

THE CENTER FOR
**LARGE LANDSCAPE
CONSERVATION**

**Crown of the Continent Ecosystem
The Glacier-Great Bear Connectivity Conservation Area
Briefing**



**By: Rob Ament & Tyler Creech
October 2016**



The Glacier-Great Bear Connectivity Conservation Area

The Crown of the Continent Ecosystem (COTC) is one of the only large, relatively intact ecosystems remaining in North America and serves as a stronghold for native wildlife in the Rocky Mountain region. Although much of the wildlife habitat in the COTC is permanently protected and well connected with surrounding habitat, one glaring exception exists: a narrow strip of land along U.S. Highway 2 (Hwy 2) and the Burlington Northern-Santa Fe (BNSF) railroad between Glacier National Park and the Great Bear Wilderness. This corridor, which we refer to as the Glacier-Great Bear Connectivity Conservation Area (GGBCCA), represents the only significant anthropogenic barrier to wildlife movement along a >150-mile (>240 kilometers) stretch of otherwise contiguous transboundary protected areas stretching from Waterton Lakes National Park in Canada to the southern tip of the Scapegoat Wilderness near Lincoln, MT (Figure 1). Collectively, these protected areas comprise the very core of the COTC and total over 2.7 million acres (1.09 million hectares) of wild Rocky Mountain habitat (Table 1). Protecting habitat and ensuring wildlife passage in the GGBCCA is therefore an important opportunity for maintaining broad-scale ecological connectivity in the COTC.

Table 1. Size and location of core protected areas in the Crown of the Continent Ecosystem.

Protected Area	Acres	Hectares	Province/State
Waterton Lakes National Park	124,800	50,505	Alberta
Akamina-Kishinena Provincial Park	26,986	10,921	British Columbia
Glacier National Park	1,013,322	410,077	Montana
Great Bear Wilderness Area	286,700	116,023	Montana
Bob Marshall Wilderness Area	1,009,352	408,470	Montana
Scapegoat Wilderness Area	239,936	97,099	Montana
TOTAL:	2,701,096	1,093,095	

The broad swath of protected land that is currently bisected by the GGBCCA serves as an important regional linkage for species of conservation concern, including wolverine (Schwartz et al. 2009) and lynx (Squires et al. 2013). The GGBCCA also influences habitat connectivity of grizzly bears. Telemetry studies indicate that Hwy 2 and the BNSF railroad impede grizzly bear movement. Grizzlies avoid areas within 0.31 miles of the highway, and their rate of crossing decreases with traffic volume; thus, they tend to cross at night, when rail traffic is highest (Waller and Servheen 2005). A more recent study of Hwy 2 traffic demonstrates substantial increases in traffic volume over the past decade, particularly at night when grizzlies are most likely to cross. Twelve hours of each day now have traffic volumes higher than the threshold above which grizzly bears avoid crossing the highway, and if trends continue, another 3-5 hours will exceed this threshold within the next five years (Waller and Miller 2015). Such information strongly supports the need for mitigating both road and rail infrastructure to allow for wildlife connectivity.

