



Vessel Program Newsletter

February 1, 2021

Adjusting the sails...

“The pessimist complains about the wind; the optimist expects it to change; the realist adjusts the sails.” — William Arthur Ward

The winds changed dramatically, this year—for everyone. Virtually, every person on the planet has been affected by COVID—19. Countries around the globe have moved through various phases of adjustment. The maritime industry in general and aquatic research institutions have been no exception.

DNR Fisheries Division went into lockdown with the rest of the State of Michigan in spring of 2020, dramatically altering work schedules of the Great Lakes Research Vessels.

Discussions occurred. Differences were ironed out and changes were executed. Timelines, procedures and expectations were altered to keep crews safe, yet productive.

In 2020, Great Lakes fisheries research continued in the Michigan DNR. The adjustments were challenging to execute and required all hands on deck to work together with empathy, patience and diligence. We stayed safe and got work done—the sails were adjusted.



S/V Steelhead sits dockside, waiting to fulfill her mission.

Research Mission: The mission of the Research Section is to provide information, models, and advice to make possible science-based management of Michigan's fishery resources.

This mission is pursued by synthesis of existing information gained through direct application of the scientific method into decision support tools. Research section includes biologists, analysts, technicians, and other support professionals. Research works closely with the other sections in Fisheries Division to assist in their missions by pursuing long-term or in-depth investigations that are normally outside the scope of other Fisheries Division units.

For your information: In 2020, Michigan fishing license sales increased roughly 9% in light of COVID-19.

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RV Tanner pushes through heavy seas with blue skies ahead in October, 2020.

Vessel Program Hot Topics

Research Vessel captains are a unique breed!

MDNR's vessel captains come from varied backgrounds including lifelong professional mariners, the commercial fishing industry, and college-educated fisheries scientists. There are common threads however. Namely, they are all United States Coast Guard credentialed Masters of Great Lakes and Inland Vessels and they all harbor vast amounts of knowledge of fisheries science! Such credentials are uncommon and highly specialized depending upon navigational experience and vessel size.

The uniqueness comes from an unusual combination of knowledge and skills that revolve both around safe and efficient navigation of highly complicated, multi-million dollar vessels and vast knowledge of fisheries science and collection techniques.

Extensive experience is required just to get the US Coast Guard to review an application for a captain's license (Master's Credential). Nearly 3000 hours of Great Lakes vessel experience must be accumulated over 5 years prior to initial application! Compare that to initial licensing requirements of private airplane pilots that only need 40 hours for their license and commercial pilots that need 250 hours to fly commercially and it's easy to see how seriously the federal government takes maritime navigation and licensing!

So the next time you take a cruise on a vessel, consider your captain and the extensive hours and knowledge that he or she has worked so long to accumulate. Give them a pat on the back for keeping everybody aboard safe and sound while catching thousands of fish for science!

Personnel News

The Michigan DNR Research Vessel Program is in the midst of major personnel changes that result in the loss of over 85 years of experience.

In spring of 2020, the R/V Char's Fisheries Assistant, Greg Kleaver retired from his post in Marquette (see page 8) leaving big shoes to fill in the area of gear fabrication, maintenance and on-board, fish processing.

The Research section will further be losing some of its steady leadership in the retirement of two of its captains. Captain Jerry Ranville of the S/V Steelhead and Captain Jeff Diamond of the RV Tanner will set sail for calmer waters in 2021.

Capt. Ranville worked as a commercial fisher for many years before getting his USCG creden-



Capt. Ranville keeping gear shipshape on the after—deck.

tial and joining the DNR, while Capt. Diamond worked his way through the Fisheries Division ranks to gain the necessary experience to start his captain's stint in Alpena.

With the departure of these respected seamen, the program will lose over decades of nautical know-how and immeasurable wisdom about Great Lakes seamanship, and—just as importantly—how the whole world works!

Safe seas, gentlemen! The citizens of Michigan, the vessel crews and the DNR has been fortunate to have you leading the way for so long!



Capt. Diamond at the helm of the R/V Chinook.

RV Tanner—Alpena Fisheries Research Station

The Research Vessel *Tanner* operates out of the Alpena Fisheries Research Station and works primarily on Lake Huron.



