



Bayou Foliage

Volume 15 No. 3 March 1997

A publication of the Armand Bayou Nature Center Volunteers

“Interested + Informed + Involved”

MARCH CALENDAR

- Mar. 1 Wildscapes-Cont. Ed.
- 1 Stewardship Sat. (trail, forest & facilities)
- 2 Volunteer Retention Comm. 2:00
- 2 Volunteer Board Meeting 4:00
- 8 Birding for Weekend Folks-Cont. Ed.
- 13 Birding for Weekday Folks-Cont. Ed.
- 13 Volunteer Meeting 6:30 - 9:00
- 15 Bayou Foliage Inputs Due
- 15 Farm garden work party
- 15 Stewardship Sat. (prairie & marsh)
- 15 Trail Volunteers Meeting
- 15 Stewardship Party
- 21 Photographic Composition
- 22 - 23 Ladles Only Camp Out
- 29 Marine Biology-Cont. Ed.

JANUARY VOLUNTEER OF THE MONTH

The Volunteer of the Month for January is Polly Swerdlin. Polly became a volunteer two years ago because she wanted to see what “behind-the-scenes” looked like. “My husband and I had been members for quite a while and thoroughly enjoyed the nature center. I have enjoyed seeing what goes on to make the place click.” In 1996 she spent most of her volunteer time teaching weekday children’s classes and helping with events. “I enjoyed showing the kids, different kinds of kids from public schools or home schooling, things they were curious about. It’s a great place to get away from the city life. I wish I could spend more time there. The kids are a pleasure and I’ve learned a lot. Even when you’re the teacher you learn something new every time. I didn’t realize how lacking my education in nature was. And it’s great being with people, the staff and other volunteers, who share what I like.”

MARCH ABNCV MEETING Thursday March 13

- 6:30 Snacks & Conversation-Get better acquainted
- 7:00 Program: Frank Peace - Following Hawk Migration with Doppler Radar
- 8:00 Business Meeting
- 9:00 Adjourn

Mr. Peace is a retired geologist who works out of the “Radome” in League City to gather data on neotropical bird migrations. His presentation to us will be right before the hawks begin their 5,000 mile spring migration back to North America. The hawks travel over land by riding thermals up to high altitudes. His studies are “considered an important indicator for the health of the north-eastern hardwood forests of North America, where acid rain and loss of habitat are major environmental issues.”

Our very own Mary Ann Tucker has worked with Mr. Peace.

MARCH BIRTHDAYS

Merle Bunde	3/2	Dekka Hassey	3/4
James Crabb	3/10	Mark O’Rear	3/12
Jane Bingel	3/12	Eric Franklin	3/13
Gib Harper	3/14	Zel Arbuckle	3/16
Ian Pendleton	3/18	Fran Cognata	3/20
Ann Brinly	3/23	Joe Clem	3/29
Sterling Heller	3/29	Charles Boyle	3/31

Roster Changes

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*Thank you Hoechst Celanese for
providing printing of the
Bayou Foliage*

COMMENTS FROM THE CHAIR

MINUTES OF THE ABNCV MEETING THURSDAY, FEBRUARY 13, 1997

Vice chair Becky Brignac introduced speaker Kim Walker of Wildlife Rehab & Education, Inc., an organization which attempts to rehabilitate injured and orphaned animals. Ms. Walker explained the role of volunteers in such efforts, the processes involved in saving animals affected by oil spills, and the legal and safety issues of such efforts.

Chair Helen Burton opened the business meeting. The minutes of the January volunteer meeting were approved; and the treasurer's report was given by Carol MacGregor—\$2,610.81 in the checking account and \$589.12 in savings. Helen then introduced Suzi Howe and Bob Brinly of the ABNC Board of Trustees. Suzi stressed the importance of the volunteer efforts to ABNC and explained the Board's goals, criteria for new projects, and their activities. Bob expressed the importance of a master plan in obtaining corporate support.

