

Fitzgerald Special Edition



PROTECTING THE MARINE RESERVE TOGETHER

SUMMER 2014

LEARN MORE ONLINE:

- See maps of the Reserve, the ASBS, and the pilot projects
- View photos of the Reserve and the incredible sea life there, plus before-during-and-after shots of swale construction
- Read about the Reserve's history
- Find links to more great resources online, local groups, and upcoming events

For all this and more, visit

www.smchealth.org/asbs

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Preventing Pollution at Home

Did you know that there are actions you can take at home to prevent stormwater pollution? Common activities like car washing, yard care, and pest control can result in polluted stormwater, which may impact special areas like the Fitzgerald Marine Reserve. Recent water quality monitoring results in the MidCoast area showed elevated levels of pollutants such as fecal coliform bacteria, permethrin pesticides, and metals like copper, lead, nickel, and zinc. Below are a few ways you can help prevent stormwater pollution.

Go the Extra Yard. Clean water starts in your backyard. Many common insecticides like wasp or ant sprays have harmful ingredients, such as permethrin, which are very toxic in

the aquatic environment. Try using less pesticides and fertilizers, or switch to less toxic products. Even pet waste from backyards impacts stormwater when runoff from these areas enters the storm drains or creeks and increases levels of fecal bacteria. Always clean up after your pets and dispose of the waste in the garbage.

Only Rain in the Storm Drain. Did you know that vehicles are a common source of pollutants? Fluid leaks from your vehicle are carried by rainwater from your driveway into the storm drain. Be sure to inspect for leaks regularly. Copper dust from brake pads accumulates on your wheels, and when it rains, the dust and other pollutants wash off of your car. However, higher



concentrations are released when cars are washed and scrubbed with water under higher pressure. If you wash your car in the driveway, these pollutants and soap wash into the storm drain. Taking your car to a commercial car wash ensures that wash water is captured and treated through the sanitary sewer system.

Please see the Team Effort Insert for more tips, coastside hardware stores that carry less-toxic products, car wash coupon info, and more!

Copper: The Untold Story

Most of us appreciate the natural beauty of copper in the form of jewelry, artwork, and other decorative applications. One of those applications is architecture. It is often used for roofs, flashing, rain gutters, and downspouts because of its beauty and durability.

Copper is naturally occurring in the earth, but high concentrations in water can be toxic to aquatic life. When used for architectural features, it is often patinated to produce a desired color. Patination involves acids that, when applied



and rinsed, can end up in the storm drain and increase copper levels in water. While copper does not rust, it does corrode, creating by-products such as copper oxide, sulfides, and copper dust that are released as rain water passes over the surface of the architectural features.

The best way to prevent

copper pollution is to choose another material for your project. If you must use copper, try these best management practices to prevent pollution: 1) purchase copper materials that have been patinated at the factory, 2) if patinating or washing onsite, collect rinse water and off-haul for proper disposal, or direct rinse water to landscaping and block off nearby storm drains, or 3) apply a coating to prevent corrosion.

Please see the Team Effort Insert for more ways to prevent copper pollution.

RCD Projects: Keeping the LID On

When rain falls in an undeveloped area, the ground will soak up much of it. Runoff from saturated earth flows downhill in the form of a creek or stream, leading to other water bodies such as lakes, bays, and oceans. When water soaks into the ground, it is naturally filtered by the soil, and pollutants generally break down in the process.

When rain falls onto the hard surfaces of streets, driveways, patios, and rooftops, it picks up pollutants in its path such as backyard pet waste, motor oil from leaking vehicles, copper from vehicle brakes, household and garden pesticides and herbicides, metals from roofing and gutter materials, and street litter. Runoff from these hardscapes flows to roadside gutters and storm drains. The storm drains collect this polluted rainwater and carry it directly into our creeks, oceans, and the Fitzgerald Area of Special Biological Significance (ASBS), where it can negatively impact aquatic life and water quality. It can also lead to erosion, localized flooding, reduced groundwater levels, and local beach closures. What can be done to prevent this?