The crew aboard the *Tanner* consists of:

Captain-Jeff Diemond

Captain-Bill Wellenkamp

Fisheries Technician-Darren Ver-cnocke

Fisheries Technician-Jerek Gutierrez

Research Biologist-Ji He

Research Biologist-Dave Fielder

Vessel Business: During an extended winter-layup (COVID), vessel battery banks were replaced and a solar-panel was installed for supplemental charging of the 12v batteries. The vessel was fit out and surveying in late June in Thunder Bay. The *Tanner* was hauled out and stored on October 22 for winter layup and maintenance.



Recent Surveys

The spring **Lake Trout Survey** was abbreviated in 2020. The crew was not able to start the survey until COVID-19 protocols were solidified in late June. Fewer stations (6 of 14) were sampled later in the year than usual as the vessel crew avoided overnight stays away from home. Sites from Adams Pt (Rogers City), south to AuSable Pt were sampled in June and July. Each site was sampled overnight using 3600 feet (separated into 2 to four gangs) of multifilament gillnet set in 100 to 200 feet of water. While fewer Lake Trout were caught than in earlier spring surveys, the summer survey helped to contribute to understanding temporal changes in Lake Trout location. Resultant data contribute to cold-water fish management decisions in Lake Huron.

Tanner's **hydroacoustic and midwater trawling** gear was fully utilized in July and August, 2020. This was the first work of it's kind in that location and was a success for the crew. The gear and crew performed

Did you know? Cisco are being stocked in Lake Huron by the US Fish and Wildlife Service as part of native species restoration efforts.



Hydroacoustics mission control.

flawlessly on the survey that yielded information about the outer Saginaw Bay, pelagic fish community.

The **Coreyon Reef restoration project** in Saginaw Bay continued in 2020. Dissolved oxygen monitoring and other observations continued with concurrent work done by Purdue University. The project aims to restore native fish spawning habitat diversity.

To watch a short feature film about the Coreyon Reef Restoration:

[Click Here](#)

The annual **Saginaw Bay, Fish Community Survey** was completed in mid-September with new logistical arrangements to compensate for COVID protocols. Gillnetting results from 16 sites across Saginaw Bay are combined with the RV Channel Cat's bottom trawling results to yield a comprehensive fish community picture. The gillnetting yielded similar catch-rates of Walleye as 2019, while Yellow Perch catch decreased.

The **Les Cheneaux Islands (LCI) Fish Community Survey**, in early October collected Splake, Yellow Perch and Northern Pike populations among others. Six net nights with 1000', variable mesh gillnets contribute data to support fish population management in the LCI.

Finally, 1600 feet of gillnet was set overnight for the **Fall Lake Trout Assessment** at Mischley Reef in Thunder Bay. Lake Trout were captured for age analysis and dissection.



To learn more about the Alpena Fisheries Research:

[Click Here](#)

R/V Channel Cat-Lake St. Clair Fisheries Research Station

The Research Vessel *Channel Cat* operates out of the Lake St. Clair Research Station and works primarily on lakes Erie, Huron, and St. Clair. The crew aboard the *Channel Cat* consists of:

Captain-Roy Beasley

Assistant Captain-Jeremy Maranowski

Fisheries Technician-Brad Utrup

Fisheries Technician-Jason Pauken

Research Biologist-Andrew Briggs

Research Biologist- Jan-Michael Hessenauer



Due to COVID-19, sampling was reduced at the Lake St. Clair Fisheries Research Station. There was no Lake St. Clair trap netting, sturgeon set lining, or Lake St. Clair fish community trawling. The following survey work was done but was occasionally reduced from past years.

The 7th annual **August Lake Erie Trawl Survey** was completed the week of August 3. A total of 8,068 fish representing 20 different species were captured. The total catch rate (2,357 fish/ha) and catch rate of forage species (2,274 fish/ha) were both near the average for the data series. Walleye and Yellow Perch catch rates reflected continued strong reproduction in the western basin. While the relative abundance of age-0 Walleye (14 fish/ha) and Yellow Perch (296 fish/ha) in 2020 did not surpass the records set in 2018-2019, they were more than double the average catch rates observed during 2014-2017. The trawl survey continues to document the presence of Silver Chub, a state-listed special concern species, and for the first time in 2020 captured a state-endangered

Recent Surveys



Channel Darter and a juvenile (340 mm) state-threatened Lake Sturgeon.



in Ohio, Pennsylvania, New York and Ontario through annual meetings fostered by the Great Lakes Fishery Commission. Collaboration through the commission's Lake Erie Committee supports fisheries management efforts across the Lake Erie basin, including setting of quotas for recreation and commercial harvest of Yellow Perch and Walleye.

