

**Registration form**

**Groundwater Protection CEU Course \$75.00**  
**48 HOUR RUSH ORDER PROCESSING FEE ADDITIONAL \$40.00**

Start and Finish dates: \_\_\_\_\_ *You will have 90 days from this date in order to complete this course*

Name \_\_\_\_\_ Signature \_\_\_\_\_  
*(This will appear on your certificate as above)*

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Operator ID # \_\_\_\_\_ Exp Date \_\_\_\_\_

Class/Grade \_\_\_\_\_  
*Your certificate will be mailed to you in about two weeks.*

**Please circle which certification you are applying the course CEU's/PDH's.**  
Water Treatment   Water Distribution   Wastewater Collection   Wastewater Treatment

Other \_\_\_\_\_

**Technical Learning College**  
**P.O. Box 420, Payson, AZ 85547-0420**  
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# Groundwater Protection Answer Key

Name

Telephone #

Please circle or X or in Word, highlight or bold.

- |               |               |                |
|---------------|---------------|----------------|
| 1. A B C D E  | 35. A B C D E | 69. A B C D E  |
| 2. A B C D E  | 36. A B C D E | 70. A B C D E  |
| 3. A B C D E  | 37. A B C D E | 71. A B C D E  |
| 4. A B C D E  | 38. A B C D E | 72. A B C D E  |
| 5. A B C D E  | 39. A B C D E | 73. A B C D E  |
| 6. A B C D E  | 40. A B C D E | 74. A B C D E  |
| 7. A B C D E  | 41. A B C D E | 75. A B C D E  |
| 8. A B C D E  | 42. A B C D E | 76. A B C D E  |
| 9. A B C D E  | 43. A B C D E | 77. A B C D E  |
| 10. A B C D E | 44. A B C D E | 78. A B C D E  |
| 11. A B C D E | 45. A B C D E | 79. A B C D E  |
| 12. A B C D E | 46. A B C D E | 80. A B C D E  |
| 13. A B C D E | 47. A B C D E | 81. A B C D E  |
| 14. A B C D E | 48. A B C D E | 82. A B C D E  |
| 15. A B C D E | 49. A B C D E | 83. A B C D E  |
| 16. A B C D E | 50. A B C D E | 84. A B C D E  |
| 17. A B C D E | 51. A B C D E | 85. A B C D E  |
| 18. A B C D E | 52. A B C D E | 86. A B C D E  |
| 19. A B C D E | 53. A B C D E | 87. A B C D E  |
| 20. A B C D E | 54. A B C D E | 88. A B C D E  |
| 21. A B C D E | 55. A B C D E | 89. A B C D E  |
| 22. A B C D E | 56. A B C D E | 90. A B C D E  |
| 23. A B C D E | 57. A B C D E | 91. A B C D E  |
| 24. A B C D E | 58. A B C D E | 92. A B C D E  |
| 25. A B C D E | 59. A B C D E | 93. A B C D E  |
| 26. A B C D E | 60. A B C D E | 94. A B C D E  |
| 27. A B C D E | 61. A B C D E | 95. A B C D E  |
| 28. A B C D E | 62. A B C D E | 96. A B C D E  |
| 29. A B C D E | 63. A B C D E | 97. A B C D E  |
| 30. A B C D E | 64. A B C D E | 98. A B C D E  |
| 31. A B C D E | 65. A B C D E | 99. A B C D E  |
| 32. A B C D E | 66. A B C D E | 100. A B C D E |
| 33. A B C D E | 67. A B C D E |                |
| 34. A B C D E | 68. A B C D E |                |

Please fax the answer key to TLC Western Campus Fax (928) 468-0675.

## Rush Grading Service

If you need this assignment graded and the results mailed to you within a 48-hour period, prepare to pay an additional rush service handling fee of \$40.00. This fee may not cover postage costs. If you need this service, simply write RUSH on the top of your Registration Form. We will place you in the front of the grading and processing line.