Mary Alice Trumble announced that Polly Swerdlin is the January Volunteer of the Month, introduced new volunteers who were at the meeting, and asked that anyone who is interested in helping make a quilt to auction at Fall Festival contact her. Next, Becky reported on upcoming continuing education classes. In his stewardship report Mark Kramer talked about the planned volunteer camp out, the near completion of the new boardwalk, and Earth Day events. Chris LaChance asked for donations for Earth Day projects. Jim Hawkins explained the structural changes in the stewardship area and said that Chuck Snyder, Herman Burton, Bill Howe, Roland Borey, Jim Edwards, and Tom Scarsella will be team leaders. Also, stewardship work will be planned for the first and third Saturdays each month—the first will be devoted to work on trails, the farm, and facilities, and the third to the prairie, wetlands, and the bayou. A stewardship projects book is now available and will inform volunteers about work which needs to be done. Mark then reported that Earth Day promotional posters will be in the members newsletter and urged the volunteers to display them, and Eleanor Stanley asked that people who are interested in doing demos for Earth Day contact her.

Helen announced the formation of a Communications Committee to recruit help for major events, but after Paula Kennedy said that a committee with that name already exists, Helen said the new one will be called the Phone Committee. Other announcements included the upcoming photography classes and the new mentor program. Barb Hill said that help is needed for the Home and Garden Show and for the Garden Tour. Finally, Helen talked of the changes in the buddy system and then adjourned the meeting.

Susan Williams
Secretary

In February I discussed one of the ways ABNC's volunteers are helping the nature center meet its objectives. This month I'll focus on another way that volunteers are helping ABNC - education. One of the objectives of ABNC is to develop and present natural history and conservation education programs in cooperation with school, colleges, youth groups, and adult organizations which will provide an understanding and appreciation of natural resources.

In 1996 ABNC had 16 girl scout workshops teaching 500 girl scouts. The topics covered were: ToyMaker which teaches how to use natural resources to make toys and covers how toys have been made historically, Water Wonders which teaches about pond life, Skysearch which teaches astronomy, Wildlife which teaches about plants and animals of the area, and Outdoor Creativity which brings the arts into outdoor activities. ABNC serves two girl scout councils, the San Jacinto Girl Scout Council and the South Texas Girl Scout Council. Everyone who has taught these workshops have said they are wonderful and a lot of fun to teach.

Also in 1996 ABNC volunteers taught 4,500 students in weekday classes. The topics included: Farm Life, Hands on History, Track the Trails, Amazing Adaptations, Insect Explorations, Reptile Rendezvous, and Pond Pals. If you are interested in training to teach any of these classes or the Girl Scout workshops call Mary Alice or Helen and we'll tell you how to do it.

Helen

WELCOME TO NEW VOLUNTEERS

We have a great class of volunteer trainees ready to start buddying in March. Let's make them feel welcome. Also, please remember to wear your name tag. It's hard to remember so many new names and we can help out by wearing our name tags.

TELEPHONE COMMITTEE

We are considering developing a Telephone Committee of 5 to 10 people to call volunteers and schedule them to work for some of our major events. We will get a space with a bank of phones so that you can work together. The major events will be Fall Festival, Creepy Crawlers, and Bayou Boil. This would take a tremendous load off of the co-chairs and the people who have volunteered to head specific areas of the events. If you are interested call Helen at 281-474-7133.

CONTINUING EDUCATION

WILDSCAPES

With Diana Foss, Texas Parks & Wildlife
Saturday, March 1, 1997
10:00 - 12:00 Auditorium

Diana Foss gives a dynamic presentation on how you can landscape to attract wildlife. Even if you have a small apartment patio, you can learn from her how to entice wildlife. There will be native Texas plants/herbs for sale on the porch. WILD BIRDS ETC. will also be there with books and miscellaneous items.

The membership/public will be invited to this presentation, so it is recommended that you arrive early for a good seat.

BIRDING for weekend folks

With George Regmund
Saturday, March 8, 1997
8:00 am - 11:00 am Auditorium/Field
Limit: 12

*Due to limited space only active volunteers are approved to attend.

Well, we were able to "capture" George for another one of his wonderful birding classes. If you haven't been birding with him, you sure are missing out on a unique experience. Be sure to sign up early as his classes fill up quickly.

Bring your notepads, binoculars and dress according to weather conditions.

BIRDING for weekday folks

With George Regmund
Thursday, March 13, 1997
8:00 am - 11:00 am Auditorium/Field
Limit: 12

*Due to limited space only active volunteers are approved to attend.

