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The Next STEP

Toward a Healthier Future

A BI-MONTHLY NEWSLETTER OF THE SEBASTOPOL TOXICS EDUCATION PROGRAM

Spraying in the Laguna?

As this issue goes to press, city, county, state, and agency officials are considering using herbicides in the Laguna to control two invasive plants (pepperweed and Ludwigia).

The choices made now could have a lasting impact on this precious ecosystem. The community is exploring its options right now and we encourage you to inform yourself and participate in that process.

The TNS team recognizes the threat that invasive species pose to ecosystem biodiversity, and we are also concerned about the potentially long-lasting harm of these chemicals.

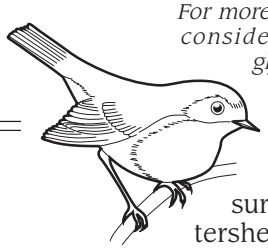
We encourage decision-makers to seek to: (1) truly understand the risks of any chemicals being considered, looking beyond their proponents' representations; (2) be creative and exhaust all alternatives before using toxics, including examining ways to resolve underlying causes; and (3) for any toxics used, choose the least-toxic, use only where needed, and use specific toxicity information to guide applicators.

To support this process, this issue of TNS includes articles about one herbicide being considered, Telar, and about the Laguna's unique and precious ecosystem.

We hope that this information supports the decision-making process.

~ Editorial Team, The Next STEP

For more about two other herbicides being considered, see <www.pesticide.org/glyphosate.pdf>(Rodeo) and <www.pesticide.org/triclopyr.pdf>.



The Laguna's Lushness

Sebastopol's backyard holds the **second largest freshwater wetland complex** in coastal northern California, the Laguna de Santa Rosa.

Sonoma County's most biologically-diverse region, these 7,500 acres are a unique ecological system of open water, wetland, riparian forest, oak woodland, grassland, and vernal pools. Permanent home to a wide variety of wildlife, they're also an important stopover for thousands of birds migrating along the Pacific Flyway. More than 200 species of birds are visitors or residents here.

The wetlands are at the heart of the Laguna watershed. Measuring 250 square miles, this watershed serves an important **flood-control function**, storing up to 80,000 acre-feet of water and reducing Guerneville's 100-year flood height by 14 feet!

Wetlands like the Laguna's are the foundation of the food web, with higher rates of primary productivity than other ecosystems. They provide spawning, nursery, and feeding grounds for many fish, amphibians, insects, and other invertebrates—including steelhead trout, frogs, crayfish, and dragonflies. They are key feeding and breeding grounds for birds and mammals, such as the river otter, and habitat for endangered animals and plants, including the Sebastopol meadowfoam. Wetlands help filter and replenish groundwater supplies, and reduce floods and erosion.

Such wetlands are increasingly rare. Overall, California has lost 91% of its wetlands, increasing flooding and erosion, reducing water quality, and harming commercial and sport fishing and hunting. Based on wetlands' benefits to society, it's been conservatively estimated that the value of permanently protecting the remaining 454,000 acres of California wetlands is $124.5 billion.

The Laguna once consisted of wide expanses of oak woodland, deep riparian forests, lakes, perennial

See Laguna, over ...

Household Toxics Waste Facility Opens

Good news! Now you don't have to wait for a Toxics Roundup day to drop off your household toxics for proper disposal. Sonoma County Waste Management's Household Toxics Facility is finally open.

Common household toxics include paints, pesticides, batteries, fluorescent bulbs, expired medications, and more. It's important not to put them in the trash. See your phone book's Green Pages for more about which items are toxic.

The new Household Toxics Facility is at the Central Disposal Site, 500 Mecham Rd. (off Stony Point) in Petaluma. Open Thurs.–Sat. from 7:30 a.m.–3:30 p.m, it's free for Sonoma County residents with ID.

Also available is a Toxics Rover residential pickup service for $35. Call (877) 747-1870 for an appointment. Some free pickups are available for homebound seniors and the disabled.

For more information about the facility, including what they accept and services for businesses, see <www.recyclenow.org> or call (707) 565-DESK(3375).

Note: Before taking toxics to the facility, please try to find a way to reuse them instead. For example, a neighbor, business, or school might have a use for your old paint or other materials.