Please mail or fax this survey with your final exam

## GROUNDWATER PROTECTION CEU COURSE CUSTOMER SERVICE RESPONSE CARD

DATE: \_\_\_\_\_

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

E-MAIL \_\_\_\_\_ PHONE \_\_\_\_\_

**PLEASE COMPLETE THIS FORM BY CIRCLING THE NUMBER OF THE APPROPRIATE ANSWER IN THE AREA BELOW.**

1. Please rate the difficulty of your course.

Very Easy    0    1    2    3    4    5    Very Difficult

2. Please rate the difficulty of the testing process.

Very Easy    0    1    2    3    4    5    Very Difficult

3. Please rate the subject matter on the exam to your actual field or work.

Very Similar    0    1    2    3    4    5    Very Different

4. How did you hear about this Course? \_\_\_\_\_

5. What would you do to improve the Course?

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Any other concerns or comments.

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## Groundwater Protection CEU Training Course Assignment

All of the groundwater protection questions will come from the Environmental Protection Agency's Citizen's Guide to Groundwater Protection. You will need a copy of this booklet in order to successfully complete this course. The booklet is in the front of this manual, the answer key is in the rear.

If you should need any assistance, please go to TLC's Assignment Page and go to the Assistance Page, e-mail or fax all concerns and the final test to info@tlch2o.com.

***You are expected to circle the correct answer on the enclosed answer key. Please include your name and address on your exam.***

### CHAPTER I. Introduction

1. Actually ground water occurs as part of what can be called the oldest recycling program - the \_\_\_\_\_.  
A. Ground water  
B. Hydrologic cycle  
C. Unsaturated zone  
D. Water table  
E. None of the Above
2. The \_\_\_\_\_ involves the continual movement of water between the earth and the atmosphere through evaporation and precipitation.  
A. Ground water  
B. Hydrologic cycle  
C. Unsaturated zone  
D. Water table  
E. None of the Above
3. As rain and snow fall to the earth, some of the water runs off the surface into lakes, rivers, streams, and the oceans; some evaporates; and some is absorbed \_\_\_\_\_.  
A. Ground water  
B. Hydrologic cycle  
C. Unsaturated zone  
D. Water table  
E. None of the Above
4. The rest of the water soaks through the ground's surface and moves downward through the \_\_\_\_\_, where the open spaces in rocks and soil are filled with a mixture of air and water, until it reaches the water table.  
A. Ground water  
B. Hydrologic cycle  
C. Unsaturated zone  
D. Water table  
E. None of the Above

5. The water table is the top of the \_\_\_\_\_, or the area in which all interconnected spaces in rocks and soil are filled with water.
- A. Ground water
  - B. Hydrologic cycle
  - C. Saturated zone
  - D. Water table
  - E. None of the Above
6. The water in the saturated zone is called \_\_\_\_\_.
- A. Ground water
  - B. Saturated zone
  - C. Unsaturated zone
  - D. Water table
  - E. None of the Above
7. In areas where the \_\_\_\_\_ occurs at the ground's surface, the ground water discharges into marshes, lakes, springs, or streams and evaporates into the atmosphere to form clouds, eventually falling back to earth again as rain or snow - thus beginning the cycle all over again.
- A. Ground water
  - B. Saturated zone
  - C. Unsaturated zone
  - D. Water table
  - E. None of the Above
8. Ground water is stored under many types of \_\_\_\_\_.
- A. Geologic conditions
  - B. Hydrologic cycle
  - C. Unsaturated zone
  - D. Water table
  - E. None of the Above
9. Areas where ground water exists in sufficient quantities to supply wells or springs are called aquifers, a term that literally means "\_\_\_\_\_."
- A. Water bearer
  - B. Confined aquifer
  - C. Permeability
  - D. Aquifer's
  - E. None of the Above
10. \_\_\_\_\_ store water in the spaces between particles of sand, gravel, soil, and rock as well as cracks, pores, and channels in relatively solid rocks.
- A. Karst aquifers
  - B. Confined aquifer
  - C. Permeability
  - D. Aquifers
  - E. None of the Above
11. An \_\_\_\_\_ is controlled largely by its porosity, or the relative amount of open space present to hold water.
- A. Karst aquifers
  - B. Confined aquifer
  - C. Permeability
  - D. Aquifer's storage capacity

12. An aquifer's ability to transmit water, or \_\_\_\_\_, is based in part on the size of these spaces and the extent to which they are connected.

