

NC Aquatic Weed Control Program

Presented by: Rob Emens



AWC Program Objectives:

Assist local governments burdened with aquatic weed infestations:

1. Provide technical assistance:

- Site assessments
- Offer management recommendations
- Draft management plans

2. Provide financial assistance:

- Cost sharing arrangements

The Philosophy:

By addressing localized outbreaks we can mitigate the economic and environmental impacts these species impose in the long run

The NC DENR recognizes specific plants as “Noxious Aquatic Weeds”

1. All species listed on the Federal Noxious Weed list
2. Plus some additional plants...
 - Alligatorweed
 - Water hyacinth
 - Parrotfeather
 - Brittle naiad
 - Phragmites

The NC DENR recognizes specific plants as “Noxious Aquatic Weeds”

- These are the plants the Aquatic Weed Control Program focuses our effort on.
- These are the plants that qualify for financial assistance.

Who Performs Field Operations?



Who is Eligible for Financial Assistance?

Municipalities

Counties

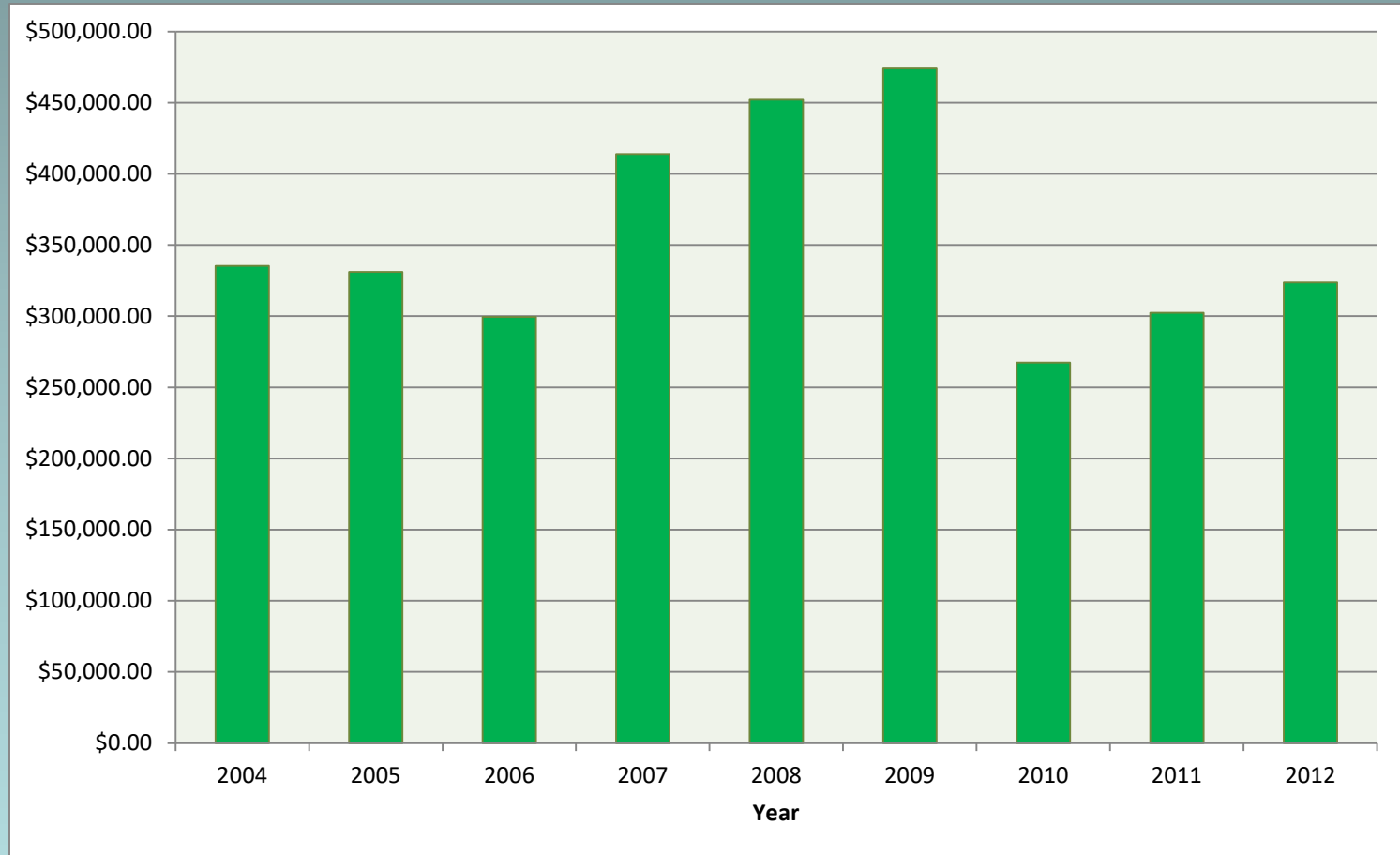
Soil and Water Conservation Districts

Public Utilities