Low Impact Development (LID) is a technique now being used for new and redevelopment projects that utilizes nature to manage stormwater and prevent pollution at the source. LID ranges from small scale backyard projects to larger municipal development and retrofit projects where streets are redesigned to capture and naturally treat stormwater. Examples of LID techniques include using permeable pavements and paving stones, rain gardens, rain barrels, grassy swales, and native and drought tolerant plants.

There are two primary LID treatment approaches. The first involves capturing all of the stormwater on-site and allowing for evaporation, infiltration, and/or rainwater harvesting. The second approach involves treatment where stormwater is slowed and filtered by plants and bio filtration

soils to remove pollutants before some or all of the water enters the storm drain system. This approach often involves the use of an under drain system beneath the soils to deliver the treated water to the storm drain system.

You can implement LID at home without having to rebuild or remodel your house! Installing a rain barrel is



a good example. These are specially designed barrels placed underneath the downspouts of your house to capture rainwater from your roof. A hose can be attached so you can use it to water your yard! Another example of LID is a rain garden – a planted area of your yard where water either accumulates or slowly passes on its



way to the storm drain. Rain gardens allow the water to collect and percolate through special bio filtration soils that help filter out pollutants. And of course, if you are building a new house or remodeling an existing one, consider LID techniques in the process, such as a new driveway or walkways with paving stones that allow

water to soak into the ground. Some of these techniques are now being required by planning and building departments, so it is good to learn about them before developing your plans.

As part of the ASBS Pollution Reduction Program, San Mateo County Resource Conservation District (RCD) and Natural Resources Conservation Service (NRCS) staff visited residents in Montara and Moss Beach over the past year to provide free technical assistance and make recommendations for LID practices on each property. The goal is to achieve sustainability and improve water quality. On-site technical assistance involved landowners and RCD/NRCS staff identifying concerns such as erosion, poor drainage, or the presence of pollutants, and landowners being provided with customized strategies to address those issues.

From these site assessments and recommendations, properties were selected to have engineered designs developed. The designs for each property were recently completed and include LID combinations of rainwater catchment systems, vegetated swales, rain gardens, replacing driveways with permeable pavement, and strategies to direct flow to vegetated areas. Construction and planting of these LID projects is planned for early Fall 2014. These sites will demonstrate how private landowners can improve water quality in the ASBS watershed.

For more information on LID and related resources, see the following link: www.sanmateorcd.org/LID.html. If you are interested in implementing LID strategies, helping conserve water, and protecting water quality in your watershed, contact Brittani Bohle with the RCD at Brittani@sanmateorcd.org or at 650-712-7765 ext. 104. The RCD provides ongoing, free and confidential technical assistance for public and private landowners to achieve conservation.

See the Team Effort insert for more information, and help keep the LID on water pollution!

Updates: Pollution Reduction Program



Phase 2 of the Fitzgerald ASBS Pollution Reduction Program is underway! The grant-funded project began in 2011 with the County's installation and testing of pilot storm drain best management practices including roadside vegetated swales and storm drain filtration devices throughout Montara and Moss Beach. Based on the water quality monitoring results, the vegetated swales were effective at reducing pollutants, and they provide a greener, more natural approach to stormwater treatment. So, with financial assistance from the State Water Resources Control Board, the County is

installing more. Three roadside vegetated swales were installed in 2013, and eleven more will be installed this summer and fall. Green stormwater treat-



ment features will also be constructed at Fitzgerald Marine Reserve parking lot and along Carlos Street in Moss Beach. Visit <http://smchealth.org/asbs> for more information and updates on the Fitzgerald ASBS Pollution Reduction Program.



Top left: A vegetated swale on Wienke Way in Moss Beach, before the project. Center: Workers installing vegetated swale. Above: The completed project.

2014 Coastside Events

Ongoing watershed hikes

www.openspace.org

Pacifica Beach Cleanups

www.pacificbeachcoalition.org

First Flush

Late September/ early October

Volunteers sample local storm drains during the first big rain of the winter season.

Contact the RCD for more information and to sign up. (650)712-7765

Coastal Cleanup Day Sept 20

Pitch in to pick up litter at Mirada Surf or another Coastside beach.