- A. Karst aquifers
- B. Confined aquifer
- C. Permeability
- D. Aquifer's
- E. None of the Above

13. There are two kinds of aquifers: \_\_\_\_\_ and unconfined.

- A. Karst aquifers
- B. Confined
- C. Permeability
- D. Aquifers
- E. None of the Above

14. If the aquifer is sandwiched between layers of relatively impermeable materials (e.g., clay), it is called a \_\_\_\_\_.

- A. Karst aquifers
- B. Confined aquifer
- C. Permeability
- D. Aquifer's
- E. None of the Above

15. Confined aquifers are frequently found at greater depths than \_\_\_\_\_. In contrast, unconfined aquifers are not sandwiched between these layers of relatively impermeable materials, and their upper boundaries are generally closer to the surface of the land.

- A. Karst aquifers
- B. Unconfined aquifers
- C. Permeability
- D. Aquifer's
- E. None of the Above

16. Ground water can move sideways as well as up or down. This movement is in response to \_\_\_\_\_, differences in elevation, and differences in pressure.

- A. Karst aquifers
- B. Confined aquifer
- C. Permeability
- D. Gravity
- E. None of the Above

17. The movement is usually quite slow, frequently as little as a few feet per year, although it can move as much as several feet per day in more \_\_\_\_\_.

- A. Karst aquifers
- B. Confined aquifer
- C. Permeable zones
- D. Aquifer's
- E. None of the Above

18. Ground water can move even more rapidly in \_\_\_\_\_, which are areas in water soluble limestone and similar rocks where fractures or cracks have been widened by the action of the ground water to form sinkholes, tunnels, or even caves.

- A. Karst aquifers
- B. Confined aquifer
- C. Permeability
- D. Aquifer's
- E. None of the Above

19. According to the U.S. Geological Survey, \_\_\_\_\_ use increased from about 35 billion gallons a day in 1950 to about 87 billion gallons a day in 1980.

- A. Ground-water
- B. Confined aquifer
- C. Permeability
- D. Aquifer's
- E. None of the Above

20. Approximately one-half of all fresh water used in the nation comes from \_\_\_\_\_.

- A. Karst aquifers
- B. Confined aquifer
- C. Ground water
- D. Aquifer's
- E. None of the Above

21. Whether fresh water arrives via a \_\_\_\_\_ or directly from a private well, ground water ultimately provides approximately 35 percent of the drinking water supply for urban areas and 95 percent of the supply for rural areas, quenching the thirst and meeting other household needs of more than 117 million people in this nation.

- A. Public water supply system
- B. Confined aquifer
- C. Ground water
- D. Aquifer's
- E. None of the Above

## CHAPTER II. Ground-Water Quality

Until the 1970s, ground water was believed to be naturally protected from contamination.

22. The \_\_\_\_\_ and larger rocks were thought to act as filters, trapping contaminants before they could reach the ground water.

- A. Substances
- B. Layers of soil and particles of sand, gravel, crushed rocks
- C. Water table
- D. Ground-water
- E. None of the Above

23. Since then, however, every state in the nation has reported cases of contaminated ground water, with some instances receiving \_\_\_\_\_.

- A. Widespread publicity
- B. Contaminant
- C. Water table
- D. Ground-water
- E. None of the Above

24. We now know that some \_\_\_\_\_ can pass through all of these filtering layers into the saturated zone to contaminate ground water.

- A. Substances
- B. Contaminants
- C. Water table
- D. Ground-water
- E. None of the Above

25. Between 1971 and 1985, 245 ground-water related disease outbreaks, with 52,181 associated illnesses, were reported. Most of these diseases were \_\_\_\_\_.

- A. Substances
- B. Contaminant
- C. Water table
- D. Ground-water
- E. None of the Above

26. About 10 percent of all ground-water public water supply systems are in violation of drinking water standards for \_\_\_\_\_. In addition, approximately 74 pesticides, a number of which are known carcinogens, have been detected in the ground water of 38 states.

- A. Substances
- B. Contaminant
- C. Biological contamination
- D. Ground-water
- E. None of the Above

27. Although various estimates have been made about the extent of \_\_\_\_\_contamination, these estimates are difficult to verify given the nature of the resource and the difficulty of monitoring its quality.

- A. Substances
- B. Contaminant
- C. Water table
- D. Ground-water
- E. None of the Above

28. \_\_\_\_\_contamination can originate on the surface of the ground, in the ground above the water table, or in the ground below the water table.

