

Establishing your Marsh Monitoring Program Route

– What do you need to know.



Where Can I Set Up a Route?

There are a few things you need to consider before establishing your route. It is helpful if you can obtain a detailed topographic map of the area you are interested in surveying.

When setting up a route, consider the following:

- * Establish routes **only** in **marsh** habitat. Marsh habitat is dominated by non-woody emergent plants such as cattails, rushes, reeds, grasses or sedges intermingled with shallow open water (see box below). Marshes can be found within other habitats such as along the edge of lakes and rivers and as part of other wetland types (e.g. swamps and bogs) but stations must be established in areas dominated (i.e. greater than 50%) by marsh characteristics.
- * Survey routes consist of **as few as 1** or **up to as many as 8** sample stations.
- * In smaller or less accessible marshes, it may be feasible to establish only 1 or 2 stations. **This is OK**. Small marshes are entirely acceptable, provided that **marsh** habitat predominates within your 100-metre radius semi-circle. Indeed, surveys of small marshes are very much needed to help determine the effects of marsh size on species diversity and abundance. If all of the marshes in your region are small, you can design a roadside route encompassing several scattered marshes, each with one or more stations.
- * In very large marshes, several different routes can be set up in the same marsh by one or more volunteers as long as the sample stations do not overlap.
- * Amphibian stations should be separated by at least **500 metres (550 yards)** in order to minimize the possibility that individuals or choruses will be sampled twice. **Amphibian survey stations can be back to back** (eg. One facing east and a second facing west) but a separate habitat form must be filled out for each station.
- * Marsh bird survey stations should be separated by at least **250 metres (275 yards)**. Because a broadcast tape is used **Marsh bird survey stations cannot be back-to-back**.
- * While there is no maximum distance between stations, you need to be able to complete your route in one evening. We recommend that you locate your route within a reasonable distance of where you will spend the night.
- * Remember to **obtain permission** from the landowner before entering private property. Don't hesitate to contact us for help in obtaining the landowner's permission.
- * Finally, contact us to let us know where you have established your route. This will help us to ensure that no one else selects the same marsh for their route.

What is a Marsh?

A marsh is a low-lying wetland with water up to a depth of 2 metres (6 feet). The water can be still or slowly moving, permanent or temporary. Small numbers of trees or shrubs may occur but the common vegetation consists of a variety of plants such as cattails, rushes, reeds, grasses or sedges. In open water areas submerged and floating aquatic plants such as lily pads will often flourish. Classic examples of marshes include cattail marshes or wet meadows.



Wet Meadow (grasses or sedges) Marsh



Tall Emergent Marsh

I've Selected a Route — How do I Set Up the Stations?

You should spend some time during daylight hours scouting for suitable sample stations and familiarizing yourself with the unique qualities of your marsh.

- * Many routes can be surveyed by walking along the marsh edge. Stations along roadsides are fine as long as traffic volume during the evening is light (preferably less than 5 vehicles per 10 minutes). If you prefer to survey stations accessible only by boat or canoe, we heartily encourage you! In any case, you may find that rubber boots (or perhaps waders) are useful.
- * If you are doing both amphibian and bird surveys along the same route, **try to do the two surveys at the same stations**. Because of spacing differences between the two kinds of surveys, you may be able to use every other bird station in order to space your amphibian stations out as required.
- * Keep in mind that the amphibian surveys will be done after dark, so easy access to your stations will be an important consideration. Wear bright or reflective clothing if surveying along roadsides!
- * When you visit a potential station, assess the habitat within the sample area. You should orient the station so as to maximize the amount of marsh being sampled. At the same time, your stations should be representative of the entire marsh. **Please choose station locations based on availability of marsh characteristics**. Do not choose a location because you know or suspect certain birds or amphibian species are present or if you believe it is a highly active marsh.
- * Stations should be situated so that you can see and hear as much of the sample area as possible. For this reason, **it is useful to pick a slightly elevated focal point**. It is OK if shrubs and trees block your view of parts of the sample area, as long as the entire sample area can be surveyed by ear. Remember that visibility can be a problem when cattails are well grown in late June.

Route Examples

Route 1 has been established in a large marsh; all the stations can be surveyed for birds and stations A, C and E can be surveyed for amphibians.

