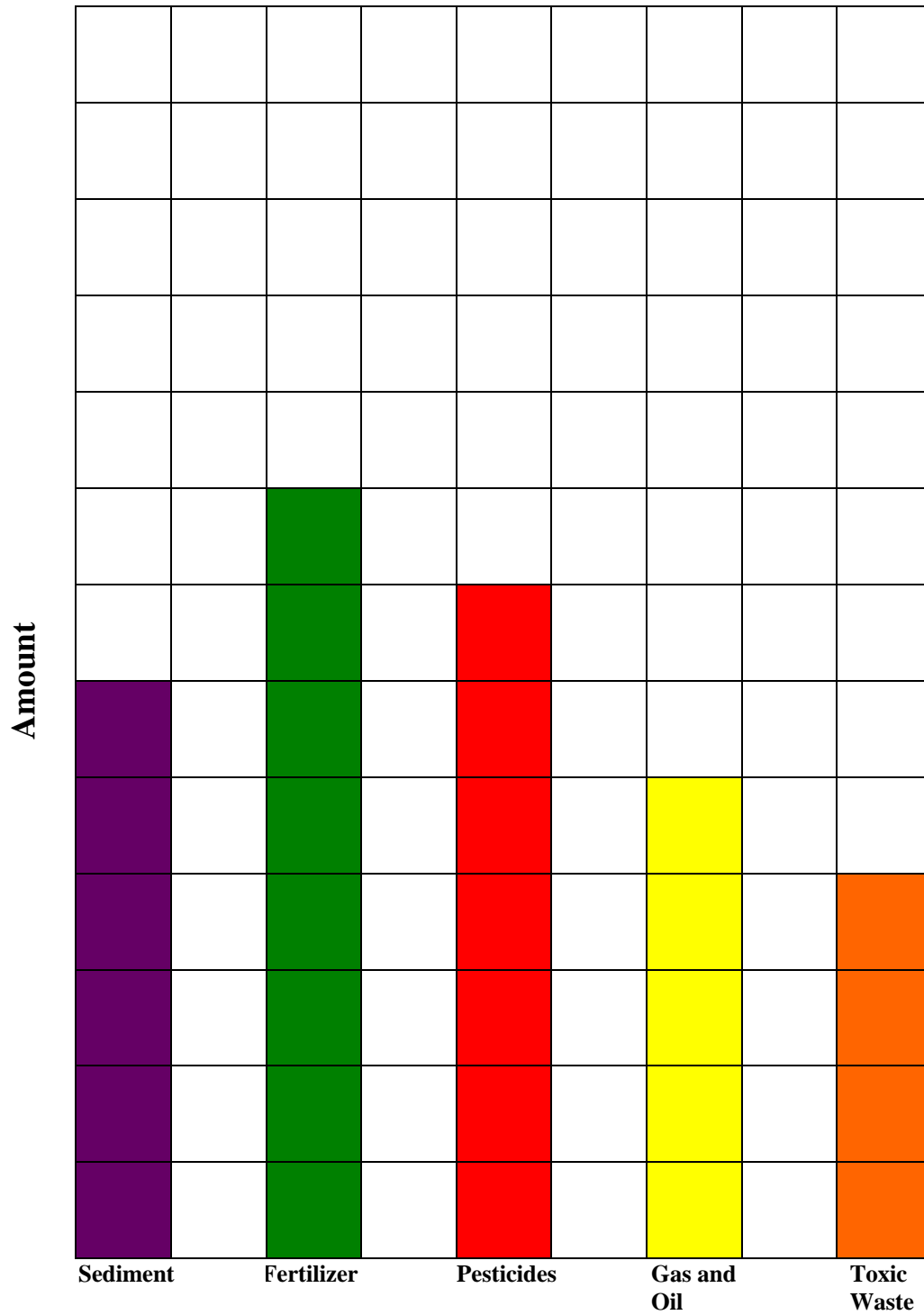
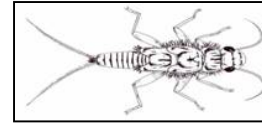
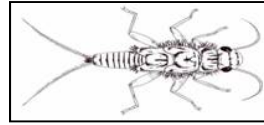
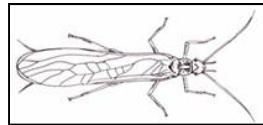
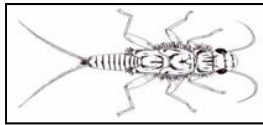
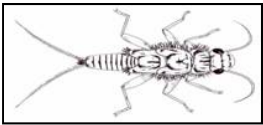