- A. Substances
- B. Contaminant
- C. Water table
- D. Ground-water
- E. None of the Above

29. Where a contaminant \_\_\_\_\_ is a factor that can affect its actual impact on ground-water quality.

- A. Substances
- B. Contaminant
- C. Originates
- D. Ground-water
- E. None of the Above

30. If a contaminant is spilled on the surface of the ground or \_\_\_\_\_ into the ground above the water table, it may have to move through numerous layers of soil and other underlying materials before it reaches the ground water.

- A. Substances
- B. Contaminant
- C. Water table
- D. Ground-water
- E. None of the Above

31. As the contaminant moves through these layers, a number of processes are in operation (e.g., filtration, dilution, oxidation, biological decay) that can lessen the \_\_\_\_\_ once it finally reaches the ground water.

- A. Substances
- B. Contaminant
- C. Eventual impact of the substance
- D. Ground-water
- E. None of the Above

32. The effectiveness of these processes also is affected by both the \_\_\_\_\_ the ground water and where the contaminant is introduced and the amount of time it takes the substance to reach the ground water.

- A. Substances
- B. Contaminant
- C. Water table
- D. Ground-water
- E. None of the Above

33. If the \_\_\_\_\_ is introduced directly into the area below the water table, the primary process that can affect the impact of the contaminant is dilution by the surrounding ground water.

- A. Substances
- B. Contaminant
- C. Water table
- D. Ground-water
- E. None of the Above

34. In comparison with rivers or streams, \_\_\_\_\_ tends to move very slowly and with very little turbulence.

- A. Substances
- B. Contaminant
- C. Water table
- D. Ground-water
- E. None of the Above

35. Once the contaminant reaches the ground water, \_\_\_\_\_ normally occurs.

- A. Substances
- B. Contaminant
- C. Little dilution or dispersion
- D. Ground-water
- E. None of the Above

36. Instead, the contaminant forms a \_\_\_\_\_ that can flow along the same path as the ground water.
- A. Substances
  - B. Contaminant
  - C. Water table
  - D. Concentrated plume
  - E. None of the Above
37. Among the factors that determine the size, form, and rate of movement of the \_\_\_\_\_ plume are the amount and type of contaminant and the speed of ground-water movement.
- A. Substances
  - B. Contaminant
  - C. Water table
  - D. Ground-water
  - E. None of the Above
38. Because ground water is hidden from view, \_\_\_\_\_ can go undetected for years until the supply is tapped for use.
- A. Substances
  - B. Contamination
  - C. Water table
  - D. Ground-water
  - E. None of the Above
39. Substances that can \_\_\_\_\_ can be divided into two basic categories: substances that occur naturally and substances produced or introduced by man's activities.
- A. Surface impoundments
  - B. e.g., solvents, pesticides, petroleum products
  - C. Contaminate ground water
  - D. Septic systems
  - E. None of the Above
40. \_\_\_\_\_ that occur naturally include minerals such as iron, calcium, and selenium.
- A. Surface impoundments
  - B. e.g., solvents, pesticides, petroleum products
  - C. Ground-water contamination
  - D. Septic systems
  - E. None of the Above
41. Substances resulting from man's activities include synthetic organic chemicals and hydrocarbons \_\_\_\_\_; landfill leachates (liquids that have dripped through the landfill and carry dissolved substances from the waste materials), containing such substances as heavy metals and organic decomposition products; salt; bacteria; and viruses.
- A. Surface impoundments
  - B. e.g., solvents, pesticides, petroleum products
  - C. Ground-water contamination
  - D. Septic systems
  - E. None of the Above

