

Watershed Watch



Protect Our Creeks And Bay

WATERSHED ACTIVITY BOOKLET

GRADES 6-8 & Adults!



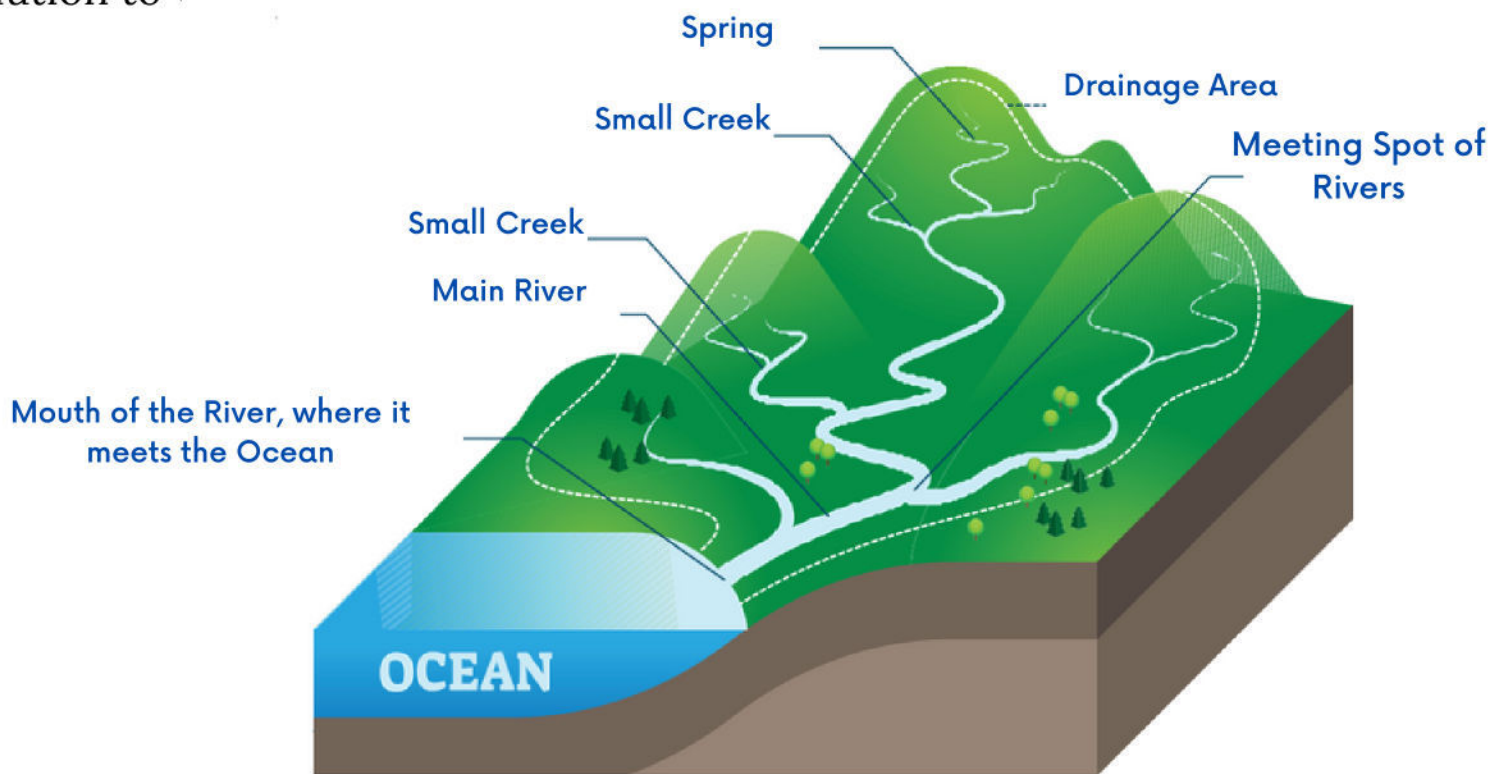
The Watershed Watch Campaign is a public education initiative of the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP), a coalition of local government agencies.

What is a Watershed?

A watershed is all of the land that drains water into the same waterway (e.g., creek, river, lake, bay, etc.). Any land, whether it be a park, farm, forest or even a school parking lot, is part of a watershed. Think of a watershed as a funnel, collecting all of the water within a land area and draining it into the nearest body of water. Everyone in the world lives in a watershed.

