MISSOURI DEPARTMENT OF CONSERVATION

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ROBERT L. ZIEHMER, Director

REPLY TO: Southeast Regional Office
2302 County Park Dr.
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June 6, 2014

Dear Mr. Jones:

On May 20, 2014, we completed an electrofishing survey of the four major lakes at the Lake Timberline Community in St. Francois County. The purpose of the survey was to assess the fish populations and overall lake conditions. The information obtained from the survey enables me to make specific recommendations concerning the lake and its future management.

LAKE CONDITIONS AND FISH POPULATION CHARACTERISTICS

Lake Timberline Management Recommendations and Condition

This lake was very clear (~10 feet of clarity) and as you know is difficult to angle due to the fish spooking easily. The same goes for our survey. The fish can see us coming and it was noted that several bass and bluegill were seen out in front of our survey boat not getting sampled. Future surveys will need to be done at night to enhance our ability to get a sound population estimate. However, during our survey we feel that we captured/collected enough fish to still give sound advice and management recommendations.

1. Current largemouth bass regulations are 12-15" protected slot and 6/day limit. Largemouth bass population has a balanced size structure. Bass were plump and showed good condition characteristics.
2. The bluegill population also has a balanced size structure. Although we did not collect many bluegill the bass condition reflects the bluegills population, which is good. If you would like to enhance this fishery you can do a couple of management actions which includes the establishment of aquatic vegetation and brushpiles in select locations. In addition it was discussed that hybrid bluegills were stocked over time. I would shy away from doing this practice as hybrids can back cross to their parents which will inherently result in the establishment of green sunfish. Green sunfish are another mouth to feed and will also raid nests causing havoc with your bass and bluegill populations. Several longear sunfish were also collected which again is another mouth to feed and competes with your bluegill population. I would remove as many longear and green sunfish as possible to help with the growth of your bluegill.
3. Only one redear sunfish was collected in our survey. You should have plenty more in the

lake, but due to the clarity, depth, and conditions present on our survey we did not capture many. Redear sunfish are another good sport fish to promote in your lake. If you are not capturing many through angling you can transfer some adult redear from one of your other lakes (Lake Primrose) to help establish a stronger population. Continue to angle for these fish to make that determination in the future.

4. Only one black crappie was collected during our survey. Electrofishing is not the preferred method for surveying for crappie. With this being said you will want to continue to monitor this population through angling. If your constituents are not happy with the population, you could stock 30/acre of 4-6 inch black crappie.
5. No channel catfish were collected during this sample, however one was seen. Catfish have a hard time recruiting to the population after a spawn, so we consider them a "Put, Grow, and Take" fishery. You put them in, grow them up, and take them out. If your catfish fishery is not to your liking, then stock 10/acre 8-12" in length.
6. The lake had several brush piles, stumps, and tree tops for cover. However it could use more cover. I know that this lake is primarily used for recreational boating, but select placement of brush along the shorelines, near docks, and close to the levee will provide fish much needed cover.
7. No vegetation was present during survey.
8. Incidental catch consisted of longear sunfish, warmouth, yellow bullhead, hybrid bluegill, and green sunfish.

Your concern on site during our visit was to ensure a viable fishery in this lake and to see if stocking was needed. Our conclusions are that your bass and bluegill fishery are intact and healthy. I would reduce competition in your sunfish populations by removing all green sunfish, hybrid bluegill, and warmouth. I would also eliminate any future hybrid bluegill stockings. I would continue with your current regulations. I would also consider stocking channel catfish and black crappie at the above suggested rates and sizes. I would consider establishing more brush in select areas around docks, in coves, and along shorelines to help provide some much needed cover. I would also establish aquatic vegetation such as pickerel weed, soft rush, arrowhead, irises, spatterdock, and lilies. These types of vegetation are easy to control if they get into areas where they are not wanted.

Lake Wahoo Management Recommendations and Condition

This lake had ~ 6 feet of clarity with very little cover (brushpiles) or littoral zones (shallow sloping banks). Littoral zones were limited to coves and the upper end of the lake as much of the lake exhibited very steep sides. Littoral zones are important for spawning and nursery areas for fish. This lake is predominately used as a fishing lake and with some enhancement can become a very productive lake. A high density bass population was observed which exhibited poor condition. This is probably reflected in the lack of prey in the lake. We saw very few bluegill and these fish are an essential food base for bass. As the previous lake, a night survey will need to be conducted in the future to improve our assessment of the fishery. However, during our survey we feel that we captured/collected enough fish to still give sound advice and management recommendations.

1. Current largemouth bass regulations are 12-15" protected slot and 6/day limit. Largemouth bass population were in poor condition and truncated to a 7-11 inch size

structure. This is probably due to the lack of prey base in the lake. Increasing prey base and reducing (harvesting) bass under the slot will ultimately improve the bass population.

