**Problems Facing Our Rivers**

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| **TEACHER DIRECTIONS:** | Make a symbol for each item listed below. On the back, write the related question the student teams must research. |

1. **RIVER DAM**: What are two negative impacts of a dam on river water?   
   *(Possible answers include increasing water temperature, slowing and/or increasing water speed, inhibiting species movement,…)*
2. **CITY**: What are two negative impacts of urban sprawl/city dweller behavior on rivers?   
   *(Possible answers include polluted water runoff from pavement,  
   increasing water temperatures, septic water draining into the river,…)*
3. **FARM**: What are two negative impacts of farmland/farming activity on rivers?   
   *(Possible answers: pesticide runoff, erosion due to destruction of vegetation, …)*
4. **PREAMBLE TO THE CONSTITUTION**: What are two phrases in the preamble that might relate to government's role in protecting our waterways?   
   *(Possible answers: "to form a more perfect union," "to promote the general welfare," and "to secure the blessings of liberty.")*
5. **HOUSEHOLD**: What are two negative impacts of families on river water quality?   
   *(Possible answers: oil leaks from cars drain into the river, a family drops trash in the river while canoeing)*
6. **INDUSTRY**: What are two negative impacts of factories on river water quality?   
   *(Possible answers: factories use a lot of electricity, burning coal which pollutes the air and rains into the river; factories often drain warmed water into a river, raising its temperature,…)*
7. **DEPARTMENT OF ENVIRONMENTAL QUALITY/DEPARTMENT OF NATURAL RESOURCES**: What is one negative and one positive impact this department has had on our river?  
   Hint: see <http://www.rivernetwork.org/partners/partnerlist.cfm> and select your state.  
   *(possible answers: the DEQ has not enforced the "pay to pollute" laws of our state; has been involved in implementing some of the regulations in the Clean Water Act; the DNR has regularly patrolled the rivers for polluters)*
8. **THE STATE CONSTITUTION**: What agencies have been created under the state constitution designed to protect our waters?   
   *(possible answers: Department of Natural Resources, Department of Environmental Quality,…)*
9. **YOUR CITY COUNCIL or Commission**: What are two laws the city council enforces (through the city manager) to maintain water quality?  
   *(possible answers: septic systems are not allowed in city limits; water and sewer fees must be paid monthly to maintain the system)*
10. **LUMBERING**: What were two negative effects of lumbering on our waterways?   
    *(possible answers: erosion; sedimentation,…)*
11. **FISHING FROM A BOAT**: What are two negative effects of fishing our rivers?   
    *(possible answers: engine runoff; over fishing of species, lead weights, tangled fishing line,…)*
12. **COAL-BURNING POWER PLANT**: What are two negative effects of power plants on our rivers?   
    *(possible answers: acid rain drains into the river, heated water is poured into the river,…)*