Many daily activities can pollute watersheds. For example, trash left on streets and sidewalks, toxic chemicals used in gardening, oil from leaking vehicles, and pet waste left on the ground are sources of water pollution.

A healthy watershed is important to the people, wildlife, and plants within it. Do your part to keep your local watershed safe and clean. You are the solution to



Write one thing you can do to prevent the pollution of our watersheds:

Connecting to Your Watershed

Find your watershed in Santa Clara County! In which watershed is your school or home located?

Visit the Valley Water [website](#) (right), click on each watershed listed, and select the "Fast Facts" tab to find your city.



Once you have located your watershed, fill in the following:

- Zip Code or City Name:
- Watershed Name:
- Is your school located in the same watershed? If not, in which watershed is it located?

Bonus: Use Google Maps to find your local creek!

Type "creek" into the search bar to find creeks close to your current location or search manually for the light blue water sources. Which creek is nearby?

Why do we need to protect our local watersheds?

Watersheds provide clean drinking water and a home for local plants and animals. When pollutants like chemicals and plastic enter our watersheds, they threaten the health of the local ecosystem and all of its inhabitants. It is important that we all do our part to protect our watersheds. You are learning about different actions you can take in this booklet. Once you complete all of the activities, you will become a Watershed Watcher!

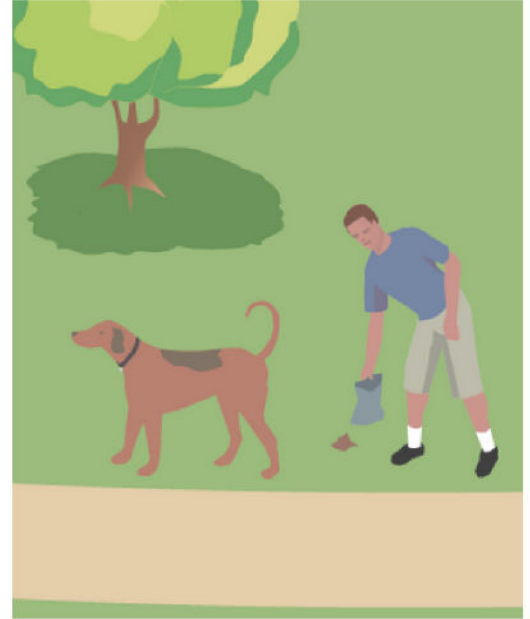


Source: Don Edwards National Wildlife Refuge, Be a Scientist Booklet



Stormwater Pollution

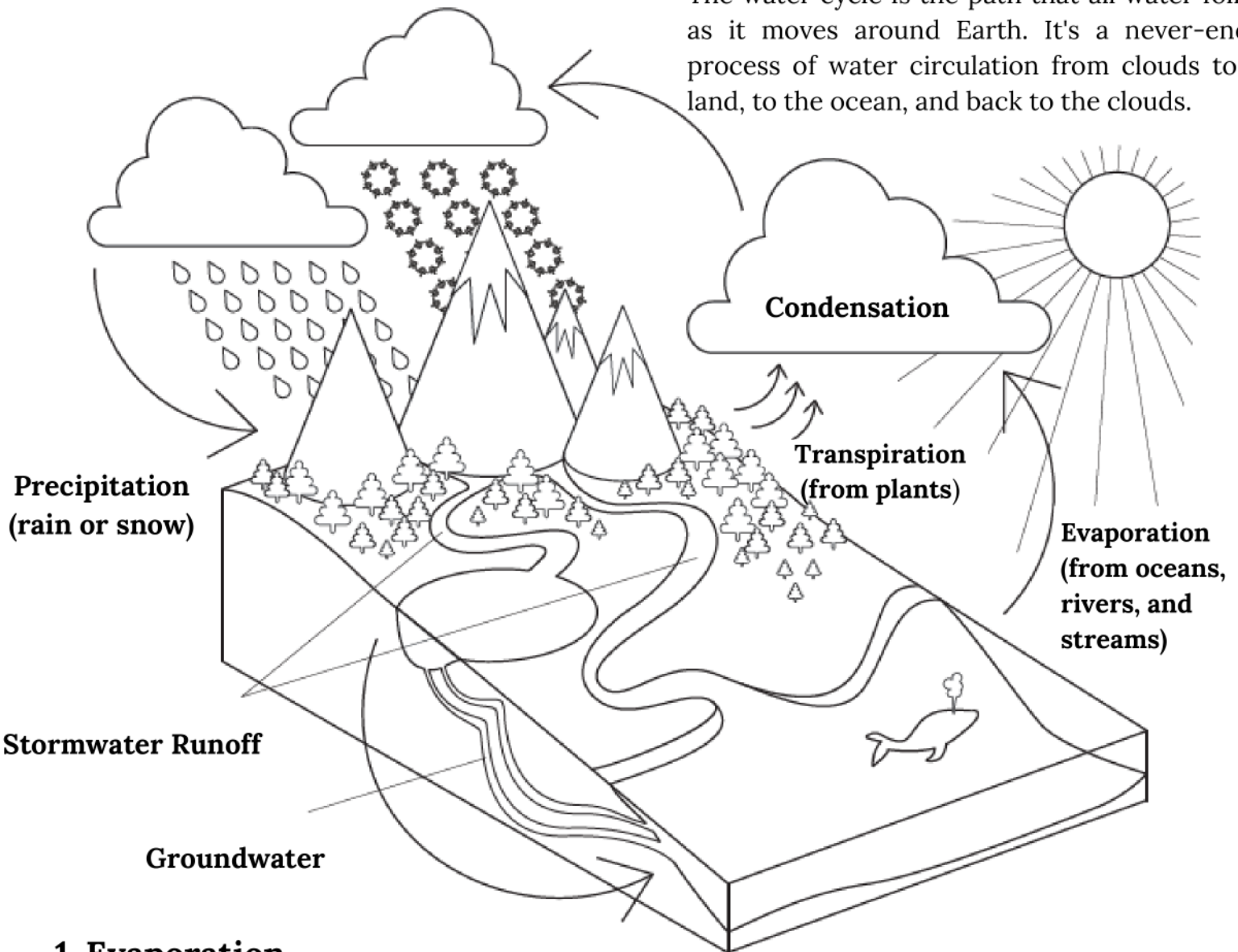
