

WHAT IS A WEED?

– By Phil Busey, Broward Sierra Group Chair

Weeds are an important concern because they interfere with world food production and harvest. Some are poisonous to people and livestock. They grow in cracks and damage highways and buildings, cause allergies, catch fire, puncture skin, cause infections, and harbor plant diseases and insects. Some weeds such as the Melaleuca, a woody invasive, destroy South Florida ecosystems. Biological invasion is one of the worst, most permanent environmental threats.

With these examples it is no surprise that a weed has been called “a plant that is growing where it is not wanted.” But this value-laden definition adds no information on the nature of weeds and how to deal with them. The “not wanted” definition hides biological properties of weeds and teaches us nothing about what makes a weed a weed, and does not anticipate some of the strong benefits of the plant species we call weeds.

The “not wanted” definition is so empty of meaning that an argumentative developer could say that a mangrove is not wanted and therefore by definition it is a “weed”. This example is extreme; however, the labeling of plants as “weeds” without qualification or explanation provides opportunities for the sale of chemical herbicides. In some cases the portrayal of plants as “weeds” is done by or in conjunction with corporations that profit from the sale of herbicides.

A definition that makes sense is that a weed is “a plant adapted to disturbed habitats.” This definition allows for the fact that the same plant species is sometimes “not wanted” in one disturbed habitat and is “wanted” in another disturbed habitat. A weed such as common purslane that is unwanted in the yard is actually edible, and is one of the best sources in the plant world for omega-3 fatty acid, which may



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We hope you enjoy our newsletter. Why not join us right now? Come along on an outing. Get involved, learn about local issues and how they affect you and your community. Just go to our website at <http://florida.sierraclub.org/broward>, and click on the “Become a member” link.

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Broward Sierra Club’s General Meetings are held at 7:30 pm on the first Thursday of each month at the Fern Forest Nature Center. In addition to committee reports, each month we have an educational program on conservation or ecological issues.

Thursday, June 3rd: “What is Clean Energy?” A presentation by George Cavros, energy law attorney and long-time Sierra Club member. Mr. Cavros will teach us about the latest developments in clean energy (wind, biopower, etc.) and what it means for you. Come join us for an informative discussion on the facts on energy efficiency and renewable energy adoption. When we invited George to talk on clean energy, it was before the Gulf oil spill disaster. Regrettably, the latest news makes education on clean energy even more urgent.



Thursday, July 1st: “History of Pesticides: From Pyrethrum to Silent Spring.” A presentation by Phil Busey, Associate Professor of Environmental Horticulture, University of Florida, and our Broward Sierra Club Group Chair.

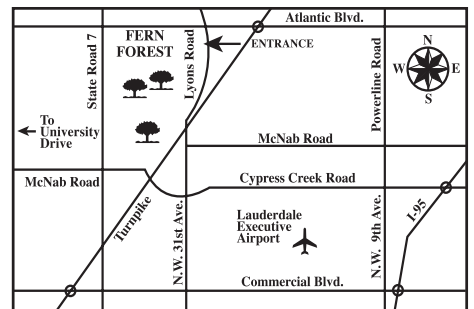


Phil will educate us on pesticides that occur in the natural environment, and the early work of German and other chemists that led to the chemical industrial revolution. We will learn about the EPA and other agencies responsible for the regulation of pesticides, facts on the business of pesticides, and pesticides concerns such as the arsenic containing herbicide MSMA in South Florida.

DIRECTIONS:

The Fern Forest Nature Center is located at 201 Lyons Road South, Coconut Creek, just south of Atlantic Blvd. on the west side of the street. (Between Atlantic and Commercial Blvds., Lyons Road, south of Atlantic is the same street as NW 31st Ave., north of Commercial). **Make sure to check our website for changes or updates of the programs.**

Doors open at 7:00 PM. Committee reports begin at 7:30, and the program begins at 8:00. The meeting is open to the public at no charge.





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Executive Committee Meetings

are usually held on the first Tuesday of each month. Contact Phil Busey at 954-579-3932 or philip@busey.org for time and location.

Broward Sierra News is published every other month for the members of the Broward County Group, Florida Chapter of the Sierra Club. Subscriptions are available for non-members. Send inquiries to: **Broward Sierra News**, P.O. Box 550561, Davie, FL 33355

Membership Corrections -

To expedite any membership change (new addresses, etc.) or problems with your membership records please send your name, member number, old and new address or problem to: **Member Services**, 85 Second Street, San Francisco, CA 94105-3441. Phone 415-977-5653 or e-mail: <address.changes@sierraclub.org> or <membership.services@sierraclub.org>

The Broward Sierra News is published every other month. To keep you apprised of current Broward Sierra Club events, we will have them all listed on our website: <http://florida.sierraclub.org/broward>. If you would like to receive reminders of these events e-mailed to you, you will need to **subscribe to our Yahoo newsgroup**. The address is: <http://groups.yahoo.com/group/BrowardSierra>. Simply click on the blue "Join this Group" icon and follow the instructions. You may have to create a Yahoo ID first, which is easy and free. This will also allow you sign up for other Yahoo newsgroups, of which there are many.

