

Pond (Fish) Management

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Photo by Jed Dickerson



TEXAS A&M
AGRILIFE



What are we growing?

Herbivores?

We are growing...

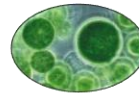


Carnivores/Predators!

Real question is:

**How to develop a
strong food chain?**

Food Chains start with plants



Food Chains start with plants



Clear water



Green water

Fertilizers

Phosphorous limiting Middle # N-P-K

- Liquid & granular – 20-36% phosphorous
- Powdered 50-60% phosphorous
- 5-8 lbs phosphorous/acre

Type	Grade	Fertilizer Name/Chemical Content	Amount to Apply/Acre
Liquid	9-32-0; 10-34-0; 11-37-0; 13-38-0	Either <u>ammoniated polyphosphate</u> or <u>orthophosphate</u>	1 gallon (all grades)
Granular	20-20-5	Fish pond fertilizer	40 pounds
	18-46-0	Diammonium phosphate	18 pounds
	0-46-0 + 34-0-0	<u>Triple super-phosphate</u> together with (+) Ammonium nitrate	18 pounds + 24 pounds (a total of 42 pounds)

- Cottonseed meal 150-250 lbs/acre



Fertilizers

- **Increase fish production 4-6 times**
 - unfertilized = 75-100 lbs/acre
 - fertilized = 250-600 lbs/acre
- **Do not fertilize rooted vegetation!**
- **Do not over-fertilize**

