

MarshKeeper Training Manual



Ducks Unlimited
Canada



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Welcome to the DUC MarshKeepers Program!

Thank you for volunteering with Ducks Unlimited Canada (DUC). This training manual will give you the skills and knowledge you need to become a MarshKeeper! The MarshKeepers Program is designed to engage volunteers with habitat-based activities at DUC projects located throughout British Columbia.

The primary role of a MarshKeeper is to assist DUC in project/site inspections, the focus of which is to bring points of concern to DUC field staff for actions to be evaluated and implement as needed. Additionally, MarshKeepers report on waterfowl and wildlife at their assigned project marshes.

DUC has a complex inventory of projects that contribute to the lifecycle of waterfowl and other flora and fauna. Sites consist of both large and small wetland complexes, along with associated uplands, riparian areas, and forest components. Many different management protocols are undertaken to enhance or maintain a healthy habitat base. Management, such as: invasive vegetation monitoring, water control structure inspections, and conducting waterfowl surveys, is necessary to promote healthy wetlands.

Our conservation staff is highly experienced in the management of wetlands and uplands and, using the information that the MarshKeepers gather, can prioritize items of concern, determine action plans, and then undertake work as necessary.

As a MarshKeeper, we ask that you dedicate one day each month to conduct surveys/inspections of your assigned site. Your Regional MarshKeeper will recommend which months are most appropriate, given the range of climatic zones throughout the province. It will be up to you to schedule inspection times that are convenient for you. Inspections can take approximately 1-2 hours to complete depending on the size and complexity of the site.

Training a new MarshKeeper, which includes a review of the Training Manuals in a classroom setting, and an orientation of the assigned marsh, can be accomplished over a few hours.



A Few Definitions

DUC – acronym for Ducks Unlimited Canada.

Regional MarshKeeper – This is your first point of contact if you require information or assistance with your inspections. Regional MarshKeepers support all volunteer MarshKeepers in their area.

Conservation staff – DUC experts trained in a wide range of fields. They receive the field data that is collected during your site inspections.

Survey 123 – App used by MarshKeepers to collect data specific to their site.

eBird – Program/app used by DUC to identify and count waterfowl species.

Project orientation – Part of the training session that includes a visit to the assigned marsh, led by the Regional MarshKeeper.

Riparian – Wetlands adjacent to rivers and streams.

Upland – Areas of high or hilly land.

Site/project – Interchangeable terms for a DUC marsh.

Marsh Day – Day in which MarshKeepers, DUC volunteers, and corporate sponsors get together at a marsh to complete conservation-approved maintenance work.

A Brief History Of MarshKeepers

By sharing the following information, you will help new MarshKeepers understand the purpose and development of the MarshKeepers Program. Use this information to lead a discussion/answer questions.

- ⊕ DUC has enlisted the help of volunteers to identify and monitor wetlands since its inception in 1938.
- ⊕ Some wetlands have been enhanced to improve habitat for all species. Historically, DUC staff have been responsible for inspecting and maintaining these sites. In some cases, recommendations for further enhancement are made. Other sites have been monitored, but not enhanced.
- ⊕ Today, there are hundreds of habitat projects across British Columbia, making it difficult for conservation staff to monitor all sites on a regular basis. That's why the support of volunteer MarshKeepers is incredibly valuable to our conservation team.
- ⊕ Volunteers have shown great interest in becoming "citizen scientists" by assisting DUC staff in gathering data and doing monthly site inspections. This is where the idea of MarshKeepers came from.
- ⊕ The program began in 2011-2012 but did not develop as expected. In 2016, the program was redeveloped to connect local volunteers to local conservation projects, and MarshKeepers were assigned on Vancouver Island. In 2019, the program was expanded into the Lower Mainland and the Interior.