Same as the above class.

PHOTOGRAPHIC COMPOSITION

Instructor: Alex DiPrima
Friday, March 21, 7-9 pm; Saturday, March 22, 8-11 am; Sunday, March 23, 4-7 pm; and Friday, April 4, 7-9 pm
Cost: \$50 members 16 yr. olds through adult

Learn how to use the basic elements of composition to create more interesting photographs. The class will include guided field sessions at the nature center. Participants are responsible for providing film and developing.

Reservations required by March 14th.

LADIES CAMPING/HIKING/BACKPACKING SEMINAR

Leader: Melanie Weisman
Saturday, March 22, 1997
1:00 - 4:00 Auditorium

This will be a learning, fun, and get-to-know-you time. Actually, it will be a little on the serious side for those of us who want to learn how to "rough it."

If you want something special discussed about any of these outdoor topics, please contact Melanie at 488-7342 before the seminar. If enough interest exists we can plan a series of seminars that will culminate in an overnight camp out.

MARINE SCIENCES

Instructor: Dr. Don Harper of Texas A & M
Galveston
Saturday, March 29, 1997
9:30 - 12:30 Auditorium

The topic of Dr. Harper's discussion will be Platyhelminthes (flatworms) and Nemertea (ribbon worms.)

COCKRELL BUTTERFLY CENTER HORTICULTURIST & ENTOMOLOGIST

Saturday, April 5, 1997
10:00 - 12:00 Auditorium

NOTE: Minimum of 20 people - firm. If minimum is not met 1 week prior to class this class will be canceled. You must notify Mary Alice or myself if you cannot show for this class.

They will discuss how to butterfly garden with native plants and use organic pest control. They will have plant lists, nectar sources and other beneficial handouts.

Becky Brignac

REMINDER

I'd like to remind volunteers to please contact Mary Alice or myself if you cannot attend any cont. ed class that you have signed up for. It is embarrassing to have a guest come prepared for a class of 10 or 15 and have only 2 people show up. Keep in mind that there may also be a waiting list of people who would like to attend the class that would appreciate the opportunity to do so.

I am working hard to give you what you want and need in continuing ed., but I must have your cooperation so that I can continue to proudly invite people to lecture/demonstrate to some wonderful people - ABNC volunteers!!

Thanks, Becky

REFRESHMENTS

I passed around a sign up sheet for refreshments for the volunteer meetings at the volunteer meeting on February 13th and several peel signed up, but there are a few months available if you would like to help. The months with no refreshments are May, July, August, and November. Also Alan Wenger would probably like some help with September. If you are willing to help bring refreshments any of those months please call me at 281-474-7133.

Thanks, Helen

STEWARDSHIP NEWS

In the last *Bayou Foliage* I announced that Mark and I were trying to divide stewardship duties into nature interest areas. These areas Wetlands/Bayou, Forest/Trail, Prairie, and Farm/Facilities need to have team leaders to keep continuity of the projects in each area. Mark and I talked in depth about our plan at the stewardship meeting that was held on February 1st. A result of that meeting was the addition of a nature interest area that is encompassing all of the other areas, Tallow control.

I want to thank the following volunteers who have accepted the role of new team leaders.

Wetlands/Bayou - Chuck Snyder
Forest/Trail - Herman Burton
Prairie - Bill Howe
Farm/Facilities - Roland Borey and
Jim Edwards
Tallow Control - Tom Scarsella

In addition to the acceptance of the new team leader organization there will be a change in the "Stewardship Saturday" routine. Starting in March, stewardship will be conducted on the first and third Saturday of each month. The emphasis for each Saturday will change and thus give folks the opportunity to involve themselves in activities that are of interest to them. The first Saturday will focus activities towards forest/trail and farm/facilities and the third Saturday will focus on the prairie and wetlands/bayou. As the activities in each of the areas involve Tallow Trees and their eradication Tom will help the other leaders coordinate our efforts.

I also introduced the adoption of a project book in the stewardship meeting. I feel that this project book is a way that every volunteer can get involved with stewardship, if not in an active sense at least in an understanding of the nature center's needs and how they can contribute to its success. This project book will be kept in the Stewardship office. A binder with blank forms and the current index will be kept at the front desk with the other volunteer books.

