



Managing a Quality Pond

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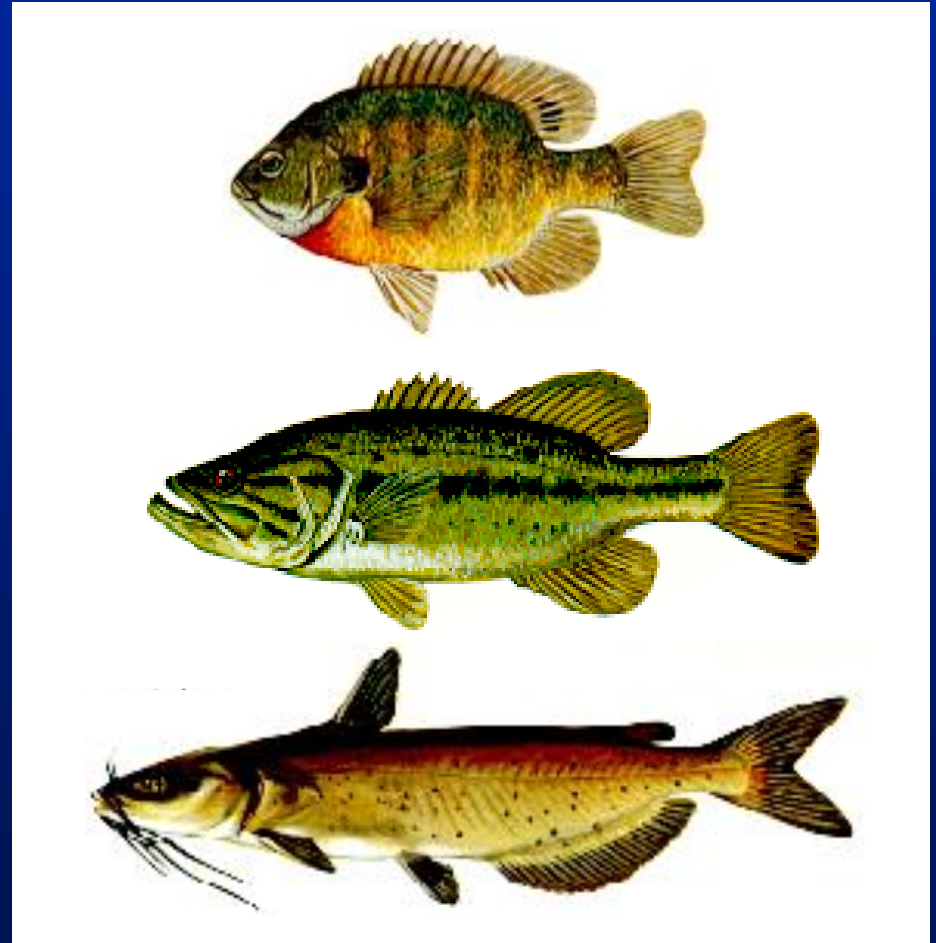
Successful Pond Management