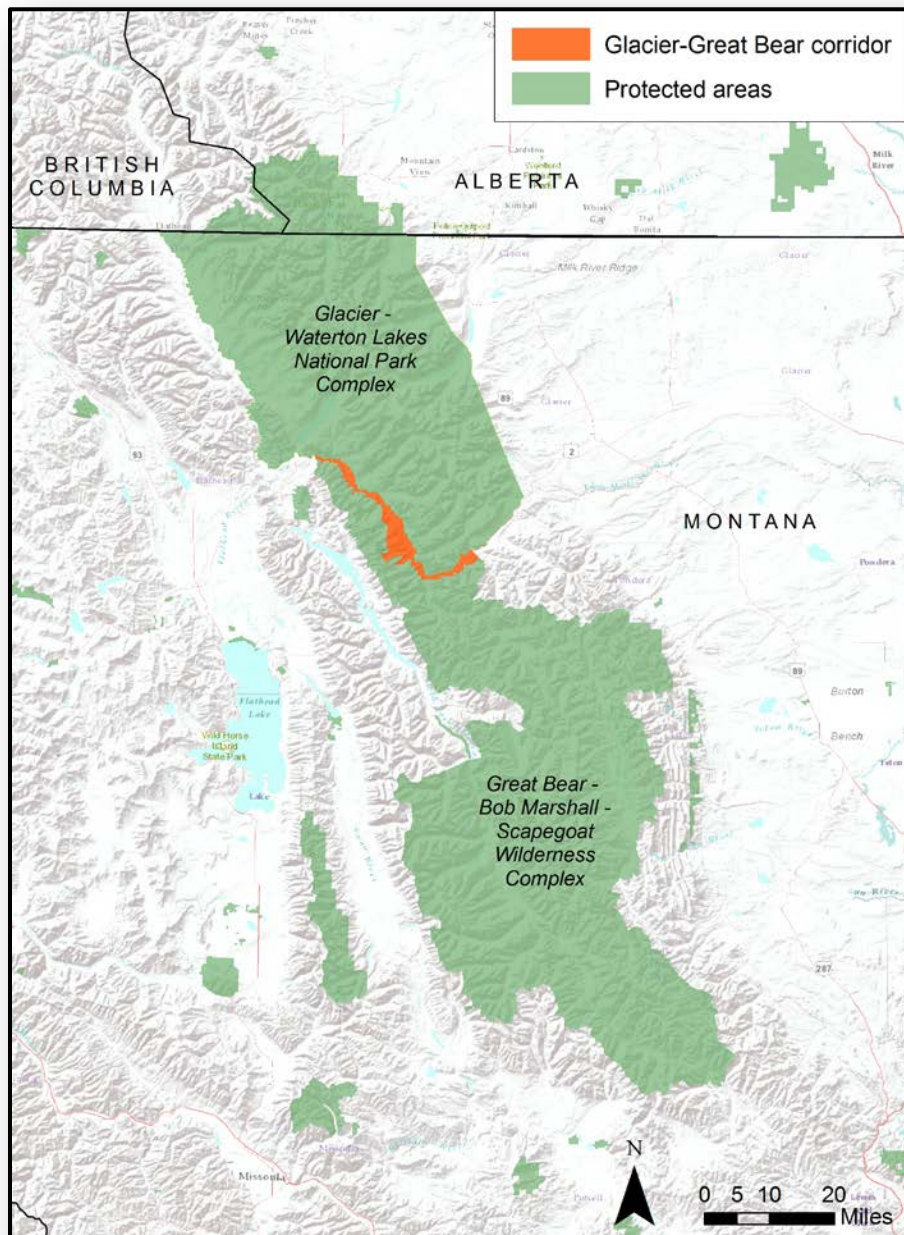


Figure 1. Broad-scale map of Glacier-Great Bear Connectivity Conservation Area

The GGBCCA is approximately 33,100 acres – less than two percent of the total area of otherwise contiguous protected areas that it separates – and is comprised almost entirely of Flathead National Forest (FNF) lands (~29,000 acres), along with a handful of private land holdings (Figure 2). Ensuring that this portion of the FNF is prioritized for connectivity, in combination with mitigation measures for Hwy 2 and the BNSF railroad (e.g., wildlife crossing structures), would be a significant step towards guaranteeing long-term, long-distance wildlife movement in the COTC. Unfortunately, FNF did not identify the GGBCCA as a specific management area for connectivity in its Forest Plan Revision, although it did include guidelines for two Hwy 2 road segments near Essex to be mitigated (if and when the Montana Department of Transportation elects to develop a highway project).

