

Trawl Standardization Exercise – OMNR / ODW / USGS – Aug 25-29, 2003

Objective: To generate fishing power corrections that facilitate direct comparison of Ontario Ministry of Natural Resources, Ohio Division of Wildlife, and the US Geological Survey research vessels' bottom trawl catches. Fishing power corrections must also be calculated between the Gibraltar (the "old" Explorer) and the "new" Explorer to facilitate the use of a single time series for the two ODW vessels.

NOTE: our goal is to minimize any external factors that may influence catch composition between the four vessels. Such factors include date, time of day, substrate, species composition, etc. Fishing attributes (trawl design, trawl speed, warp angle, etc.) have been agreed to following the establishment of interagency trawling protocols (1986). However, if an agency has modified these fishing attributes, these must be identified and documented for Tim Johnson or Jeff Tyson – and the vessel **MUST FISH AS THEY NORMALLY WOULD** have over the time series to validate the trawl standardization exercise.

Vessels: Keenosay (standard vessel), Gibraltar (=old Explorer), Explorer, Musky II, Grandon

Locations: Trawling - Ohio islands (grid 970 – 41°38.00 N, 82°45.72 W; alternate grid 958 - 41°40.38 N, 82°51.90W)

Lodging – Put-in-Bay Visitor Center, South Bass Island

Effective dates: Aug 25-29, 2003

- Aug 25 – move all vessels to Stone lab; arrive by 2pm; review objectives; review protocols / reporting / length-age keys / etc.
- Aug 26 – conduct 10-15 bottom trawls (as many as time permits)
- Aug 27 – conduct 10-15 bottom trawls (as many as time permits)
- Aug 28 – conduct 10-15 bottom trawls (as many as time permits)
- Aug 29 – return vessels to home ports.

Gear:

- Standard interagency bottom trawl (33' 2 seam modified Biloxi bottom trawl, 38' ground line, 1" cod end with ½" liner, polypropylene mesh)
- Secchi disc, oxygen / temperature probe (start and end of day)
- Surface & bottom temperature (°C), surface & bottom dissolved oxygen (mg/L and % saturation) (start and end of day)

Methods:

- Tows are 10 minute duration at 1.6 knots; utilise a 3:1 warp angle on cable
- All vessels will trawl side-by-side setting and retrieving the trawls together. Three trawls will be conducted moving in the same direction (wind to stern), all vessels will then return to first starting coordinates, randomize vessel order and conduct three more trawls, process repeats as often as time permits.

- Sort catch by species and age group – record data on CATCH form
- *Age group assignments* - for walleye, yellow perch, white bass and white perch assign to age groups 1, 2 or 4; for all other species assign to age groups 1 or 3; use age group 5 for gobies
- On third trawl of each sequence, record total lengths on 30 fish of each species / age group
- Retain final trawl of the day (bag on ice) for detailed work at the lab (validation of species ID and age group assignment, etc.)

Attributes to be recorded:

- EFFORT form
 - start & end time, start & end lat / long, site and gear depth (m), total distance and tow distance (nautical miles), vessel speed (knots)
 - at start and end of day only record: Secchi depth (m), surface & bottom temperature (°C), surface and bottom dissolved oxygen (mg/L and % saturation)
- CATCH form
 - Abundance (#/tow) by species and age group for ALL species caught
- LENGTH form
 - Length on 30 random individuals per species and age group from every 3rd trawl

Analyses:

- Keenosay will be the “standard” vessel
- Need a minimum of 50 trawls to generate probability distribution (to apply fishing power correction decision rule)
- ODW will do all data entry

Randomized trawl order:

Randomized trawl order (Port to Starboard)					
Sequence of 3 trawls	Port				Starboard
1	Musky	Keenosay	Gibraltar	Grandon	Explorer
2	Keenosay	Musky	Explorer	Gibraltar	Grandon
3	Gibraltar	Musky	Grandon	Explorer	Keenosay
4	Grandon	Musky	Gibraltar	Explorer	Keenosay
5	Explorer	Gibraltar	Grandon	Keenosay	Musky
6	Grandon	Gibraltar	Keenosay	Musky	Explorer
7	Musky	Gibraltar	Grandon	Keenosay	Explorer
8	Musky	Explorer	Gibralta	Keenosay	Grandon
9	Gibraltar	Keenosay	Musky	Explorer	Grandon
10	Musky	Grandon	Explorer	Keenosay	Gibraltar