42. A significant number of today's \_\_\_\_\_ problems stem from man's activities and can be introduced into ground water from a variety of sources.
- A. Surface impoundments
  - B. e.g., solvents, pesticides, petroleum products
  - C. Ground-water contamination
  - D. Septic systems
  - E. None of the Above
43. A major cause of ground-water contamination in many areas of the United States is \_\_\_\_\_, or outflow, from septic tanks, cesspools, and privies.
- A. Surface impoundments
  - B. e.g., solvents, pesticides, petroleum products
  - C. Ground-water contamination
  - D. Septic systems
  - E. None of the Above
44. Approximately one fourth of all homes in the United States rely on \_\_\_\_\_ to dispose of their human wastes.
- A. Surface impoundments
  - B. e.g., solvents, pesticides, petroleum products
  - C. Ground-water contamination
  - D. Septic systems
  - E. None of the Above
45. If these systems are improperly sited, designed, constructed, or maintained, they can allow \_\_\_\_\_ of the ground water by bacteria, nitrates, viruses, synthetic detergents, household chemicals, and chlorides.
- A. Surface impoundments
  - B. e.g., solvents, pesticides, petroleum products
  - C. Contamination
  - D. Septic systems
  - E. None of the Above
46. Each system can make an \_\_\_\_\_ to ground-water contamination, the sheer number of such systems and their widespread use in every area that does not have a public sewage treatment system makes them serious contamination sources.
- A. Surface impoundments
  - B. Insignificant contribution
  - C. Ground-water contamination
  - D. Septic systems
  - E. None of the Above
47. Another potentially significant source of ground-water contamination is the more than 180,000 \_\_\_\_\_ (e.g., ponds, lagoons) used by municipalities, industries, and businesses to store, treat, and dispose of a variety of liquid wastes and wastewater.
- A. Surface impoundments
  - B. e.g., solvents, pesticides, petroleum products
  - C. Ground-water contamination
  - D. Septic systems
  - E. None of the Above

48. Although these \_\_\_\_\_ are supposed to be sealed with compacted clay soils or plastic liners, leaks can and do develop.

- A. Impoundments
- B. e.g., solvents, pesticides, petroleum products
- C. Ground-water contamination
- D. Septic systems
- E. None of the Above

49. Agricultural activities also can make significant contributions to ground-water contamination with the millions of tons of fertilizers and pesticides spread on the ground and from the storage and \_\_\_\_\_.

- A. Leachate collection systems
- B. Disposal of livestock wastes
- C. Apply to their lawns, rosebushes, tomato plants, and other garden plants
- D. 500 hazardous waste land disposal facilities
- E. None of the Above

50. Homeowners, too, can contribute to this type of ground-water pollution with the chemicals they \_\_\_\_\_.

- A. Leachate collection systems
- B. Disposal of livestock wastes
- C. Apply to their lawns, rosebushes, tomato plants, and other garden plants
- D. 500 hazardous waste land disposal facilities
- E. None of the Above

51. There are approximately \_\_\_\_\_ and more than 16,000 municipal and other landfills nationwide.

- A. Leachate collection systems
- B. Disposal of livestock wastes
- C. Apply to their lawns, rosebushes, tomato plants, and other garden plants
- D. 500 hazardous waste land disposal facilities
- E. None of the Above

52. To protect ground water, these facilities are now required to be constructed with clay or synthetic liners and \_\_\_\_\_.

- A. Leachate collection systems
- B. Disposal of livestock wastes
- C. Apply to their lawns, rosebushes, tomato plants, and other garden plants
- D. 500 hazardous waste land disposal facilities
- E. None of the Above

53. Unfortunately, these requirements are comparatively recent, and thousands of landfills were built, \_\_\_\_\_ without such safeguards.

- A. Leachate collection systems
- B. Disposal of livestock wastes
- C. Operated, and abandoned in the past
- D. 500 hazardous waste land disposal facilities
- E. None of the Above

54. A number of these sites have caused serious ground-water contamination problems and are now being cleaned up by their owners, operators, or users; state governments; or the federal government \_\_\_\_\_.

- A. Leachate collection systems
- B. Disposal of livestock wastes
- C. Serious ground-water contamination problems
- D. 500 hazardous waste land disposal facilities
- E. None of the Above

55. In addition, a lack of information about the location of many of these sites makes it difficult, if not impossible, \_\_\_\_\_ how many others may now be contaminating ground water.

- A. Can cost
- B. Exposure to
- C. To determine
- D. Also can result
- E. None of the Above

56. Between five and six million underground storage tanks are used \_\_\_\_\_ a variety of materials, including gasoline, fuel oil, and numerous chemicals.