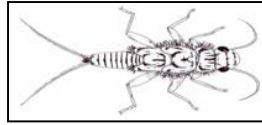
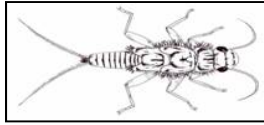
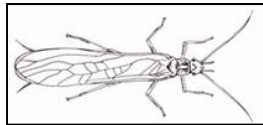
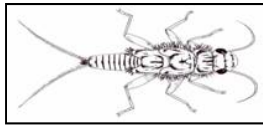
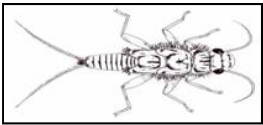
### Sample graph



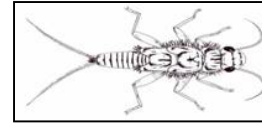
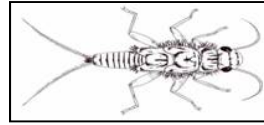
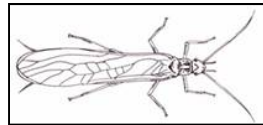
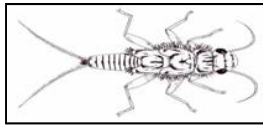
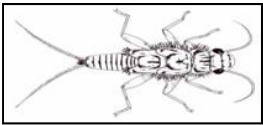


# SEDIMENT



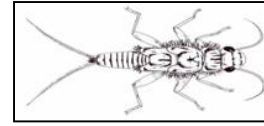
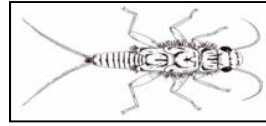
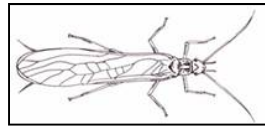
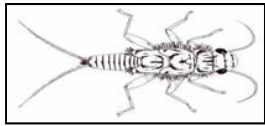
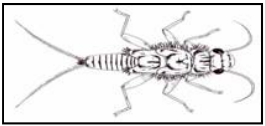


# FERTILIZERS/ NUTRIENTS



# PESTICIDES

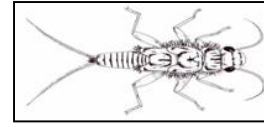
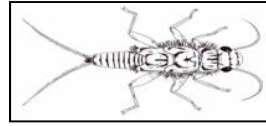
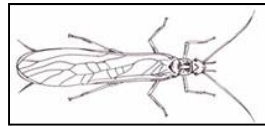
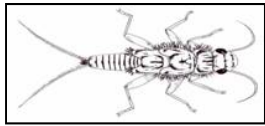
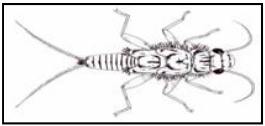




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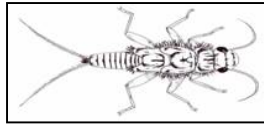
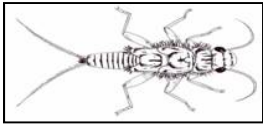
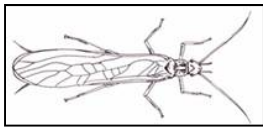
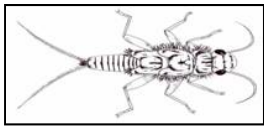
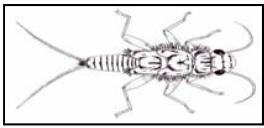




