



Special points of interest:

- Project Profile: Specialty Coating Solutions Restores Raceways at the Walhalla Fish Hatchery
- Campbell Scientific's new CR 850 Data Logger
- Michigan Raceway UV a Success
- Lookingglass Fish Hatchery—IMF, UV, and Drum Filter Project
- New Products from WMT: Oxyguard Handy Polaris, Matsusaka Axial Flow Pumps

New Web Site

Please check out our new web site. We have a new format that we hope will be more informative and easier to navigate.

www.w-m-t.com

PROJECT PROFILE: Specialty Coating Solutions Tackles Raceway Repairs

After 80 years of being in operation, The Walhalla SC Fish Hatchery found itself needing to repair its 40-year-old concrete raceways which had experienced severe erosion. They called on Specialty Coating Solutions ("SCS") to do the job.

Due to the nature of the operations, the raceways could only be made available for rehabilitation work during the colder winter months, and only for short periods of time.

SCS proposed using a modified polymorphic resin for this project. The material could be applied in below freezing temps and would cure within hours of application, providing rapid turnaround for this project.

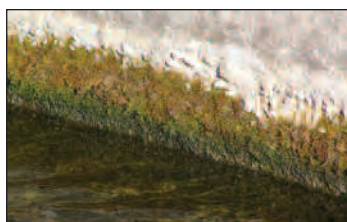
The project of lining six raceways (40,000 sq. ft.) was completed in three phases over the 2005-6 winter months. On average, two raceways, 403 feet long and 16 feet wide were

drained, cleaned, prepped and coated during three-week spans. Use of containment and rapid-curing resin finished the project on schedule and within budget.

The result: The smooth, even surfaces will minimize injury to the fish and make for an easier cleanup of the raceways for many years to come.



Weather Containment



Raceways Before Project



Project Completion



Surface Preparation



Project Completion

Campbell Scientific and WMT Partner to Deliver Monitoring Solutions

The CR850 datalogger is similar to the CR800 datalogger, except it has a keyboard display as part of its integrated package. The CR850 provides a lower-cost datalogger alternative for measurements of a limited number of sensors, yet can be used with most of our telecommunication devices such as cellular telephones, RF UHF/VHF RF modems, and satellite transceivers. The CR850 datalogger uses external power supplies.

Features

- Ideal datalogger where only a few sensors will be used. Stores data in FLASH (2 Mbytes of memory)
- Includes an on-board keyboard display as part of its integrated package
- Data format is table
- Operating system: PakBus®
- Software support offered in LoggerNet or PC400 (full-featured) or ShortCut (programming)
- Supports Modbus protocol, SDI-12 protocol, and SDM devices

WMT recently delivered the new CR850 to two diverse customers; Great Bay Aquafarms; an indoor marine fish hatchery located in New Hampshire and the Atlanta International Airport.



CR850 Datalogger

Michigan Raceway UV a Success

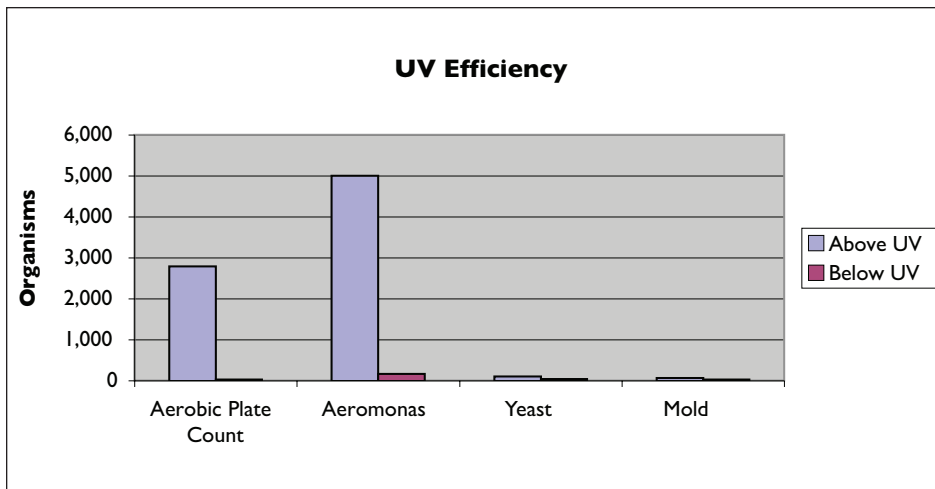
Marquette SFH in Marquette, Michigan is a typical cold water flow through trout hatchery. The hatchery employs 7 raceways for char brood stock and 10 raceways for char production in serial reuse fashion. Each raceway uses 1,500 liters per minute.