Matching Volunteers with Marshes

Matching a volunteer with a marsh is a process involving the Regional MarshKeeper, local conservation staff, and you, the MarshKeeper. The following considerations are in effect when matching volunteers with marshes:

- ❶ The size of the project/site, and the amount of “work” required to do a thorough inspection.
- ❷ The travel distance required to access the project/site.
- ❸ Road conditions and accessibility given the MarshKeeper’s vehicle type.

If you feel that a site is beyond your capacity, inform your Regional MarshKeeper immediately so that they can consider other projects in the region that may be better suited to you.

DUC recognizes you may have occasional commitments that restrict your ability to do marsh inspections. If this is the case, you are encouraged to contact your Regional MarshKeeper and inform them that you will be unavailable to do inspections for a period of time. For safety reasons, do not ask friends or family to fill in during your absence, unless they have attended the orientation/safety training.

In addition to monthly inspections, we ask that you attend one training session per year as recommended by the Regional MarshKeeper. These sessions focus on topics such as waterfowl identification, recognizing invasive species, and safety. All training sessions are designed to increase your knowledge and skill in support of project inspections. These sessions will be schedule virtually or may be done in the field.



Water Control Structures

Most marshes have at least one water control device. These are the structures that control/regulate water levels in the marsh. It is important that these structures are inspected regularly to ensure that they are functioning properly.

Weirs are fixed barriers across a river or stream that force water to flow over their tops. The height of water above the weir can be used to calculate flow. Weirs come in all sizes but typically the crest will have one stoplog bay where we can lower or raise the water level, though some larger weirs have up to three bays and some have no bays.



CONCRETE WEIR (FIXED)



CONCRETE WEIR (VARIABLE)

Drop-pipes are used when the drop of water is too high for a weir. The newer ones will be steel or concrete and the old ones will be half-round (made from half a culvert) or full round. These structures (except the full round) will have a stoplog bay as well.



FULL ROUND DROP-PIPE



CONCRETE DROP-PIPE

Water Control Structures *(continued)*

Rock chutes are basically a rip-rap channel and these are typically how we naturalize a project when a water control structure is removed. Most will have an invert protector (which looks like a shallow weir).



ROCK CHUTE



ROCK CHUTE

Screwgates and **slidegates** are typically used at low-level outlets and work in conjunction with fixed-crest weirs (those with no stoplog bay). They are sometimes built into the weir or attached to a culvert that goes under the dam with a catwalk out to them.



SCREWGATE



SCREWGATE WITH WEIR

Data Collection and Reporting

Data is collected with each inspection of your assigned marsh. It is recorded and submitted to DUC using two apps: **Survey 123** and **eBird Canada**. When you register as a MarshKeeper, you will be provided with links to both apps, which can be installed on your smart device or on your computer.

Both apps come with tutorials that will take you, step by step, through the process of collecting and submitting data. Your Regional MarshKeeper will assist you with data collection and reporting during your project orientation. We encourage you to spend a little time exploring these apps to become comfortable and confident with their use.

Survey 123 is the program used by MarshKeepers to collect and submit data associated with the physical environment in the area around the marsh site. This includes making observations regarding weather conditions, safety concerns, marsh accessibility, invasive species, water control structures and wildlife activity. This information is recorded on the "MarshKeeper Wetland Inspection Form" (which is found on your mobile device or computer) and forwarded to DUC conservation staff.

The field app is user-friendly, but it does require some practise to become proficient. Take some time to become familiar with the program before your first inspection! As always, ask your Regional MarshKeeper if you have any questions.

- 1 The link to Survey 123 is <https://arcg.is/0WDfSK>
- 2 Once you have opened this link, you have the option to enter data in one of two ways: through a web browser on your computer, or via the Survey 123 field app on your smart device.

When the inspection form is complete, press the checkmark in the bottom right corner. If you are in wifi or cellular data range, the form will automatically be sent to conservation staff. If you are not in wifi or cellular data range, the form will be stored on the app until you have internet access.

