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Index

- 2 August Speaker
- 3 AOTY Standings
- 3 Schedule AOTY
- 4 Sterling Results
- 5 Tribal hatchery
- 6 Message board
- 6 Sept Meeting
- 6 Event Schedule



PROTECTING AND PROMOTING THE GREAT LAKES SPORTFISHERY SINCE 1974

Volume 5 Issue 9

September 2021

Raising Fish: An inside look at how one hatchery is helping to restore native Great Lakes species

By <u>Kathy Johnson</u> Reprinted from the Great Lakes Now.org newsletter Running a Great Lakes fish hatchery requires a thorough understanding of biology, an affinity for mathematics, a solid grasp of physics and engineering, enough plumbing skills to qualify for union wages and a stomach impervious to the aroma of stinky fish. Kris Dey has been running the Little Traverse Bay Band of Odawa Indians' fish hatchery for five years. The <u>Little Traverse Bay Band</u> is a federally recognized tribe whose historically delineated land encompasses



approximately 336 miles in the northwestern tip of Michigan's Lower Peninsula. The primary objective of the Tribe's \$2.5 million hatchery is to help native Great Lakes species. This year's goal is to raise and release over half a million fish. The specific fish they focus on depends on the year. "Our target is 500,000 whitefish, 1,000 sturgeon and up to 60,000 walleye," Dey said regarding this year. The hatchery had been rearing and releasing up to 85,000 ciscoes, or lake herring, into Lake Michigan each year, but that program was suspended in 2020 when surveys showed the lake's population of ciscoes was naturally increasing. Dey said if the number of wild ciscoes begins to drop, the hatchery will start raising them again.

"It kind of seems like the whitefish need us more right now," he said. But supporting native species isn't as simple as just rearing and releasing fish – allocating resources is just one of the challenges of hatchery management. Balancing the needs of different species is another of those challenges.

Whitefish vs lake sturgeon

Whitefish hatch in near-freezing water temperatures. They spend their entire lives in cold water and are very intolerant of warm water, according to Dey. Just a few degrees too warm and whitefish start to die. Whitefish swim in the big open waters of the Great Lakes. At the hatchery, whitefish are raised in large circular tanks with flow-thru water systems that function as fishy

treadmills and automatic tank cleaners. "The tank has to be twice as wide as it is tall for a proper radial flow to form," Dey said. The radial flow, also known as the teacup effect, swirls the water through the fish tanks like the spiral that forms as bathtub water empties down the drain. The interior walls of the 8-foot diameter tanks are painted a soft baby blue. Inside, hundreds of thousands of whitefish continuously swim against the swirling flow in never-ending laps. Fish waste naturally drops to the bottom where it is swept up and out the drain by the swirling water. This selfcleaning mechanism greatly reduces the amount of tank cleaning required of the hatchery staff.



Kris Dey, hatchery manager of the Little Traverse Bay Band of Odawa Indians' fish hatchery (Photo Credit: Kathy Johnson)

(Contd on Page 5)

Our September guest speaker will be Capt. Bill Dunk

Captain Bill won the DAS Skipper of the year honors in 2003. These day's he spends his time working in the boating industry, installing electronics, surveying boats, and as a licensed Captain.

Bill says, "Marine Electronics can be intimidating to the novice. Understanding how to use your system correctly is important. Marine Electronics was something I was always dabbling in, and it turned into a career. With the support of many friends and others in the marine industry, I took the jump and started Great Lakes Boating Services. With over 25 years' experience in the Marine world, It was time to share that knowledge and help others." Today's Marine Electronics are very advanced instruments. Choosing the right package can be confusing. GLBS can help you make the right decision that will fit your needs and budget.

Captain Bill is a member of:

Society of Accredited Marine Surveyors® (SAMS®), American Boat and Yacht Council, Boat US, US Coast Guard Captain, Garmin Authorized Dealer & Installer, NMEA Certified Marine Electronics Installer, Airmar Certified Installer (Transducers), and Graduate of Chapman School of Seamanship.



