http://aquat1.ifas.ufl.edu/

Aquatic Plant Database Online

The APIRS aquatic plant database is now online, 24-hours a day. The 41,000-item database about freshwater macrophytes is the largest of its kind, and since 1981, it has been used by thousands of regulators, managers, teachers, students, advocacy groups and ordinary taxpayers. Heretofore, users had to write to us or call us and the APIRS office performed their database searches. Now, users may use the database by themselves, searching it in whatever ways they see fit. Use of the database remains free of charge.

To get to the database through the APIRS Web site, simply click on the word “database” in the first line listing on the home page (see page 4 of this issue of AQUAPHYTE). This will take you to a page that describes sign-on and sign-off procedures.

After following the sign-on procedure, you may search the database in myriad ways: search by keyword, author, date, citation, plant species, etc.

Thanks to our Sponsors

The APIRS office is most grateful to receive major funding from two other agencies:

The Florida Department of Environmental Protection, Bureau of Aquatic Plant Management, Mr. Tom Brown, Bureau Chief.

The Corps APCRP has provided special funding for various APIRS enhancements and video productions, and this past summer also funded the complete upgrade of the computers and software that were necessary to place the aquatic plant database online and to establish our aquatic plant Web site on the Internet.
Some Internet World Wide Web Addresses for Environmental Professionals

The following list was winnowed from hundreds of “environmental” Web sites we have come across and represent the ones that our readers are most likely to want to try.

- AQUAPLANTS - http://thorplus.lib.purdue.edu/AQUAPLANTS/
- Aquatic (Wetland) Plants - http://aquat1.ifas.ufl.edu/
- Biodiversity and Biological Collections - http://muse.bio.cornell.edu/
- Biodiversity & Ecosystems Network - http://straylight.tamu.edu/bene/bene.html
- Biological Survey - http://www.nfreg.gov
- CERN Home page - http://www.cern.ch/
- Chemistry - http://www.chem.ucla.edu/chempointers.html
- Entomology - http://www.coostate.edu/Depts/Entomology/
- EPA - http://www.epa.gov
- Environmental Education Network - http://envirolink.org/eviroed/
- Environmental Law - http://www.law.indiana.edu/law/intenlaw.html
- Environmental Sites on the Internet - http://www.lib.kth.se/lg.html
- Field Museum of Natural History - http://www.bvis.uic.edu/museum/
- Fish and other aquatic animals - http://www.actwin.com/WWWFL-Fish.html
- Florida Wildflowers - http://www-wwanleon.scri.fsu.edu/~mikems/
- Forestry - http://www.metla.fi/info/vilib/Forestry.html
- Great Lakes Program - http://ncgia.geog.buffalo.edu/GLP/GLPhome.html
- Illinois Natural History Survey - http://denr1.igis.uiuc.edu:70/
- National Biological Service - http://www.its.nbs.gov/nbs/
- Natural History Book Service - http://www.nhbs.co.uk
- Natural Resources Research Info Pages - http://sfbox.va.edu:10021/Y/yfleung/nrips.html
- Planet Earth - http://white.nasc.nist.gov/info.html
- Plant Biology - http://golgi.harvard.edu/biopages/botany.html
- Smithsonian Natural History home page - http://mnhwww.si.edu/mnhweb.html
- US Long-Term Ecological Research Network - http://lternet.edu/
- Water Lily Society - http://h20lily.rain.com
- WaterWeb - http://www.waterweb.com
- WWW Sites of Interest to Botanists - http://neoae.c.uregina.ca/~liushus/bio/botany.html
A New Director

Dr. Randall Stocker is the new director of the UF/IFAS Center for Aquatic Plants. Stocker formerly was Manager of the Planning and Technical Services Department of Imperial Irrigation District (California), the largest irrigation district in the western hemisphere, having use rights to 20% of the flow of the Colorado River. In a place having an average annual rainfall of only 3.5 inches, that water is sometimes contentiously desired by various parties. For fourteen years, Stocker helped manage and share the water among the District's many constituents, learning the finer points of diplomacy and method along the way. As for aquatic plants, his main problems had to do with hydrilla and algae in flowing water canals, ponds and reservoirs, and habitat conservation plans for endangered species.