If you prefer, you can record data on a data sheet (paper copy) and enter the information on your computer or smart device once you return home.

Please remember to take appropriate pictures at the marsh and then attach them to the inspection form before submitting the data.

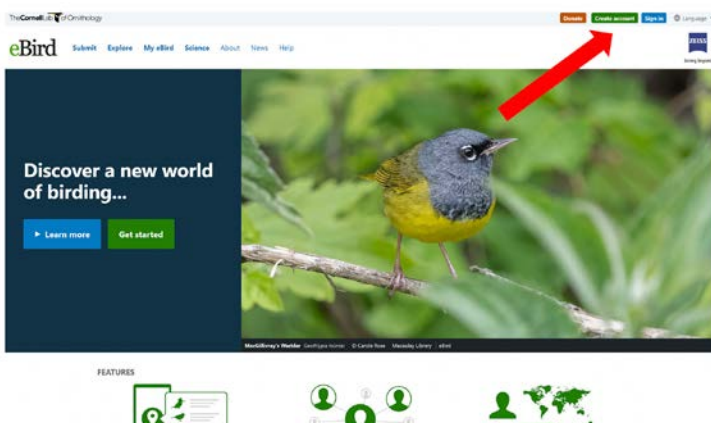
A Few Tips

- ❶ If you're unsure if a plant is invasive or not, when asked if invasive species are observed on site, click "yes," and take a photo. Once your data is submitted, conservation staff will determine if it is invasive or native and specify the best course of action.
- ❷ It is important to note if beaver activity is creating obstructions, erosion, or abnormalities at the marsh. Use caution when beavers are active in the area. Safety is always the first concern. Please make note of any beaver activity on your report and immediately notify your Regional MarshKeeper. DUC staff will take appropriate measures to remedy this issue. Do not remove large debris or deconstruct a dam yourself, please leave this for the conservation team to address.
- ❸ Take pictures and submit them with your report inspection form. There is room for three photos per survey. This helps the conservation staff make decisions regarding further actions.

There are several Survey 123 video tutorials available on YouTube. These may be helpful as a way of training to use this program.

eBird Canada

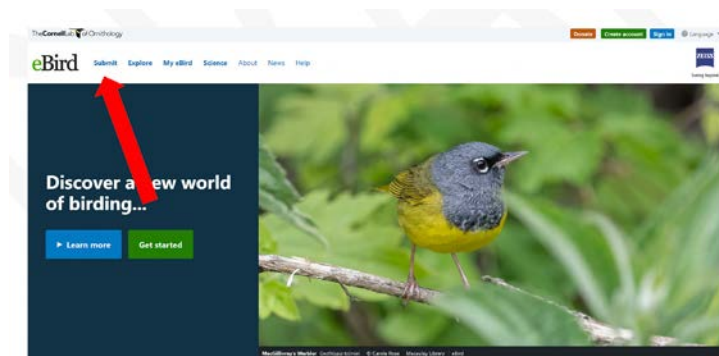
This is a short guide on how to enter your bird observations into eBird Canada, a free online platform that aggregates citizen-collected bird data. Note that eBird Canada assumes you are recording all the birds you observe, not just waterfowl. To be consistent with other citizen scientists, please record all bird species that you observe at DUC's projects and enter them in along with your waterfowl observations. If no birds were observed during your survey, do not report any data in eBird Canada and send a note to your Regional MarshKeeper to inform them that there was a zero (0) count during the survey. **To enter data to eBird Canada, follow these steps:**



- ❶ The link to eBird Canada is <https://ebird.org/canada/home>
- ❷ Create account (*select top-right green button*). Fill out form including user name and password. This will give you access to the user screen and observation submissions.
- ❸ The user screen highlights all of your waterfowl/bird observations.

a.) This screen allows you to review all your personal species observations, checklists from past waterfowl surveys and photos you have uploaded.

b.) Take time to review recent news, reports and tutorials highlighted below.