Water flow rate = 11,000 lpm for brood stock raceways, 21,000 lpm for production raceways. Water temperature ranges from 2C in winter to 11C in summer. UVT ranges from +90% to below 80%.

	Yearling Lake Trout	Yearling & Fall Fingerling	Yearling Splake
Annual Production (fish)	350,000	200,000	300,000
Total Biomass of Salmonids	55,0000 Kilograms		

The hatchery has a long history of fish health problems in both the char brood stock and production fish due to pathogens in its receiving waters; specifically *Aeromonas* and *Renibacterium*. The state solicited and WMT was the successful bidder to supply a UV system

capable of installing in the hatchery raceway to disinfect the incoming water. The UV system is installed in a head raceway that serves the brood stock raceways. Below are initial results of the raceway UV system delivering 45,000 u-watts-sec/cm² @ 3,000 gpm:



Problem

Initially, bed load from Cherry Creek was getting into the quartz sleeve seats, causing the sleeves to become wedged and breaking. Water then entered the quartz sleeves and shorted the UV bulbs.

Solution

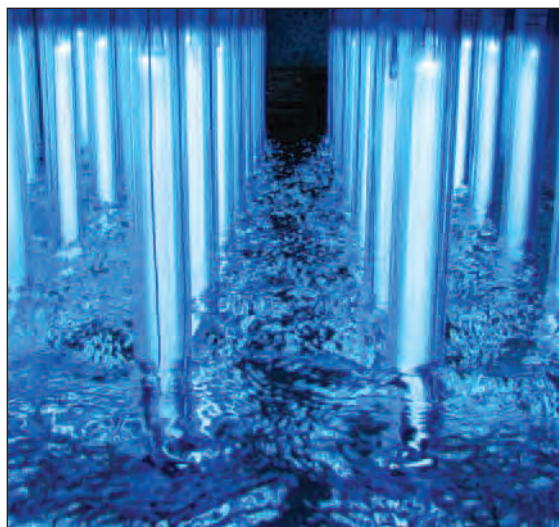
WMT and Emperor devised a solution that eliminates the bottom seat. As of this writing, the unit is back in operation and working within specifications.

This new raceway design delivers a cost effective solution for many flow through hatcheries with chronic fish health problems.

WMT thanks Michigan DNR and Emperor Aquatics for their respective contributions to this project.



Robin Smith, Maintenance Chief, Marquette & Thompson SFH's.



WMT/Emperor UV, Raceway vertical Insert style. 80 lamp UV field (3,000 gpm).



Glenn Snapp, Co Owner of WMT.

New Products for 2007

OxyGuard Handy Polaris Portable DO Meter

WMT is the USA distributor for OxyGuard. We are pleased to introduce the Handy Polaris Portable DO Meter.

The Handy Polaris is a hand-held, battery-powered dissolved oxygen (DO) Meter. Polaris measures mg/l (ppm), % saturation, temperature (°C or °F), has manual salinity compensation and automatic compensation for temperature and barometric pressure.

The probe is fully field serviceable. The instrument can withstand wet conditions and being dropped in the water! The

dimensions of the Handy Polaris are 98 mm diameter x 36 mm + belt clip (if used). Some additional features are:

- Large, easy to read graphical LCD display with backlight.
- User selectable language.
- Extremely long battery life (1400) hours.
- Measuring range: 0-60.0 ppm (mg/l) and 0-600% saturation.
- Lab Grade Calibrate or Fish Farm Grade Calibrate Features for wide range of users.
- Waterproof.

Mention this newsletter and purchase the Polaris for \$870.00 an \$80.00 savings.