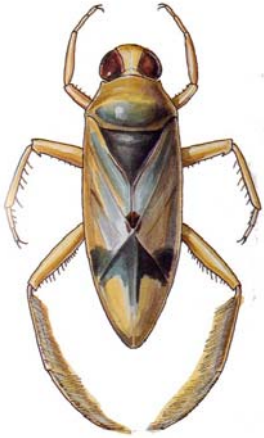


# OIL AND GAS





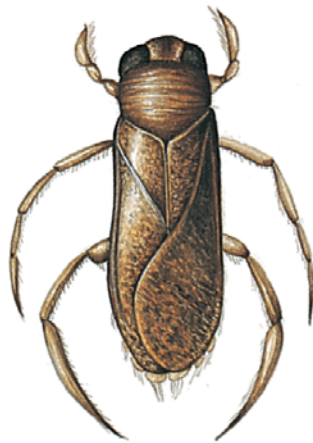
## Aquatic Macroinvertebrates with high pollution tolerance



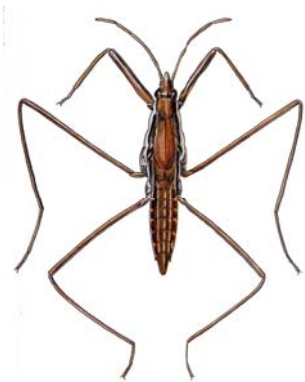
Back swimmer



Diving Beetle



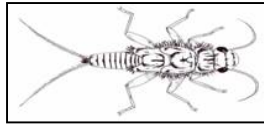
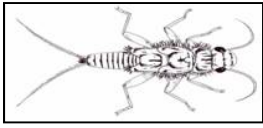
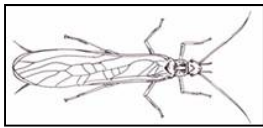
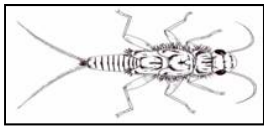
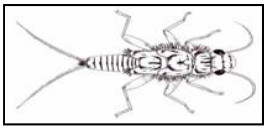
Water boatman



Water Strider



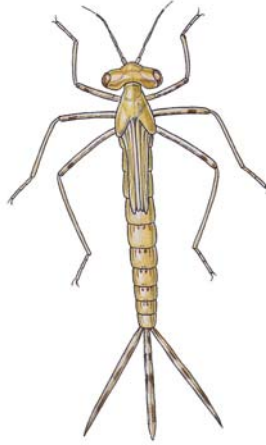
Rat-Tailed Maggot



## Aquatic Macroinvertebrates with medium pollution tolerance



Blackfly



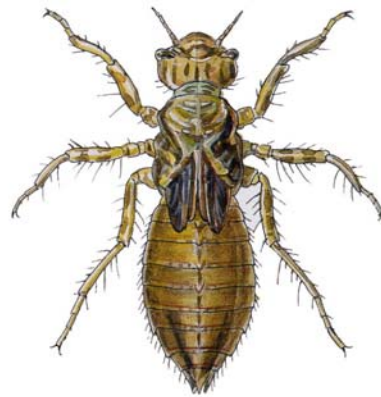
Damselfly



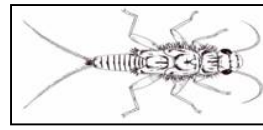
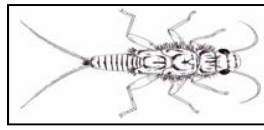
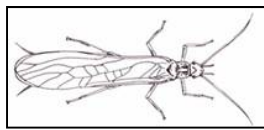
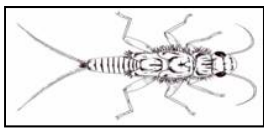
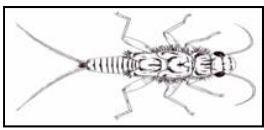
Cranefly