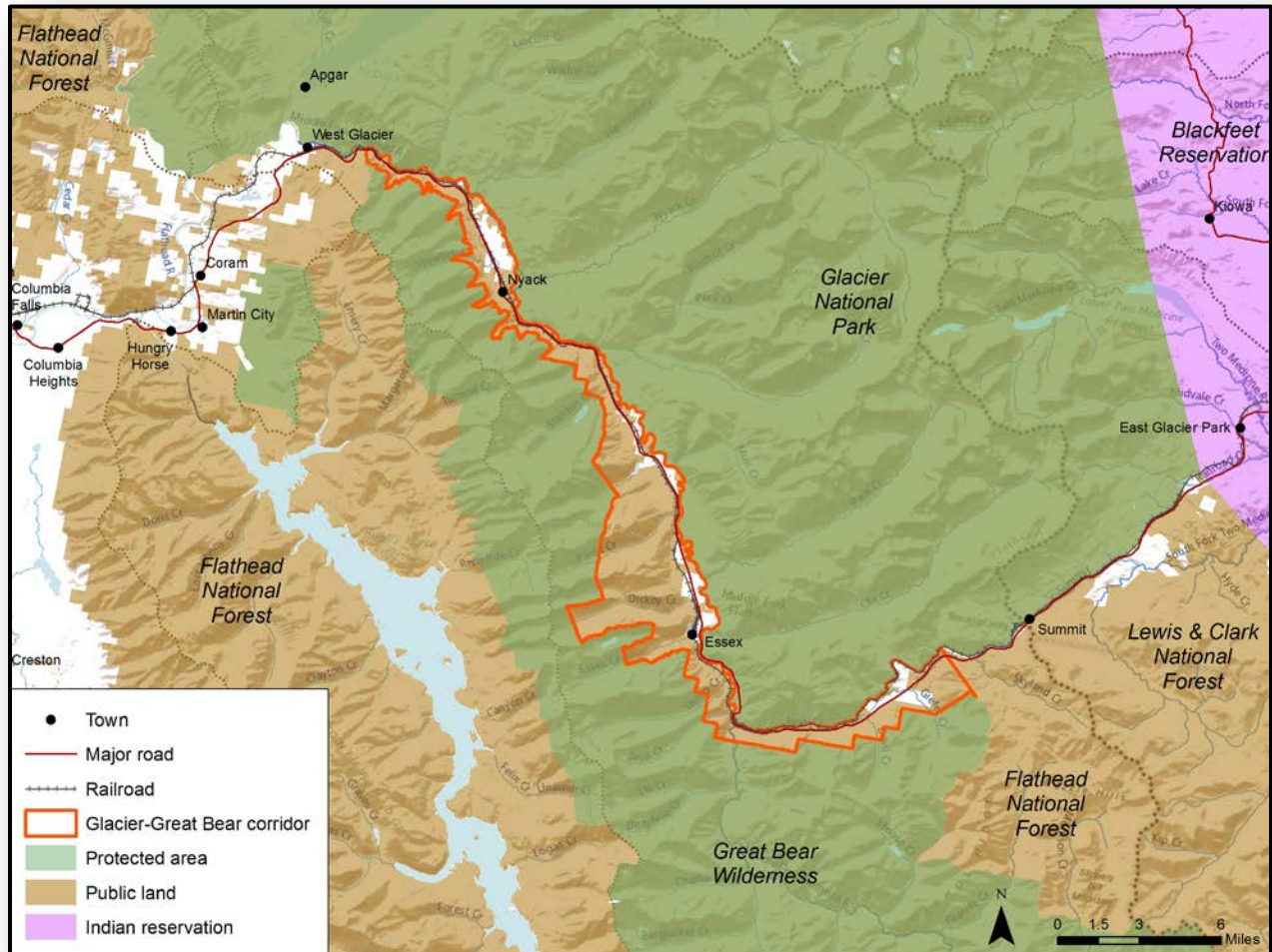


Figure 2. Fine-scale map of Glacier-Great Bear Connectivity Conservation Area

Conservationists, land and wildlife managers, and concerned citizens have not made this relatively small wedge of landscape a top priority for conservation, despite its ramifications for regional wildlife connectivity. Ensuring that the GGBCCA is prioritized for protection as a critical link between the core lands of the COTC is crucial and urgent. Designation of the GGBCCA as a wildlife corridor on multiple use lands – in combination with installation of wildlife mitigation measures on the highway and railroad, and support for wildlife-friendly private lands management – would promote regional wildlife movement, demographic and genetic exchange, and range shifts in response to climate change, thereby improving the long-term prospects for COTC’s native species.

References

Schwartz, M.K., Copeland, J.P., Anderson, N.J., Squires, J.R., Inman, R.M., McKelvey, K.S., Pilgrim, K.L., Waits, L.P., and Cushman, S.A. 2009. Wolverine gene flow across a narrow climatic niche. *Ecology* 90:3222-32.

Squires, J.R., DeCesare, N.J., Olson, L.E., Kolbe, J.A., Hebblewhite, M., and Parks, S.A. 2013. Combining resource selection and movement behavior to predict corridors for Canada lynx at their southern range periphery. *Biological Conservation* 157:187-195.

Waller, J.S., and Miller, C.S. 2015. Decadal growth of traffic volume on US Highway 2 in northwestern Montana. *Intermountain Journal of Sciences* 21:1-4.

Waller, J.S., and Servheen, C. 2005. Effects of transportation structure on grizzly bears in northwestern Montana. *Journal of Wildlife Management* 69:985-1000.