Coming from a desert having only 3 inches of rain a year to a place of semi-tropical swamps where it rains nearly 60 inches a year is as dramatic a change as any a water manager would likely experience. But Stocker appears unperturbed: he's as "excited to be a participant in the on-going struggle to provide management tools to resource managers" here as he was there. And it's not as though he knows nothing about Florida's ecosystems—he conducted melaleuca control research on Lake Okeechobee for several years when he worked for the U.S. Army Corps of Engineers.

Stocker earned his PhD in plant ecology from Washington State University. Later, while teaching there, he met his future wife, Shelley, a student in an advanced ecology class. Eventually they married, and have two daughters, college-going Heather, and Shevy, a high school senior. Shelley currently is an elementary science and math teacher.

Stocker is an enthusiastic sailor; his 26-foot sloop is scheduled to visit lake and ocean waters throughout the state. He and Shelley say they are pleased to be in a university community again, and are "reawakening" to the joys of theatre and music that are so abundant in Gainesville.

Aquatic Plant Identification Deck

A 3" X 4" card deck of color photographs of 67 aquatic and wetland plant species, suitable for in-the-field reference. The cards are alphabetized with two tables of contents, by scientific name and by common name. Each card has plant identification information on the back. The cards are laminated for water resistance and bound with a screw and fastener.

The ID deck (IFAS Catalog No. SM-50) is available from the IFAS Publications Office, IFAS Building 664, University of Florida, Gainesville, FL, 32611-0001, (904) 392-1764. Price is $8.00 per deck plus S/H and tax. Call for details. Checks or purchase orders are accepted.
Welcome to the Center for Aquatic Plants and to APIRS, the Aquatic Plant Information Retrieval System. We provide a variety of free and for-sale products and services.

Best way to view these pages

- Online Aquatic Plant Database
- Photographs of Aquatic Plants
- Educational Videotape Programs
- AQUAPHYTE Newsletter
- Line drawings of Aquatic Plants
- Freshwater Plants Poster
- Aquatic Plant ID Cards
- Aquatic Plant CD-ROMs

- About Aquatic and Wetland Plants
- About the Center and Associated Personnel
- Ask the Aquatic Plant Extension Specialist
- A Word From Our Sponsors

Links

- University of Florida
- UF - Institute of Food and Agricultural Sciences
- UF - Herbarium
- Florida Department of Environmental Regulation
- Environmental Protection Agency
- Army Corps of Engineers, Waterways Experiment Station
- Water Lily Society
- WWW Sites of Interest to Botanists

More information is yours for the asking

APIRS, Center for Aquatic Plants
7922 N.W. 71st Street
Gainesville, FL 32653
904-392-1799 v; 904-392-1764 f
varamey@nervm.nerdc.ufl.edu
Here's where we tell you that our Web site is optimized to be accessed by your Netscape browser. However, other browsers such as Mosaic, Internet-in-a-Box and Chameleon also give very good results.

Click here to get to the 41,000+ citations of the aquatic plant database. Be sure to read the on-screen instructions before beginning your database session.

Here is where you can view and/or download more than 60 high resolution photographs of aquatic (wetland) plants which will look pretty good on your 640X480X256 screen (or fantastic on your 800X600X32K screen). If you need photos for print publication, we can help you with that.

APIRS has produced about 25 videotape programs for various audiences, all having one thing or another to do with aquatic plants. Videos may be purchased or borrowed. Look here for descriptions and ordering information.

An adequate number of you have already expressed interest in purchasing a set of aquatic plant photograph CDs, as described in the last issue of AQUAPHYTE (Spring, 1995). We're working on them and will let you know.

Here is where you can find out what we look like and where we get our mail.

We would like to re-print the Freshwater Plants poster that has been so popular with teachers and libraries. If you want to order a copy, or if you may be interested in paying for its re-printing, click here.

Line drawings are better to look at for identification purposes than are photographs. Here is a collection of 60 aquatic plant line drawings for online viewing. If you need publication-quality drawings for books or newsletters, let us know.

Here's something new from the APIRS office: a handy deck of ID cards featuring color photographs of aquatic plants. See page 3 of this newsletter for more information.

Over time, the APIRS office will develop this branch of our Web site into a "short course" about aquatic and wetland plants. This section of our Web site will resemble and act like an interactive instructional CD about aquatic and wetland plants, but will be better than a CD in that it will be constantly updated and added to.