Set your GOAL

- Pond design
 - Stocking Strategy
 - Proper Nutrients
 - Fish Growth and Harvest
 - Successful Fish Reproduction
 - Management of Competitive Species
 - Time you can invest in your pond
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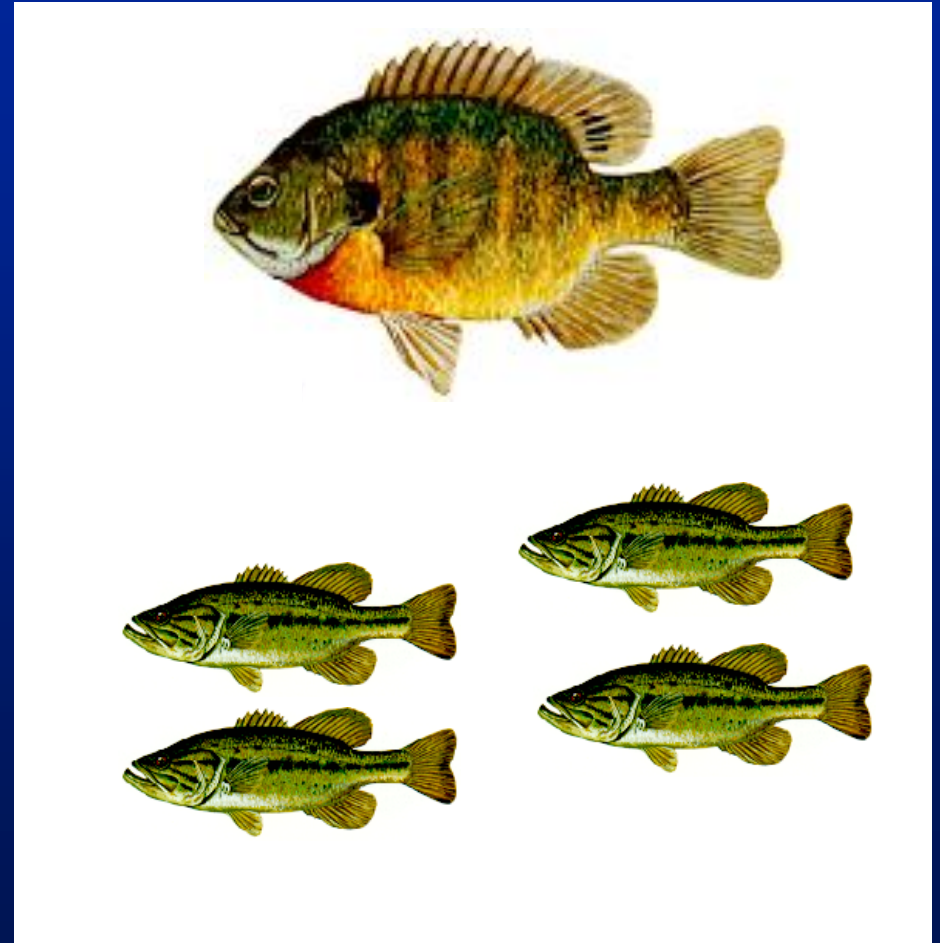
Typical Stocking Strategy For Small Ponds

