

Exam I
(100 points)

- (6 pts) 1. What kinds of policy impacts are intangible? Also include an example of an intangible impact and indicate why the example is consistent with your definition.
- (12 pts) 2. Completely define the benefit-cost ratio mathematically, define its parts, and describe how it is used to guide certain kinds of decision making.
- (15 pts) 3. Monthly water use in Utility, TX is 32 million gallons, and the average household is paying \$3 per thousand gallons. If the price elasticity of demand is -0.75 , what is a good estimate of the aggregate water demand function in Utility? What units do the variables of your function utilize? Suppose that the rate is set at \$3 because each and every 1000 gallons delivered to a household costs Utility exactly \$3 to process and deliver, excluding any costs of natural water. What is the town's marginal net benefit function?
- (19 pts) 4. After you have described the "policy significance" of the market failure concept, list the major types of market failures that are troublesome for water policy. For each member of this list, define its meaning without relying on actual examples. That is, define each one conceptually.
- (22 pts) 5. Even when a local water resource is annually renewed via precipitation, growing human use may cause the resource to become increasingly scarce and an opportunity cost may be applicable to all water use. What is this opportunity cost called? Illustrate and explain its level to a noneconomist client through the development of a well explained graphical tool.
- (26 pts) 6. Using either surface water doctrines or ground water doctrines, but not one of each, select (A) an available private property doctrine and (B) an available common property doctrine. For each of these two provide the following and clearly separate these a-d parts in your responses.
- (4 pts) a. the doctrine's proper name;
- (10 pts) b. a list of key features and their meanings;
- (2 pts) c. whether it is your private or common property form; and
- (10 pts) d. an economically informed assessment of its merits.