Have you noticed the storm drains on your street labeled with “No Dumping Flows to Bay” or a similar message? Rainwater can wash trash and other pollutants off sidewalks, streets, and parking lots into storm drains. Pollutants that enter storm drains flow directly to local creeks and the San Francisco Bay, and can harm fish and other wildlife. This is called stormwater pollution.



Take a look at the pictures. Circle “thumbs up” if what is shown can prevent stormwater pollution or “thumbs down” if it can cause stormwater pollution. Write one reason for your selection.

Color the Water Cycle!

The water cycle is the path that all water follows as it moves around Earth. It's a never-ending process of water circulation from clouds to the land, to the ocean, and back to the clouds.



1. Evaporation

Heat from the Sun causes water to evaporate from the ocean, lakes, and streams. Evaporation occurs when liquid water on Earth's surface turns into water vapor in our atmosphere.

2. Transpiration

Water from plants and trees also enters the atmosphere. This is called transpiration.

3. Condensation

Warm water vapor rises up through Earth's atmosphere. As the water vapor rises, the cool air of the atmosphere causes it to turn back into liquid water, creating clouds.

4. Precipitation

When a cloud becomes full of liquid water, it falls from the sky mainly as rain or snow - also known as precipitation. Rain and snow then fill lakes and streams, and the process starts all over again.

5. Stormwater Runoff

Stormwater runoff is nothing more than rainwater "running off" the land surface. Rain runs off land surfaces downhill due to gravity.

6. Ground Water

Some water seeps into the ground as soil moisture or groundwater.

Matching Worksheet

Match the word on the left side to its definition on the right side.