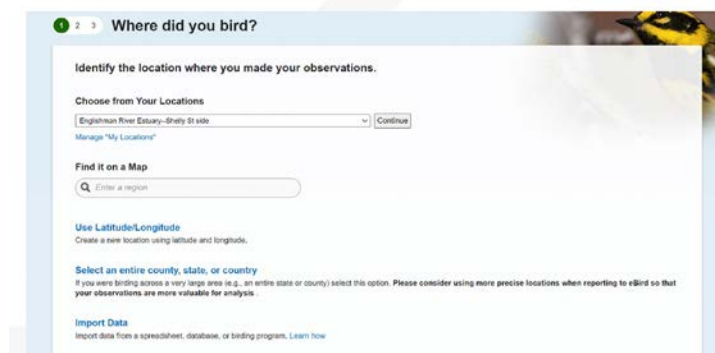


4 Submitting a Waterfowl Survey

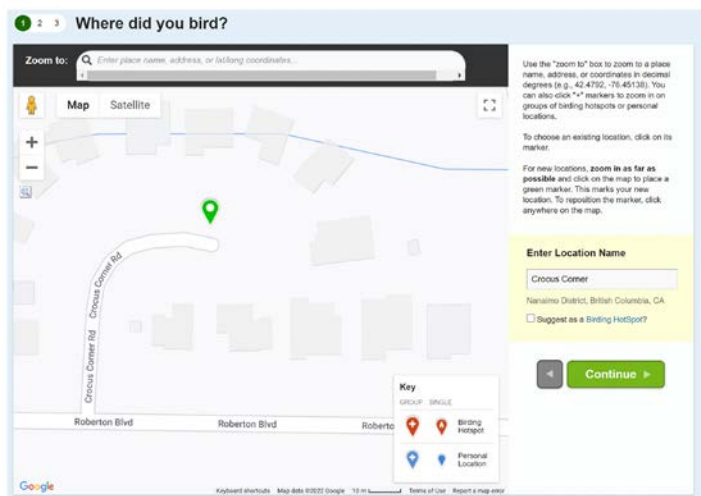
a.) Click "Submit". Submitting a survey is a three-step process.

Step 1: Where did you bird?

⊕ The first time you submit a survey, you will need to use the "Find it on a Map" option. Enter British Columbia, Canada, for the region.



⊕ A map of B.C. will appear. Zoom in to the location where you conducted your waterfowl survey. Some wetlands have been identified as a "Bird Hotspot", if this is the case, you can easily click the orange flame icon to identify your location. If your location has not already been identified, you can create a location by clicking on the survey site and you will be asked to enter a name. Please enter the wetland name you are taking care of. A green icon will appear.



⊕ Once you have identified the location, ensure the name of the wetland appears in the yellow box in the lower right corner of the page and then click the green continue button. This will take you to Step 2.

Data Collection and Reporting

eBird Canada (continued)

1 2 3 **Date and Effort** Crocus Corner, Nanaimo District, British Columbia, CA [Change](#)

* **Observation Date:** Apr ... 2022 * Required

* **Observation Type:**

- Traveling** You traveled a specific distance — walking a trail, driving a refuge loop, field birding. [More info](#)
- Stationary** You stayed at a fixed location — watching from a window, hawkwatching, seawatching. [More info](#)
- Historical** Birding was your primary purpose, but you cannot estimate start time, duration, and distance; use Traveling or Stationary if you can estimate these. [More info](#)
- Incidental** Birding was not your primary purpose — noting a bird while driving or gardening. [More info](#)
- Other** Choose...

[←](#) **Continue** [→](#)

© Cornell Lab of Ornithology [Contact](#) [FAQ](#)

Step 2: Date and Effort

+ This is where you enter the details of your waterfowl survey.

+ Fill out the Observation Date.

+ Choose the Observation Type which will be either a “Traveling” or “Stationary” survey. The Regional MarshKeeper will explain what type of survey you are conducting when you complete your initial wetlands orientation.