The logos and links for the U.S. Army Corps of Engineers, the Florida Department of Environmental Protection and the St John's River Water Management District are here.

Links are jumping off points to other sites of interest. Click on their names and you'll go right to them, automatically. Just like in Star Trek.

Florida's two aquatic plant Extension Specialists can be contacted here. They get paid to answer your questions.
FROM THE DATABASE

Here is a sampling of the research articles, books and reports which have been entered into the aquatic plant database since March, 1995.

The database has more than 41,000 items. To receive free bibliographies on specific plants and/or subjects, contact APIRS at the address shown on the mail label on page 12.

To obtain articles, contact your nearest state or university library.

Anderson, M.G.
Interactions between Lythrum salicaria and native organisms: a critical review.

Auble, G.T.; Friedman, J.M.; Scott, M.L.
Relating riparian vegetation to present and future streamflows.

Bailie, P.W.
Renewal of food-processing wastewater by a riparian wetland.

Barko, J.W.; Chambers, P.A.
Perspectives on submersed macrophyte invasions and declines.

Barlocher, F.; Newell S.Y.
Phenolics and proteins affecting palatability of Spartina leaves to the gastropod Littoraria irrorata.

Barthlott, W.; Riede, K.; Wolter, M.
 Mimicry and ultrastructural analogy between the semi-aquatic grasshopper Paulinla acuminata (Orthoptera: Pauliniidae) and its foodplant, the water-fern Salvinia auriculata (Fili- cateae: Salviniacae).

Bird, K.T.; Jewett-Smith, J.; Fonseca, M.S.
Use of in vitro propagated Ruppia maritima for seagrass meadow restoration.

Bjork, S.

Physiological ecology of riverside species: adaptive response of plants to submergence.

Borneo, G.; Amoros, C.; Castella, C.; Berry, J.L.
Succession and fluctuation in the aquatic vegetation of two former Rhone River channels.

Bratoff, E.A.; Perez-Amador, M.C.
Phytochemical study of Typha domingensis Pers. (Typhaceae).

Bromfield, C.
Effects of perch and perch on interactions of a freshwater, benthic food chain.

Bubier, J.L.; Moore, T.R.
An ecological perspective on methane emissions from northern wetlands.

Buckingham, G.R.; Bennett, C.A.
Biological and host range studies with Bagous affinis, an Indian weevil that destroys Hydrilla tubers.

Catarino, L.M.F.
Ecologia das infestantes aquáticas em canais de rega e utilizacao da carpas herbivora em protecao integrada.
PHD. DISSERTATION, UNIVERSIDADE TECNICA DE LISBOA, LISBOA, PORTUGAL, 118 PP., 1995. (IN PORTUGUESE, ENGLISH SUMMARY)

Cataling, P.M.; Spencer, K.W.; Biernacki, M; Lovett Doust, J.
The biology of Canadian weeds. 103. Vallisneria americana Michx.

Chen, D.X.; Coughenour, M.B.; Eberts, D.; Thullen, J.S.
Interactive effects of CO2 enrichment and temperature on the growth of dioecious Hydrilla verticillata.

Clark, W.R.
Habitat selection by muskrats in experimental marshes undergoing succession.

Clary, W.P.
Vegetation and soil responses to grazing simulation on riparian meadows.

Coates, M.; Ferris, J.
The radiatively driven natural convection beneath a floating plant layer.

Colle, D.E.; Shireman, J.V.
Use of grass carp in two Florida Lakes.

Conover, M.R.; Kania, G.S.
Impact of interspecific aggression and herbivory by mute swans on native waterfowl and aquatic vegetation in New England.

Succrose mobilisation in maturing seeds of water chestnut (Trapa bispinosa Roxb) and Litchi (Litchi chinensis Sonn).

De Jalón, D.G.; Sanchez, P.; Camargo, J.
Downstream effects of a new hydropower impoundment on macrophyte, macroinvertebrate, and fish communities.

De Leeuw, J.
Ecology of the salt marshes.

Denny, P.; Bailey, R.; Tukahirwa, E.; Mafabi, P.
Heavy metal contamination of Lake George (Uganda) and its wetlands.
Ding, X.; Jiang, J.; Wang, Y. Wang, W.; Ru, B.
Bioconcentration of cadmium in water hyacinth in relation to thiol group content.