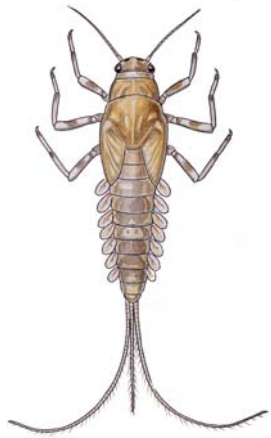
Flat worm



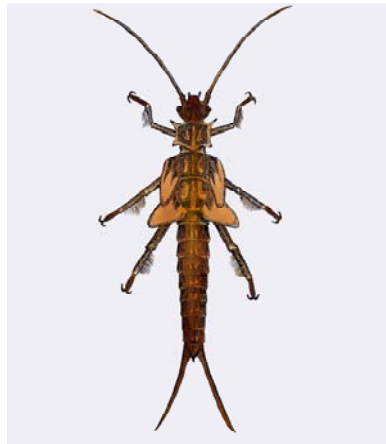
Dragonfly



## Aquatic Macroinvertebrates with low pollution tolerance



Mayfly



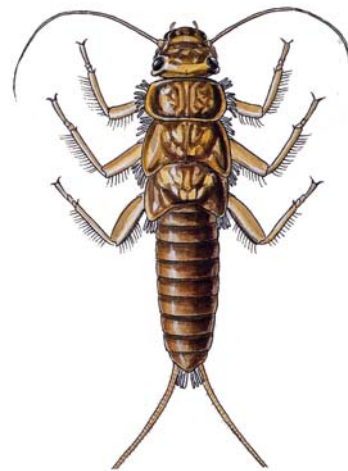
Stonefly



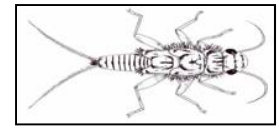
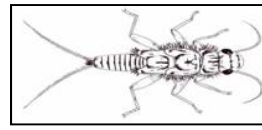
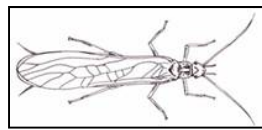
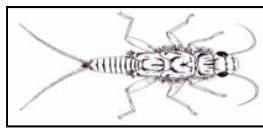
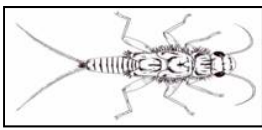
Caddisfly



Mayfly



Stonefly



## Suggested combinations of skittles for different land uses:

Land use	Purple	Red	Green	Yellow	Orange
Agriculture	8	5	5	2	0
Golf Course	5	5	8	2	0
Factory/Industrial	5	2	5	5	10
Construction	10	0	0	5	0
Neighborhood	2	5	8	5	0

## Pictures of land uses:

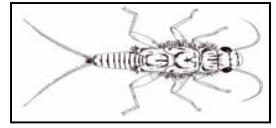
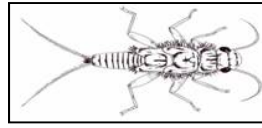
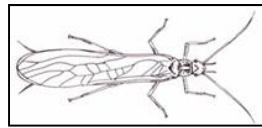
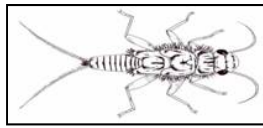
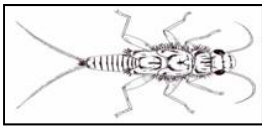
### Agriculture:



### Pasture/grazing land

Poorly managed grazing and/or a concentration of animals near streams can cause a loss of riparian vegetation and an increase in erosion.





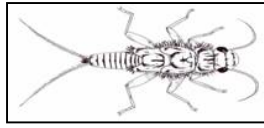
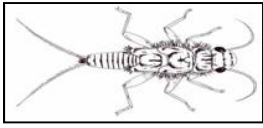
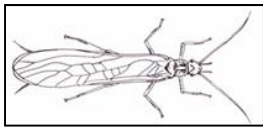
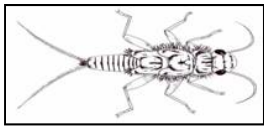
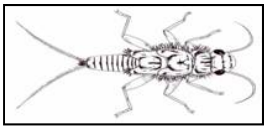
### **Fertilizer and pesticide application**

When fertilizers and pesticides are applied in large quantities they can enter the groundwater or get washed away into nearby water bodies.