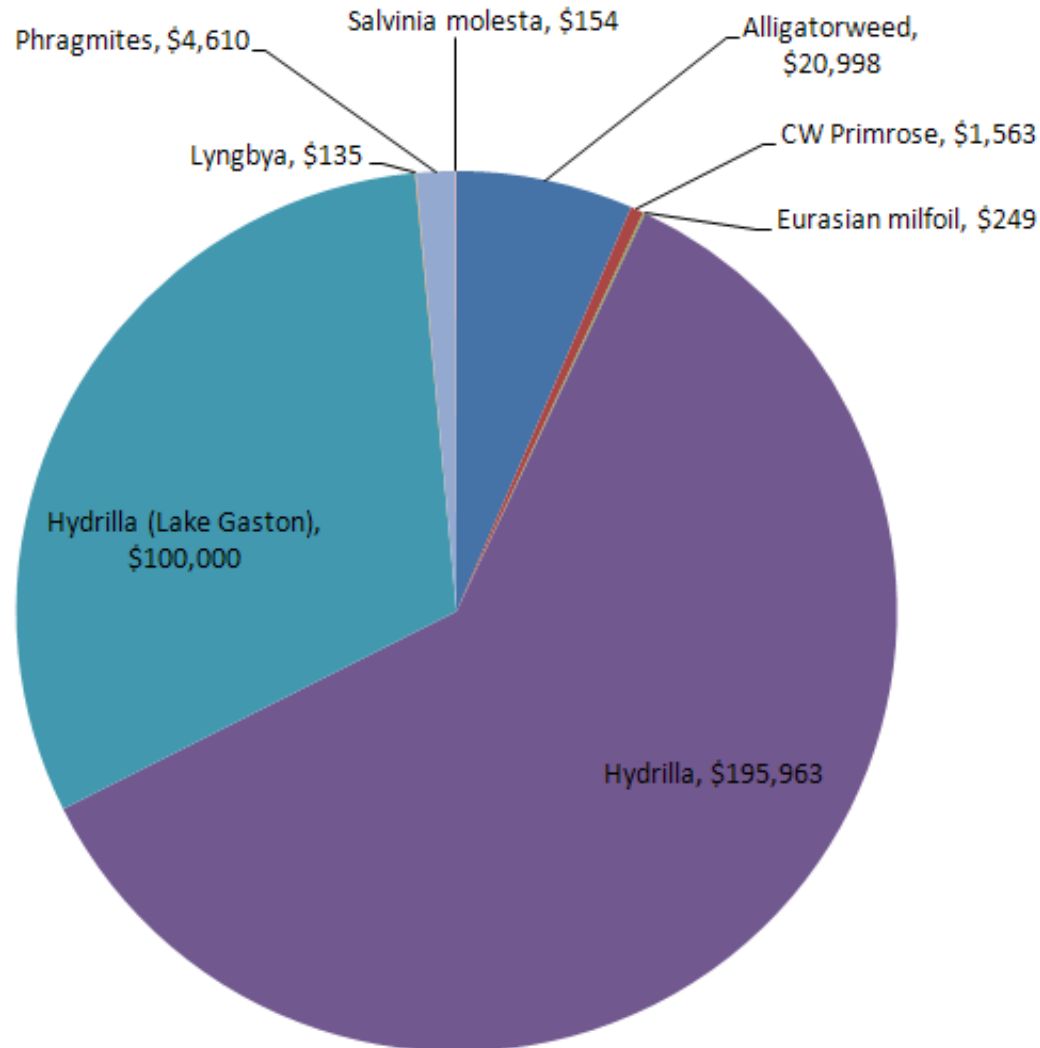
Marine Commissions

Government Agencies

Historical Program Expenditures:



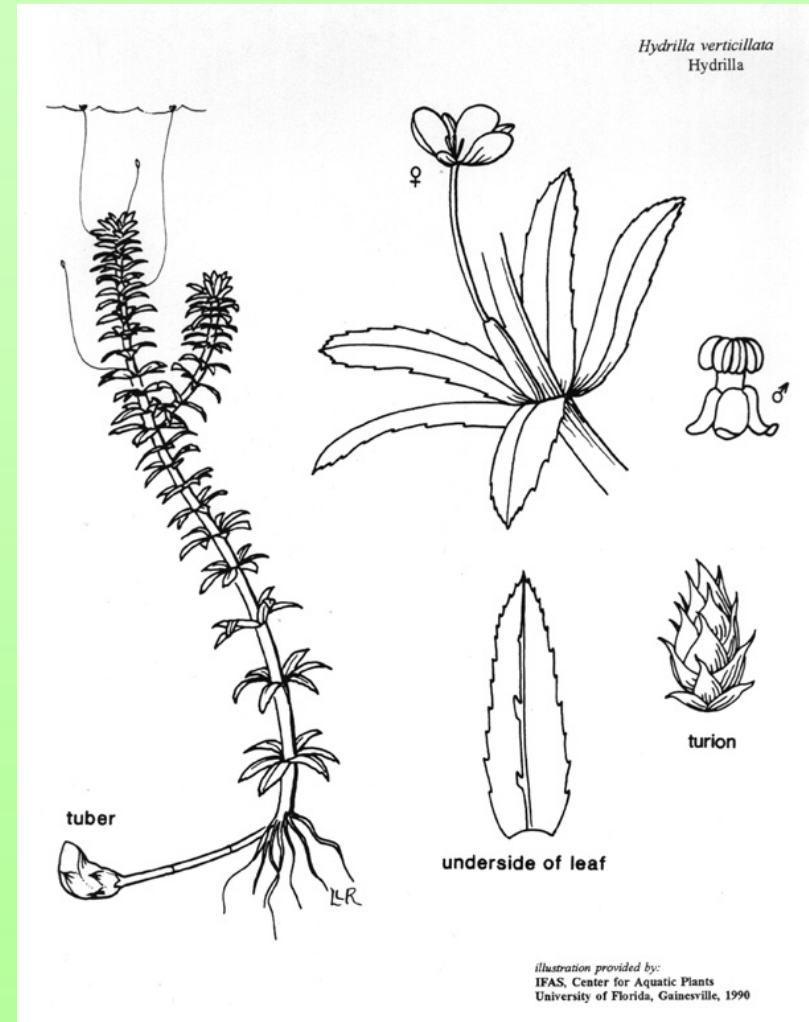
Breakdown of funds by aquatic weed species:



2012 Total expenditure (DWR) = \$323,672

Hydrilla – A Federally Listed Weed

- Submersed perennial
 - Dioecious type introduced to FL in 1950's
 - Monoecious type introduced to NC in 1970's
- The State's most costly aquatic plant to control
 - Management cost exceeding \$1,000,000 per year
- Reproduces through fragmentation, turions, and tubers