Visit www.flowstobay.org/ccd for full details

Coastside Cleanup Days and Educational Events

Organized by Coastside Land Trust

Visit www.coastsidelandtrust.org for details.



Volunteering at the Reserve

Friends of Fitzgerald trains volunteers to help out at the tide pools. For details,

visit www.fitzgeraldreserve.org

or

Partner with a park ranger to help educate visitors. Visit the County Parks volunteer page for more details.

www.parks.smcgov.org

Kids' Corner

Banana Slugs invade local school!

The 21st annual Oceans Week titled, "Tidepools: Marine Magic in Our Own Back Yard" took place at Farallone View Elementary School in Montara during the week of May 19th. The event was sponsored by the Friends of Farallone View Parent Teacher Organization who partnered with the County of San Mateo's Parks Department and the Department of Public Works, the San Mateo Countywide Water Pollution Prevention Program, and other local organizations to design activities to teach students about tidal ecosystems and pollution prevention.

The event kicked off with an assembly entitled "We All Live Downstream" presented by the Banana Slug String Band. The assembly was an interactive performance involving music, singing, and dancing on the topics of storm drains, recycling, and keeping water clean. The band has performed in schools all over the County for the last several years and was thrilled to be part of Oceans Week for a second time. Check out the band and their songs at www.bananaslugstringband.com.

Fitzgerald Marine Reserve Park Ranger Cala helped lead a school-wide assembly where his video "A Universe in a Tide Pool" was screened, and he shared his passion for tidal creatures.

Log on and check out the video at: parks.smcgov.org/fitzgerald-marine-reserve

Students also participated in the school's "Be Seen Keepin' It Clean Event." As part of a homework assignment, approximately 220 students, with the help of family members, collected about 250 bags of litter from neighborhoods, beaches, creeks, and parks from Half Moon Bay to Montara. As a result, students protected ecosystems by preventing litter from entering the local waterways and ocean. The San Mateo County Office of Education Safe Routes to Schools Program and the County of San Mateo RecycleWorks Program provided support and incentives to students for participating in this Earth-friendly event. In addition, Recology of the Coast provided the school with a recycling truck demonstration for the transitional kindergarten, kindergarten, and first grade classes.

Other events included tide pool field trips and a tide pool learning lab. On the last day of tide pooling, students observed THREE octopuses! During the lab, students made a pledge to "Protect the Marine Reserve Together" by taking steps to prevent pollution such as always cleaning up after their pets and never littering. Visit

smchealth.org/asbs to take the pledge too. The Department of Public Works also sponsored a tide pool drawing contest. All of the artwork was great! See below for a few of our favorites.

Educating the next generation about pollution prevention is critical to the success of future efforts. *Keep up the good work Farallone View Elementary!*



The Banana Slug String Band performs "We All Live Upstream" at a local school

Want to learn about the Fitzgerald Marine Reserve?

Visit:

<http://parks.smcgov.org/fitzgerald-marine-reserve>



Samples from the Tide pool Drawing Contest!



Water quality affects everyone – humans, pets, livestock, and wildlife. That’s why it’s so important for everyone to make an effort to maintain good water quality. Federal, state, and local government agencies have regulations in place to protect water quality, as well as programs and grants to educate and encourage people to use best practices at home and work. Government programs also fund municipal improvements geared toward stormwater management, but government can only do so much. It is up to residents and businesses to help the effort by using best practices daily to prevent water pollution.

Clean Water. Healthy Community. It's a Team Effort.

What’s the Problem with Runoff?