### **Harvesting crops**

Fields left empty after harvesting can easily be eroded away. This soil often gets washed into nearby streams and rivers.

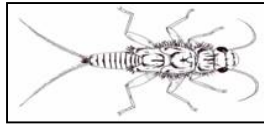
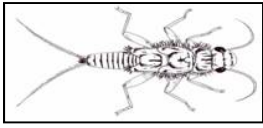
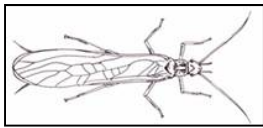
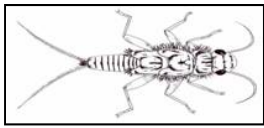
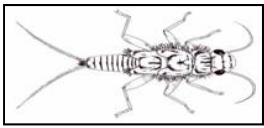


## Construction:



### **Sediment runoff**

Dirt and soil from construction sites is easily washed into storm drains during rain storms.



## Forestry:

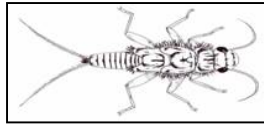
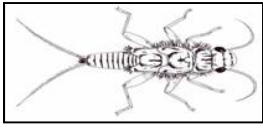
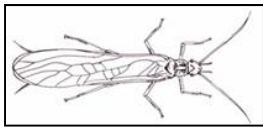
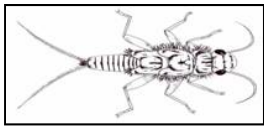
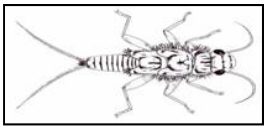


### Deforestation

Removing trees and other vegetation causes an increase in erosion. More sediment is washed into streams and rivers.







## Land Disposal:



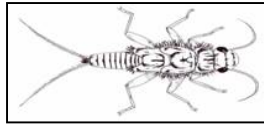
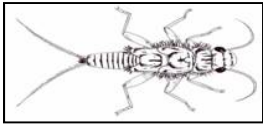
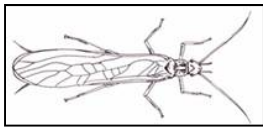
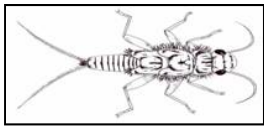
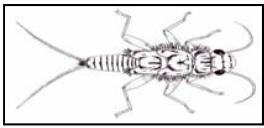
### Landfills

Chemicals and other substances can sometimes leak into groundwater contaminating it and making it unsafe to drink and use for other purposes.

### Waste Water Treatment Plants

The discharge of untreated or poorly treated water can cause serious health problems for humans and wildlife. Chemicals and pharmaceuticals from waste water treatment plants are sometimes put into rivers and streams.

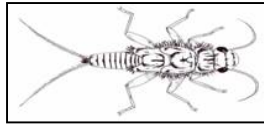
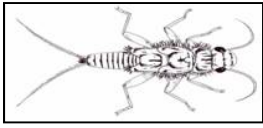
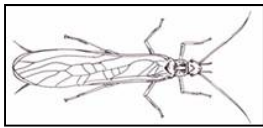
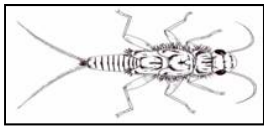
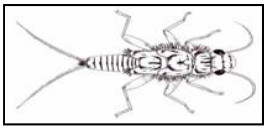




## Recreation:

Oil and gas from motorized vehicles can pollute rivers and streams. Garbage and other litter left at campsites or other areas can also be washed into rivers or streams.