What is a Weed, continued from page 1

help lower blood pressure and cholesterol levels. It is used raw in salads, stir-fried or cooked in soups

A disturbance-adapted plant species that is unwanted in one place can be grown intentionally in the garden where it is called "spinach" or "lettuce" and used for "greens". Some of the best crop plants, not just greens, are weeds - plants that are adapted to disturbed habitats such as disturbed cultivated fields. The weedy exotic periwinkle that grows in disturbed areas of South Florida was used in traditional herbal medicine in Madagascar and has been reported in Western medical research to contain alkaloid chemicals that can treat leukemia and lymphoma. Wheat and probably most major annual crops are weeds that are useful to people, and have been tamed into cultivation from a weedy ancestry by selecting desirable traits such as large grain and minimal chaff.

What makes a weed capable of growing in the disturbance around a human home also makes the same species capable of being grown in the disturbance of a tended farmer's field. There is so little difference between the weedy relatives and the modern crops, that the weeds can convey genetic resistance to the crop plants, reducing the need for pesticides. An early example was the transfer of a gene for resistance to stem rust disease to bread wheat from one of its weedy ancestors. This was done in the 1940s before anyone talked of genetic engineering. Today we are more concerned about the converse possibility, the unintended transfer of genetic resistance, e.g., the Monsanto-trademarked Roundup Ready gene (which provides resistance to an herbicide), from the crop back to weeds.

Weeds are often the first invaders of areas that have been cleared of vegetation. Early ecologists studied succession on the Indiana sand dunes on Lake Michigan and the colonization of uncultivated fields in Illinois, which they called "old field succession." When existing vegetation was cleared, not every plant that lived there could come back right away. Instead, disturbance-adapted plants first came in, which was called "secondary succession." The plants that come in first (the



Secondary succession in a previously cultivated field. Herbaceous annual plants, such as these, are typically the first vegetation to recolonize abandoned fields. The process of vegetation transition may occur in phases until ultimately the "climax" vegetation of an area is reestablished. In the Eastern U.S. this would typically be a mature forest.

secondary successors) to such situations tended to be weedy annual plants that produce considerable seed that disperses easily by wind, water, and the fur of animals.

Weeds occur in the natural environment, not just in the disturbed areas around homes and in farms. Forested ecosystems in Central America can be damaged by earthquake landslides, volcanic activity, and by wood-boring insects. The disturbed areas have light gaps that allow the succession of disturbance-adapted plants. This may be the evolutionary environment for weed plants to be selected. After Hurricane Andrew in August 1992, most of the pine rockland areas of Miami-Dade County, where native slash pine trees were snapped off, soon were invaded by the invasive grass burmameed which was a fire hazard.

In vegetation ecology it is important to understand the process of colonization or recruitment of new plants because this can shape the management plan. For restoration of habitats it is extremely important to guard against the reinfestation of weedy plants that can quickly dominate and turn the population into a monoculture. It is so important to prevent recolonization by invasive exotics, that an extremely strong argument can be made in favor of using appropriate herbicides applied carefully, in conformance to the EPA registered label, to control invasive exotics.

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INA'S ENERGY SAVING TIPS

— by Ina Oost Topper,
Broward Sierra Education/
Recycling Chair

Earth Day is behind us again. Thankful for what we've accomplished, we've renewed our commitment as environmentalists.

I'd like to quote a slogan used by some local businesses on Earth Day: **REduce, REuse, REcycle**. I suggest we could go one step further with **CONservation, PREservation and REservation**.

As Sierrans we are already fighting to CONserve our resources and PREserve our natural habitat. I appeal to all, could our next step be REservation? By that I mean, having reservation about our use of electricity. For instance - if, when and how long we use our central air conditioning this summer. Let's all make a real effort to NOT forget changing the thermostat when leaving home for a long day, even switching it off on a somewhat cooler night, while opening the doors and windows for some fresh air. And think twice, before running out the door, whether all computers are switched off; screensavers DO use a lot of energy on a 24 hour basis. (I tried it all, and it made a big difference, especially on the electric bills.) Besides changing high usage lightbulbs, maybe installing some solar powered lawn/path lights instead of keeping a front door lamp lit up all night might be a good idea. Nowadays these decorative fixtures are moderately priced and widely available.

Thank you all for giving it all some thought - and we're always open to additional suggestions.