- Bluegill/ Red ear
- Largemouth Bass
- Channel Catfish



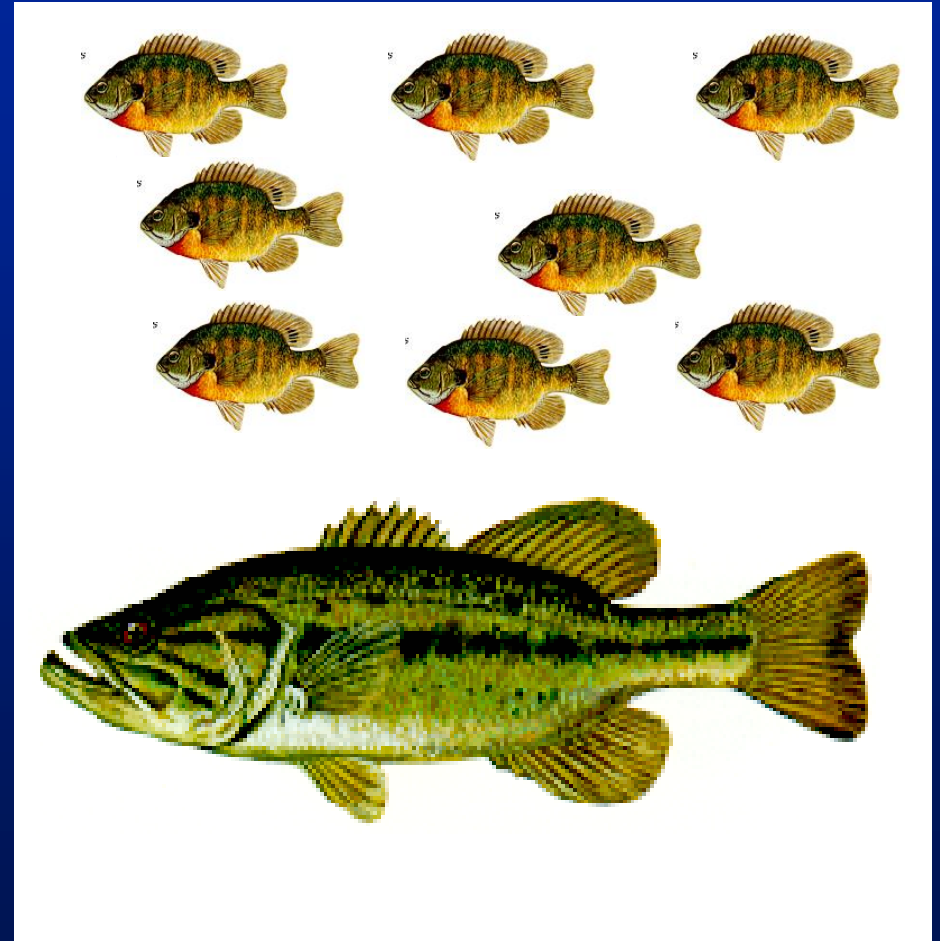
Pond Fishery Out of Balance

- A Few Large Bluegill
- Many Small Largemouth Bass



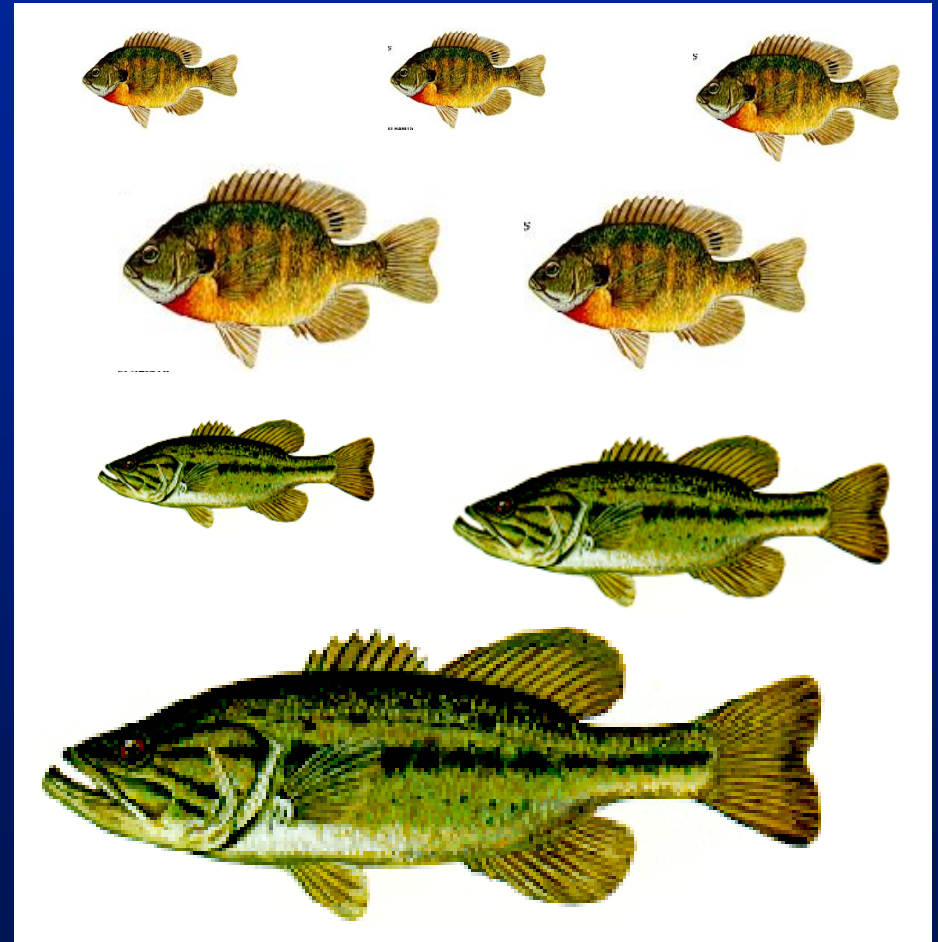
Pond Fishery Out of Balance

- Many Small Bluegill
- Few Large Largemouth Bass



Balanced Pond

- Bluegill/ Red ear
 - All sizes
- Largemouth Bass
 - Young of the year
 - 2 pound plus





Pond Management Is A Balancing Act

A balanced pond fishery can be established with the initial stocking. Maintaining that balance requires the pond owner to manage the harvest.