This media is open to anyone needing or seeing something that needs stewardship help. They should fill out a request form describing the task. It would be helpful if you would please review the index to see if the need has not already been identified. Once the request form is filled out place the form in the "Issues" section of the binder. Mark and I will review these requests and evaluate and establish priority or defer to the Board of Directors for approval of each task. You will notice the index also shows the approval status and the priority.

Work has begun on the new boardwalk for the Kaneka Building. Weather permitting and the Shell Volunteers willingness it will be complete by 2/15. Additional changes to our entry are being planned as the nature center starts its transition to occupy the building full time.

Let's Party! Stewardship's having a party at noon on March 15th after the morning stewardship activities. Details are still being worked out. Those stewards who want to plan the party please call me.

The March stewardship Saturday activities will focus on the following:

- Forest/Trail - Farm/Facilities
- 3/1 Remove fallen trees on Karankawa Trail
Patch repairs to existing trail bridges-
Karankawa Trail.
Add board around base of Farm Yard fence.
Lay stones at each gate of Farm Yard fence.
Remaining Kaneka boardwalk issues.

Prairie - Wetlands/Bayou

- 3/15 Make repairs to snow fencing along bayou-access West Bank.
Locate new Marsh restoration site-Learn how sites are identified and surveyed for restoration needs.
Stewardship Lunch Party-Come meet other stewardship volunteers.

Questions, comments or suggestions are always entertained. Let's talk.

Jim Hawkins

OUR MOMENT OF CONTEMPLATION

by Jonathan Perez

This article will be the first in a series focusing on astronomy, with the hopeful goal of encouraging the use of our observatory. The first article will focus on the sun and its effect on the Earth, the second article will focus on the terrestrial planets and other rocky, celestial objects, and finally, if time and room permits, the third article will focus on the jovian planets and other icy, gassy, celestial objects. Lack of room forbids me from elaborating as much as I would like to, so I will try to introduce as much basic concepts about the subjects as I can in the limited space that I have.

The Sun is a nuclear powerhouse. It heats the Earth and enabled life to evolve and survive. But if you really think about the Sun and all of its glory, and the fact that it has been emitting near the same amount of energy for at least 3.5 billion years, trying to comprehend how it is able to do such an awesome feat can be hard to swallow. The slightest decrease in the output of energy from the Sun can cause ice ages on the Earth.

The Sun is a star. Every grade school student memorizes this fact early in their school career. Because it is a star, it is a gas. But what does that mean? Why is the Sun so important to us and the other planets? What effects does the Sun have on the Earth? Well, to answer these questions and many more, we must first start with the basics, the anatomy of the Sun. The only layers of the Sun that can be observed directly are its outer layers (collectively called the atmosphere.) There are three general regions with each having dramatically different properties: the photosphere, the chromosphere and the corona.

When we look at the Sun, we see the photosphere, which emits most visible light. At the depth of 0 km in the photosphere, the temperature is approximately 4,465 K (273 Kelvin = 0° or 0 Kelvin = -273° C.) Within a depth of 300 km, the pressure and density increases by

a factor of 10, while the temperature climbs from 4,500 to 5,800 K. About three-quarters of the Sun by weight is hydrogen (H.) Hydrogen and helium (He) together make up approximately 98 percent of the Sun. The remaining few percent is made up of the other chemical elements, for example, carbon, nitrogen, oxygen, neon, magnesium, silicon, sulfur, and iron.

The region of the Sun's atmosphere that lies just above the photosphere is the chromosphere. The temperature increases upward through the chromosphere, from 4,500 K at the photosphere to 10,000 K at the upper chromospheric levels. The region, where the Sun's temperature changes from 10,000 K (typical of the chromosphere) to nearly one million degrees K (typical of the corona,) is called the transition region. The transition region is very thin compared to the size of the other parts of the atmosphere.

The chromosphere merges into the outermost part of the Sun's atmosphere, the corona. The corona extend millions of miles above the photosphere and only emits half as much light as the full moon. Its invisibility is due in part to the overpowering brilliance of the photosphere. The corona is hot, very hot! Millions of Kelvins. Because the corona is so hot (and has such a low density,) solar gas escapes. This gas becomes too hot to be confined by solar gravity and then are ejected out of the sun, creating what we call solar winds. These solar winds are streams of charged particles that flow from the Sun at a rate of about 400 km/s.