Local Sierra Group Outings



JUNE 19, SAT. BIRCH STATE PARK (corner of Sunrise Blvd and A1A across from the beach). We'll meet at the gate at 8:30am. The Coastal Hammock Trail provides a leisurely walk through a native coastal strand forest ecosystem. Interpretive signs along the trail provide information about the habitat and native flora. The Exotic Trail winds its way through a mix of native vegetation and non-native species. Bring a picnic lunch. And a swimsuit if you wish. Rated easy. *Cost: \$3 + \$6 per vehicle park entrance fee.* Leader: Barbara Curtis 954-946-7359 <legalbarb2@yahoo.com>



JUNE 13, SUN. SEA GRASS ADVENTURE OFF KEY BISCAYNE. The beautiful Marjorie Stoneman Douglas/Biscayne Nature Center will provide a naturalist to teach us the importance of sea grass beds to the marine ecosystem. We will meet for a short orientation, then proceed to the beach. We'll be provided with nets and interpretation as we wade through sea grass beds, during low tide, between 1 and 4 pm. We'll learn, first hand, what inhabits this 'nursery', while searching for the young, elusive seahorse, shrimp or crab. After gently identifying our 'catch', the critters will be returned to the sea. Rated easy. *Cost: \$13 members; \$15 non-members (+ \$1.50 toll to get onto Key Biscayne and \$6 per vehicle park entrance fee).* Leader: Jackie Fisher 954-434-2855 <jsf812@bellsouth.net>



JULY 10, SAT. DEERFIELD ISLAND. This 56-acre island park in the Intracoastal (off East Hillsboro Blvd. in Deerfield Beach) has been restored to native vegetation, and provides a critical habitat for the gopher tortoise, and is a nesting place for squirrels, raccoons and armadillos. Both migratory and indigenous sea birds use it as a roosting and feeding place. We meet at 8:30 to catch the boat to island, walk along the boardwalk identifying the wildlife we encounter. Lunch afterwards on the patio at the Cove restaurant. Rated easy. *Cost: \$3 (does not include lunch).* Leader: Barbara Curtis 954-946-7359 <legalbarb2@yahoo.com>



AUGUST 15, SUN. ANNUAL PICNIC AT JOHN U. LLOYD PARK, Dania Beach (Jetty Pavillion - 11am to 6pm). There will be an educational lecture on environmental issues, a picnic lunch, chatting and swimming. Food & beverages provided, but bring a dish to share if you like (we'll serve the hot food until 4pm). *Cost: \$3 + park entrance fee of \$4 per single person vehicle, \$6 per vehicle with 2-8 people, \$2 per pedestrian or bicyclist, kids under 5 free.* Contact Judy Kuchta 305-308-8913 <judykuchta@yahoo.com>



AUG. 21, SAT. WEST LAKE KAYAK. 9:30am - 12:30pm. Enjoy a 2 hour kayak in West Lake (Hollywood), while learning about the wildlife that inhabits this unique mangrove estuary. Experienced paddlers only. Max 8 people. Rated moderate. *Cost: \$35.00 members, \$40 non members if renting kayaks, \$5 members, \$7 non-members if you bring your own kayak. (There is also a \$1.50 park entrance fee.)* Delicious lunch is included. Leader: Judy Kuchta 305-308-8913 <judykuchta@yahoo.com>, Assistant: Jackie Fisher 954-434-2855 <jsf812@bellsouth.net>



SEPT. 3-5, FRI.- SUN. OUR ANNUAL LABOR DAY EVERGLADES CITY WEEKEND. Many activities including hiking, canoeing, kayaking, biking (bring your own bike), touring and learning about the 10,000 Islands on the Nat'l Parks fleet. We'll stay in a rustic cabin. Rated moderate. Limit 6. *Tentative Cost: \$85 for 4 meals and two nights in cabin.* Leader: Barbara Curtis 954-946-7359 <legalbarb2@yahoo.com>



SEPTEMBER 24 -26, 2010. KORESHAN STATE PARK. A colorful cult believing that man was controlled by astrological forces owned this property on the Estero River just south of Ft. Myers in the 1800's. The park maintains the heart of their 'New Jerusalem' as it would have appeared more than 100 years ago. Eleven buildings on the National Register of Historic Places are located throughout the landscaped grounds that include the Victorian Gardens. We'll also canoe the Estero River to the Calusa Burial mound in the gulf, observing and identifying wildlife along the way. (We may spot bobcats, grey foxes, river otters and alligators, as well as swallow-tail kites, bald eagles, bobwhites, belted kingfishers and other species of birds). Rated moderate. Tent camping. Limit 8. *Tentative cost: \$65 includes 4 meals and camp site (canoe rental extra)* Leader: Nancy Lunz 954 658-8531 <A101nunzie@aol.com>, Assistant: Barbara Curtis 954-946-7359 <legalbarb2@yahoo.com>

