### 8.2.3 *Information Needs*

None identified.

## 8.3 **TIMBER**

### 8.3.1 *Existing Information*

(Under development)

### 8.3.2 *Informing the Assessment*

#### 8.3.2.1 **Current Condition**

Forest Inventory and Assessment (FIA) plots have been installed on the Nez Perce–Clearwater National Forests (Forests). Approximately 300 plots occur on each forest, totaling over 600 plots. FIA is a nationwide project that inventories forest conditions and updates that inventory every 10 years. Table 3 and Table 4 summarize this information for the Forests. Forty-percent of the plots have since been remeasured and the most recent data compiled to develop these existing conditions.

**Table 3. Nez Perce–Clearwater National Forests, current size class and species composition**

<b>Size Class</b>	<b>Percent of National Forest Area</b>	<b>Species Composition (Plurality)</b>
Nonforest	5	Grasslands, permanent shrub lands, rock, water
Nonstocked	4	Seral shrub and forb species
Trees <5 inches	3	Spruce/subalpine fir, Douglas-fir, grand fir, lodgepole pine, western larch
Trees 5–9 inches	10	Lodgepole pine, spruce/subalpine fir, Douglas-fir, grand fir, western redcedar
Trees 9–14 inches	32	Grand fir, spruce/subalpine fir, Douglas-fir, lodgepole pine
Trees 14–21 inches	33	Grand fir, subalpine fir/Engelmann spruce, Douglas-fir, lodgepole pine, ponderosa pine, western redcedar
Trees >21 inches	12	Grand fir, ponderosa pine, western redcedar, subalpine fir/Engelmann spruce, Douglas-fir

Source: Nez Perce and Clearwater Hybrid Forest Inventory and Assessment data collected from 2000–2002 and 2004–2007.

**Table 4. Existing vegetation composition by species or species mix**

Species	Percent
Grand fir	15
Grand fir mix	9
Subalpine fir	8
Subalpine fir mix	6
Western larch and mixes	2
Whitebark pine and mixes	<1
Lodgepole pine	9
Lodgepole pine mix	4
Engelmann spruce	3
Engelmann spruce mix	4
Ponderosa pine	4
Ponderosa pine mix	2
Douglas-fir	8
Douglas-fir mix	9
Western redcedar	3
Western redcedar mix	3
Mountain hemlock	1
Forbs	1
Shrubs	3
Nonforest	5

Source: Nez Perce and Clearwater Hybrid Forest Inventory and Assessment data collected from 2000-2002 and 2004-2007.

Insects and diseases have been present as long as these Forests have existed and continue to affect forest composition and structure. Mountain pine beetle has been seriously affecting lodgepole pine across the forest, wherever it is mature—older than 80 years or over 7 inches in diameter. Douglas-fir beetle have been a constant, low-level presence in Douglas-fir forests, particularly where the trees are large (>21 inches in diameter) or overcrowded and stressed. That stress may be the result of stand density or root rots affecting the trees. Root rots—primarily *Armillaria* and *Schweinitzii*—affect many species, but are particularly damaging to grand fir, Douglas-fir, and young ponderosa pine. Other root rots are also found on the forest, though they tend to be less common. White pine blister rust has almost eliminated western white pine from the forest and is currently decimating whitebark pine.

Fire risk has also risen in the past few decades and is often tied to insects and diseases that have left dead wood in the forest, increasing fuel loads and fire risk. But it is also a function of fire suppression, which has allowed forests to become denser and have continuous canopy levels. Homes and businesses close to the forest have increased the risk that fires pose to human lives and property.

### ***Ecosystem Characteristics***

Where timber management is an option, on the roaded portions of the forest, it can provide opportunities to re-establish early seral species like ponderosa pine, western white pine, and

western larch that have been declining in abundance. It can also restore forest structure where historically one- and two-storied forests now have a continuous canopy from ground to tree tops. Where forest densities are higher than historic levels, and put trees at risk to insects and diseases, timber harvest can reduce densities and decrease risk.