The **Lake Sturgeon trawling survey** in Lake St. Clair was conducted between August 17th and 24th. A total of 22 trawls resulted in the capture of 21 Lake Sturgeon, including two recaptured fish tagged in a previous year. The largest Lake Sturgeon captured was 68 inches long and weighed 95 pounds. Since 2018 sturgeon trawling has been concentrated to one week near the end of August rather than periodically



Results from the **Lake Erie fall Walleye gill net index survey** were not available at the time of writing, as the U.S. Geological Survey Great Lakes Science Center will be completing the survey for Michigan this year.

Fisheries Division shares the information collected from all its annual Lake Erie survey efforts with partner agencies



Recent Surveys Continued



Did you know? Lake Sturgeon are the oldest and slowest-growing fish in the Great Lakes. Although they can grow to nearly 200lbs, it may take them 150 years to get that big!

were caught representing 17 different species. The most common forage species were White Perch (773/tow), Mimic Shiner (453/tow), age-0 Yellow Perch (396/tow), and Trout Perch (134/tow). Data from this survey help inform managers on the status of forage fish along with the reproductive success and recruitment of Yellow Perch and Walleye in Saginaw Bay.

throughout July and August due to noticeably higher catch rates during this period. The 2020 sturgeon trawl catch rate (1.0/tow) was lower than 2019 (1.3/tow), but above average for the previous 10 years (0.6/tow). Data collected are used to assess Lake Sturgeon population demographics in Lake St. Clair.

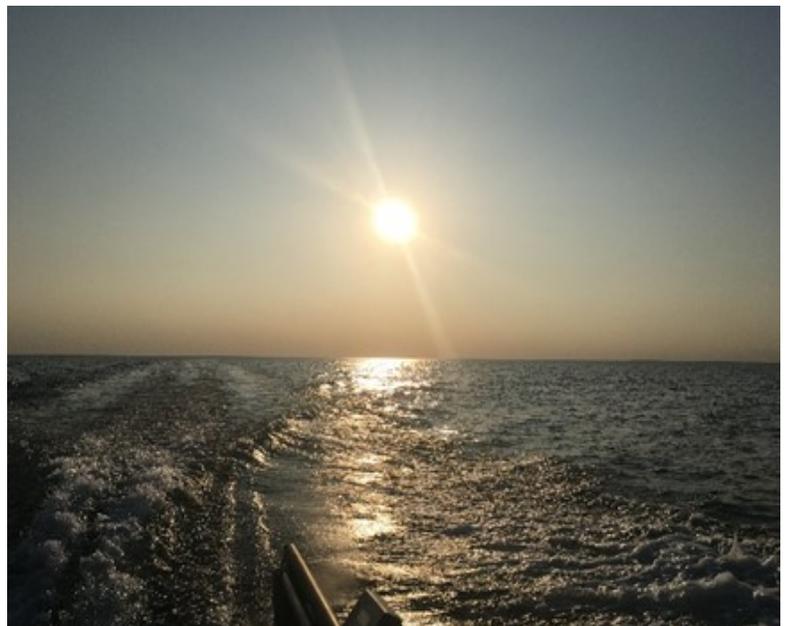
Saginaw Bay Trawling

The Annual Saginaw Bay Fish Community Trawl Survey on

Saginaw Bay was conducted September 22nd and 23rd.

Data analysis is still in process, but preliminary results are presented here.

The young-of-year Walleye catch rate was 8.0/tow, below the long-term average for the survey since Walleye recovery in 2003 (24.4). The young-of-year Yellow Perch catch rate was 396/tow, above the long-term average and the highest since 2004. A total of 14,782 fish



For great YouTube coverage:

[Click Here](#)

R/V Lake Char-Marquette Fisheries Research Station

The Research Vessel Lake Char operates out of the home port of Marquette, MI and surveys the Michigan waters of Lake Superior. The vessel is manned with the following crew members based out of the Marquette Fisheries Research Station.

Boat Captain—Kevin Rathbun

Boat Captain—Chris Little

Research Biologist—Shawn Sitar

Fisheries Technician—Dan Traynor

Fisheries Technician—Vacant

Vessel Business

The R/V Lake Char was launched on April 6, 2020 to allow the Conservation Officers to launch their vessel for commercial enforcement. Due to Covid-19 the vessel sat along the wall at Mattson Park with occasional security visits from various staff members from the station. Approval was eventually granted for maintenance and prep on the vessel. We set our first nets of the season on August 4 and lifted our last nets on September 2. The Lake Char was then dry docked on November 10 for the long winter nap.