100 Bass and 500 - 1,000 Bream per Acre

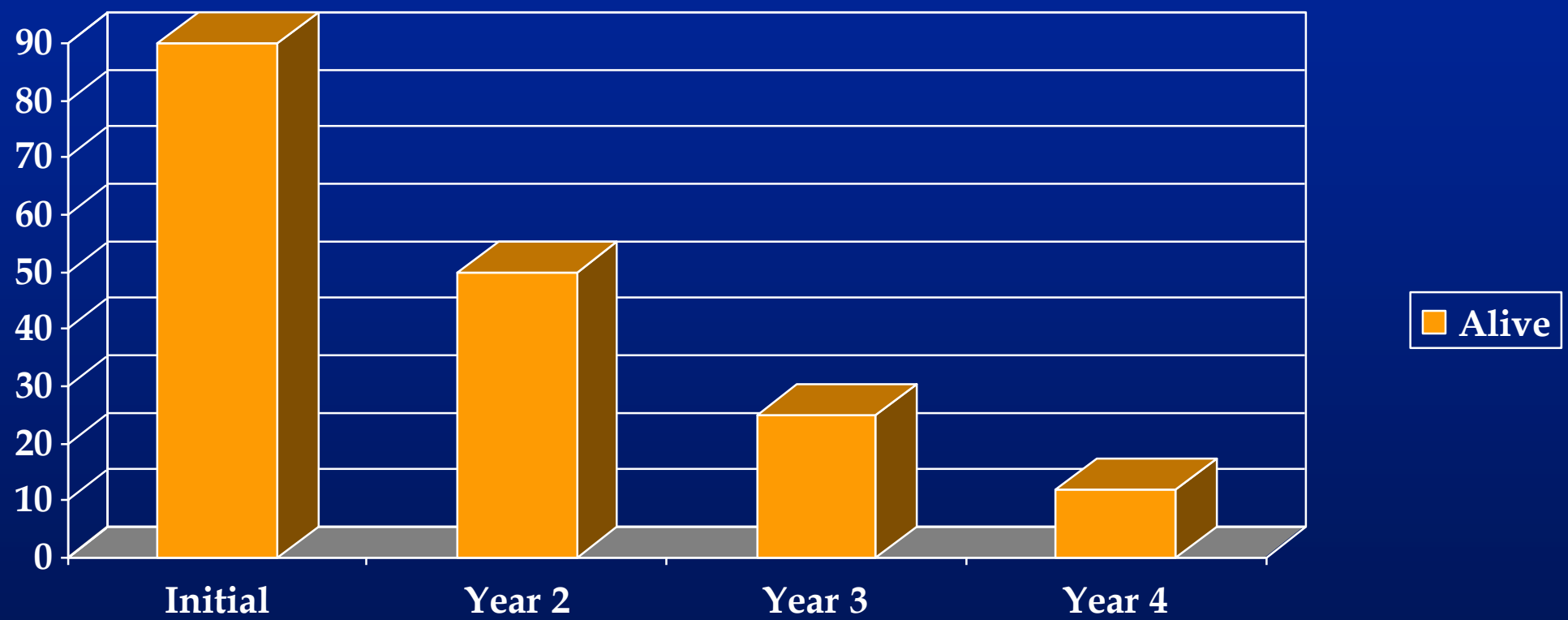
At least 100:400 red ear to bluegill.