### **Timber Management Levels**

The nature of timber management primarily revolves around fuel reduction in the wildland urban interface (WUI) and non-WUI alike. Although primary benefits (purposes) at times, secondary benefits are tangible in overall watershed improvement, wildlife habitat improvement, as well as vegetative restoration objectives. Timber management levels in the plan area are characterized by the sold volume for the past 10 years, as represented in Table 5.

**Table 5. Level of Timber Management in the Plan Area**

Fiscal Year	Clearwater National Forest	Nez Perce National Forest	Combined
	Volume Sold (MMBF)	Volume Sold (MMBF)	Volume Sold
2011	35.9	15.6	51.5
2010	23.4	15.2	38.6
2009	22.9	16.8	39.7
2008	27.9	11.0	38.9
2007	19.8	19.5	39.3
2006	10.4	37.7	48.1
2005	11.3	22.3	33.6
2004	30.0	7.41	37.41
2003	29.6	15.9	45.5
2002	5.9	20.5	26.4

#### **8.3.2.2 Trends**

Timber management has the potential to improve forest resistance and resilience to stressors in areas identified for treatment, usually in the roaded portions of the forest. Timber management is a relatively slow process, taking 2 to 5 years from the beginning of planning to implementation, so it does not respond quickly to rising threats. It works better as a long-term modification of forest composition and structure to achieve resistance and resilience.

#### **8.3.2.3 Economic Contribution of Timber Management**

The supply and demand for timber is driven by regional, national, or global issues. Local drivers are small in scope and scale and generally have inconsequential effects on the overall market for timber and/or lumber products. Larger issues, such as export demand, housing starts and home improvement trends, are examples that drive the supply and demand for timber.

The supply of federal timber to the market within the plan area is impacted somewhat by local environmental issues as well as involvement by local interest groups.

#### **Current Capacity and Trends**

Milling infrastructure within the plan area has remained relatively intact over the past decade. Bidding competition for timber sales and stewardship contracts has remained high. Similarly, the capacity for logging and restoration services exists at a level adequate to accomplish Forest objectives with competition for these services. Capacity includes mills from within and adjacent

to the plan area as shown in Table 6 and Table 7.

**Table 6. Mills Within the Plan Area**

<b>Mill</b>	<b>Location</b>
Idaho Forest Group	Grangeville, Idaho
Blue North	Kamiah, Idaho
Idaho Forest Group	Lewiston, Idaho
Tri-Pro	Orofino, Idaho
Empire	Weippe, Idaho
Bennett Lumber Products	Princeton, Idaho
Idaho Cedar Sales	Troy, Idaho

**Table 7. Mills Adjacent to the Plan Area**

<b>Mill</b>	<b>Location</b>
Tamarack	New Meadows, Idaho
Stimpson	St. Maries, Idaho
Stimpson	Plummer, Idaho
Idaho Forest Group	Chilco, Idaho
Guy Bennett Lumber	Clarkston, Washington
Pyramid	Seeley Lake, Montana
Tricon	Superior, Montana
Tricon	St. Regis, Montana

### 8.3.3 *Information Needs*

None identified.

## 8.4 **WATERSHED**

### 8.4.1 *Existing Information*

The evaluation of water and watersheds is considered in sections 1 and 2.

### 8.4.2 *Informing the Assessment*

#### 8.4.2.1 **Watershed Contributions**

##### ***Consumptive Uses***

Numerous consumptive water withdrawals are identified within the plan area. There are designated uses for water supplies for administrative facilities (campgrounds, ranger stations, work stations); municipal water supplies (Wall Creek, Elk City, Elk River); and small-scale mining operations. Additionally, many local, downstream communities have identified water generated from the plan area as having uses that depend on upstream management. Water from the Clearwater and Salmon rivers feeds the larger Snake and Columbia river systems. On the larger systems, numerous dams provide flood control and hydropower; with notable water-based recreation (e.g., fishing, boating, and swimming) associated with the backwater of these

structures.

Multiple water withdrawals exist for private use (private drinking water, small agriculture/gardens, watering of livestock). No large-scale, agricultural operations that divert water from the Forest exist.

No consumptive commercial uses currently exist.