The Earth is protected from the solar winds by our atmosphere and magnetic field (more about the magnetic fields of planets in the next column.) The solar winds do, however, disrupt the ionized gas in the ionosphere (uppermost area of the Earth's atmosphere,) creating the famed auroras.

Nuclear fusion, the joining together of atomic nuclei, is responsible for the energy the Sun produces. In the Sun's core, four hydrogen atoms fuse together to form a helium atom. The helium atom is slightly less massive than the four hydrogen atoms that combined to form it, and that lost mass is converted to energy ($E=mc^2$.) Without being able to get into detail, the nuclear reactions in the Sun's interior is truly remarkable and I urge you to research it further.

The Sun holds the planetary system in its gravitational field. Its radiation provides most of the energy that heats the planets. The planets all revolve about the Sun in roughly the same plane. It is obvious now that we revolve about the Sun (heliocentric orbit,) but long ago, it was believed that the Earth was at the center of the solar system (geocentric orbit.) The Sun is about 400 times the diameter of our moon, but it is also roughly 400 times the distance away from the Earth. This is why the moon is able to "cover" or eclipse the Sun periodically. But as the moon moves further away from the Earth (very, very slowly,) it will not always be able to fully eclipse the Sun in the future, just like it didn't in the distant past.

1996 FINANCIAL REPORT

As the Sun heats the Earth, the amount of energy put in equals the amount of energy put out (law of conservation of energy.) But the Earth radiates a little more energy than was put in due in part to nuclear decay. Also the Earth retains heat due to its atmosphere. One of the most important consequences of life has been a reduction of CO₂. If life was not present, CO₂ would dominate the atmosphere, creating a hotter planet. Life, however, is very effective in removing CO₂ out of the atmosphere.

Most of the carbon present today can be found in sediments composed of carbonate minerals (ex. Limestone.) The carbon is trapped on the ocean floor until subducted, when much of it returns to the atmosphere in the form of CO₂ released by volcanic eruptions. Another way that life removed CO₂ is by producing deposits of fossil fuels, predominately coal and oil. Before industrialization, CO₂ was well regulated by all living organisms. But modern industrial societies depends on these carbon products as a means of extracting energy from burning fossil fuels. This, therefore, increases the amount of CO₂ in the atmosphere and blankets the atmosphere, leading to a mass global warming called the greenhouse effect.

CO₂ is the most important greenhouse gas in the Earth's atmosphere, but water vapor and CFCs also contribute. Since planetary surfaces reradiates the energy introduced in the infrared, CO₂ makes it difficult for the infrared radiation to flow back into space (because CO₂ is opaque in the infrared.) Because it acts like a blanket, the surface heats up, creating an energy balance between the amount of energy being emitted from the surface and the amount of incoming energy from the sun. So far this century, the amount of CO₂ in the atmosphere here on Earth has increased by about 25 percent, and it is continuing to rise about 0.5 percent per year.

The greenhouse effect is necessary for life (it keeps the surface temperature warm enough for life to evolve and enjoy) and without it, we would probably live on a planet with frozen oceans and possibly, an entirely frozen planet. But mankind has blown it way out of proportion! By the early 21st century, the CO₂ level is predicted to reach twice its preindustrial value. Venus has a runaway greenhouse effect (more on Venus in the next column,) with surface temperatures above 700 K (remember that water boils here on Earth at 373 K or 100° C.) Venus' atmosphere is 96 percent CO₂. A considerably larger percentage than what the Earth has, but our CO₂ is steadily rising. We see what effects CO₂ has on a planet, so why is our CO₂ level still rising? With forests disappearing as fast as I am typing here today, what will now remove CO₂ from our atmosphere? Can the plants that are living today handle the amount and remove the CO₂ from the atmosphere?

This concludes our VERY brief journey into space. Join me next time as we take a look at the terrestrial planets (Mercury, Venus, Earth, and Mars.)