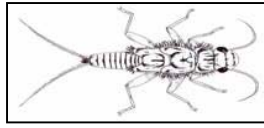
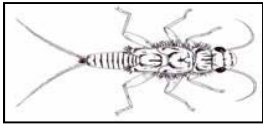
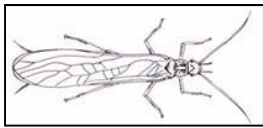
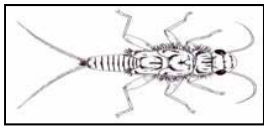
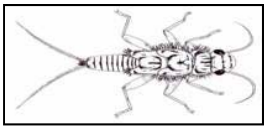




## Roads:

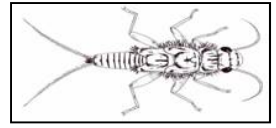
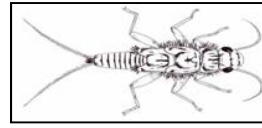
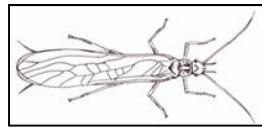
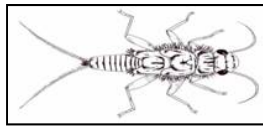
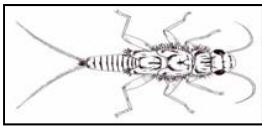


Roads are often built in the valley or gully of a watershed: Sediment and pollutants, like gasoline and oil, can easily be washed into rivers and streams during snow melting events, or when it rains.



**Surface Mining:**





## Urban runoff:



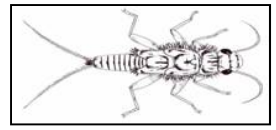
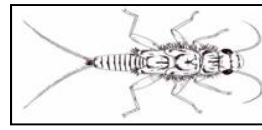
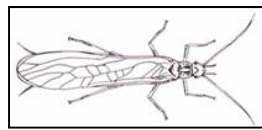
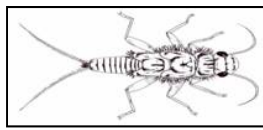
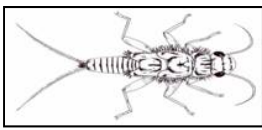
**Channelization:** Results in loss of habitat for wildlife, fish, and invertebrates. Loss of riparian vegetation and building concrete stream beds increase water temperature and exacerbate spring flooding.



**Impervious surfaces:** Parking lots, roads, and roofs all create an impervious surface that water cannot infiltrate. This leads to increased run off and more oil, sediment, and other pollutants washed into stream and rivers.



**Storm drains:** Storm drains most often direct water to rivers and streams. Any trash, oil, or other pollutant that enters the storm drain can end up in our rivers and streams.



**Good Management:**



**Buffer strips:** Planting buffer strips (native riparian vegetation) along stream banks reduces erosion and traps sediments and fertilizer from entering the river.



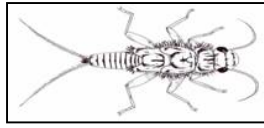
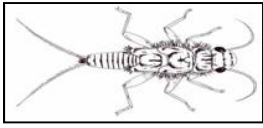
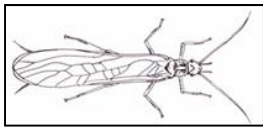
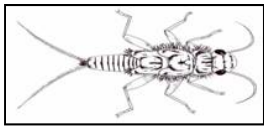
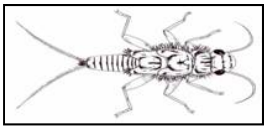
**Off stream watering:** Providing livestock with drinking water away from the stream can prevent the animals from trampling riparian vegetation which increases erosion.



**Pet waste bags:** Using pet waste bags in the park or on trails keeps the waste from washing into rivers and streams.



**Planting for water conservation:** Using plants that need less water helps us use less water.



**Car washes:**

Washing your car in a carwash helps keep extra dirt, oil, and soap from washing into a stream or soaking into the groundwater supply.