Doledec, S.; Statzner, B.
Theoretical habitat templates, species traits, and species richness: 548 plant and animal species in the upper Rhone River and its floodplain.

Do Prado, A.L.; Heckman, C.W.; Martins, F.R.
The seasonal succession of biotic communities in wetlands of the tropical wet-and-dry climatic zone: II. The aquatic macrophyte vegetation in the Pantanal of Mato Grosso, Brazil.

Duarte, C.M.; Planas, D.; Penuelas, J.
Macrophytes, taking control of an ancestral home.

Dushenko, W.T.; Bright, D.A.; Reimer, K.J.
Arsenic bioaccumulation and toxicity in aquatic macrophytes exposed to gold mine effluent: relationships with environmental partitioning, metal uptake and nutrients.

Eckert, C.G.; Barnett, S.C.H.
Inbreeding depression in partially self-fertilizing Decodon verticillatus (Lythraceae); population-genetic and experimental analyses.

Edwards, E.S.; Roux, S.J.
Limited period gravidnessiveness in graviding spores of Ceratopteris richardii.

Fairchild, J.F.; LaPoint, T.W.; Schwartz, T.R.
Effects of an herbicide and insecticide mixture in aquatic mesocosms.

Furness, C.A.
The pollen morphology of Hygrophila and Bralliantaisia (Acanthaceae: Ruel-licheae).

Gaudet, C.L.; Keddy, P.A.

Gerber, D.T.; Les, D.H.
Comparison of leaf morphology among submerged species of Myriophyllum (Haloragaceae) from different habitats and geographical distributions.

Godfrey, K.E.; Anderson, L.W.J.
Feeding by Bagous affinis (coleoptera: Curculionidae) inhibits germination of Hydrola tubers.

Greewey, M.
Litter accession and accumulation in Melaleuca quinquenervia (Cav.) S.T. Blake wetland in Southeastern Queensland.

Habeck, D.H.; Thompson, C.R.
Host specificity and biology of Spodoptera pectinicornis (Lepidoptera: Noctuidae), a biological control agent of water lettuce (Pistia stratiotes).

Hamana, K.; Matsuoka, S.; Niitsu, M.; Samejima, K.
Distribution of unusual polyamines in aquatic plants and gramineous seeds.

Henry, C.J.; Higgins, K.F.; Buhl, K.J.
Acute toxicity and hazard assessment of rodox, X-77 spreader, and Chem-trol to aquatic invertebrates.

Hinch, S.G.; Collins, N.C.
Relationships of littoral fish abundance to water chemistry and macrophyte variables in central Ontario lakes.

Jackson, L.J.; Rowan, D.J.; Cornett, R.J.; Kaff, J.
Myriophyllum spicatum pumps essential and nonessential trace elements from sediments to epiphytes.

Jacobs, S.W.L.; Perrett, E.; Sainty, G.R.; Bowmer, K.H.; Jacobs, B.J.
Ludwigia peruviana (Onagraceae) in the botany wetlands near Sydney, Australia.

Jorde, D.G.; Haramis, G.M.; Bunck, C.M.; Pendleton, G.W.
Effects of diet on rate of body mass gain by wintering canvasbacks.

Khan, H.; Brush, G.S.
Nutrient and metal accumulation in a freshwater tidal marsh.

Kohlmeier, J.; Volkmann-Kohlmeier, B.
Fungi on Juncus roemerianus. I. Trichocladium mediterrane sp. Nov.

Krabel, D.; Eschirch, W.; Gamalei, Y.V.; Fromm, J.; Ziegler, H.
Acquisition of carbon in Elodea canadensis Michx.

Kraus, W.; King, J.J.
The ecological status of Lough Corrib, Ireland, as indicated by physiographic factors, water chemistry, and macrophytic flora.

Ecological assessment for the wetlands at Milltown Reservoir, Missoula, Montana: characterization of emergent and upland habitats.

Linz, G.; Bergman, D.; Blix, D.; Bleier, W.
Response of black terns (Chlidonias niger) to glyphosate-induced habitat alterations on wetlands.

Lovett Doust, L.; Lovett Doust, J.; Biernacki, M.
American wild celery, Valerianella americana, as a biomonitor of organic contaminants in aquatic ecosystems.

Madsen, T.V.; Sand-Jensen, K.
The interactive effects of light and inorganic carbon on aquatic plant growth.