Helen Burton, Carol MacGregor and Christine Barrett conducted an audit of the volunteer's financial statement for 1996. At year end the organization has a savings account balance of \$589.12 and checking account balance of \$2,544.40. Assets total \$3,133.52. For the first year of paper recycling total payments received were \$213.79.

Thank you!
Carol MacGregor

THANKS LOU!

In appreciation of the excellent job Lou Wheatcraft did as Volunteer Chair for 2 years the volunteers presented him with a thank you plaque at the Members Meeting on January 18th. It was a good opportunity to communicate to the membership at large and the Board of Trustees all that the volunteers do, and to let them know our appreciation for Lou's hard work.

VOLUNTEER PICNIC

Keep April 26th open so that you can come enjoy the volunteer picnic. Watch for more information in next month's *Bayou Foliage*.

ARMADILLO DEFEATED! WE HOPE!

Rejoice farm house gardeners! Thanks to the work of many hard working people the fence surrounding the Hanson House has been armadillo proofed! So, on Saturday, March 15th there will be a Farm House Garden work day.

Bring your gloves, your pruners, cultivators, etc., but most of all bring yourselves. We will start getting the Hanson House farm gardens in the same wonderful shape that they were in last spring and summer.

We're looking forward to seeing all you new and old farm gardeners at 9 am on March 15th. Feel free to call Kathleen Crabb at 477-2273 or Jane Bingel at 554-5069 for more information.

Environmental Notebook

Wetlands Part 3 by Lou Wheatcraft

In this third and last article on wetlands, I will attempt to explain how today's laws came about and how they protect wetlands.

But first, I must review the basics in how our nation's government and legal system works in relation to laws. The supreme law of the land is the Constitution of the United States. It has several key fundamental laws from which all other laws are based on and must be in agreement with. One basic law in the US Constitution is one about interstate commerce - it is this basic law that most major environmental laws like the Clean Water Act are based! The Constitution divides our government into three branches: Legislative (Congress), Executive (President and Cabinet), and the Judicial (Supreme Court and other Federal courts.)

The Congress passes laws (acts, statutes), the President, cabinet, and agencies (like the Environmental Protection Agency (EPA)) carry out the provisions of the laws either directly or through regulations (which have the force of a law), and the courts make sure the regulations meet the intent of the laws passed by congress and that the laws passed by congress are in agreement with the Constitution. There are also procedural laws that specify the process the Executive Branch must follow in making regulations. This process has provisions for public (you and me) participation and comment during the formation of regulations and the right to make sure these laws and regulations are administered as intended. Laws passed by Congress are contained in the U. S. Code (USC) and Federal regulations are found in the Code of Federal Regulations (CFR). [For Texas, state laws are found in the state codes, like the Texas Water Code, and Texas regulations are found in the Texas Administrative Code.]

Now that you understand the overall process, I can now get to the laws that have to do with wetland protection. First, we have to go way back to 1899 when two important laws were passed by Congress: 1) the Refuse Act of 1899 which made the discharge of refuse into "navigable waters" without a permit illegal and 2) the Rivers and Harbors Act of 1899 which made it illegal to create an obstruction to the "navigable capacity" of any of the "waters of the United States" and also made it illegal to excavate or fill, or in any manner to alter or modify any "navigable water of the United States," unless authorized by the Secretary of War (Secretary of the Army via the Army Corps of Engineers.) As you can see the main reason for the laws were to prevent actions that would obstruct navigation. For 60 years no one ever applied these laws to water pollution not effecting a waterway's navigability. But in 1960 several companies in Wisconsin were charged with discharging pollutants into the rivers and streams to test whether or not these laws applied in these cases. Four companies were convicted and the Supreme Court upheld the convictions saying that the Refuse Act applied to pollution. However in 1970, Nixon defined a narrower scope for his administration to use for The Refuse Act which didn't include pollution because another act

passed in 1948, the Federal Water Pollution Act, was supposed to be used for pollution. But this law was so ineffective in controlling water pollution that an Ohio river, whose designated use was "waste disposal," caught on fire in 1969! In fact only one enforcement case had been brought in more than 15 years.

