The Late Paleozoic Harper Ranch Group (HRG) of south-central British Columbia is a >3 km thick sedimentary succession consisting mostly of marine siliciclastics and carbonates. In the area of Kamloops the HRG forms the stratigraphic basement of Quesnel Terrane. Here, Quesnel Terrane comprises three unconformity bound successions of island-arc affinity, the HRG, the Late Triassic Nicola Group and the Early Jurassic Rossland Group. Each succession records subduction related volcanism and associated sedimentation. Three new formation rank stratigraphic units are recognized in the HRG. The clastic Tk’emlups Formation overlain successively by the mainly carbonate South Thompson and McGregor Creek formations are all formally defined with type sections and detailed descriptions. The South Thompson Formation records volcanic quiescence, the end of volcano-sedimentary sedimentation of the Tk’emlups Formation, and development of arc-flanking carbonates in the Late Mississippian. Pre-Early Permian uplift and erosion of HRG units is implied by the character and lithology of the Permian McGregor Creek Formation, a chert rich carbonate platform succession. Upper Permian to Middle Triassic rocks are not recognized in the area. The Nicola Group records renewed arc-related volcanism, sedimentation, and plutonism in the Late Triassic. The Rossland Group, represented by conglomerate, agglomerate and undifferentiated volcanics, represents a third, Early Jurassic island-arc succession. Rocks of the Rossland Group unconformably overlie those of the McGregor Creek Formation. New biostratigraphic data from each of the Harper Ranch, Nicola, and Rossland groups in concert with map relationships provide time constraints for the tectonic evolution of Quesnel Terrane.