We would like to invite you to come on one of our fun and educational outings! If you have any questions about an outing, please check with the certified Broward Sierra Outing Leader. Some of the outings need no experience; others require some level of proficiency. All participants are required to sign a standard liability waiver. If you would like to read the Liability Waiver before you choose to participate in an outing, contact the leader of the outing or go to <www.sierraclub.org/outings/chapter/forms>. Florida Seller of Travel Ref. No. ST37115

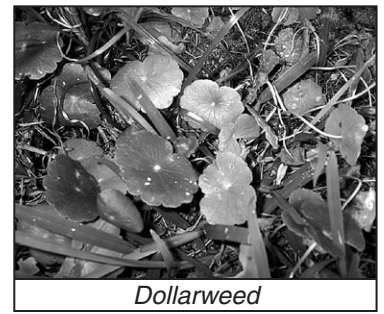
For sign-up, payment and further information, please contact the outing leader.

**LOOK FOR UPDATED INFORMATION ON OUR WEBSITE:
<<http://florida.sierraclub.org/broward>>**

Calling a weed "a plant adapted to disturbed habitats" is instructive because it puts emphasis both on the plant species and on the disturbance, and suggests alternatives to herbicides. In South Florida many homeowners, golf course superintendents, and other landscape managers use selective herbicides to control weeds. Problems are that weeds often come back, the herbicides may not work that great, they may not always be applied legally as required by the EPA label, and despite the best science there may be unexpected environmental harm from using synthetic petrochemicals in the environment. The weed goosegrass grows where there are light gaps, for example, areas on the golf course fairway where there has been a divot or wear from a golf cart. Ideally there would not be any goosegrass. Knowing where and why it grows may help prevent goosegrass to a large degree. Some weed prevention can be accomplished by cultural practices, to reduce or spread out the golf cart traffic.

Knowing that goosegrass is a plant adapted to disturbed habitats, and that it will come back to areas where there is disturbance, another approach to reduce goosegrass is to encourage the golf course grass to grow back into the divot more quickly. That may require adding a little more fertilizer to the divot, and a little fertilizer applied at the right time and in the right way may have a smaller environmental effect than a little herbicide. The turfgrass manager may in some cases be able to adjust the mowing height and frequency, and the irrigation rate and frequency, to reduce the suitability of the habitat to weeds.

On South Florida St. Augustine grass lawns, dollarweed is an excellent example of a weed that is encouraged by bad management. Over-watering, e.g., daily or every other day irrigation which is prohibited by local Broward ordinance, encourages its growth. A healthier lawn with less dollarweed can be accomplished by watering in accord with water use restrictions.



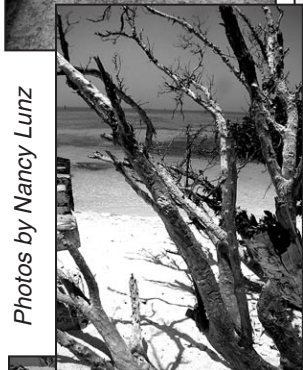
Dollarweed

So what is the problem if there are weeds in the lawn? Traditional lawns are grass monocultures without weeds. Lawns give a parkland look, a uniform walking surface, and esthetic contrast with trees and other plantings. On the practical side, lawn monocultures have strongly knitted root systems to resist soil erosion, protect athletes from sports injuries, and capture nutrients and other pollutants before infiltrating to the aquifer. In South Florida, an effective lawn monoculture of introduced perennial grass(es) can be readily maintained without weeds. But does a lawn have to be a monoculture to achieve optimum benefit? Probably not.

Small weeds that grow in lawns may also help protect the soil from erosion, may enhance habitat such as Spanish needle as nectar for butterflies, and may give esthetic contrast such as yellow woodsorrel. Prairies, steppes, and veld of Earth's Grassland Biome are naturally dominated by few species of grasses, and support a small distribution of many forbs or broadleaf plants much like woodsorrel in South Florida lawns. The lawns of the future may be more polycultural. The fascinating diversity of

weeds in the South Florida lawn may be a manageable resource to educate our children on the value of grasslands and the the amazing biological diversity at our doorstep.

If you can help pull weedy exotics for Fern Forest Restoration, call me at 954-579-3932 or email philip@busey.org.



Photos by Nancy Lunz

Dry Tortugas Weekend

Sierrians had a great time learning about Ft. Jefferson (construction began in 1846 and took 30 years to complete), and the beautiful marine life up close and personal while snorkeling. And of course, there was also some time for relaxing on the beach.



Barbara: 10, Weeds: 0



Photos by Philip Busey

Sierra Club members and other volunteers extract and remove invasive exotic Shoebuttan ardisia plants at Fern Forest Nature Center at our Fern Forest Restoration Day in April. We learned that the Shoebuttan looks very much like one of the native ardisia species, but is extremely aggressive.