PLANTS Database – Hydrilla distribution

PLANTS Profile for Hydrilla verticillata (waterthyme) | USDA PLANTS - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Name Search Results | USDA PLA... | PLANTS Profile for Hydrilla (hydrill... | PLANTS Profile for Hydrilla verticill... | +

plants.usda.gov/java/profile?symbol=HYVE3

Steve Hurst, Provided by ARS Systematic Botany and Mycology Laboratory, Cote d'Ivoire. [Usage Requirements.](#)

Distribution:
Hydrilla verticillata (L. f.) Royle

View Native Status

See U.S. county distributions (when available) by clicking on the map or the linked states below:
USA (AL AZ CA CT DC DE FL GA IA IL IN LA MD ME MS NC PA SC TN TX VA WA)







Triploid Grass Carp for Hydrilla management

- Grass carp releases in 2012*:
 - Lake Gaston
 - 8,150
 - Other reservoirs
 - 4,406
- Most cost-effective management tool available

* Public funds



Alligatorweed

- Emerged perennial
 - Leaves are opposite.
 - Typically growing as a floating mat.
 - Also grows terrestrially !!!
- Distribution
 - Widespread throughout coastal plain.
 - Isolated sites in Piedmont.
- Inflorescence
 - White clover-like flowers.
 - Flowers all summer and fall.



This map of Maryland displays the counties colored according to the number of years since the last census. The color scale ranges from dark purple (0 years) to light yellow (10+ years). The map shows that the majority of counties in Maryland have been censused within the last 5 years, with a concentration of counties in the last 2 years (dark purple) in the central and eastern parts of the state. The western part of the state, particularly in the mountainous regions, shows a higher number of years since the last census, with some counties in the 10+ year range (light yellow).







Alligatorweed




Creeping Water Primrose


- Emerged perennial
- Classified as “noxious” by NCDENR & NCDA
 - Illegal to culture, transport, or sell.
- South American origin, likely brought as an ornamental
- Inflorescence
 - Yellow, showy petals.
 - Summer and fall.
- Reproduction
 - Prolific seed production.
 - Fragmentation.



There is more than one *Ludwigia* species that tends to be problematic for us.



United States Department of Agriculture
Natural Resources Conservation Service



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PLANTS Profile

Ludwigia peploides (Kunth) P.H. Raven
floating primrose-willow

Click on the image below to enlarge it and download a high-resolution JPEG file.

Symbol:	LUPES
Group:	Dicot
Family:	Onagraceae
Duration:	Perennial
Growth Habit:	Forb/herb
Native Status:	L48 NI PR N




More Information:

- Classification
- Data Source and Documentation

Images:

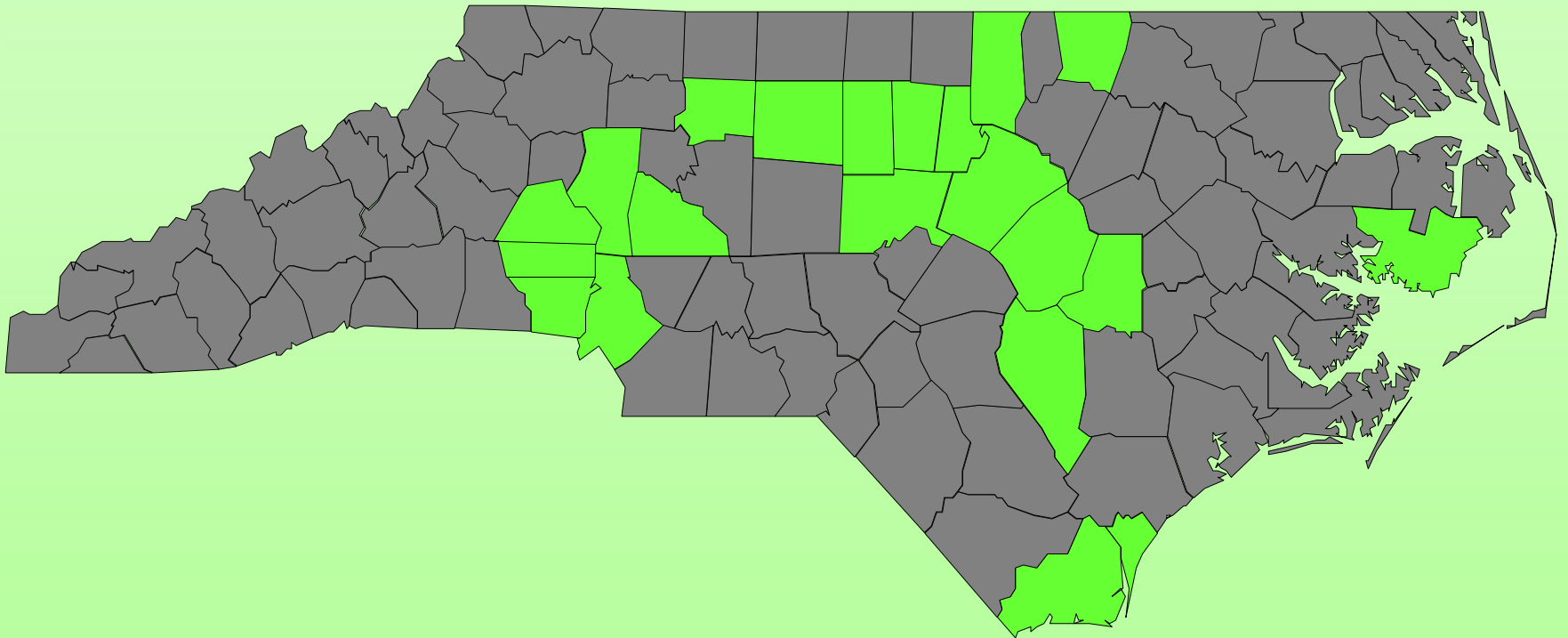
Ludwigia peploides (Kunth) P.H. Raven

Click on a thumbnail to view an image, or see all the *Ludwigia* thumbnails at the PLANTS Gallery



Robert H. Mohlenbrock. USDA SCS. 1991. *Southern wetland flora: Field office guide to plant species*. South National Technical Center, Fort Worth. Courtesy of USDA NRCS Wetland Science Institute. [Usage Requirements.](#)

County Distribution Map for Creeping Water Primrose







Rocky Mount, North Carolina

July 12, 2007



Greensboro, North Carolina

August, 2003



Parrotfeather

- Submersed plant with emergent floral spikes.
- Native to South America.
- Introduced to USA in late 19th century.
- Sold as water garden plant... Not regulated by the NCDA&CS.
- Reproduces by fragmentation.



Phragmites

- Emerged perennial.
- Multiple strains exist... only exotic found in NC.
- Foreign strains introduced to Northeast USA in the 19th century.
- Not regulated by the NCDA&CS.
- Produces seed heads in late summer and fall.







STOP

The Spread of Aquatic Weeds



REMOVE ALL PLANTS

From Boat, Motor & Trailer Before Leaving Area!

**For more information visit:
www.ncwater.org**



Help STOP the SPREAD of **AQUATIC WEEDS**

Remove all plants and plant fragments from boats, propellers, trailers and equipment prior to leaving this site.

If you have boated elsewhere DO NOT DRAIN bilge water, live wells, bait buckets, or any containers that may contain weeds or weed seeds directly into this waterway.



alligatorweed



water hyacinth



parrotfeather

**To report an aquatic weed problem,
or for more information contact:**

Onslow Aquatic Weed Reporting Site
c/o NC Cooperative Extension Service
4024 Richlands Hwy, Jacksonville NC
Phone: (910) 455-5873

NC Aquatic Weed Control Program
www.ncwater.org



Aquatic Weed Control Program

Visit our website:

www.ncwater.org

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