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GILL NETS

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I.   General

Gill nets and other forms of entangling nets are an accepted practice in fish collection. Standard operating procedures will generally follow those outlined by Hubert (1983). Specific procedures for the Missouri River project are detailed below.

II.   Materials & Methods
        A.   Equipment
                1.   Length: 100 ft.
                2.   Height: 6 ft.
                3.   Panels: 4 - 25ft. segments
                4.   Mesh sizes: ¾ inch, 1½ inch, 2 inch, and 3 inch (square not stretch mesh measures)
                5.   Netting: Multifilament
                6.   Twine Size: 15 lb. (¾”), 15 lb. (1½”), 15 lb. (2"), and 20 lb. (3")
                7.   Float Line: Braided Poly-Foamcore, 0.5 inch
                8.   Lead Line: 30 lb. / 600 ft.
                9.   Anchors: Weight appropriately for flow conditions within macrohabitat
                10.   Floats: Attach floats to retrieval line allowing adequate slack for depth and flow conditions in the macrohabitat. Label both floats with appropriate agency or university identification in accordance with local law enforcement regulations.
        B.   Deployment
                1.   Record time that deployment commences (start time) and at the time retrieval is completed (finish time).
                2.   Time of deployment
                        a.   Nets will be set toward the end of a sampling day
                        b.   Nets will be retrieved first thing the following morning
                        c.   Net set duration shall not be less than 12 hours nor exceed 18 hours
                        d.   If a situation arises which does not allow for meeting the prescribed set times, the net should be set for as long as possible

during normal working hours and mentioned in the comments
section of the data sheet.
3. Consider only depths greater than 3 feet as effective sample sites.
4. When setting a net against a bank, set it away from the bank until a depth
of at least three feet is available.
5. If the macrohabitat does not provide at least 100 ft. of continuous depths
greater than 3 feet, forego the gill net and note the reason.
6. Randomly choose which end is being set upstream or against the bank.
7. In Secondary Non-Connected Channels and Small Tributary Mouths,
record whether the small mesh end is being set toward the right or left
bank (right and left banks are always identified from within the channel by
facing the mouth).
8. In Inside Bends (Pools), record whether the small mesh end is being set
upstream or downstream.
9. Set net at the appropriate location by slowly drifting downstream or
maneuvering cross-channel and letting the net out slowly.
10. Be sure the net deploys evenly and is taut.
11. Tangles and twists must be removed if present.

C. Retrieval
1. The net should be retrieved from the front of the boat.
2. Remove the fish from the net as they come out of the water if possible.
3. If more than one quarter of any one panel is lost or destroyed during
retrieval, then the set will be considered a loss. Repeat the procedure in
the same macrohabitat adjusting for possible snags or strong flows.

III. Procedure
A. Secondary Channel - Non-Connected (SCN)
1. Position: 1/3 of the channel length from the mouth
2. Orientation
a. If channel is wider than 100 ft., center the net in the channel,
perpendicular to shore.
b. If channel is narrower than 100 ft., set one end up-channel, against
either shoreline and the other end down-channel, against the
opposite shoreline, centering the net diagonally across the point
which is 1/3 the channel length from the mouth.
3. Sample: 1 overnight set
B. Small Tributary Mouth (TRM-SMLL)
1. Position: 1 net length (100ft.) upstream from confluence
2. Orientation
a. If tributary is wider than 100 ft., center the net across the thalweg,
perpendicular to shore.
b. If tributary is narrower than 100 ft., set one end up-channel, against

> either shoreline and the other end down-channel, against the opposite shoreline, centering the net longitudinally across the point which is 1 net length (100ft.) from the mouth.
>
> 3.   Sample: 1 overnight set

  C.   Inside Bends (ISB-POOL)
  1.   Position: Immediately behind wing dikes and sand bars.
  2.   Orientation: Parallel to bank.
  3.   Sample: 2 overnight sets (one for each of two separate pools)

IV.   Net Repair and Maintenance
  A.   Never use a gill net when more than 25% of any one panel has been destroyed or made ineffective.
  B.   Do not attempt repairs on the boat. Have extra nets on hand allowing repairs to be made later.
  C.   Repair
  1.   If a net is damaged within the range of repair, do so using standard net repair procedures (Gebhards 1983).
  2.   Order extra spools of twine along with your nets for this purpose.
  D.   Care
  1.   Allow the nets time to dry before folding and storing.
  2.   Store in a manner which will allow easy future deployment.

V.   References
  A.   Gebhards, S.V. 1983. Appendix-repairing nets. Pages 112-122 *in* L.A. Neilsen and D.L. Johnson [eds]. Fisheries Techniques. American Fisheries Society, Bethesda MD.
  B.   Hubert, W.A. 1983. Passive capture techniques. Pages 95-111 *in* L.A. Neilsen and D.L. Johnson [eds]. Fisheries Techniques. American Fisheries Society, Bethesda MD.

	SCN	**TRM-SMLL**	**ISB-POOL**
Position	1/3 of the channel length up from the mouth	1 net length (100 ft.) upstream from confluence	Immediately behind wing dikes and sand bars
Orientation if > 100 ft. wide	center in channel perpendicular to bank	center across thalweg perpendicular to bank	Parallel to bank
Orientation if < 100 ft. wide	center diagonally across 1/3 point with ends extending to opposite banks	center diagonally across 100 ft. point with ends extending to opposite banks	
Sample	1 Overnight (12-18 hours)	1 Overnight (12-18 hours)	2 Overnight (12-18 hours), 1 for each of 2 separate pools

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