- | | | | |
|---------------------|-----------------------|-----------------------|--|
| 1. watershed | <input type="radio"/> | <input type="radio"/> | A. a long narrow hilltop, or mountain range that may separate two watersheds |
| 2. headwaters | <input type="radio"/> | <input type="radio"/> | B. water held underground in the soil or in pores and crevices in rock |
| 3. mouth of a river | <input type="radio"/> | <input type="radio"/> | C. a river or stream flowing into a larger river or lake |
| 4. valley | <input type="radio"/> | <input type="radio"/> | D. the drainage away of water (or substances carried in it) from the surface of an area of land, a building or structure, etc. |
| 5. ridge | <input type="radio"/> | <input type="radio"/> | E. all of the land that drains water into the same waterway (e.g., creek, river, lake, bay, etc.). |
| 6. tributary | <input type="radio"/> | <input type="radio"/> | F. a body of water in which fresh water from a river mixes with salt water from the ocean |
| 7. runoff | <input type="radio"/> | <input type="radio"/> | G. the source or beginnings of a river or creek |
| 8. estuary | <input type="radio"/> | <input type="radio"/> | H. the end of a river where it meets the ocean, lake, or another river |
| 9. groundwater | <input type="radio"/> | <input type="radio"/> | I. any liquid or frozen water that forms in the atmosphere and falls back to the Earth. |
| 10. precipitation | <input type="radio"/> | <input type="radio"/> | J. the low area between mountains or ridges |

ANSWERS
1. E
2. G
3. H
4. D
5. F
6. I
7. A
8. J
9. B
10. C

Nature Journaling

Put your observational skills to the test as a Watershed Watcher Field Scientist. To keep track of your observations, you will make entries in a Nature Journal! Each entry can be completed anywhere outside, best by a body of water. Remember to be respectful of your environment and to be quiet while you study your surroundings.

Materials

- Nature Journal or Blank Paper
- Pencil
- Markers, Crayons, or Colored Pencils
- Binoculars or Magnifying Glass (optional)



Instructions

1. Find a spot outdoors where you can comfortably write and draw. You can make an entry anywhere, including your backyard, porch, or balcony. Be creative; you can observe nature in the most unexpected places!
2. Once you have found your observation spot, make note of the following at the top of each entry in your Nature Journal: the date, time, weather, and location.
3. Using one of the Nature Journal Ideas on the next page, observe your spot for at least 15 minutes, making notes and sketches in your journal.
4. You can continue to make Nature Journal entries wherever you go! Bring your Nature Journal on a hike, to the beach, or on a walk through your neighborhood—you never know what you might observe!

Tips

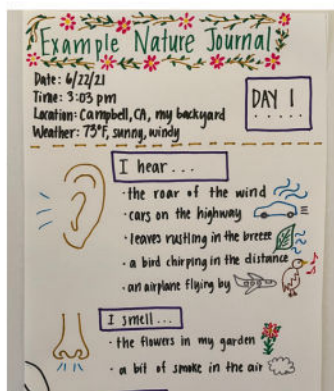
- Use binoculars or a magnifying glass to help you see things that are farther away or in more detail.
- If you're unsure of what to write, try starting your sentences with: "I see...", "I think...", "I wonder...", "This reminds me of..."
- When you draw, you can sketch a full view of your surroundings or focus on making detailed sketches of individual plants or animals that you observe.

Nature Journal Ideas

Try to make a Nature Journal entry every day for a week. The ideas below will help guide your own observations!

- **Observing with different senses**
 - Close your eyes and use your other senses to get to know your environment. What do you hear? What do you smell?
 - Open your eyes and observe your space with all of your senses. What do you see?
- **Observing from different angles**
 - Look above you. What plants or animals do you notice?
 - Get close to the ground. What do you observe from this perspective?
- **Observing plants and animals**
 - What animal might live in this environment? (If you see an animal during your observation, write about it!) Describe a day in the life of that animal.
 - Pick a plant near you. What personality does it seem to have? What stories would it tell?
- **Observing urban green spaces**
 - Find an observation spot that is in an urban area, such as a city park, your balcony, or your yard. What sorts of urban areas are beneficial for wildlife? What urban spaces are not as beneficial for wildlife? Why?
- **Make your own story**
 - Write a story. What other animals might visit this spot during the day, and what do they do?

Unsure where to start? Having trouble organizing your thoughts? Check out these sample Nature Journal entries below for examples on how to structure your observations.





Design Your Own Pollinator Garden

What is a pollinator?