Secchi Depth

18-24 inches = good bloom

>24 inches = fertilize

12-15 inches = too dense

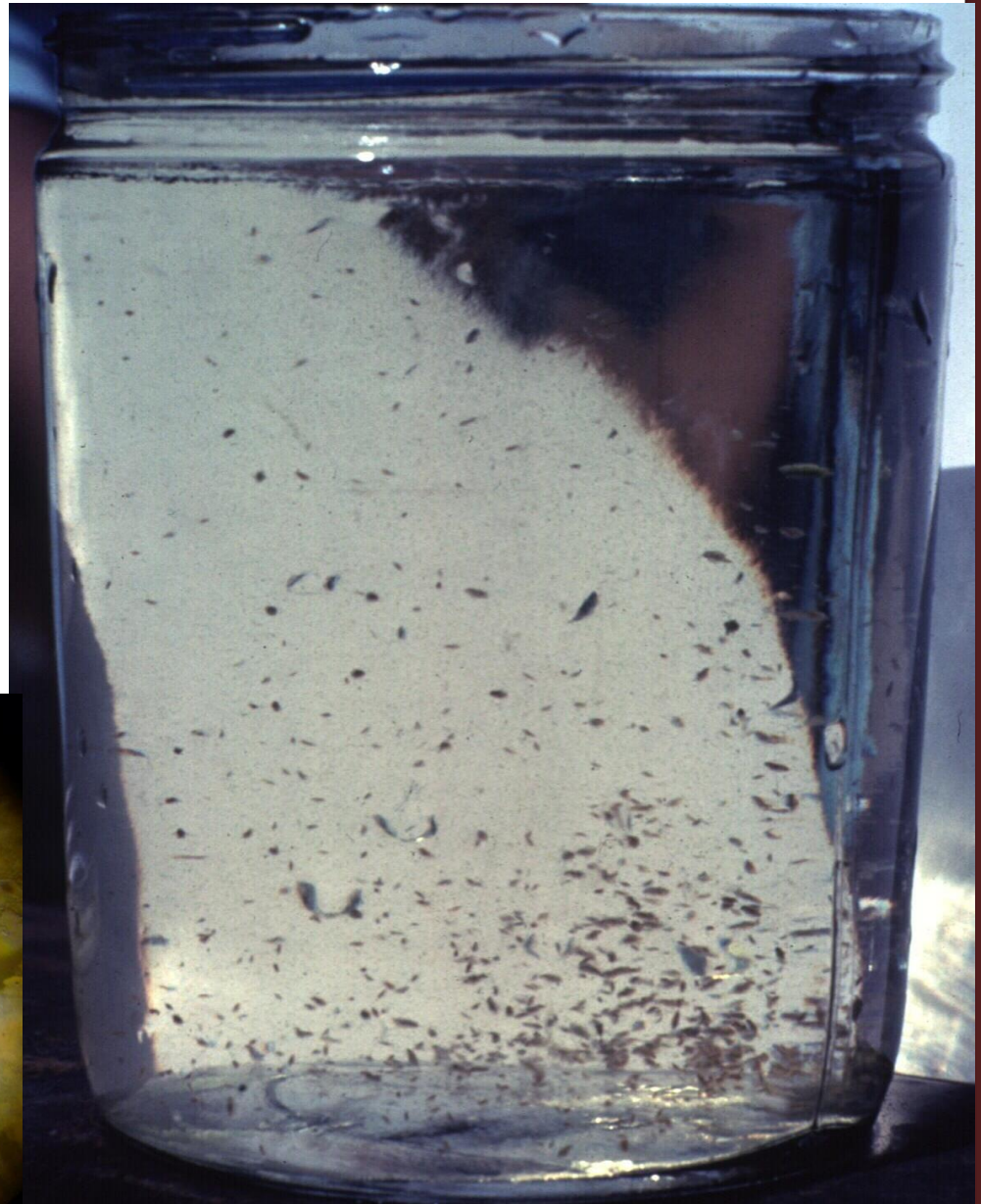
**<12 inches = oxygen
depletion**



Zooplankton

Tiny floating insects & crustaceans

Aquatic Herbivores







Periphyton

Detritus

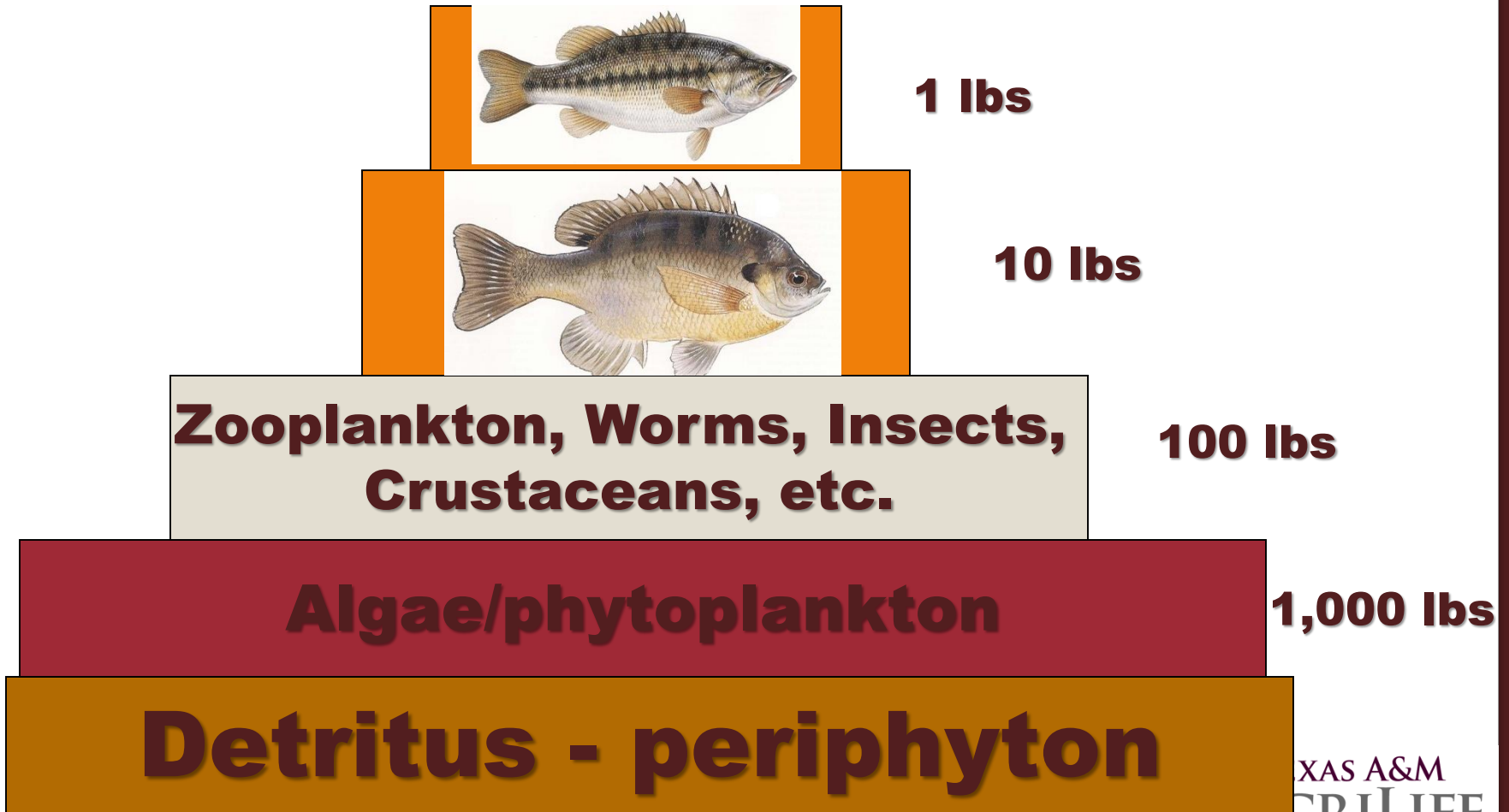
Detritivores



**Invertebrates =
crawfish, insects,
worms, etc.**



Pond Food Chain



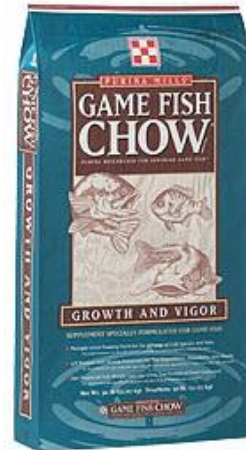
Alternative to fertilization is feeding!

Automatic feeders



Fish Feed

- Buy what you need, not what looks good
- Supplemental feeds
 - Protein most important & most expensive
 - 1/8" floating channel catfish feed
 - 28-32% protein
 - 4-7% lipid
- Only feed what fish can eat in 15 min