Captain Bill Dunk, SA Great Lakes Boating Services On Point Design and Engineering 248-408-0349

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□ Senior (65 &	over)-	\$20	Yearly

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	Get in the hunt for the AOTY title.																
	Angler of the Year(AOTY) Overall Standings To Date											TODAY: 9/13/2021					
	Entrant's Name	- 1-3	30 M -	2-06 S -	2-20 SI +	3-27 M	4-17 0 -	5-08 A -	6-12 S	7-10 LV -	9-11 M -	9-25 M -	10-30 M	11-06 M -	12-11 C -	Best 5	- Place -
1	MARK WYRICK		4	5	50	50	50	6	4	2	50	75	75	75	75	21	1
2	ROB PINSKEY		75	3	50	75	75	2	3	16	3	75	75	75	75	27	2
2	BOB PARADISE		50	1	50	1	50	50	12	11	2	75	75	75	75	27	2
4	GASPARE ARAGONA		1	16	50	4	50	9	50	15	4	75	75	75	75	33	4
5	DANIEL CHISHOLM		10	4	50	50	75	10	20	10	1	75	75	75	75	35	5
6	ANNA KULPA		5	8	50	50	50	11	10	7	50	75	75	75	75	41	6
7	MARK PIASECKI		3	7	50	50	50	75	21	75	75	75	75	75	75	131	7
8	DINO RAPTIS		7	6	50	50	50	75	23	75	75	75	75	75	75	136	8
9	BLAISE PEWINSKI		75	2	50	50	75	50	8	75	75	75	75	75	75	160	9
10	JAMES ANDERSON		50	13	50	3	50	75	75	75	75	75	75	75	75	166	10
11	NATE CASE JR		6	50	75	75	75	50	50	13	50	75	75	75	75	169	11
12	NATE CASE		2	50	50	50	75	50	25	50	50	75	75	75	75	177	12
13	TOM GORGUZE		50	11	75	50	75	75	5	75	75	75	75	75	75	191	13
14	RABIH ABDALLAH		50	50	50	2	50	75	75	75	75	75	75	75	75	202	14
15	LAURIE GAMBLIN		50	9	50	50	50	75	75	75	75	75	75	75	75	209	15
16	DON JASMAN		50	50	75	50	75	12	75	50	50	75	75	75	75	212	16
17	ED PAEHLIG		75	75	75	75	75	1	2	75	75	75	75	75	75	228	17
18	ARTRING		75	75	75	75	75	3	6	75	75	75	75	75	75	234	18
19	TONY YURGO		75	75	75	75	75	5	75	6	75	75	75	75	75	236	19
20	DON MIKROS		75	75	75	75	75	75	9	75	5	75	75	75	75	239	20

Here's the top 25 in the AOTY standings with four events to go!

REMAINING AOTY EVENTS:

Sat., September 25 --- Manistee - Pier/Surf Outing

- Best 3 Trout or Salmon by weight
- Fishing 6:00AM –1:00PM
- 1:30PM Weigh-in and Lunch at Trax Bar in Brethren
- Chairpersons: James Anderson (313) 330-3680
- Laurie Gamblin (810) 730-2373

Sat., October 30 --- Manistee

- Best 3 Steelhead
- Chairperson: **T.B.D.**

Visit the Message Board for the latest details in the AOTY Outings Forum

Sat., November 6 --- Manistee - Manistee Watershed

- Fish-Off with Metro-West Steelheaders
- Best 3 Steelhead by weight
- Chairperson: **T.B.D.**

Visit the Message Board for the latest details in the AOTY Outings Forum

Sat., December 11 --- Caseville - Lake Trout Outing

- Best 3 Lake Trout by weight
- Chairperson: Blaise Pewinski (248) 890-4517

Visit the Message Board for the latest details in the AOTY Outings Forum



Volume 5 Issue 9

Sterling Perch Outing Results



This year's DAS perch outing out of Sterling State Park was one of the final five outings that will determine who will become the Angler of the Year for 2021. There are several people this year who are within striking distance of this championship, so each outing has added significance. Because of the significance of the twentieth anniversary of September eleven we did hold of moment of silence during the shore lunch in remembrance of that fateful day.