Mallison, C.T.; Hestand, R.S.; Thompson, B.Z.
Removal of triploid grass carp using fish management bait (FMB).


Marks, M.; Lapin, B.; Randall, J.
Phragmites australis (P. communis): threats, management, and monitoring.

Merchant, M.
The potential for control of the soft rush (Juncus effusus) in the grass pasture by grazing goats.

Mikryakova, T.F.
Distribution of heavy metals in higher aquatic plants of the Uglich Reservoir.

Milles, H.D.; Tunsuwan, K.; Chittawong, V.
Boll weevil antifeedants from Eleocharis dulcis Trin.

Mullahey, J.J.; Cornell, J.
Biology of tropical soda apple (Solanum viarum) an introduced weed in Florida.

Murphy, K.J.; Hudson, K.D.; Mitchell, J.
Freshwater and wetland plant communities of Loch Lomond.

Neskov, N.; Karan, V.; Elezovic, I.; Poleksic, V.; Budimir, M.
Toxic effects of 2,4-D herbicide on fish.

Ni, L.; Pokorny, J.
Effects of cutting on the growth and photosynthesis of Egeria densa (Planchon) Caspary.

Nip, W.K.; Whitaker, C.S.; Vargo, D.
Application of taro flour in cookie formulations.

Oron, G.
Duckweed culture for wastewater renovation and biomass production.

Owu, Z.; Sun, T.; Zhang, H.
A bioassay for determining simazine in water using flowering plants (Ceratophyllum demersum, Ranunculus trichophyllus, and Alisma plantago-aquatica).

Pandey, D.K.
Inhibition of Salvinia (Salvinia molesta Mitchell) by Parthenium (Parthenium hysterophorus L.). I. Effect of leaf residue and alcalochemicals.

Paul, E.A.; Simonin, H.A.; Symula, J.; Bauer, R.W.
The toxicity of diquat, endothall, and fluridine to the early life stages of fish.

Petrell, R.J.; Smerage, G.H.; Bagnall, L.O.
Mathematical description of water hyacinth (Eichhornia crassipes) nit mat propagation.

Popolizio, C.A.; Goetz, H.; Chapman, P.L.
Short-term response of riparian vegetation to 4 grazing treatments.

Portielje, R.; Roijackers, R.M.M.
Primary succession of aquatic macrophytes in experimental ditches in relation to nutrient input.

Porcell, M.F.; Balcianas, J.K.
Life history and distribution of the Australian weevil Oxypus vittosa (Coleoptera: Curculionidae), a potential biological control agent for Melaleuca quinquenervia (Myrtaceae).

Quiroz, A.; Miranda, G.
Heavy metals and macronutrients concentration on leaves and petioles of Nymphaea mexicana Zucc. in a polluted pond of Xochimilco, Mexico.

Rascio, N.; Mariani, P.; Dalla Vecchia, F.; et al
Ultrastructural and photosynthetic structures of leaves and stems of Elodea canadensis.

Ribeyre, F.; Boudou, A.
Experimental study of inorganic and methylmercury bioaccumulation by four species of freshwater rooted macrophytes from water and sediment contamination sources.

Rider, S.J.; Maceina, M.J.; Lowery, D.R.
Comparisons of cove rotenone and electrofishing catch-depletion estimates to determine abundance of age-0 largemouth bass in unvegetated and vegetated areas.

Sharp, W.M.
Propagation of Potamogoton and Sagittaria from seeds.

Simionich, M.T.; Morgan, M.D.
allozymic uniformity in Iris lacustris (Dwarf Lake Iris) in Wisconsin.

Treatment of chromium and nickel in wastewater by using aquatic plants.

Steinberg, S.L.; Coonrod, H.S.
Oxidation of fat by aquatic plants growing in gravel-nutrient solution culture.

Summers, J.E.; Jackson, M.B.
Anaerobic conditions strongly promote extension by stems of overwintering tubers of Potamogeton pectinatus.

Takamiya, M.; Watanabe, M.; Ono, K.
Biosystematic studies on the genus Isoetes in Japan variations of the somatic chromosomes numbers.

Tanner, C.C.; Clayton, J.S.; Upsdell, M.P.
Effect of loading rate and planning on treatment of dairy farm wastewaters in constructed wetlands - I. Removal of oxygen demand, suspended solids and fecal coliforms.