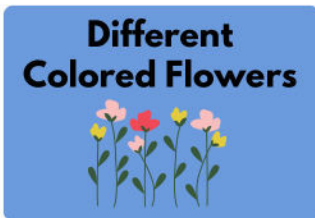
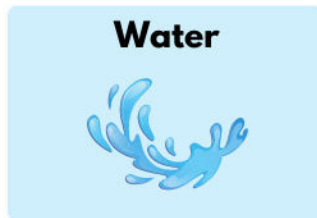
A pollinator is any animal that moves pollen between plants, helping them to reproduce. Bats, bees, beetles, birds, butterflies, moths, and wasps are all common pollinators that are found in the Santa Clara Valley and around your neighborhood.

Why do we need to protect pollinators?

Most of the flowering plants on Earth need the help of pollinators. About 1 out of every 3 bites of food you eat is brought to you by the help of pollinators! By helping plants make more plants, pollinators also play an important role in maintaining healthy natural ecosystems. However, pollinator populations are declining due to a loss of habitat and pollution.

Pollinator Necessities

These items are important components of a pollinator's habitat that help them to survive. Bee blocks, for example, provide an alternative habitat source and a safe haven for solitary bees. To protect pollinators around our neighborhoods, we can make sure that our yards include most, if not all, of these items!



What is IPM?
IPM or "Integrated Pest Management" is a way of controlling pests without using toxic chemicals (called pesticides). When used in the garden, pesticides can kill the good bugs, including pollinators, along with pests. Instead of pesticides, use traps, baits, soapy water, and eco-friendly pest control products to get rid of pests.

Pollinator Garden, continued

Design your own pollinator garden. Using the nine "Pollinator Necessities" items mentioned on the previous page, draw an ideal pollinator garden in the rectangle below. Add as many pollinators into your design as you wish!



Reflection

After engineers design something, they move on to building it. What steps would you take to build your pollinator garden?

Once your pollinator garden is finished, how would you monitor its success?

Challenge: Make your design a reality! Tell your family about the importance of pollinators, and work with them to add some of these items to your own garden at home.



Eco-Art Challenge



Using your engineering skills, create an art or fashion piece from recyclable objects!

Instructions

For this activity, you will collect recyclable and single-use items from your home and make eco-art. Designing eco-art is a creative way to bring attention to an environmental issue like water pollution. Choose one of the following eco-art options!



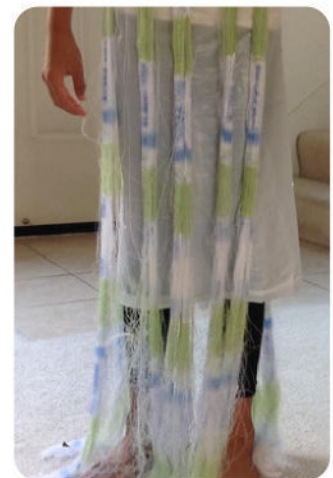
Option 1: Trashion Show

Imagine that a famous clothing brand is asking you to make clothing or accessories from recycled materials or single-use items—things you use once and then throw away like straws, plastic bags, and drinking cups. Using recyclable and single-use items at home, make a piece of clothing or an accessory that will be part of a Trashion Show! The Trashion Show will bring awareness to water pollution.

Option 2: Recyclable Art Piece

A local museum is asking you to make an art piece using recyclable materials or single-use items. Your art piece will be featured in the museum for a long time and will make people think about reducing waste and stopping water pollution. Your art piece can be big or small, and you can also use other materials like markers and paint to make your art piece stand out. Feel free to be as creative as you wish!

Need some inspiration? Check out these Eco-Art examples from the Don Edwards Wildlife Refuge's Summer Camp!





Environmentalism from Home



There are many ways that we can reduce water pollution and protect our local watersheds. Even from home, we can change our behaviors to shift away from single-use items and other non-reusable objects. In this activity, you will be an environmental scientist that is coming up with ways to prevent water pollution.

Replace the human-made objects on the left with the "environmentally-friendly" action on the right.

If we follow these actions, we can protect our local watersheds from being polluted and safeguard the health of local habitats.

	Paper Bag
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Going Paperless/ Unsubscribe List

Car	
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Donating/Thrifting

	Fake Lawn
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Recycling/Upcycling

Clothing	
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Rechargeable Battery

	Plastic Bottle
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Carpooling/Using Public Transportation

Single-Use Battery	
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Using Reusable Bags

Junk Mail	
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Planting Native Species

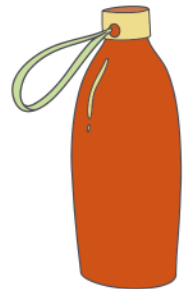
Environmentalist from Home, continued

It is crucial that we take action to protect our local watersheds. The checklist below features many things that you can do to positively impact watersheds and share your knowledge with others.