The weather projection for the morning of September 11 was dicey at best and a few of our AOTY regulars chose to sit this one out because perch fishing on a wind-swept Lake Erie can be rough. Rob Pinskey and I teamed up for this one and it looked like if we were going do any good, we had better be on the water early because the wind was projected to go from barely fishable to miserable by 10:00 am. We got to the ramp by 0600 and we were the first to

launch. I thought we would be on our spot by the 0630-start time but that did not happen because it took much longer to get to where we wanted to fish. The wind was already making things tough, but we did get to our starting point by 0700. Once we got on our spot, we dropped anchor and were surprised to find the anchor would not hold and we were drifting at about 1.2 mph. We added some anchor line and re-set and eventually we were holding out spot. Fishing was slow and the first few perch were the five inchers you can't keep. The rate of catch never really improved but the size did get better, and we were finally able to put a few fish into the bucket. By 0830 the wind made things impossible, so it was time to give it up. About the same time port captain Gaspare called and made his decision to call for an early end to the competition.

Rob and I made it back to the ramp around 0930 and DAS were able to hold our weigh-in and shore lunch. There was a total of twelve anglers on six boats that made it out. Only five of the twelve anglers weighed fish that morning. That's how slow the fishing was. Dan Chisholm took first place for 1 AOTY point. Bob Paradise came in second place for 2 AOTY points. Rob Pinskey was in third place for 3 AOTY points. Gaspare Aragona was in fourth place for 4 AOTY points, and Don Mikros came in fifth for 5 AOTY points.

Gaspare provided a shore lunch of KFC chicken, cole-slaw, mashed potatoes/gray, biscuits, and corn bread. End result, the lunch was great, the camaraderie was better, but the fishing was poor.



AOTY Monroe Perch Outing - Sat. Sept. 11, 2021

Next event up is Manistee-Pier/Surf on Saturday, September 25 with port captains James Anderson and Laurie Gamblin. They have done this outing before and done a great job so it should be fun. Hope to see you there......Dan Chisholm.

Page 4

Tribal Hatchery continued from Pg 1

The sturgeon tanks are managed quite differently from the whitefish teacups. Sturgeon are benthic, meaning they live on or near the bottom. The water in their tanks is circulated through at a much gentler rate to avoid the teacup effect forming too strongly. It needs to be just strong enough to keep the water moving and the waste flowing out the drain without flushing the tiny sturgeon away. At feeding time, the flow in the sturgeon tanks is stopped altogether to prevent their food from getting swept down the drain before the fish have time to eat it. Dey said the number of sturgeon per tank is also determined by how much area is available on the bottom of the tank rather than by the amount of water the tank can hold as with whitefish, walleye and ciscoes.

Dey said the most important factor when raising any species of fish is oxygen. Every tank has a probe monitoring the oxygen level. If the amount of oxygen in the tank drops below a preset point, the automatic feeder will stop. When fish stop eating, their metabolism slows down and they require less oxygen. If oxygen levels continue to drop, alarm bells sound and text alerts are sent. The need for quick response times by hatchery staff makes living within 20 minutes of the hatchery a requirement for employment.

Oxygen isn't the only critical factor. Maintaining a steady food supply is so important that Dey said they have multiple backup systems for the fish food.

A small storage room inside the hatchery houses a larger chest freezer packed with

frozen blocks of krill and shrimp. Two walk-in freezers at the LTBB Natural Resources Little Traverse Bay Band of Odawa Indians' fish hatchery office warehouse a one-year supply of fish food. Stockpiling an entire year's supply of (Photo Credit: Kathy Johnson) fish food proved critical in 2020 when the COVID-19 pandemic created massive de-



lays in the global supply chain. Raising half a million fish takes a lot of food. Dey said his most recent shipment of bloodworms was 175 kilograms, about 385 pounds, which should be enough to feed the lake sturgeon for the next year.

Recently, Dey heard the Michigan State University hatchery was using krill to feed their larger sturgeon. Krill are small ocean crustaceans that make up a significant portion of many marine animals' diets, including whales and penguins. Dey ordered 10 packages of krill in varying sizes to try with his sturgeon. "They really like it," he said, adding that krill is also much cheaper than the bloodworms they were using. Just as critical as the right kind of food is the right amount of food.

When the LTBB first started raising sturgeon, the mortality rate of the larval fish was unexpectedly high. A call to the MSU hatchery manager provided a possible solution – Dey might be overfeeding. Giving lake sturgeon too much food can cause them to starve. This behavior is so counterintuitive, Dey said it never occurred to him to give staving fish less food. When he reduced the number of feedings the sturgeon received each day, the fish started eating properly and stopped dying.

