

MICHIGAN HYDRO RELICENSING COALITION (MHRC)

MISSION
RESTORING RIVERS IN MICHIGAN
THROUGH HYDROPOWER DAM
LICENSING

MHRC MEMBERS

- Anglers of the Au Sable
- Great Lakes Council, Federation of Fly Fishers
- Michigan United Conservation Clubs
- Michigan Council of Trout Unlimited

MICHIGAN DAMS

- 2500 Dams in Michigan
- 110 Hydropower Dams Regulated by Federal Energy Regulatory Commission (FERC) under the Federal Power Act.
- 1048 Regulated by State of Michigan under the Dam Safety Act, Part 315 and the Inland Lake Level Act, Part 307

FEDERAL POWER ACT

- The FERC has regulatory control over all hydro operations which impact interstate trade, contain reservoirs in excess of 2,000 acres, utilize surplus water or water power from a federal dam, occupy federal lands, or are located on navigable rivers.

MICHIGAN DAM SAFETY ACT

- “Dam” means an artificial barrier, including dikes, embankments, and appurtenant works, that impounds, diverts, or is designed to impound or divert water or a combination of water and any other liquid or material in the water; that is or will be when complete 6 feet or more in height; and that has or will have an impounding capacity at design flood elevation of 5 surface acres or more.

MICHIGAN INLAND LAKE LEVELS ACT

- “Dam” means an artificial barrier, structure, or facility, and appurtenant works, used to regulate or maintain the level of an inland lake.

MUSKEGON RIVER

- Numerous dams and impoundments in the Muskegon River watershed
- 3 are hydropower and regulated by FERC
- 32 are registered with the State of Michigan
- 4 of these dams are on the mainstem; Reedsberg Dam, Rogers Dam, Hardy Dam and Croton Dam

NEGATIVE IMPACTS OF DAMS

- Impacts fish movement
- Inundates high gradient habitat
- Fragments riverine ecosystems
- Entrains and kills fish (hydro)
- Alters natural river flow regime (peaking) (hydro)
- Alters the annual hydrograph (evens out natural hydrograph) (hydro)
- Alters water quality (DO, temperature)
- De-waters sections of streams

ADDRESSING HYDROPOWER IMPACTS

- Settlement Agreement with Consumers Power Company
- Covered 11 hydropower projects on Au Sable, Manistee and Muskegon Rivers.
- FERC licenses issued in 1994

ISSUES ADDRESSED BY SETTLEMENT

- Operation of projects
- Land Management
- Recreation
- Soil Erosion
- Fish Protection/Mitigation
- Water Quality
- Dam Retirement
- Implementation Committee

WATER QUALITY

- Water Quality Limits Evaluation Plans were implemented for the Au Sable and Manistee projects in 1996 and the three year data collection effort completed in 1999.
- Water Quality Limits Evaluation Plan was implemented for the Muskegon in 1998 and the three year data collection effort was completed in 2001
- The Periodic Water Quality Monitoring Final Report for the Au Sable and Manistee projects was completed in 2000 and the Water Quality Evaluation Report was completed in 2002
- The Draft Muskegon Water Quality Enhancement Report was delivered to the Resource Agencies and MHRC in July, 2006
- Consumer agrees to proceed with an evaluation of potential temperature control devices (TCDs) at the Hodenpyl Project on the Manistee River.

WATER QUALITY MODELING STUDY FOR HODENPYL

- A complex computer model developed by the U.S. Army Corps of Engineers Waterways Experiment Station is being used to determine what are the best methods and time periods during the summer to utilize the available cold water resource.

WATER QUALITY COMPUTER MODEL HODENPYL

- Detailed data on weather and water measurements was collected in 2003 and 2004.
- The information has been used to calibrate the computer model and a number of test runs were made in 2006 to develop outflow water temperature projections under varying weather and plant operating conditions. Current refined modeling tests are on-going to develop the timing and volume parts of the equation.

DELIVERY SYSTEM

- Upwelling the cold water into the plan intake zone using a devise called an air diffuser.
- Controlled releases of cold water directly through the existing spill tubes.
- A field trial with a diffuser mechanism will be tested in late summer 2007

WATER QUALITY MODELING STUDY FOR HARDY & CROTON

- Detailed weather and water temperature data collection at Hardy and Croton during 2006.
- Computer model to be developed in 2007.