HOW CAN YOU REDUCE POLLUTED RUNOFF?

- **MAINTAIN YOUR SWALE**
  - Mow the swale but be careful to not damage swale blocks.
  - Remove and then compost leaves and grass clippings.
  - Keep good grass growth.
  - Minimize use of fertilizers, pesticides, and herbicides.
  - Aerate soils to restore percolation rate

- **DO NOT MISUSE YOUR SWALE**
  - Do not pile garbage, trash, leaves, limbs or garden debris in swales - this adds pollutants which can wash into downstream waters.
  - Do not pave the swale - this reduces percolation of runoff.
  - Do not park vehicles in the swale - this compacts the soil so less runoff soaks in.

- **LET THE WATER POND**
  - Runoff should temporarily pond in the swale for 24 to 36 hours.
  - Mow the swale but keep it at a good grass growth.
  - Don't damage or remove swale blocks or check dams.
  - Don't increase driveway culvert sizes.
  - Don't lower driveway culverts.

- **ADD SWALES TO YOUR YARD**
  - Waterfront property owners should build a swale and berm system to intercept runoff and pollutants from their yard.
  - Swales can be used between lots and at the rear of lots to intercept and retain runoff.
  - Swales can be used on residential and commercial land uses to collect roof runoff.

- **TALK TO ELECTED OFFICIALS**
  - Help "Save the Swales". Local regulations often require the use of curbs and storm sewers and prohibit the use of swales. Why should they?
  - Don't complain when water ponds in the swale for 24 to 36 hours - mosquitoes won't breed until water ponds for 72 hours or longer.
  - Let local officials know if water ponds so long that swale vegetation begins to die.

City of Panama City Beach
Stormwater Division
116 S. Arnold Road
Panama City Beach, FL 32413
Phone: 850-233-5100, ext. 2400

SAVE THE

SWALES

Protect Florida's Water

DO YOU KNOW WHAT A SWALE IS? HOW ABOUT A BERM?

When land is converted from its natural state to other uses, such as roads, homes, and shopping centers, many impervious or paved surfaces are created.

Rainfall becomes stormwater when it can no longer soak into the ground and runs off the impervious surfaces.

The volume, speed and pollutants of stormwater runoff increase with land development.

To minimize downstream flooding and protect lives and property, and to reduce pollution of water bodies, stormwater management practices are used to retain, detain, and/or filter the runoff.

These practices also minimize flooding, protect property and reduce pollution of water bodies.

SWALES are one of the most commonly used stormwater practices.

For many years, SWALES have been used to direct runoff from rural highways and residential streets.

Today, SWALES not only convey stormwater but also help to treat runoff to reduce pollutants.

Like ditches, SWALES collect stormwater from roads, driveways, parking lots and other hard surfaces.

Unlike ditches, SWALES are not deep with straight sides. They have gently sloping sides and are wider than they are deep.

A SWALE slows down the rapid flow of stormwater runoff by ponding water between its sloping sides, often called berms.

Because SWALES are wider than they are deep (usually a 6:1 ratio), the rainwater is spread over a broader area.

The ponding not only slows the rate of flow but allows the vegetation to filter the rainwater and remove sediments, heavy metals and hydrocarbons such as oil and grease.

When the SWALE becomes full, the cleaner surface water will spill over the berm and slowly run into a local water body.

Eventually, the remaining ponded water will either evaporate or infiltrate into the soil.

They are vegetated to prevent the slopes from eroding and to help filter pollutants during and after rainstorms.

The gradual sloping sides of the SWALE make them easier to maintain and vegetate. This decreases erosion that causes sedimentation of streams, lakes and wetlands.

SWALE blocks or raised driveway culverts sometimes are used to promote ponding of runoff in the swale, especially when the swale has a steep slope. Swale blocks or check dams can be made of soil, wood, or concrete.