- A. Can cost
- B. Exposure to
- C. To store
- D. Also can result
- E. None of the Above

57. The average life span of these tanks is 18 years, and over time, \_\_\_\_\_ the elements causes them to corrode.

- A. Can cost
- B. Exposure to
- C. To determine
- D. Also can result
- E. None of the Above

58. Hundreds of thousands of these tanks are estimated to be leaking, and many are contaminating ground water. \_\_\_\_\_ for these tanks are estimated at \$1 per gallon of storage capacity; a cleanup operation can cost considerably more.

- A. Can cost
- B. Exposure to
- C. To determine
- D. Also can result
- E. None of the Above

59. Wells can be another source of ground-water contamination. In the years before there were community water supply systems, most people relied on wells \_\_\_\_\_ their drinking water.

- A. Can cost
- B. Exposure to
- C. To provide
- D. Also can result
- E. None of the Above

60. In rural areas this \_\_\_\_\_ the case. If a well is abandoned without being properly sealed, however, it can act as a direct channel for contaminants to reach ground water.
- A. Can still be
  - B. Exposure to
  - C. To determine
  - D. Also can result
  - E. None of the Above
61. Accidents \_\_\_\_\_ in ground-water contamination. A large volume of toxic materials is transported throughout the country by truck, train, and airplane.
- A. If not handled properly
  - B. Also can result in
  - C. Will be to flush the area
  - D. Allowing it to work its way
  - E. None of the Above
62. Every day accidental chemical or petroleum product spills occur that, if not handled properly, \_\_\_\_\_ ground-water contamination.
- A. If not handled properly
  - B. Can result in
  - C. Will be to flush the area
  - D. Allowing it to work its way
  - E. None of the Above
63. Frequently, the automatic reaction of the first people at the scene of an accident involving a spill \_\_\_\_\_ with water to dilute the chemical.
- A. If not handled properly
  - B. Also can result in
  - C. Will be to flush the area
  - D. Allowing it to work its way
  - E. None of the Above
64. This just washes the chemical into the soil around the accident site, \_\_\_\_\_ down to the ground water. In addition, there are numerous instances of ground-water contamination caused by the illegal dumping of hazardous or other potentially harmful wastes.
- A. If not handled properly
  - B. Also can result in
  - C. Will be to flush the area
  - D. Allowing it to work its way
  - E. None of the Above
65. A similar flushing mechanism also applies to the salt \_\_\_\_\_ de-ice roads and highways throughout the country every winter.
- A. If not handled properly
  - B. That is used to
  - C. Will be to flush the area
  - D. Allowing it to work its way
  - E. None of the Above

66. More than 11 million tons of salt are applied to roads in the United States annually. As ice and snow melt or rain subsequently falls, the salt is washed into the surrounding soil \_\_\_\_\_ down to the ground water.

- A. If not handled properly
- B. Also can result in
- C. It can work its way
- D. Allowing it to work its way
- E. None of the Above

67. Salt also can find its way into ground water \_\_\_\_\_

- A. Itself is hidden from view.
- B. And sometimes impossible process.
- C. Or drill new wells in another aquifer if one is located nearby.
- D. Contamination of their ground-water supplies.
- E. None of the Above

68. Unlike rivers, lakes, and streams that are readily visible and whose contamination frequently can be seen with the naked eye, ground water \_\_\_\_\_

- A. Itself is hidden from view.
- B. And sometimes impossible process.
- C. Or drill new wells in another aquifer if one is located nearby.
- D. Contamination of their ground-water supplies.
- E. None of the Above

69. Its contamination occurs gradually and generally is not detected until the problem has already become extensive. This makes cleaning up contamination a complicated, costly, \_\_\_\_\_

- A. Itself is hidden from view.
- B. And sometimes impossible process.
- C. Or drill new wells in another aquifer if one is located nearby.
- D. Contamination of their ground-water supplies.
- E. None of the Above

70. Because of the high costs and technical difficulties involved in the various containment and treatment methods, many communities will choose to abandon the use of the aquifer when facing \_\_\_\_\_

- A. Itself is hidden from view.
- B. And sometimes impossible process.
- C. Or drill new wells in another aquifer if one is located nearby.
- D. Contamination of their ground-water supplies.
- E. None of the Above

71. This requires the community to either find other water supplies, drill new wells farther away from the contaminated area of the aquifer, deepen existing wells, \_\_\_\_\_

- A. Itself is hidden from view.
- B. And sometimes impossible process.
- C. Or drill new wells in another aquifer if one is located nearby.
- D. Contamination of their ground-water supplies.
- E. None of the Above

### CHAPTER III. Government Ground-Water Protection Activities

The U.S. Environmental Protection Agency (EPA) is responsible for federal activities relating to the quality of ground water. EPA's ground-water protection activities are authorized by a number of laws, including the following.

