(#1 - 6 points). Briefly describe the key elements of the “riparian rights” and “prior appropriation” systems of water law.

(#2 - 6 points). Name two examples of “federally reserved water rights.”

(#3 - 8 points). Interstate river compacts exist on a number of rivers, especially in the western U.S. These compacts have sometimes been criticized for not including enough flexibility to deal with emerging resource use conflicts that may not have been foreseen at the time the compact was drafted. Cite 2 examples of such emerging conflicts from case studies discussed in class.

(#4 - 4 points). List the four signatory members to the Susquehanna River Basin Compact.

(#5 - 8 points). The Colorado River Compact was drafted in 1922, based in part on the flows of the river that had occurred in the previous couple of decades. (A) How would you characterize these flows? (B) What lasting impact has this had on the division of water between the Upper and Lower Basins? In your answer, note differences between the upper and lower basins with regard to the quantity of water allocated and the reliability or predictability of that allocation.

(#6 - 6 points). The Kansas-Nebraska Big Blue River compact requires Nebraska to ensure a minimum flow across the state line. The obvious way to do this is to limit irrigation diversions from the Big Blue River. What other method would ensure the flows required by the compact, as discussed in the Tabidian and Pederson article?

(#7 - 8 points). Briefly describe the three zones of protection around a wellhead protection area (WHPA) as implemented in Pennsylvania.

(#8 - 8 points). The wellhead protection zones recently recommended for the Shippensburg water supply wells are significantly larger than the default areas required in Pennsylvania. (A) What characteristic of the local groundwater hydrology leads to the need for a larger wellhead protection area? (B) Describe the characteristics of local surface water hydrology that warrant including tributary watersheds in the wellhead protection area.

(#9 - 6 points). Much of the Comprehensive Everglades Restoration Plan is based on water “quantity, quality, timing, and distribution.” What Florida regulatory institutions have primary responsibility for managing water quantity and quality?