2. The bluegill population was limited in our survey. This could be for several reasons, but due to the bass condition I feel there population is not as strong as it should be resulting in poor bass growth. To improve the bluegill fishery I would stock 50/acre 4-6" in length to improve the population densities. In addition, bluegill thrive in vegetation. Since this lake is predominately used for fishing I would treat the lake heavily with aquatic plants and fish cover (brushpiles). The upper end of the lake is very shallow and will be a great place to begin to establish aquatic plants. These should include but are not limited to pickerel weed, spatterdock, lilies, arrowhead, and soft rush. These plants will also do well in coves. By establishing these plants in these areas you will give the bluegill cover to spawn and rear their young until they reach adulthood. Also add brush piles in as many places 2-6 feet deep as possible. Since this lake is mostly surrounded by trees you can hinge cut trees to fall into the lake. This practice is cutting through the trunk partially until the tree falls over leaving a small section still attached. As stated previously, I would shy away from stocking hybrids as well as removing any green or longear sunfish to reduce competition with your bluegill.
3. Only two redear sunfish was collected in our survey. You should have plenty more in the pond, but due to the clarity, depth, and conditions present on our survey we did not capture many. Redear sunfish are another good sport fish to promote in your lake. If you are not capturing many through angling you can transfer some adult redear from one of your other lakes (Lake Primrose) to help establish a stronger population. These fish also like vegetation as seen in the Lake Primrose survey. Continue to angle for these fish to make that determination in the future. If you decided to stock redear sunfish I would stock at a rate of 25/acre 4-6 inches in length.
4. No crappie were collected during our survey. Electrofishing is not the preferred method for surveying for crappie. With this being said you will want to continue to monitor this population through angling. If your constituents are not happy with the population, you could stock 30/acre of 4-6 inch black crappie. Black crappie also thrive in vegetation and congregate around brush. Another reason to beef up these two management actions in this lake.
5. A couple of large channel catfish were collected during this sample. However, as stated previously catfish are a "Put, Grow, and Take" fishery. You put them in, grow them up, and take them out. If your catfish fishery is not to your liking, then stock 10/acre 8-12" in length.
6. No vegetation was present during survey.
7. Incidental catch consisted of longear sunfish.

Your concern on site during our visit was to ensure a viable fishery in this lake and to see if stocking was needed. Our conclusions are that your bass population is weak. They are lacking a prey base. Increase your bluegill density through stocking and decrease your completion in your bass fishery by removing fish under the slot. The establishment of aquatic vegetation and brushpiles will undoubtedly improve this lakes fishery. Since there are grass carp in this pond, you will need to protect any aquatic plants with cages until they become established. I would also consider stocking channel catfish and black crappie at the above suggested rates and sizes. I would consider establishing more brush in select areas around docks, in coves, and along shorelines to help provide some much needed cover.

Lake Primrose Management Recommendations and Condition

This lake was by far the best fishery of the four surveyed. Upon arrival we noticed the shoreline was covered in water willow and the lake had a greener color to it. The color was due to the vegetation and the establishment of macrophytes which helps a lake be more productive from a fishery standpoint. Visibility was around 83 inches, which is still pretty clear. In going around this lake the fish were hanging tight to the vegetation and many beds were seen throughout. Although this lake is primarily used for boating recreation the fishery was very strong. As previously stated, future surveys will need to be done at night to enhance our ability to get a sound population estimate. However, during our survey we feel that we captured/collected enough fish to still give sound advice and management recommendations.

1. Current largemouth bass regulations are 12-15" protected slot and 6/day limit. Largemouth bass population has a balanced size structure. Bass were plump and showed good condition characteristics.
2. The bluegill population also has a balanced size structure. In addition it was discussed that hybrid bluegills were stocked over time. I would shy away from doing this practice as hybrids can back cross to their parents which will inherently result in the establishment of green sunfish. Green sunfish are another mouth to feed and will also raid nests causing havoc with your bass and bluegill populations. Several longear sunfish were also collected which again is another mouth to feed and competes with your bluegill population. I would remove as many longear and green sunfish as possible to help with the growth of your bluegill.
3. The redear sunfish population was outstanding. We captured many on beds along the shoreline where vegetation breaks occurred. These adults could be transported to the other lakes in your community to help beef up those fisheries if needed.
4. Only one black crappie was collected during our survey. Electrofishing is not the preferred method for surveying for crappie. With this being said you will want to continue to monitor this population through angling. If your constituents are not happy with the population, you could stock 30/acre of 4-6 inch black crappie.
5. No channel catfish were collected during this sample. As stated previously channel catfish are a "Put, Grow, and Take" fishery. You put them in, grow them up, and take them out. If your catfish fishery is not to your liking, then stock 10/acre 8-12" in length.
6. The lake was lacking on brush piles, stumps, and tree tops for cover. However it could use more cover. I know that this lake is primarily used for recreational boating, but select placement of brush along the shorelines, near docks, and close to the levee will provide fish much needed cover.
7. Water willow lined much of the bankline. Spike rush was near the outflow along with some small stands of cattails. Continue to watch your cattails and if they begin to spread around your lake kill them. You will want to use an aquatic approved herbicide that has a concentrated active ingredient of Glyphosate. Mix glyphosate and water to the labels recommendation and spray the plant to wet. The water willow and spike rush can and should be transplanted to your other lakes that are lacking vegetation. Remember to cage them upon planting to protect them from turtles and grass carp until they are established.
8. Incidental catch consisted of longear sunfish and hybrid bluegill.