So in 1972, Congress passed the Federal Water Pollution Control Act (FWPCA) better known as the Clean Water Act (CWA). Its objective is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The CWA adopted a permit program that set ceilings on the amount of pollution point sources could discharge into the Nation's waterways. This permit system is known as the National Pollution Discharge Elimination System (NPDES).

Now we can get to wetlands. Wetlands and estuaries "associated with navigable waters" are protected under the CWA. Per section 404 of the CWA, unless a permit has been granted for it by the Army Corps of Engineers, the CWA prevents the disposal of any pollutant, including dredge or fill material, into any "waters of the United States." In 1974, when the Corps issued regulations to implement the Section 404 program, they limited the program's jurisdiction to traditionally navigable waters, including adjacent wetlands, excluding many small waterways and most wetlands. In 1975, a Federal district court directed the Corps to revise and expand its regulations to be consistent with Congressional intent. In response, the Corps issued interim final regulations to include waters that are not adjacent to navigable waters ("isolated waters") in the program's jurisdiction. In 1977, the Corps issued final regulations and explicitly included "isolated wetlands and lakes, intermittent streams, prairie potholes, and other waters that are not part of a tributary system to interstate waters or to navigable waters of the United States, the degradation or destruction of which could affect interstate commerce." The definition promulgated in 1977 is substantially the same as the one in effect today.

Regarding the issue of jurisdiction for wetlands adjacent to rivers, lakes, streams, estuaries, etc., the Supreme Court has unanimously held that the Corps acted reasonably in interpreting the Act's geographic jurisdiction to extend to wetlands adjacent to other waters of the U.S.; even if those wetlands are saturated only by ground water sources (as opposed to surface water flooding). The court found that the Corps' inclusion of adjacent wetlands in its definition was reasonable, given the role which wetlands play in drainage, purification, flood control, and erosion prevention, all of which benefit navigable waters. When Congress amended the Act in 1977, it was aware of the Corps' recent assertion of jurisdiction over wetlands. In fact, this issue was extensively debated. In the end, Congress rejected attempts to narrow the scope of that jurisdiction, in large part because of concern that to do so would unduly hamper protection of wetlands.

Notice that so far there is no mention about "no net loss of wetlands" in any of the laws nor regulations. It was public involvement, via environmental groups, who challenged the Corps regulations governing grants of general permits that this provision was adopted. In

settling one lawsuit brought by these groups, the Corps agreed to tighten its requirements to assure that these general permits were granted only in situations where filling in wetlands would have little environmental impact. In 1989, the Corps and EPA entered into a memorandum of understanding which the Corps agreed to exercise its authority to review section 404 permit applications so as to minimize any loss of wetlands. This memorandum is the basis for what became known as the "no net loss of wetlands" policy.

Activities in waters of the United States that are regulated under section 404 of the CWA include fills for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. The basic premise of the program is that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. In other words, permit applicants must show they have: 1) taken steps to avoid wetland impacts where practicable, 2) minimized potential impacts to wetlands, and 3) provided compensation for any remaining, unavoidable impacts through activities to restore or create wetlands (mitigation).

There are many other laws and government programs involved in wetland protection including "Swampbuster" provisions in recent farm bills, Farm Bill and Water Bank Act of 1990, federal Coastal Zone management Act, National Estuary Program (NEP), Endanger Species Act, and many others but I think I have covered the main areas of interest concerning what wetlands are, what their benefits are, and how the laws came about that protect our valuable wetlands.

But least you all think everything is O.K., there are some major problems. Notice that section 404 only talks about "dredged or fill material" - it doesn't say anything about DRAINING a wetland as long as there is not dredge or fill material and, if not, no permit is required!! But in 1993, in response to a National Wildlife Federation lawsuit, the Clinton administration required permits for excavation of wetlands, including the digging of drainage ditches. Officials said excavation drops "fill material" into wetlands in the form of dirt falling from equipment. Needless to say, developers didn't like this policy and challenged it in court. A recent court ruling could make it easier again to drain wetlands and do other excavation work in low-lying areas. The court said the administration had overstepped its legal authority, saying the "appropriate remedy" is congressional action. As Rollin MacRae, wetlands team leader for the Texas Parks and Wildlife Department, said allowing wetlands to be drained, while requiring permits for filling them, was "a sham."

