

<b>What's In the Seine <sup>1</sup> ?</b> <b>What Do Anglers Catch ?</b>		<b>Dr. Swingle's Seining Key</b>		
		<b>Condition <sup>2</sup> :</b>	<b>Comments:</b>	<b>Management Recommendations <sup>3</sup> :</b>
<b>1A.</b>	In the seine: No YOY bass present ▶ many bluegill fry ▶ no or few intermediate-size bluegill	<b>Temporary balance</b> ▶ bass crowded	Is it possible a water drawdown occurred during the bass spawn?	Harvest 25-30 pounds of bass/acre/year. Harvest bass of all sizes, but numbers-wise, harvest more small bass than large ones.
	Anglers catch: ▶ bass are abundant but small (<13") and thin (flat bellies). ▶ bluegill are big (>6") and fat.			
<b>1B.</b>	In the seine: No YOY bass present ▶ no bluegill fry ▶ many intermediate-size bluegill	<b>Out of balance</b> ▶ bluegill crowded	If the water temperature is above 74°F bass could have spawned. If it's above 80°F bluegill could have spawned. Muddy water or extremely low water could cause this condition. Is the pH unfavorable (e.g. < 5 or > 10)?	Often the quickest and least expensive solution is to drain the pond and restock. If draining the pond is not an option, close your the pond to fishing. To rapidly strengthen the bass population, stock 20-50 adult bass/acre. Adult bass need to be about 10-12 inches. Consider a water drawdown during the fall and winter. A marginal treatment using rotenone can quickly reduce the abundance of bluegill and move your pond towards balance. Contact your District Fisheries Biologist for more information.
	Anglers catch: ▶ bass are usually few, large, fat and can be difficult to catch. ▶ bluegill are small (TL<6"), thin, and can be difficult to catch.			
<b>1C.</b>	In the seine: No YOY bass present ▶ no bluegill fry ▶ many intermediate-size bluegill ▶ many tadpoles and/or minnows and crayfish	<b>Out of balance</b> ▶ bluegill crowded ▶ few bass		The best solution is to drain it and restock. If draining the pond is not an option, close your the pond to fishing. Stock 30-60 adult bass/acre. Adult bass need to be about 10-12 inches. Consider a water drawdown during the fall and winter or a marginal treatment using rotenone to quickly reduce the abundance of bluegill.
	Anglers catch: ▶ bass are extremely few or nonexistent.			
<b>1D.</b>	In the seine: No YOY bass present ▶ no bluegill fry ▶ few intermediate-size bluegill	<b>Out of balance</b> ▶ competitive species	Confirm the presence of competitive species with additional seining effort. Bullheads, crappie, shiners or shad can be difficult to capture. Have you ever seen schools of shad or shiners? Could the water be too cold or too silty for bass and bluegill to spawn? Could it have an unfavorable salinity or pH? Could a severe water drawdown and/or fish kill have occurred?	Drain it and restock. If you can not or do not want to drain the pond, contact the nearest Fisheries District Office, speak to a Fishery Biologist and get specific management recommendations for your situation.
	Anglers catch: ▶ Have bullheads or crappie ever been caught in the pond?			

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<b>1E.</b>	In the seine: No YOY bass present ▶ no bluegill fry ▶ few intermediate-size bluegill ▶ many green sunfish	<b>Out of balance</b> ▶ crowded with green sunfish	Common condition usually caused by green sunfish invaded the pond prior to stocking bass.	The quickest and least expensive solution is to drain it and restock. If draining the pond is not an option, close your the pond to fishing. To rapidly strengthen the bass population, stock 20-40 adult bass/acre. Adult bass need to be about 10-12 inches. Consider a water drawdown during the fall and winter.
	Anglers catch: ▶ Many 3" to 6" green sunfish ▶ Bluegill will be small and thin ▶ Few bass, but they are big and fat			
<b>1F.</b>	In the seine: No YOY bass present ▶ no bluegill fry ▶ no intermediate-size bluegill	<b>Out of balance</b> ▶ possibly no fish present	This is often due to water too cold for bass and bluegill, too saline, too heavily laden with silt, or with an unfavorable pH. Could a severe fish kill have occurred?	Contact the nearest Fisheries District Office, speak to a Fishery Biologist and get specific management recommendations for your situation.
	Anglers catch: ▶ Very little or nothing			
<b>2A.</b>	In the seine: YOY bass present ▶ many bluegill fry ▶ few intermediate-size bluegill	<b>Balance</b>	During the first half of the summer, you ought to catch about 1 YOY bass/three 15' seine hauls. Latter, as YOY bass get bigger and older, they may become more difficult to catch .	Harvest 25-30 pounds of bass/acre/year. Harvest bass of all sizes, but numbers-wise, harvest more small bass than large ones.
	Anglers catch: ▶ 1 to 2-pound bass, some larger and smaller ▶ mostly 6-inch and larger bluegill			
<b>2B.</b>	In the seine: YOY bass present ▶ many bluegill fry ▶ very few or no intermediate-size bluegill	<b>Balance</b> ▶ bass crowded	Was it overstocked with bass? Was there little or no bass harvest for 1 year or more? Does the pond have steep sides and/or lacks cover for small bluegill?	Harvest at least 30 pounds of bass/acre/year. Harvest bass of all sizes, but numbers-wise, harvest a lot more small bass than large ones. This condition often results in the production of large bluegill.
	Anglers catch: ▶ mostly bass less than 1 pound, a few larger ▶ very large bluegill			