### ***Nonconsumptive Uses***

Nonconsumptive recreation uses include fishing, swimming, rafting, and boating.

Although no large hydropower facilities exist on the Forest, several small, low-head diversions that have local hydropower uses do occur. Numerous facilities are located downstream on the larger river systems.

#### **8.4.2.2 Trends and Drivers**

The Forest recognizes 3 municipal watersheds: City of Elk River, Clearwater Water District, and Elk City Water District. No formal written agreements exist on either the Nez Perce or Clearwater National Forests for protection of municipal supplies.

The downstream communities of Kamiah, Orofino, Lewiston, Juliaetta, Konkolville, and Orofino Riverside also derive their domestic water supply directly from the surface water originating within the Forests. The city of Kamiah derives its drinking water from the Clearwater River and its drainage basin. The primary water quality issue currently facing the city of Kamiah is the threat of a potential contaminant spill into the Clearwater River or its tributaries and the problems associated with managing contamination should that occur. The prospect of contamination caused by a potential contaminant spill into the Clearwater River or its tributaries is more pronounced due to the close proximity of Highway 12, a major route for commercial traffic including tanker trucks.

In addition to community surface water supply, ground water drinking water sources exist for 34 campgrounds and ranger stations within the National Forest boundaries. More than 233 individual groundwater wells, springs, and streams in or near the Forests provide domestic water to families and ranches via wells, diversions, and spring sources. National Forest management has the potential to influence drinking water quality and quantity for many users.

Hunting, fishing, trailing riding, hiking, snowmobiling, skiing, river floats, and other types of recreational activity are among the most frequently described uses of forest resources. Increased demands for outdoor recreation result in greater needs for drinking water and in increased amounts of wastewater. This development may negatively affect drinking water and alter hydrologic processes (Ibarra and Zipperer, 2000).<sup>1</sup>

Water from forests and grasslands is usually cleaner than water from urban and agricultural areas. Nevertheless, many common practices on forests and grasslands can contaminate drinking water sources. Soil-disturbing activities, such as road construction and maintenance; forest harvesting; and intermixed urban and wildland uses can introduce sediment into drinking water

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<sup>1</sup> Chapter 7 in Dissmeyer, 2000.

sources. Disease organisms may enter source waters from recreation and other human activities that lack developed sanitary facilities, malfunctioning sewage disposal facilities, and wild and domestic animals concentrated near source waters. Nutrients may enter source water from fertilizer and from atmospheric deposition of nitrogen compounds. Toxic chemicals may reach source water from pest control; extraction of minerals, oil, and gas; accidental chemical spills along highways and utility corridors; and leaking underground storage tanks (Dissmeyer 2000).

Managing forest and grassland watersheds for drinking water supplies has been, and will continue to be, a major activity of the Forest Service and other natural resource agencies. However, these watersheds will continue to support other uses, including providing timber products, recreation, mining, fisheries, grazing, and the conservation of biodiversity. In addition, relatively new uses, such as using forests for carbon and nutrient sequestration (DeLucia et al. 1999) or the recycling of wastewater (Cole et al. 1986, Sopper and Kardos 1973), will increase. The future is also expected to bring increased competition for existing water resources (Postel 1998) [Scatena 2000 *In: Dissmeyer 2000*]<sup>2</sup>.

Populations are expected to continue to increase, even in the rural areas for which the plan area provides water resources. With this increase, the demand for both consumptive and nonconsumptive uses is expected to increase. Changes in water availability, due to the effects of climate change, are also expected. Although the total volume of water available is likely to remain within the historic range of variation, the timing of availability is likely to change. Warmer climate would yield greater rainfall and less snowfall, leading to greater winter runoff, but decreased sustained summer flow. This timing could be problematic since late summer and early fall are the greatest times for water demand.

#### 8.4.2.3 **Social and Economic Sustainability**

All water that originates on the Forests could be used for municipal supply purposes at some point downstream, but National Forest management significantly protects municipal supply watersheds in only a few watersheds. Given the large number of private (233 as of 2007) and administrative (34 as of 2007) water diversions and wide variety of consumptive and nonconsumptive water uses, water is a very important factor for social and economic sustainability.