OxyGuard Handy Polaris Portable DO Meter

Matsusaka Axial Flow Pumps

Matsusaka specializes in the manufacture of equipment for fish farming and has done so for over 40 years. Designed for high flows in low head applications, Matsusaka offers the PI 10 and 20 for small flow, low head applications (<100 gpm @ < 4 ft TDH) and the VII series for flow rates up to 650 gpm @ 6 feet of TDH. All of the sensitive electrical components of the motor are contained within a tough, hermetically sealed, 316 stainless steel housing. The rotor is supported by special upper and lower bearings. The internal portion of the motor is cooled by a special non-conducting liquid. This type of submersible motor delivers reliable performance in

many tough applications like deep water wells and corrosive salt water. Some additional features are:

- Low head, high efficiency axial flow impeller design delivers four times the flow than centrifugal pumps.
- Pump height is infinitely adjustable up to the maximum operating height with PVC piping.
- PI 10 and 20 Available in 110 v single phase.

- VII available in 3 models: VII-150, VII-75, and VII-40 3 phase only (50 or 60 Hz.)
- VII outlets available with American PVC threads.



WMT Designs, Manufactures and Sells Sealed and Packed Columns for Aquaculture Applications

Most hatchery folks associate WMT with Low Head Oxygenation (LHO's) and Hydrotech Drum, Disc and Belt Filters. However, over the past 5 years WMT has supplied degassing columns to several federal and state fish hatcheries. Degassing columns are employed to lower total gas pressure, reduce supersaturation of nitrogen and aerate water. WMT offers the "no clog" splash plate design or for "clean" water applications we offer packed columns with polyethylene "Nor Pac" or

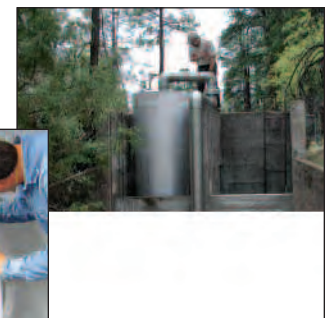
Koch Media. WMT also offers vacuum degassing columns and sealed columns for pure gas injection. The following US hatcheries now employ WMT gas management columns: Norfolk NFH, Alchasey Williams Creek NFH, Watha SFH, Wild Rose SFH, Shepherd of the Hills SFH, Ft. Peck SFH, Gallagher SFH, Mantua SFH, Cleghorn SFH, Lake Meade SFH.



Ft Peck SFH Montana, Brent Jackson, Deltak manufacturing (right) and Glenn Snapp inspect columns prior to shipment.



Installing the top splash plate. Large holes accept the chimneys



Alchasey NFH, Whiteriver, Arizona—Packed Column.



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Oregon's Lookingglass SFH Selects Hydrotech Drum Filter with WMT IMF UV

After years of investigation, Oregon's Department of Fish & Wildlife released an RFP and WMT was the successful bidder for the intake Microscreen drum filter with IMF UV. Oregon likes WMT's design because it offers flexibility and cost effectiveness.

A Hydrotech Model 1203 IH Drum filter with integral Drum stand, filters 1500 gpm entering the hatchery to 40 micron. Once filtered the water enters WMT's IMF UV which currently delivers 42,000 u-watts-sec/cm² @ 90% UVT. The IMF UV is expandable to 84,000 u-watts-sec/cm² with no additional infrastructure.

During normal water level conditions the entire system operates via gravity. However, during low water level conditions, the system accepts pumped water from the stream. A dual-sided intake box was designed to accommodate normal and low water conditions.

The IMF UV control system is zoned so hatchery personnel can turn on groups of lamps as needed; saving on operating costs. The hatchery folks did not want a lot of bells and whistles!



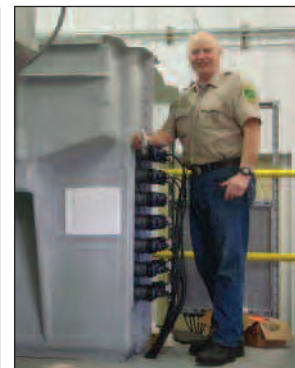
**HYDROTECH
Drum Filter**



Hatchery Entrance



WMT IMF UV



**Mr. Bob Lund,
Hatchery Manager**