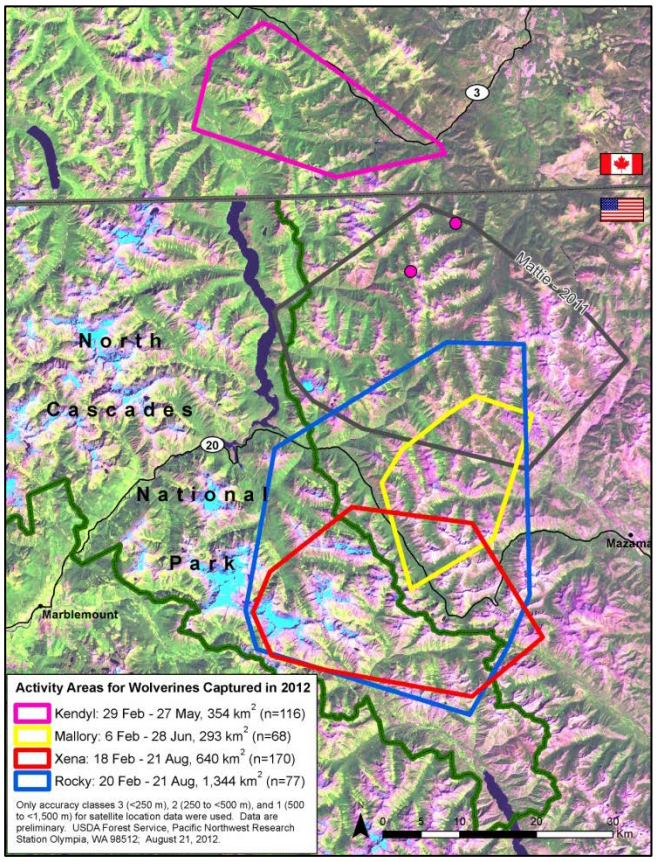
## NORTH CASCADES WOLVERINE STUDY – Project Update August 22, 2012

In our last update on 18 May, we provided details on the 5 wolverines we captured this year and the 4 that were fitted with satellite radio-collars: 1 male (Rocky) and 3 females (Kendyl, Mallory, and Xena). We also reported that we had located the reproductive dens of Mallory and Xena; Mallory's den was on the Okanogan-Wenatchee National Forest and Xena's den was in North Cascades National Park. These are the first wolverine reproductive dens ever located in Washington, and they provide empirical evidence of a reproductive wolverine population in the North Cascades ecosystem. Since mid-May, we have continued to collect satellite location data on collared wolverines and we revisited Xena's reproductive den site to collect habitat measurements.

### WOLVERINE MOVEMENTS AND ACTIVITY AREAS

Rocky's activity area continues to encompass virtually all of the areas being used by the 2 adult females with young this year (Mallory and Xena; see map on right). Both Rocky and Xena are still on the air, but Mallory's collar quit working at the end of June. Kendyl slipped her collar in late May, but up until that time she used an area in British Columbia that was 354 km$^2$ in extent. However, on 17 May, Kendyl made a foray south (2 pink dots on map) into an area that had been occupied by Mattie in 2011 (polygon outlined in gray). Although we have not detected Mattie this year, it is likely that she is still in the general area she was using last year. Rich Weir, Cliff Nietvelt, and others, were able to locate and retrieve Kendyl's shed radio-collar. They found Kendyl's collar in an avalanche chute (photos below) and, based on the presence of several wolverine scats and prey remains in the vicinity, it appeared that she had been feeding on hoary marmots.




## REPRODUCTIVE DEN SITES

Using remote cameras, we were able to document Xena going in and out of her den and then removing 1 kit from the den in late April. Reproductive females typically move their kits to a new den site once the kits get older and close to weaning (9-10 weeks). Based on the size of Xena's kit, and the approximate date when we believe she began to den, we estimated the kit's age to be at least 9 weeks when moved.

We returned to Xena's den site in August and determined that the snow tunnel we located in April accessed a large rock structure, and Xena was using the space under the large rocks as her den. We collected several scats and hair at the site; hopefully these samples will provide adequate DNA for genetic analyses and an individual identification of Xena's kit.

We will be returning to Mallory's den site in late August or September to determine what structure under the snow she was using for a den. This will also be our first opportunity to review any footage taken by the remote camera that was placed near her den opening in early May.

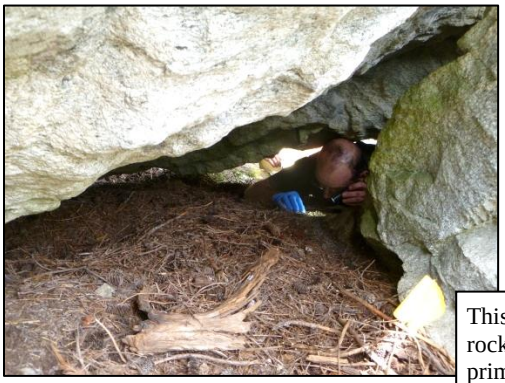
**CONTACTS:** Keith Aubry to learn more about our study (kaubry@fs.fed.us), and Cathy Raley (craley@fs.fed.us) to be added or removed from our project-update mailing list.

**LEAD PRINCIPAL INVESTIGATOR:** Keith Aubry (USDA Forest Service, Pacific Northwest Research Station). **CO-PRINCIPAL INVESTIGATORS:** John Rohrer (USDA Forest Service, Okanogan-Wenatchee National Forest); Cathy Raley (USDA Forest Service, Pacific Northwest Research Station); Rich Weir (British Columbia Ministry of Environment); Scott Fitkin (Washington Department of Fish and Wildlife).

Den entrance we located in April; note mound of snow uphill of the den entrance.

Large rock structure that was buried under ~10 feet of snow when Xena was using it as a reproductive den site.

General area that the snow hole and tunnel accessed.



This relatively large space under the rocks appears to have been the primary area used by Xena and her kit. We collected hair and several scats from this area.