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2C.	In the seine: YOY bass present ▶ no bluegill fry ▶ no intermediate-size bluegill	<b>Out of balance</b>	<b>Not common.</b> Bluegill may be absent. If bluegill are present, water may be too cold (<80°F) for bluegill to spawn or possibly too saline.	The best solution is to drain it and restock. If you can not drain your pond, contact the nearest Fisheries District Office, speak to a Fishery Biologist and get specific management recommendations for your situation.
	Anglers catch: ▶ bass are few and in poor condition ▶ bluegill are few or nonexistent			
2D.	In the seine: YOY bass present ▶ no bluegill fry ▶ few intermediate-size bluegill	<b>Temporary balance</b> ▶ could become out of balance unless the condition is quickly corrected	Could be caused by competitive species. Additional seining effort may be needed to confirm the presence of competitive species. Bullheads, crappie, shiners or shad can be difficult to capture. Have you ever seen schools of shad or shiners? Could low water have occurred? Was the pond fertilization program or a bluegill feeding program stopped, abruptly?	If undesirable, competitive species are very abundant, drain the pond and restock it. If a few competitive species were collected in the seine, close the pond to fishing. To rapidly strengthen the bass population, stock 10-30 adult bass/acre. Adult bass need to be about 10-12 inches.
	Anglers catch: ▶ Have bullheads or crappie ever been caught in the pond?			

1

Seine: An untreated commercial grade nylon seine, 15 feet long, 4 feet deep with 1/8" Delta 35 pound knotless mesh, and heavy leads, attached at either end to a seine "brail" (a 5 foot length of heavy-walled aluminum pipe). Make certain the "lead line" of the seine is attached to the very bottom of the seine "brail". Find 3 to 6 spots scattered around your pond that are suitable for seining. An excellent seining site is one where the pond bank is grassy, open and free of trees or roots and gradually slopes to the water's edge. The pond needs to slowly drop off to a depth of 3' to 4', about 15' from shore. The pond bottom should be composed of hard clay, sand, or gravel, and be free of chunk rock, snags, brush piles, or other obstructions. Pull the seine 3 to 6 times using "quadrant" seine hauls as demonstration in the DVD. Measure all the bluegill and bass (and other fish species you catch) to determine their total length, for each seine haul. Record that information on the "Balance Check" card below. Answer the additional questions on the card. Using the information from your "Balance Check" card and the "Seining Flow Chart", you can determine the condition of your bass-bluegill population from Dr. Swingle's Seining Key.

2

The seining key represents a compilation of research performed by Dr. H. S. Swingle at Alabama Polytechnic Institute (Auburn University) that he presented at the 21st North American Wildlife Conference in 1956 in a paper entitled "Appraisal of Methods of Fish Population Study - Part IV, Determination of Balance in Farm Fish Ponds".

3

These are management recommendations to produce "balanced" bass-bluegill populations in ponds that are being properly fertilized, where adequate amounts of lime have been added to the pond or occur naturally, and the pond owner is closely monitoring bass and bluegill harvest. Annual bluegill harvest can be as high as 125-150 pounds/acre. In "balanced" ponds, most of the bass that anglers catch are between 1-2 pounds and the bluegill are 6-inches or larger. Smaller bass will be abundant, but some 3-5 pound bass and even "trophies" will be caught in "balanced" ponds.

In "out of balance" ponds where bluegill and green sunfish are crowded, anglers will primarily catch small bream. Angler's catch rates of bass will be low, but those bass that are caught are usually larger than 2 pounds and fat.

In bass crowded ponds, bass usually weigh less than 1 pound and are in poor condition. Bluegills are big, averaging over 0.3 pounds.

Please note: If your management "goal" is something different than producing a "balanced" bass-bluegill population, contact an ADWFF District Fisheries Biologist in your area and get pond management recommendations specific to your pond and your management goal.