Many people don’t realize that when it rains, polluted stormwater flows into storm drains and directly to the creeks and ocean without filtering or treatment. Many things we do can negatively impact the cleanliness of stormwater runoff, including common activities you might not expect. This is why stormwater is a significant ongoing source of pollution in our water bodies.



and parking lots. These are important opportunities for managing

stormwater because pavement constitutes as much as 70 percent of the impervious surfaces in an urban area that prevent water from soaking into the soil. Innovative use of these design approaches can enhance pedestrian and bicycle access and



Infrastructure Solutions

Local county and city governments are implementing new techniques in urban planning to capture and treat stormwater runoff. These techniques use natural processes to filter polluted water and allow it to recharge groundwater. Examples of this can be seen in the “San Mateo County Sustainable Green Streets and Parking Lots Design Guidebook,” in which rain gardens and bio retention areas are used to manage stormwater runoff from streets



What You Can Do

There are opportunities every day to take action when it comes to protecting water quality, from cleaning up pet waste, to washing the car more responsibly (see back). It may not seem like much, but the more people who make the effort, the more the pollution will be prevented at the source. This helps save government funds for other improvements, and results in a cleaner overall environment. Modeling behavior for your children and making others aware of pollutant sources, water quality problems, and solutions makes a big difference. Use your voting power to approve funding for green initiatives. Use your buying dollar to support products and services that are eco-friendly. Taking action in little ways helps a bigger cause. For more information, or to sign up for the Team Effort e-newsletter, go to www.flowstobay.org or call (650) 372-6200.



safety, calm traffic, add urban green space and wildlife habitat, enhance neighborhood livability, increase community and property values, help deepen connections to the natural environment, and control localized flooding. Green street and parking lot projects have been constructed in Brisbane, Burlingame, Daly City, San Bruno, San Carlos, Montara, Moss Beach, and San Mateo, and more are in the works.

Protecting the Marine Reserve Together

Where to Find

Want to learn more about water pollution prevention? Check out these locations and websites, or call San Mateo County Environmental Health at (650) 372-6200.

Household Hazardous Waste

- Properly dispose of household chemicals: www.flowstobay.org/toxic

Projects and Programs

- Water quality sampling: www.smchealth.org/environ/beaches
- Fitzgerald ASBS water quality sampling: www.smchealth.org/asbs
- Green streets and parking lots: www.flowstobay.org/greenstreets
- Recycling, waste reduction, and other sustainability programs: www.recycleworks.org/

Best Practices

- Bay Friendly Landscaping Guide: www.Bayfriendly.org
- Car wash discount coupon: email pollutionprevention@smcgov.org
- Automotive care: www.flowstobay.org/autocare
- Water conservation and gardening classes: www.bawsca.org

Get Involved

- Online Calendar of Events: www.flowstobay.org/calendar
- Team Effort newsletter: email pollutionprevention@smcgov.org
- Kids activities related to stormwater: www.flowstobay.org/kids

Low Impact Development (LID)

- LID fact sheets: Architectural copper, rain barrels, rain gardens, permeable pavers: www.flowstobay.org/newdevelopment
- Resource Conservation District LID information: www.sanmateorcd.org/LID.html
- Fitzgerald ASBS LID workshop presentations: www.smchealth.org/asbs

Pest Management

- Less toxic pest control in the home and garden: www.ourwaterourworld.org, Ant control: www.gotants.org
 - Participating Our Water Our World (OWOW) Coastside stores that sell less toxic gardening products: Hassett Hardware, Half Moon Bay; El Granada Hardware, El Granada; Linda Mar Ace Hardware, Pacifica
- Go to www.flowstobay.org/pestcontrol for a complete list of OWOW participating stores in San Mateo County.



What You Can Do....

Here is a list of things you can do at your home or business to help protect and improve water quality. Choose just one or do them all!

- Pick up pet waste
- Use less toxic gardening products
- Install low-flow sprinkler lines
- Plant native plants that use less water
- Wash your car at a car wash
- Recycle used motor oil and filters
- Maintain your car to prevent leaks
- Dispose of household chemicals properly
- Keep the lid on your trash can at all times
- Pick up litter whenever you see it
- Participate in a cleanup event
- Make your own household cleaners
- Bring your own bag to the store
- Purchase products in bulk, using less packaging
- Make full use of curbside recycling
- Recycle batteries or purchase rechargeables
- Teach your children and friends
- Install rain barrels on your downspouts
- Install rain gardens on your property
- Report illegal dumping to your local authority
- Learn about your watershed and where it drains to at <http://museumca.org/creeks/>