

TFAT Fall Electrofishing Survey Guidelines

Revised 09/01/2006

Fall electrofishing surveys on Treaty lakes should incorporate two sampling protocols.

- Baseline sampling of index and gamefish stations, under the baseline sampling protocol
- Walleye and gamefish recruitment sampling (for YOY and yearling walleyes, as well as other YOY gamefish) in all remaining “non-baseline” portions of the shoreline

1. Baseline Sampling (from 3/14/2006 baseline sampling guidelines):

Fall sampling is intended to provide biologists with an indication of the health of the fishery through estimates of gamefish and forage/non-game fish relative abundance (catch per effort), gamefish population size-structure (length-frequencies), growth, and gamefish recruitment (young-of-year catch per effort). The electrofishing is conducted at water temperatures from 50 to 68 F. Centrarchid lakes should be completed first and muskellunge lakes should be completed last (muskellunge young-of-year catch rates tend to increase as temperatures decline). The electrofishing should be conducted according to the following protocols:

- Boom electroshocking will be conducted at night with two experienced dipnetters. Dip nets should have 3/8” mesh bags.
- The entire shoreline (including islands) should be divided into 2-mile segments. Within each 2-mile segment, all gamefish will be collected in a **1-½-mile Gamefish station** and ALL fish will be collected in a **½-mile Index station**. The minimum coverage needed is as follows:

Total Lake Shoreline (miles)	Minimum Sampling Required (2-mile segments)
4 miles or less	Entire shoreline/2 index stations
4 to 16 miles	2 gamefish stations/2 index stations
16 to 24 miles	3 gamefish stations/3 index stations
24 to 32 miles	4 gamefish stations/4 index stations
> 32 miles	5 gamefish stations/5 index stations

- The first 2-mile segment should be chosen randomly and the other 2-mile segments should be equally spaced around the lake to achieve uniform coverage. As a general rule, at least 25% of the total shoreline (or 25% of the 2-mile segments) of each lake should be sampled. Actual distance sampled may be determined by GPS or by shoreline landmarks.
- Within each 2-mile segment, all gamefish species (including young-of-year) will be collected within the **1-½ mile Gamefish station** and a minimum of 250 individuals of each species will be randomly selected and measured to the nearest 0.5 of an inch or centimeter. If panfish are

abundant, they may be defined as non-gamefish species and collected only during the ½-mile **Index stations**, as described below.

- Scales should be collected from the most abundant gamefish (5 per 1/2" or 0.3" length group) Scales may also be taken from the most abundant panfish species. Weights may be measured and recorded for fish that are aged (not required). **(Note: On treaty lakes, scales are optional, since scale sampling was done the previous spring, except that walleye scales should be collected from enough fish to identify year class breaks between YOY and 1+, and the top end of the 1+ fish.**
- Record the data from each 1-½ mile gamefish station and each ½-mile index stations separately as described below. Use data sheets described in "Forms" section below.
- Within each 2-mile segment, a ½-mile **Index station** will be delineated where ALL species (including gamefish species) will be collected, identified, and counted If panfish were defined as non-gamefish species, then a minimum of 250 individuals of each species will be randomly selected and measured. ***Data from each ½ - mile index station (including any gamefish species collected) should be recorded separately and should not be combined with data from the larger 1-1/2 mile gamefish station.*** Use data sheets described in "Forms" section below.

2. Walleye/Gamefish recruitment sampling:

In all remaining "non-baseline" portions of shoreline, sample as follows:

- **First priority is to dip YOY and 1+ walleye.** These fish should be measured and recorded on the walleye fall electrofishing form (**3600-190-W/E/FALL**). **Scales should be collected from enough fish to identify year class breaks between YOY and 1+, and the top end of the 1+ fish.**
- Next highest priority is to **dip all other YOY gamefish.** These fish should be measured, checked for fin clips and recorded on a gamefish fall electrofishing form (**3600-190-G/E/FALL**). You're not required to take scales from these fish. This is not meant to be a complete sample of these fish, only an indicator of natural reproduction.
- Comment on the presence and relative abundance (# of individuals) of other fish species present (Present = < 100, Common = 100 -1,000, or Abundant = > 1,000). Note this on the gamefish fall electrofishing form.

FORMS: (PLEASE RECORD ALL DATA ON TALLY FORMS, NOT INDIVIDUAL LENGTHS)

- **Fall Walleye Electrofishing Data Collection Sheet (3600-190-W/E/FALL).** Use to record walleyes < 30 inches long. Walleye lengths are to be recorded by 0.1 of an inch up to 13.4 inches and by 0.5 of an inch to 30.0 inches.
- **Fall Gamefish Electrofishing Data Collection Sheet (3600-190-G/E/FALL).** Use to record gamefish, other than walleye, by half inch up to 50 inches.
- **Panfish/Nongame Electrofishing Data Collection Sheet (3600-190-PNG/E/B/FALL).** Use to record panfish and non-game species in the ½-mile index stations.

Comment on the presence and relative abundance (# of individuals) of non-target fish species present in any of the stations. (Present = < 100; Common = 100 - 1,000; Abundant = > 1,000) on this form. Also record a general size range (inches) of those species observed.

Please note if the sample is representative for the species being collected. Example: if the target species is YOY walleye, and you are missing lots of bass because you are focusing on walleye, make note of that.

Fill in all header information on the forms.

LAKE MAP:

On a lake map, be sure to record:

Survey date

Crew Members

Starting and ending points

Mark the actual shorelines/path shocked by each boat or boats