Seeing the light

Experimentation is an important part of Dey's job. The LTBB hatchery operates on a much smaller scale than some state hatcheries. Dey said running a smaller facility allows him to experiment in ways that larger operations sometimes can't. The industry standard for hatcheries is to rear fish in windowless buildings with only enough light for the staff to work safely. Multiple hatcheries had tried to raise cisco in these near dark conditions and failed miserably. "Cisco need light," Dey said. Ciscoes are extremely photosensitive, and Dey said when doing surveys, the ciscoes are often found closer to the lake's surface than the bottom. Knowing that ciscoes can be found near the surface should have been a clue that they liked light, but Dey didn't figure it out until the automatic shut-off controller for a set of work-lights failed. "The lights stayed on, and our cisco mortality went down," he said. Dey began experimenting by turning on different banks of lights for a week at a time. The closer the lights got to the ciscoes' tank the fewer the number of fish that died. When he left the lights on directly over their tank, for the first time in captivity the ciscoes finally began to thrive.

Doing the math

The dreaded word problems that many students fear seeing on math tests are a daily part of hatchery management. Nearly every aspect of Dey's job requires a high degree of mathematical calculations. If a one-inch fish can eat an ounce of food per day, how much food is needed to feed 500 two-inch fish? What about 15,000 four-inch fish? Don't forget to factor in that small growing fish eat more by body weight than larger fish. The math is endless. From how much freezer space is needed to hold a one-year supply of fish food to clipboards filled with dissolved oxygen levels and tank capacities for future data analysis. Dey's calculations begin before the first fish arrives. "We start with the number of fish we want to release and work backward from there," he said.

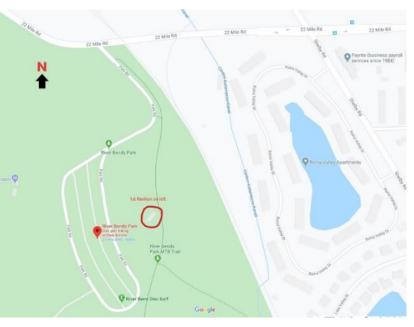
To stock 500,000 whitefish, Dey needs about 750,000 eggs to hatch. For that to happen they need "close to one million eggs," he said, adding that it takes approximately 600 adult whitefish for the staff to collect and fertilize one million eggs. A bachelor's degree in biology and an interest in working with fish are expected job requirements for hatchery work. But Dey admits it also takes a genuine affinity for math. "If you left college and never worked with Microsoft Excel, Microsoft Access or the statistical program R, you're gonna have a real hard time with a lot of what we do," he said. Dey doesn't mind all the math. He's even ok with all the fish tank maintenance. The only downside to hatchery work for him is when fish die. And his favorite part of running a hatchery is the day they release the fish into the Great Lakes.

About Great Lakes Now

With a monthly magazine-style television program and daily online reports at GreatLakesNow.org, the Great Lakes Now initiative offers in-depth coverage of news, issues, events and developments affecting the lakes and the communities that depend on them, while capturing the character

Don't Miss the September 28, Meeting at 6:00 PM

Be sure to attend the Tuesday, September 28, 2021 Member Meeting – 6:00PM at River Bends Park on 22 Mile Rd. in Shelby Twp. **Be sure to note the 6:00PM early start time.** As the days start to get shorter we are adjusting the meeting start times.



Message Board is Down, Kind of...

Recently, the DAS Message Board was hacked. We have taken measures to halt this activity.

If you need to register as a new user during this period please email Bob Ksionzek with your request.

When you visit the Message Board from the website link you will see a message stating that this board has no forums. **To view the message board, you must login with your user name and password.** If you forgot your password, just click on the "I forgot my password" link and you can reset your password. I apologize for any inconvenience this may cause.

Please e-mail Bob any concerns or issues in regards to the DAS Message Board or any other website concerns.

EXTRA! EXTRA! EXTRA!

Stay tuned for an upcoming announcement regarding our new indoor meeting location to start in October. Thank you to Shelby Township for helping us get through the COVID, and providing use of the Riverbend's Park pavilion this summer and last.

Upcoming Dates Sept 25 Manistee AOTY Salmon/Trout Sept 28 Membership Mtg at Riverbends Park Oct 12 BOD Meeting Oct 26 Membership Meeting Location TBD Oct 30 Manistee AOTY Steelhead Outing