Seine Sampling

Looking for good fish reproduction



Young-of-the-year bass



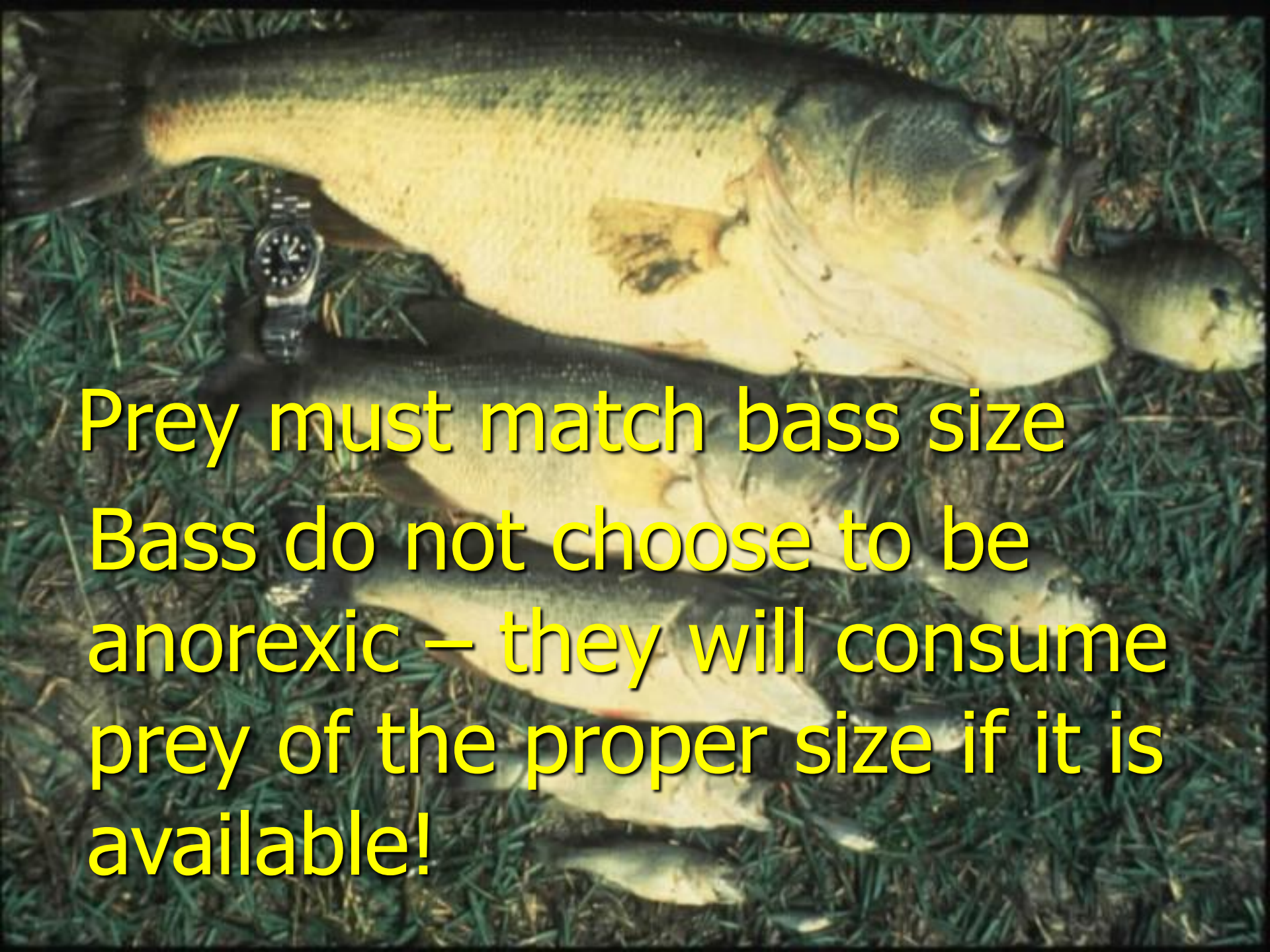
Bluegill Reproduction

Various sizes



Problems Found Seining

- No LMB young of year or fingerlings
- Numerous LMB of same small size
- Only large sunfish present
- Sunfish largely absent
- Unwanted species present
- Many small catfish present
- Inadequate prey size for all sizes of largemouth bass

A photograph showing two bass fish lying on a grassy surface. The larger bass is positioned horizontally across the top half of the frame. A wristwatch is placed on the grass to the left of the larger bass to provide a sense of scale. Below the larger bass, a smaller bass is also lying on the grass. The text is overlaid in yellow on the lower portion of the image.

Prey must match bass size
Bass do not choose to be
anorexic – they will consume
prey of the proper size if it is
available!

Bass Condition

Enlarged tail and eye

Skinny body

Stunted Bass!!!



Fishing is Key to Management

- Maximum fish production strategy
- Do not remove move bass 1st or 2nd year after stocking
 - Start of 3rd year:
 - Remove small skinny bass
 - 8 -15 inches in length (usually)
 - 10 lbs/acre if unfertilized = 25 to 40 small bass/acre/year
 - Healthy 10" bass averages 0.48 lbs
 - 25+ lbs/acre if fertilized = 75 to 125 small bass/acre/year

Management Strategies

- **Big bass option**
 - Remove 10-15 lbs/acre bass under 12"
 - Remove 10-15 lbs/acre bass between 12 & 15"
 - All fish over 15" released unless harvested a trophy >24"
- **Largemouth bass**
 - Florida - large size
 - Northern – aggression & numbers
 - No F1, hybrid, tiger, or gorilla bass

Management Strategies

- **Big bluegill/sunfish option**
 - Harvest ALL bass over 16"
 - 13-16" bass remove most small bluegill



MODEL No. 118

Keep records!



Crappie = over-reproduction

3 years old!



Black Crappie Option

- **Black only in small impoundments**
- **Less than 1 acre- absolutely not**
- **Must choose good bass or crappie**
 - **Produce good crappie by overcrowding bass**
 - **Create intentional stunted bass population**
 - **Ponds managed for crappie rarely have big bass to catch**

Black Crappie Option

- **Established ponds with balanced bass bluegill population**
 - **Stock 15 ADULT black crappie/acre**
 - **Catch & remove any bass over 15"**
 - **Creates crowd of small hungry bass**
 - **Controls over-population**
 - **Promotes fast growth of crappie**