So now you can see why I included a short lesson in government at the beginning. The Judicial Branch has said the Administrative Branch has overstepped its legal authority going beyond what the Legislative Branch intended. [Where as earlier the Court said the Administration's efforts to tie wetlands to the navigable waters of the United States was O.K.] Therefore, what is needed is for Congress to do something about this

loophole. What is really needed is a comprehensive Wetlands Protection Act. For that to happen the public (you and me) must convince our representatives that they need to develop and pass such a Law.

There are two other threats to wetlands. During the Bush administration in 1992, there was an attempt to redefine the legal definition of what could be classified as a wetland. The result would have been that more than half of the nation's remaining wetlands would have been excluded! Luckily, Bush was voted out of office before this new policy could be adopted. The second problem is that most of the regulatory agencies are given conflicting and competing mandates. For example, the Corps of Engineers state: "Our permit process allows development that means money, jobs and recreation to the citizens of the area, while protecting the delicate natural habitats that make the Texas coast so special." They state their permit procedures "ensure economic development of coastal areas can move forward without upsetting delicate ecological balances." The Texas General Land Office mandate is to protect "natural resources" as well as insuring "a fair monetary return to the state." Finally, the Texas Natural Resource Conservation Commission has a policy that says "it is the policy of this state to maintain the quality of water in the state consistent with public health and enjoyment, propagation and protection of terrestrial and aquatic life, operation of existing industries, and economic development of the state;" It is hard to serve two masters....

Sources: "Introduction to Environmental Law and Policy - Protecting the Environment Through Law", by C. M. Valente and W. D. Valente, West Publishing Company, 1995; "Agriculture and Wetlands: A Compilation of Fact sheets" from the Army Corps of Engineers and the Environmental Protection Agency; and the Houston Chronicle, Section A, P. 29, Jan. 25, 1997, "Court Ruling may make it easier to drain and excavate wetlands."

Next: Air Pollution

GREETINGS CAN BE SENT

Do you know of a volunteer who is sick, has had a death in the family or is in the need of a "pick me up?" Please call Susan Williams at 487-3033 to let her know. She will then send a card on behalf of the volunteer organization.

"Let's be grateful for those who give us happiness; they are the charming gardeners who make our soul bloom."

Marcel Proust

VOLUNTEER DUTY SCHEDULE

In an attempt to take some of the load off of the Coordinators, and to help cut down on our "no show" rate, a list of the persons who have volunteered for various assignments will be printed in the Bayou Follage each month. If you are scheduled for a particular duty and you are unable to attend, please use this schedule to try to find your own substitute. You may be able to trade weekends, or swap a Saturday for a Sunday with someone who has the same duty another time during the month. If you do trade, please be sure to call the appropriate coordinator and the ABNC desk to inform them.

DATE	11:00 TRAIL	2:00 TRAIL	INFO. SERVICES	FARM DEMO	NAT. HIST. DEMO	FARM INTERP.
Sat. 3/1	Eldine Owens	Cris Santiago				Marian Rouse
Sun. 3/2		John Siptak	Georgia Colyer		Ruby Dilgrea Bats	Marjorie Bory
Sat. 3/8		Ray Parker	Ruby Dilgrea	Irene Ward Butter	Anne Tincher Pond Life	Al Stock
Sun. 3/9		Al Stock	Joe Bryan	Tom Scarsella - Blacksmith Marie Ferguson - Crochet	Hilary Gibbs Study Skins	Jane Bingel
Sat. 3/15	Louise Peck		Susana Williams	Jane Bingel Cheese	Zel Arbuckle Snakes	Eldine Owens
Sun. 3/16		Melanie Weisman	Jean Kruse	Mary Ann Tucker Basket Weaving	Eleanor Stanley Reptiles	Larry Kruse
Sat. 3/22		Anne Tincher			Laura Hendrix Birds	Paula Thorson
Sun. 3/23		Patty Gill				
Sat. 3/29		Joe Bryan		Stephanie & Paul Rogers Butter	Dekka Hessey Armadillo	Penny Woodward
Sun. 3/30				Emily Egan Weaving	Jim Crabb Mushrooms	
					Joe Bryan Sea Shells	Stephanie & Paul Rogers

VOLUNTEER BOARD FOR 1997

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