Red Ear Sunfish



Largemouth Bass Survival



Largemouth Bass



Bream Mortality

- At least 30% of the bream do not reach reproductive age after stocking.
- However, reproduction may occur several times during the summer
- Catch 100 to 150 pounds per acre per year in fertilized ponds





Bluegill Sunfish in Good Condition






Managing Largemouth Bass for Good Fishing

- Do not harvest bass for two years after initial stocking (spawn at 10 in)
 - Minimum size limit of 14 inches
 - Remove no more than 20 bass per surface acre each year (after the first two years) (25 to 30 pounds/A/yr)
 - Be conservative
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Managing Ponds to Produce Trophy Bass

- Stock a fast-growing Bass Strain (Tiger), Largemouth/Florida or Florida Strain
 - Use relative weight score of bass to determine catch limits (above .9)
 - Release bass 18 inches and larger
 - Keep trophy size and bass < 18 inches
 - Stock Threadfin Shad, 600 per Acre
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Bass Healthy Weights

- Length, in

- 12
- 14
- 16
- 18
- 20
- 22
- 24

- Weight, oz (lb)

- 14.4 (0.9)
- 20.8 (1.5)
- 35.2 (2.2)
- 51.2 (3.2)
- 72 (4.5)
- 99.2 (6.2)
- 129.6 (8.1)



Stunted Bass





Stunted Bass (Relative Weight less than 0.8 (80% of healthy weight))

- Causes:

- Under-fishing for Bass
- No structure for Bream
- Disease (tapeworm) in Bass
- Aquatic weed problem

- Cure

- Balance fishing and record catch
- Add Christmas trees or fish habitat
- Control wading birds stock red-ear
- Control aquatic weeds



Fish Production and Fertilizing

From Boyd and Sowles 1978 (pounds/Acre)

| Fertilizer | Bass | Bream | Total |
|-------------------|------|-------|-------|
| None | 28 | 94 | 122 |
| Phosphate Only | 52 | 208 | 260 |
| N plus P | 53 | 297 | 350 |




Other Pond Problems

- Muddy water
- Low Oxygen
- Structure absent
- Feeding fish
- Diseases in fish
- Aquatic weeds





Common Causes Of Muddy Ponds And Their Solutions

- Soil erosion
 - Abundance of common carp and bullheads
 - Wave action
 - Livestock
 - Suspended clay particles
 - Buffer zone of grass
 - Eradication : chemical or drain pond
 - Riprap or vegetation
 - Fencing
 - Liming, Hay, Gypsum
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Fish Kills Due to Low Oxygen

- Cloudy weather for several days
- Rapid plant die-offs resulting from:
 - Change in algal species
 - Intense sunlight
 - High winds
 - Presence of herbicide





Oxygen Management

- Keep pond full
- Plan to aerate the pond
 - (3/4 to 1 HP aerator as a sanctuary)
- Pumps, aerators, stirrers, fountains, air blowers, diffusers



Feeding Fish

- Not recommended for most pond owners - not needed in a balanced system
- Not a solution for undersized fish
- **Best to feed if catfish are stocked**



Disease in Pond Fish

- Common Diseases

- Red Spot
- Columnaris or Fin Rot

Parasitic worms

- Tapeworm
- Nematodes
- Woolies or Grubs

- Possible Cure

- Wait for warming
- Reduce crowding by fishing more
- Control birds or increase red ear sunfish population
- Drain and restock

Erosion of
mouth

Erosion of
fin

Columnaris in Bluegill Sunfish





Remove Operculum and Expose
The Gills





Yellow Grub
(*Clinostomum marginatum*)



Red sore disease
Or Epistylis



How to treat infections?

- Before any treatment is started it is important to try and establish the underlying cause – particularly if several fish are affected, as this would suggest some form of environmental stress.
- Treat pond only in unusual cases.

Aquatic Weed Control

- Stock sterile grass carp in new ponds, 5 per acre
 - Treat aquatic weed growths early, before large infestations occur
 - Stock 10 or more grass carp to prevent re-infestation
 - See county agent for identification and herbicide selection
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