We challenge you to complete at least five of these activities throughout the week. If you're able to check off all of them, that is great! By following through on these actions, you are continuing to be a Watershed Watcher and using your knowledge to lead by example. Who knows—maybe your actions will inspire others to act similarly in the future!

Watershed Watcher Action Checklist

- Tell your friends and family about the importance of watersheds.
- Complete the Eco-Art challenge to upcycle your trash items and give them a second life!
- Pick up after your pet and dispose of waste properly.
- Use a reusable water bottle instead of a single-use plastic water bottle.
- Check that your recyclables are clean before they go out to your curbside bin. This will keep them from going to the landfill.
- Encourage your household to use eco-friendly household cleaners.
- Safely pick up litter around your neighborhood, at your local park, or on your favorite trail.
- Take a walk around your neighborhood and look for storm drains. Prevent litter, leaves, and other items from entering the storm drain.
- Explore your yard, balcony, or outdoor space. Is there room to plant native plants? If so, draw out a plan to add some to create habitat for native animal species.
- Encourage your household to take any cars to the carwash instead of washing them at home. You can keep soap and dirt from entering the storm drains!



THE THREE 'R'S YOU SHOULD KNOW

Three great ways YOU can eliminate waste and protect your environment!

PLASTICS AND SEABIRDS

One of the largest threats to our local environment is plastic pollution. For example, scientists are finding more plastics than food in the stomachs many sea birds. One way we can help is by our plastic use by following the three 'R's - Reduce, Reuse, and Recycle!



REDUCE

To lessen -
Use natural resources wisely, use less than usual in order to avoid waste.

What is one way you reduce?



REUSE

To use again -
"Reuse" materials in their original form instead of throwing them away, or pass those materials on to others who could use them too!

What is one way you reuse?



RECYCLE

To make something new, fresh, or strong again - don't throw away anything that can be recycled.

What is one way you recycle?

Watershed Watch PLEDGE

Dear Watershed Watcher:

The Earth gives us all we need to live: from the air we breathe to the water we drink and the food we eat. By reducing our waste, recycling properly, and reusing items, we help the plants and animals in our local watersheds. Next time you see litter, pick it up, and have a conversation about why not littering is so important. By taking these actions, we are saying ‘thank you’ to the Earth. When we work together, we can make our watersheds safe and healthy places for all.



Watershed Watch PLEDGE

You are a Watershed Watcher; you have the power to make our local creeks, San Francisco Bay, and Pacific Ocean happy and healthy places. By writing your name on the line below, you pledge to celebrate our local waterways every day, in the best way you can. Thank you for completing the Watershed Activity Booklet from the Watershed Watch Campaign!

WHICH ACTIVITIES DID YOU COMPLETE?

- What is a Watershed?
- Connecting to Your Watershed
- Stormwater Pollution
- Circling Items that Could Pollute
- The Water Cycle Coloring Page
- Matching Worksheet
- Nature Journaling
- Design Your Garden
- Eco-Art Challenge
- Environmentalist From Home
- The Three Rs You Should Know
- BONUS: Watershed Watcher Pledge

Your Signature

Watershed Activity Booklet

Source Credits

**Earth Day Booklet,
Don Edwards National Wildlife Refuge**

**Be a Scientist Booklet,
Don Edwards National Wildlife Refuge**

**A Home for Salty,
Don Edwards National Wildlife Refuge**

Student Conservation Association Bird Feeder Photos

National Aeronautics and Space Administration, nasa.gov

**Watershed Activity Booklet,
Santa Clara County Watershed Protection Division**



Water from your neighborhood enters the storm drain system and flows directly to local creeks and the Bay **without any treatment**. It often contains pollutants that can be toxic to fish, wildlife, and people. Never put anything into the gutter, street or storm drain.

Watershed Watch



Protect Our Creeks And Bay

The Watershed Watch Campaign is dedicated to raising awareness about water pollution in our creeks and the Bay, and encouraging actions that prevent urban runoff pollution and protect our watershed. Visit the Watershed Watch website at www.myWatershedWatch.org for more information.