News from the survey season:

The Summer Survey was conducted to assess lake trout recruitment to the spawning stock in Lake Superior from August 4 to September 2. Graded multi-filament gill nets with mesh from 2" to 2 3/4" in 1/4" increments are used for this assessment.

At some point during the survey season, it was determined the main engine battery charger was not working properly. This was replaced with a smart battery charger. The new charger is capable of charging and floating 3 separate battery banks. Captains Chris and Kevin wired this new charger to the generator bank and both main engine banks. Also added was a separate monitor at the helm. During this process, the wiring at the battery switches was corrected—a design repair that has been on the to-do list.

Season Totals

During the 2020 field season the crew collected 2504 fish of various species in 43,200 feet (8.2 statute miles) of gill net.



The Lake Char had 110 hours of sea time and consumed 1742.25 gallons of fuel at an average of 15.8 gallons per hour. The numbers are not very impressive but considering the year that it has been at least everybody on the crew is safe and healthy.

After 25+ years of service with MDNR, Greg Kleaver retired this past April. His dedication and hard-working ethic will be greatly missed. His ingenuity when it came to fabricating and repairing equipment is outside the box. No job was too big. Greg is a well-liked and respected team player and never turned down an assignment when asked. Congratulations and thank

you for everything you have contributed and accomplished for MFRS! Enjoy retirement Greg!



For more information about Marquette FRS:

[Click Here](#)

S/V Steelhead-Charlevoix Fisheries Research Station



The Survey Vessel *Steelhead* operates out of the Charlevoix Research Station and works primarily on Lake Michigan. The crew aboard the *Steelhead* consists of:

Captain— Jerry Ranville

Assistant Captain—Pat O'Neill

Fisheries Technician-Kris Snyder

Fisheries Technician—vacant

Research Biologist-Jory Jonas

Research Biologist—Ben Turschak

Click [HERE](#) for a video from Nature Change that details some of the S/V Steelhead's survey activities.

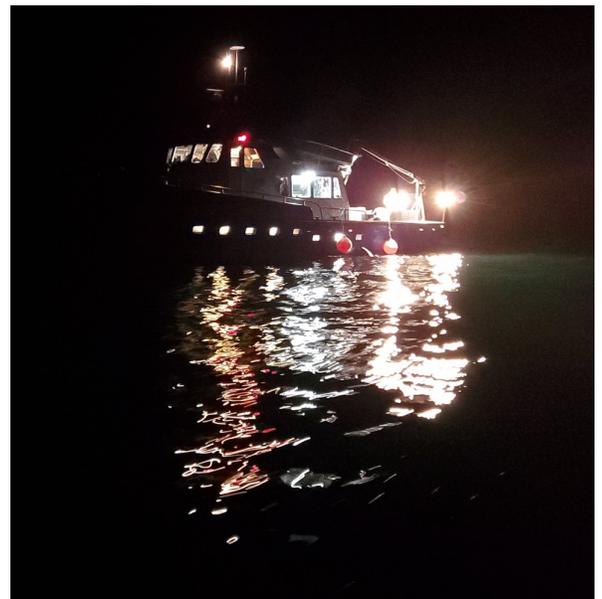
Vessel Business: What do we say about 2020 other than it went nothing like we planned. As the crew of the *S/V Steelhead* readied the vessel for its first survey, the State, country, and world started shutting down due to the threat of Covid-19. Then the crew spent the next two months investigating safe operating procedures with anticipation of getting approval to get out on the water. It was extremely helpful to follow the policies developed by the commercial fishing industry on both the East & West coast and take what was equable to our operating procedures. Staying in-tune due to the sheer large scale chaos that was affecting government operations around the State, you can imagine it was a slow approval process. Ultimately, we had a Covid operating policy approved when the crew agreed to be considered a "family unit" as we work & live on the vessel together. Then by following smart safety suggestions by the CDC at work and at home, eliminating assisting other Fisheries projects and not excepting outside help or volunteers, everyone reduced their exposure risks by minimizing travel and spending time with others.

Recent Surveys

Survey Season: We were able to get started in late June on our LWAP survey (Lake Wide Assessment Plan) but could only sample ports within a day-trip from Charlevoix. We were not able to conduct overnight surveys because of restrictions in the number of Fisheries Division employees in a vehicle at one time, which at time was limited to one employee per vehicle.