72. The \_\_\_\_\_, which authorizes EPA to set standards for maximum levels of contaminants in drinking water, regulate the underground disposal of wastes in deep wells, designate areas that rely on a single aquifer for their water supply, and establish a nationwide program to encourage the states to develop programs to protect public water supply wells (i.e., wellhead protection programs).

- A. Safe Drinking Water Act
- B. Federal Insecticide, Fungicide, and Rodenticide Act
- C. Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
- D. Resource Conservation and Recovery Act
- E. Toxic Substances Control Act

73. The \_\_\_\_\_, which regulates the storage, transportation, treatment, and disposal of solid and hazardous wastes to prevent contaminants from leaching into ground water from municipal landfills, underground storage tanks, surface impoundments, and hazardous waste disposal facilities.

- A. Safe Drinking Water Act
- B. Federal Insecticide, Fungicide, and Rodenticide Act
- C. Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
- D. Resource Conservation and Recovery Act
- E. Toxic Substances Control Act

74. The \_\_\_\_\_, which authorizes the government to clean up contamination caused by chemical spills or hazardous waste sites that could (or already do) pose threats to the environment, and whose 1986 amendments include provisions authorizing citizens to sue violators of the law and establishing "community right-to-know" programs (Title III).

- A. Clean Water Act
- B. Federal Insecticide, Fungicide, and Rodenticide Act
- C. Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
- D. Resource Conservation and Recovery Act
- E. Toxic Substances Control Act

75. The \_\_\_\_\_, which authorizes EPA to control the availability of pesticides that have the ability to leach into ground water.

- A. Safe Drinking Water Act
- B. Federal Insecticide, Fungicide, and Rodenticide Act
- C. Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
- D. Resource Conservation and Recovery Act
- E. Toxic Substances Control Act

76. The \_\_\_\_\_ which authorizes EPA to control the manufacture, use, storage, distribution, or disposal of toxic chemicals that have the potential to leach into ground water.

- A. Safe Drinking Water Act
- B. Federal Insecticide, Fungicide, and Rodenticide Act
- C. Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
- D. Resource Conservation and Recovery Act
- E. Toxic Substances Control Act

77. The \_\_\_\_\_, which authorizes EPA to make grants to the states for the development of ground-water protection strategies and authorizes a number of programs to prevent water pollution from a variety of potential sources.

- A. Clean Water Act
- B. Federal Insecticide, Fungicide, and Rodenticide Act
- C. Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
- D. Resource Conservation and Recovery Act
- E. Toxic Substances Control Act

78. The \_\_\_\_\_ tend to focus on controlling potential sources of ground-water contamination on a national basis.

- A. Federal laws
- B. Local governments
- C. Statewide strategies
- D. Ground-water classification
- E. None of the Above

79. Where \_\_\_\_\_ have provided for general ground-water protection activities such as wellhead protection programs or development of state ground-water protection strategies, the actual implementation of these programs must be by the states in cooperation with local governments.

- A. Federal laws
- B. Local governments
- C. Statewide strategies
- D. Ground-water classification
- E. None of the Above

80. A major reason for this emphasis on \_\_\_\_\_ is that protection of ground water generally involves making very specific decisions about how land is used.

- A. Federal laws
- B. Local action
- C. Statewide strategies
- D. Ground-water classification
- E. None of the Above

81. \_\_\_\_\_ frequently exercise a variety of land-use controls under state laws.

- A. Federal laws
- B. Local governments
- C. Statewide strategies
- D. Ground-water classification
- E. None of the Above

82. \_\_\_\_\_ Requiring the development of a comprehensive plan to protect the state's ground-water resources from contamination.

- A. Federal laws
- B. Local governments
- C. Statewide strategies
- D. Ground-water classification
- E. None of the Above

83. \_\_\_\_\_ Identifying and categorizing ground-water sources by how they are used to determine how much protection is needed to continue that type of use.