Teller, S.; Appenroth, K.J.
The appearance of glutamine synthetase in turions of Spirodela polyrhiza (L.)
Books/Reports


This report consists of chapters and essays by some 60 authors. They discuss the ecological consequences and histories of non-native introductions, impacts of non-indigenous species on public lands and their economic costs, biocontrol and restoration, governmental approaches; and conservation priorities.

The editors state that "non-indigenous species invasions now threaten Florida's environment at all levels."


"Ecotones are interface zones between different ecosystems. According to the editors, ecotones perform important functions, they may be almost any size and shape, and may themselves be comprised of smaller ecotones. They may exist for only days or for decades, and they may evolve into new ecotones. Why aren't ecotones considered ecosystems? Are attempts to define ecotones mere sophism? Maybe not.

This collection of 25 papers describes the roles of ecotones in lakes and reservoirs, in streams, large rivers, and floodplains, especially as ecotones serve fish populations as feeding, spawning and nursery areas.


(From J. Velasquez, Consejo de Desarrollo Ciencíto y Humanístico, Universidad Central de Venezuela.)

This very thorough book is by Professor Justiniano Velasquez ("hombre modesto" according to the prolog), a botany professor at the Universidad Central de Venezuela.

It is a keyed taxonomy of several hundred aquatic plants of Venezuela, with distribution maps of occurrences in that country. Most of the plants are illustrated by very good line drawings, and 90 are illustrated by color photographs as well. In addition, the fruits of some plants are represented by b/w photographs. The quality of the printing is not very good, but is adequate.


(For ordering information, contact Dr. Kurt Kissmann, Rua Jean Moura 434, 05412-001 Sao Paulo, BRAZIL.)

"This is the final volume of a work covering the weeds and grasses of South America, focusing on Brazil. It is intended as a practical guide for agronomists rather than academic botanists."

This hardbound handbook treats terrestrial and aquatic weeds. Each problem plant is described and pictured by a color photograph, and the synonymy, taxonomy, distribution, economic importance, biology and morphology (including fruits) are presented. There are indices for scientific and for common names.

The photographs are excellent and the quality of the publication in general is exceptional.

FLORA Y VEGETACION DE LAS LAGUNAS Y HUMADELAS DE LA PROVINCIA DE CUENCA, by S. Cirujano. 1995. 224 pp. (In Spanish.)

(For ordering information, contact Dr. Santos Cirujano Bracamonte, Consejo Superior de Investigaciones Científicas, Real Jardin Botanico, Plaza de Murillo, 2-28014 Madrid, SPAIN, (91) 420 30 17 Ext.208.)

This hardbound book represents a systematic study of the aquatic plants of the "lagoons" and wetlands of Cuenca Province, Spain. During a three-year study, one hundred ninety-six sites were inventoried: 61 taxa of hydrophytes as well as 57 taxa of hygrophilous plants and helophytes were identified. Phytosociological classes also were identified, including 27 plant communities.


This book includes ten chapters about peatland ecosystems by a dozen Dutch scientists. They present detailed pictures of the geology, land use, history, palaeoecology, ecology and conservation of peatlands in The Netherlands.


"In this beautifully produced book, nearly 200 articles are collected and edited by the National Biological Service (US Department of the Interior), which hopes to "stimulate new work on the status and trends of biological resources."

"The report compiles, for scientists, managers, and the lay public, information on many species and the ecosystems on which they depend...it brings together for the first time a host of information about our nation's biological wealth, highlighting causes for both comfort and concern."

It includes sections on the distribution, abundance and health of birds, mammals, reptiles and amphibians, fishes, invertebrates and plants, as well as terrestrial and aquatic ecosystems and ecoregions; and contains many discussions on "special issues" such as global climate change, human influences, non-native species and habitat assessments.
Meetings

Co-sponsored by the Society of Wetland Scientists. _Wetlands for the Future_ is the theme for the 1996 conference. The conference will emphasize our understanding of wetlands now, the importance of conservation and management, and the role of technology in maintaining wetlands in the future.
For more information, contact J. Davis, School of Biological and Environmental Sciences, Murdoch University, Murdoch, Western Australia 6150. Phone 61 9 360 2939; e-mail: davis@essnl.murdoch.edu.au

23RD ANNUAL CONFERENCE ON ECOSYSTEMS RESTORATION AND CREATION. May 16-17, 1996. Tampa, Florida.
Sponsored by the Hillsborough Community College Institute of Florida Studies, this annual conference provides a forum for the nationwide exchange of results of scientific research in the restoration, creation and management of wetlands and upland systems.
For more information, contact F.J. Webb, Dean of Environmental Programs, Hillsborough Community College, Plant City Campus, 1206 N. Park Road, Plant City, FL 33566, 813/757-2104.