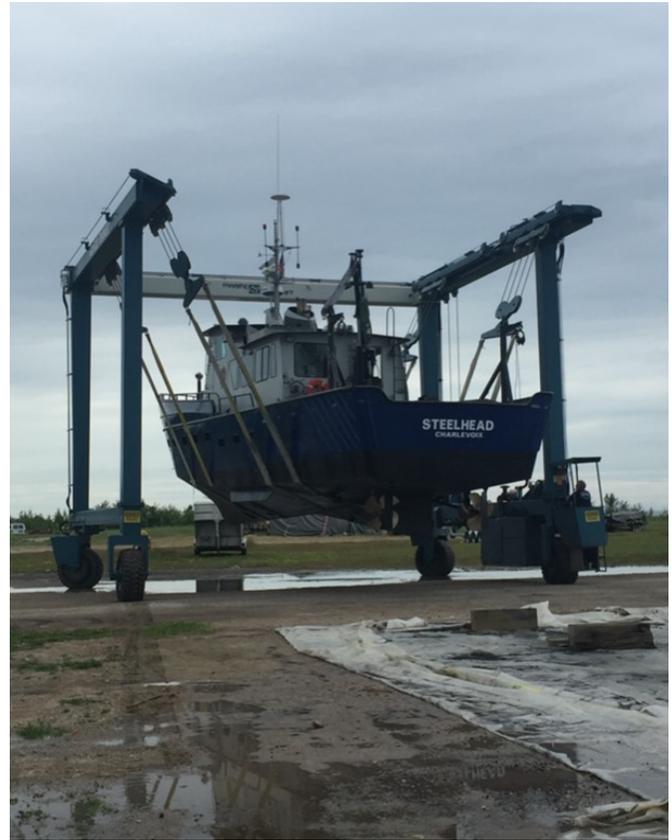
Then as we continued to prepare for our next survey, the Lake-wide hydro acoustic or prey fish survey, we were informed other agencies were not able to participate due to no Covid policies in place or being so strict that they could not perform necessary duties. Since this is a large-scale multi-agency survey, it was deemed the data which we, the Michigan DNR, would collect would not be enough to accu-

rately estimate Lake Michigan prey biomass. We were however able to complete our bottom trawling survey in late August early September followed by the netting to collect Lake Trout for EPA-containment sampling. Then the vessel was used in late November for a work platform on Good Harbor Reef while a smaller tender vessel was running hour-long gill net sets at night to collect adult Lake Whitefish. These fish were collected alive before being implanted with a hydroacoustic tags. Moving forward, biologists will have the ability to track not only where on the reef these fish like to spawn but where they go throughout the year.



S/V Steelhead News Continued

What is to come for the S/V Steelhead? With all the negativity floating around the world lately the crew of the S/V Steelhead got some great news. First it was amazing to hear that our vacant vessel technician has advanced through the early approval process of being filled. Fingers crossed we will be on our way to a full operating team again. Next was the good news that funding was available for next year's dry dock work. Every five years the S/V Steelhead is hauled out and inspected for seaworthiness and maintenance that requires to be in dry dock. This is our chance to inspect and/or replace drive shafts, propellers, rudders and bearings, sandblast and repaint everything below the water line and make changes or repair transducers or thru-haul fittings. This winter the request for bids will be sent out in hopes to have the work done in summer of 2021. In addition to the dry dock funds being approved, we were also informed there is money available to upgrade some navigation electronics. Like every mariner will tell you, trusting your navigation electronics is most essential and at times requires upgrades due to systems becoming old and obsolete. For this reason, on commercial vessels, it is a best practice to have a back up system. With the recent allotted funds, the S/V Steelhead is hoping to get a new chart plotter and maintain the current +10 year old plotter as our backup.



To learn more about the Charlevoix Fisheries Research Station:

[Click Here](#)

Want to know more about research vessels? [Click Here!](#)

Please contact one of the research stations listed below for any further information.

R/V Tanner
Alpena Fisheries Research Station
160 E. Fletcher
Alpena, MI 49707

Phone: (989) 732-3541

R/V Channel Cat
Lake St. Clair Research Station
33135 South River Rd
Harrison Twp., MI 48045

Phone: (586) 904-2058

R/V Lake Char
Marquette Fisheries Research Station
484 Cherry Creek Rd
Marquette, MI 49855

Phone: (906) 249-1611

S/V Steelhead
Charlevoix Fisheries Research Station
96 Grant St.
Charlevoix, MI 49720

Phone: (231) 350-9130