- A. Standard setting
- B. Ground-water funds
- C. Ground-water classification
- D. Land-use management
- E. None of the Above

84. \_\_\_\_\_ Identifying levels at which an aquifer is considered to be contaminated.

- A. Standard setting
- B. Ground-water funds
- C. Ground-water classification
- D. Land-use management
- E. None of the Above

85. \_\_\_\_\_ Developing planning and regulatory mechanisms to control activities on the land that could contaminate an aquifer.

- A. Standard setting
- B. Ground-water funds
- C. Ground-water classification
- D. Land-use management
- E. None of the Above

86. \_\_\_\_\_ Establishing specific financial accounts for use in the protection of ground-water quality and the provision of compensation for damages to underground drinking water supplies (e.g., reimbursement for ground-water cleanup, provision of alternative drinking water supplies).

- A. Standard setting
- B. Ground-water funds
- C. Ground-water classification
- D. Land-use management
- E. None of the Above

87. \_\_\_\_\_ Regulating the use, sale, labeling, and disposal of pesticides, herbicides, and fertilizers.

- A. WHPA
- B. Underground storage tanks
- C. Agricultural chemicals
- D. Water-use management
- E. None of the Above

88. \_\_\_\_\_ Establishing criteria for the registration, construction, installation, monitoring, repair, closure, and financial responsibility associated with tanks used to store hazardous wastes or materials.

- A. WHPA
- B. Underground storage tanks
- C. Agricultural chemicals
- D. Water-use management
- E. None of the Above

89. \_\_\_\_\_ Including ground-water quality protection in the criteria used to justify more stringent water allocation measures where excessive ground-water withdrawal could cause ground-water contamination.

- A. WHPA
- B. Underground storage tanks
- C. Agricultural chemicals
- D. Water-use management
- E. None of the Above

90. Wellhead protection is simply protection of all or part of the area surrounding a well from which the well's ground water is drawn. This is called a wellhead protection area (\_\_\_\_\_).

- A. WHPA
- B. Underground storage tanks
- C. Agricultural chemicals
- D. Water-use management
- E. None of the Above

91. The size of the \_\_\_\_\_ will vary from site to site depending on a number of factors, including the goals of the state's program and the geologic features of the area.

- A. WHPA
- B. Underground storage tanks
- C. Agricultural chemicals
- D. Water-use management
- E. None of the Above

The law specifies certain minimum components for the wellhead protection programs:

92. The roles and duties of state and local governments and public water suppliers in the management of wellhead protection programs \_\_\_\_\_.

- A. Processed
- B. Must be established
- C. Must be delineated
- D. Must be identified
- E. None of the Above

93. The WHPA for each wellhead \_\_\_\_\_ (i.e., outlined or defined).

- A. Processed
- B. Must be established
- C. Must be delineated
- D. Must be identified
- E. None of the Above

94. Contamination sources within each WHPA \_\_\_\_\_.

- A. Processed
- B. Must be established
- C. Must be delineated
- D. Must be identified
- E. None of the Above

95. Approaches for protecting the water supply within the WHPAs from the contamination sources (e.g., use of source controls, education, training) \_\_\_\_\_.

- A. Processed
- B. Must be established
- C. Must be developed
- D. Must be identified
- E. None of the Above

96. Contingency plans \_\_\_\_\_ for use if public water supplies become contaminated.

- A. Processed
- B. Must be established
- C. Must be developed
- D. Must be identified
- E. None of the Above

97. \_\_\_\_\_ must be established for proper siting of new wells to produce maximum water yield and reduce the potential for contamination as much as possible.

- A. Provisions
- B. Must be established
- C. Must be delineated
- D. Must be identified
- E. None of the Above

98. Provisions must be included to ensure public participation in the \_\_\_\_\_.

- A. Process
- B. Must be established
- C. Must be delineated
- D. Must be identified
- E. None of the Above

99. For a program to be successful, all levels of government must participate in the wellhead protection program. The \_\_\_\_\_ is responsible for approving state wellhead protection programs and for providing technical support to state and local governments.

- A. Federal government
- B. State governments
- C. Local governments
- D. State's program
- E. None of the Above

100. \_\_\_\_\_ must develop and implement wellhead protection programs that meet the requirements of the Safe Drinking Water Act.

- A. Federal government
- B. State governments
- C. Local governments
- D. State's program
- E. None of the Above