The science of earthquakes is relatively young in the U.S. spanning roughly only 140 years. For example, the relationship between faults and large earthquakes was not established until 1883 when the renowned geologist G.K Gilbert observed the large fault scarps of prehistoric earthquakes along the Wasatch fault zone in central Utah. Seismology which can trace its lineage back centuries outside the U.S. did not really gain traction as a practicing science in the U.S. until after the 1906 Great San Francisco earthquake. Hence it should not be surprising that our knowledge of the how and where of earthquakes in the U.S. is rapidly evolving even to this day. One particularly significant issue is identifying and characterizing the Quaternary active faults that can generate large damaging earthquakes. Pin-pointing where are the active faults has garnered far less attention and been the subject of significantly less effort outside of California than within the state. A good example is the Pacific Northwest where it seems a significant active fault is being recognized every few years. A map of active faults in Washington and Oregon numbered a half dozen in 1980 and the current count of active faults is more than 100 based on the USGS Quaternary Fold and Fault database. A large majority of the dams built in the western U.S. were constructed in the first half of the 20th century and hence many of these dams were designed with little to no recognition as to the presence of active faults and their potential for generating large earthquakes. In this paper, we will describe the seismic hazard evaluation histories of several dams in the Pacific Northwest and Intermountain U.S. including recent site-specific analyses to illustrate the impact of our evolving understanding of seismic hazard in the western U.S.