As in the previous symposia, all aspects of the theory and practice of biological weed control will be covered.
For more information, contact J.H. Hoffmann, Zoology Department, University of Cape Town, Rondebosch 7700, South Africa.

The Symposium will feature speakers who will discuss a number of non-indigenous aquatic pest species, including fish, plants and insects. The WAPMS will meet concurrently with western chapters of the North American Lake Management Society (NALMS). WAPMS issues will include aquatic plant biology, ecology and management. The NALMS chapter meetings will be for lay people and will feature lake management issues.
For more information, contact M. Syltsma, Biology Department, Portland State University, POB 751, Portland, OR 97207, 503/725-3833; e-mail: h2ms@odin.cc.pdx.edu

The theme of this seventh annual conference is _Decision Making in Lake Management_.
For information, contact M. Hoyt, U.F. Department of Fisheries and Aquaculture, 7922 NW 71 ST, Gainesville, FL 32653; 904/392-9617 X 227.

IVTH SYMPOSIUM ON BIOGEOCHEMISTRY OF WETLANDS. March 4-6, 1996. New Orleans, Louisiana.
Sponsored by the Louisiana State University Wetland Biogeochemistry Institute and co-sponsored by the University of Florida, the meeting will emphasize biogeochemical processes occurring in freshwater, estuarine and saline wetlands.
For more information, contact K. Gros, Wetland Biogeochemistry Institute, Louisiana State University, Baton Rouge, LA 70803-7511; 504/388-8810; e-mail: cowgro@lsuvr.sncc.lsu.edu

DOMESTICATION, PRODUCTION AND UTILIZATION OF NEW CROPS: PRACTICAL APPROACHES. July 8-10, 1996. University of Southampton, United Kingdom.
Sponsored by the International Centre for Underutilised Crops (ICUC), this three day conference will feature discussions of sources of new crops, mechanics of crop development and utilisation and marketing.
For more information, contact N. Haq, Conference Secretariat, International Centre for Underutilised Crops, Building 62, University of Southampton, Southampton S016 7PX, United Kingdom.
AQUAPHYTE

This is the newsletter of the Center for Aquatic Plants and the Aquatic Plant Information Retrieval System (APIRS) of the University of Florida Institute of Food and Agricultural Sciences (IFAS). Support for the information system is provided by the Florida Department of Environmental Protection, the U.S. Army Corps of Engineers Waterways Experiment Station Aquatic Plant Control Research Program (APCRP), the St. Johns River Water Management District and UF/IFAS.

EDITORS: Victor Ramey
Karen Brown
varmeye@nerc.soecd.ufl.edu

AQUAPHYTE is sent to more than 5,500 managers, researchers and agencies in 87 countries. Comments, announcements, news items and other information relevant to aquatic plant research are solicited.

Inclusion in AQUAPHYTE does not constitute endorsement, nor does exclusion represent criticism, of any item, organization, individual, or institution by the University of Florida.

Careers in Florida's Freshwater Environments

A New Environmental Education Video for Kids

When you ask middle school students in Florida what they want to be when they grow up, the answers are, "I want to be a professional football player", and "I want to be a nurse". Though we will always need medical workers, and football players are extremely important to us all, there are and will be openings in other occupations, such as those that protect and manage our aquatic environments. For various reasons, school children do not know this.

Here is a fast-paced 26-minute musical video, which introduces about 40 "freshwater occupations". It was produced especially for and has been field-tested on 7th and 8th grade students (though students in other grades also will benefit from it). Middle school science teachers helped produce this program.

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The Careers video (VT1236) and booklet will be distributed free to Florida science teachers and career counselors. For all others, the cost is $15, plus S/H. Call the APIRS office for free copies, or purchase, call IFAS Publications, (352) 392-1764.