~ Rebecca Dwan

Talkin' About Telar

Telar's active ingredient **chlorsulfuron** is a broad-spectrum herbicide for weeds in cereal grains, rangeland, and industrial sites.[1] A **sulfonylurea** herbicide, it inhibits plants' synthesis of key amino acids, stopping cell growth[2] and the production of viable seeds.[3]

■ **KILLS NON-TARGET PLANTS:** Unfortunately, because it's broad-spectrum, Telar can also put at risk a variety of "non-target plants"—including the Laguna's rich variety of native plants that provide food and habitat for wildlife and provide us all with natural beauty. The EPA recently said that chlorsulfuron poses "risks of concern to non-target plants exposed through drift, runoff, or direct application" and requested public suggestions for reducing those risks, especially to endangered plants.[1]

Ontario Food & Agriculture lists a variety of annual and perennial broadleaf plants that chlorsulfuron can harm, and says that "extremely low residues can be highly toxic to some broadleaf weeds, such as wild carrot, for up to 2 years after application."[4] Studies show that very minute exposures of sulfonylureas reduce fruit and seed production, and can severely reduce crop yields and fruit development on native plants that feed wildlife—even threatening the last stands of endangered species.[2]

■ **MOVES IN WATER:** Telar's label states, "Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high watermark.... Do not apply in irrigation ditches or canals including their outer banks."[5] Label warnings have the force of law, the regulatory response to serious harmful effects. And Telar has been found in streams and killed desirable vegetation and fish. The EPA says that sulfonylurea herbicides are "relatively mobile in soil," and have a "high intrinsic leaching potential."[2] California lists chlorsulfuron as a Potential Groundwater Contaminant.[6]

■ **HARMS PEOPLE AND ANIMALS**: Telar is listed as a Developmental Toxin and a Reproductive Toxin under California's Proposition 65.[7] Studies show that it can cause developmental harm to frogs, including malformed limbs and increased mortality. One study concludes that sulfonylurea herbicides cause developmental effects by disrupting thyroid function, which, they say, "is capable of producing a myriad of deleterious effects."[2]

■ **HARMS SOIL BACTERIA:** Working quietly behind the scenes, soil bacteria are a key basis for healthy plants and ecosystems. Sulfonylurea herbicides inhibit an enzyme that some soil microorganisms require, "significantly affecting the microbial ecological balance of the soil."[2]

■ **CONCLUSION:** Telar is potent in very small doses for up to two years, moves easily in water and soil, and can cause notable harm to crops, native plants, wildlife, humans, our water supply, and the functioning of ecosystems. Let's remember these risks in this decision-making process.

~ Patricia Dines

Thank you to Northwest Coalition for Alternatives to Pesticides for assisting with this article. Footnotes are on STEP's webpage.

Laguna, continued

and seasonal freshwater wetlands. It provided rich food and shelter for multitudes of fish, birds, herds of elk and pronghorn antelope as well as mountain lions and grizzly bears.

Unfortunately, this unique ecosystem has become seriously degraded over the past 150 years. Lakes were drained, forests were cleared for farms and houses, wildlife was hunted to supply San Francisco's markets, and seven miles of the Laguna were channelized for flood control. By 1990, 92% of the Laguna's riparian forests were gone.

Currently, the Laguna's water quality is compromised from a variety of sources, including farm and urban runoff of pesticides, fertilizers, and manure; roadway runoff of oil, grease, and detergents; and illegal effluent discharges. Dense riparian forests are no longer there to purify water by slowing and removing sediments, so sedimentation has reduced the Laguna's flood retention capacity. Habitat for many native plants and animals has been greatly diminished. Several plant and animal species have disappeared completely here, and at least twelve plant species are rare and declining.

Luckily, some of the Laguna's original beauty and function remain for us to enjoy, preserve, and pass along to future generations.

We can all help to protect this precious ecosystem. We can remember that any toxics we use outside likely flow into the Laguna, risking harm to the plants, wildlife, and ecosystem—and potentially polluting our water supply. **And, because both toxics and invasive weeds can harm the Laguna**, we can seek solutions for invasives that avoid or minimize toxics. Every time we choose to reduce or avoid using toxics, we help to preserve this precious and unique ecosystem that we're all blessed to have in our backyard.

~ Patricia Dines

The Laguna information here is based substantially on information from Laguna Foundation Boardmember Carolyn Johnson. <www.lagunadesantarosa.org>.

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ABOUT STEP

The Next STEP (TNS) is published six times a year by the **Sebastopol Toxics Education Program** (STEP). **STEP is a project of the City of Sebastopol**, implemented by local citizen volunteers. **STEP's mission** is to support city residents in reducing their toxic use and exposure, creating a healthier and safer Sebastopol for everyone.

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