Route 2 has been established in several smaller marshes. Since each these marshes are at least a kilometer apart all the stations can be surveyed for birds and amphibians.

Route 3 has been established in two smaller marshes that are close together. Only A & C can be surveyed for birds but, since A & B face opposite directions, all three stations can be surveyed for amphibians.

Measuring Your Pace

Measure exact distances if you can. To do so you can use your vehicle (on a roadside route), a 100m measuring tape or a GPS. Otherwise, a good measure of distance can be obtained by counting paces. Before you establish your route, measure your pace. To do this, mark a distance of 50 metres (or 50 yards) on the ground. Walk this distance in your normal stride, counting every stride. Record this number. Now, when you set up your stations, you merely keep track of the number of strides you take for each distance interval.

How do I mark the stations?

- * Each station's focal point must be permanently marked with a stake to facilitate relocating sites in subsequent years. While 2" x 2" wooden stakes are inexpensive and easily obtained at any lumber store, inexpensive 1/2" metal, electrical conduit piping is a more permanent alternative and is easier to install. A little searching at electrical supply stores may be required. We recommend electrical conduit 3 metres (10 feet) in length. These "stakes" can be easily pushed at least 1 metre (3 feet) into the marsh bottom, leaving the top portion of the stake visible for easy location from year to year. It is important to firmly anchor the stake in the marsh bottom, so that it withstands wind, waves, ice and frost action. Remember to obtain permission to stake on private land and on managed lands.
- * The aluminum tags we provide with the Marsh Monitoring Program kit (in the spring of your first year) are used to **permanently** identify each station. They are attached to the stakes simply by twisting their wire ends together. Inscribe each tag using a ball-point pen, permanently etching it with the station letter (e.g. "Stn A"). Press down hard and this inscription will last indefinitely!
- * We recommend that you also label the stake itself (and/or an attached piece of fluorescent flagging tape) with the same information that you inscribed on the aluminum tag, using a black waterproof felt marker. Though it will last only one field season, this labelling will be visible from a distance, is easily read in low light, and acts as extra insurance in case your aluminum tag is lost.
- * Don't forget that you need to be able to relocate your stations easily, even once the vegetation has grown up **high!** We recommend that you tie three or four **long** strips of fluorescent flagging tape to the top of each stake to enhance its visibility. Flagging tape is inexpensive and can be obtained at most hardware stores. If you are doing amphibian surveys, be sure to wrap a bit of adhesive reflector tape around the stake so that you can easily find the station marker with a flashlight at night. We find that the white reflector tape works best but that the tape doesn't adhere well to a damp surface!
- * Mark a spot that you can see on either side of the focal point (and in front of you if possible) at a known distance (e.g. 25, 50, 75 metres) with flagging tape to help you estimate the 100 metre (110 yard) limit of the sample area. This is helpful during marsh bird surveys and when describing the habitat.
- * We ask that you return geo-reference information or maps when you return your first year's data. Careful placement of station locations on topographical maps will suffice but, when possible, please provide coordinates from a GPS. This information can be recorded directly onto the Marsh Monitoring Program Contact Sheet and Route Information form that you will receive with your annual participants package.

Where do I Find a Map?

- * There are many different commercial mapping programs including SoftMap (www.softmaptechnologies.com); Delorme Topo USA or Touratech-QV-Navigator (www.ttqv.com), plus you could try the web, in particular www.topozone.com for US maps or the hybrid maps on Google (www.maps.google.com).
- * USGS Topographic Maps (7.5 minute quadrangle maps) can be obtained locally at some outdoor and camping stores, or from USGS Information Services, Box 25286, Denver Federal Center, Denver, Colorado 80225. Phone (303) 202-4700.
- * Ontario Topographic Maps (we recommend a map scale of 1:50,000) can be obtained locally at some outdoor and camping stores, or from the Canada Map Office, 130 Bentley Avenue, Nepean, Ontario, K1A 0E9. Phone (800) 465-6277 or (613) 952-7000.

Remember that we are here to help. If you run into problems, need advice or maps contact Kathy Jones at BSC's offices (1-888-448-2473 ext. 124 or aqsurvey@birdscanada.org).