Your concern on site during our visit was to ensure a viable fishery in this lake and to see if stocking was needed. Our conclusions are that your bass and bluegill fishery are intact and healthy. The redear sunfish fishery was outstanding. I would reduce competition in your sunfish populations by removing all green sunfish, hybrid bluegill, longear sunfish, and warmouth. I would also eliminate any future hybrid bluegill stockings. I would continue with your current regulations. I would also consider stocking channel catfish and black crappie at the above suggested rates and sizes. I would consider establishing more brush in select areas around docks, in coves, and along shorelines to help provide some much needed cover. I would also establish aquatic vegetation such as pickerel weed, soft rush, arrowhead, irises, spatterdock, and lilies to give some species diversity since this lake is dominated by water willow. These types of vegetation are easy to control if they get into areas where they are not wanted.

Lake Goff Management Recommendations and Condition

This lake was very clear with approximately 20 feet of visibility. Our survey was very poor due to this and as stated previously, future surveys will need to be done at night to enhance our ability to get a sound population estimate. However, during our survey we feel that we can still give some sound advice for enhancing this lake. It was noticed that some brush was located in the coves and arms of the lake. Incorporating more areas with brush will help congregate fish and improve habitat. Establishing aquatic plants will also enhance the fishery.

1. Current largemouth bass regulations are 12-15" protected slot and 6/day limit. Largemouth bass population was under sampled, but a couple of large bass were collected and looked healthy.
2. The bluegill population collected was truncated to 2-5 inches. This could be due to several factors. Once is our inability to collect fish due to the clarity of the lake. We did see several fish swimming out in front of boat. Another reason is the two large bass collected. This lake could have a low density bass population therefore the larger fish are keeping the size structure of the bluegill smaller. A night survey will need to be done in the future to really get at these questions. As mentioned previously, do not stock hybrids and remove any longear or green sunfish.
3. The redear sunfish population was also undersampled for the previous reasons.
4. No black crappie were collected during our survey. Electrofishing is not the preferred method for surveying for crappie. With this being said you will want to continue to monitor this population through angling. If your constituents are not happy with the population, you could stock 30/acre of 4-6 inch black crappie.
5. One channel catfish was collected during this sample. As stated previously channel catfish are a "Put, Grow, and Take" fishery. You put them in, grow them up, and take them out. If your catfish fishery is not to your liking, then stock 10/acre 8-12" in length.
6. The lake did have some brush piles, stumps, and tree tops for cover. However it could use more cover. I know that this lake is primarily used for recreational boating, but select placement of brush along the shorelines, near docks, and close to the levee will provide fish much needed cover.

7. Water willow lined much of the bankline. Spike rush was also present along with small stands of cattails. Continue to watch your cattails and if they begin to spread around your lake kill them. You will want to use an aquatic approved herbicide that has a concentrated active ingredient of Glyphosate. Mix glyphosate and water to the labels recommendation and spray the plant to wet. The water willow and spike rush can and should be transplanted to your other lakes that are lacking vegetation. Remember to cage them upon planting to protect them from turtles and grass carp until they are established.
8. Incidental catch consisted of longear and green sunfish.

Your concern on site during our visit was to ensure a viable fishery in this lake and to see if stocking was needed. Our conclusions are that it is not only difficult to fish a clear lake but it is just as hard to survey. Adding brush and a diversity of aquatic plants will undoubtedly improve your fishery. Along your newly renovated shoreline I would suggest getting it planted in vegetation as quickly as possible to reduce any sediment from entering your lake. Also you might think about lining the shoreline with bald cypress. It is a tree that loves moist soil and will ultimately bring a distinct beauty to this lake.

If you have any questions regarding your lake, the survey results, or the management recommendations, please don't hesitate to contact me.

Sincerely,

Jason W. Crites
Fisheries Management Biologist