The following opportunities exist to support economic and social sustainability through the management of water resources:

- Potential for greater water diversion to support increased demand for drinking water, domestic water needs, municipal water supplies, and downstream hydropower
- Potential for developing water storage facilities to manage the timing of stream flow to more uniformly match the periods of higher demand
- Potential for managing and manipulating vegetation for water storage and yield

#### 8.4.3 **Information Needs**

None identified in addition to those identified in sections 1.0 and 2.0.

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<sup>2</sup> Chapter 21 in Dissmeyer 2000.

## 8.5 FISH AND WILDLIFE

### 8.5.1 *Fish*

(Section under development with cooperators.)

### 8.5.2 *Wildlife*

#### 8.5.2.1 Existing Information

See section 5.0

#### 8.5.2.2 Informing the Assessment

##### ***Species Enjoyed and Used by the Public***

The following species are hunted by the public: elk, white-tailed deer, mule deer, moose, mountain goat, bighorn sheep, cougar, black bear, forest grouse, turkey, chukar. The following species are trapped by the public: American marten, bobcat, wolf.

##### ***Current Condition and Trends by Species***

**Elk**—Winter and spring/fall forage habitats have declined across much of the western portions of the planning area; populations have significantly declined for those elk relying yearlong on National Forest habitats, largely due to wolf predation. Noxious weed invasion on grass winter range threatens to reduce forage availability. Assuming winter and spring/fall habitats are improved, via favorable trends in vegetation, and predation trends are curbed, elk populations would be expected to increase significantly over the next 20 years. Without habitat improvements and reductions in predation, elk populations would be expected to remain at historically low levels.

**White-tailed deer, mule deer, and moose**—Habitats are relatively stable, though populations relying yearlong on National Forest habitats have declined. Improvements in habitat and reductions in predation would be expected to increase white-tailed deer, mule deer, and moose populations that rely solely on National Forest habitats.

**Mountain goat, bighorn sheep**—Habitats are relatively stable and populations relying yearlong on National Forest habitats are stable. Mountain goat populations are expected to remain relatively unchanged. Bighorn sheep near domestic sheep are exposed to disease and experience die-offs and difficulty in stabilizing or increasing populations. Noxious weed invasions on bighorn range threaten to reduce forage availability. Assuming the disease risk to bighorn sheep is resolved and noxious weed threats for forage productivity contained, populations would be expected to increase.

**Cougar and black-bear**—Though habitats are relatively stable, cougar populations have declined over the last decade. Competition with wolves for prey species is believed to be a major factor. Black-bear habitat and populations are considered stable. Assuming increased prey availability and diversity, and continued control of hunting pressure, populations of both species would be expected to remain stable or increase.

**Forest grouse, turkey and chukar**—Habitats and populations are relatively stable and are expected to remain stable over the next 20 years. Annual populations often fluctuate, depending annual nesting success.

**American marten, bobcat and wolf**—Habitats and populations of American marten and bobcat are believed stable. Wolf populations have increased significantly, though major prey species are in decline. Assuming increased prey availability and diversity and continued control of trapping pressure, populations of both American marten and bobcat would be expected to remain stable or increase. Recent increased trapping and hunting efforts to control wolf populations should cause populations to decline. The cumulative affects to control wolf populations by hunting and trapping, however, is yet to be demonstrated.

### ***Social and Economic Sustainability***

Big game hunting, primarily elk and deer, have historically attracted local, national, and international hunters. Much of the planning area is remote, requiring the use of horses and outfitting services. Declining elk populations have significantly impacted local outfitters and businesses relying on seasonal influx of big game hunters.

Hunting trophy species (moose, mountain goat, and bighorn sheep); upland birds; and trapping remains relatively stable, but minor in comparison to big game hunting.

#### **8.5.2.3 Information Needs**

None identified.

## Literature Cited

### (Under Development)

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- Interior Columbia Basin Ecosystem Management Project (ICBEMP). 2000. Interior Columbia Basin final environmental impact statement. Washington, DC: U.S. Department of the Interior, Bureau of Land Management and U.S. Department of Agriculture, Forest Service.