+ Once you select the Observation Type, a sub-window will appear. Continue to complete more details about the survey.

+ When all required fields have been completed (*red asterisk*), select the green “Continue” button on the lower right corner of the window.

1 2 3 **Date and Effort** Crocus Corner, Nanaimo District, British Columbia, CA [Change](#)

* **Observation Date:** May ... 2022 * Required

* **Observation Type:**

- Traveling** You traveled a specific distance — walking a trail, driving a refuge loop, field birding. [More info](#)
- Stationary** You stayed at a fixed location — watching from a window, hawkwatching, seawatching. [More info](#)
- Historical** Birding was your primary purpose, but you cannot estimate start time, duration, and distance; use Traveling or Stationary if you can estimate these. [More info](#)
- Incidental** Birding was not your primary purpose — noting a bird while driving or gardening. [More info](#)
- Other** Choose...

* **Start Time (AM/PM):** : : Use 24-hour Clock

* **Duration:** hrs min.

* **Distance:** kilometers

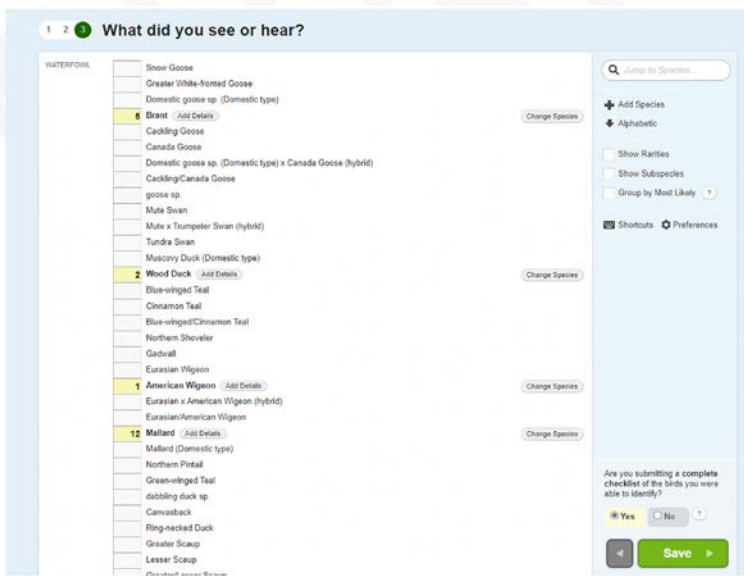
* **Party Size:** Enter the total number of people in your birding party

Checklist Comments:

[←](#) **Continue** [→](#)

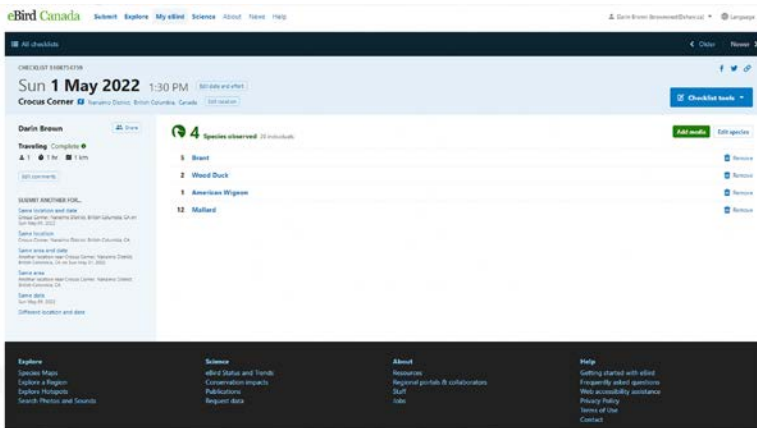
Data Collection and Reporting

eBird Canada (continued)



Step 3: What did you see or hear?

- A list of all bird species will appear and now you are ready to submit your waterfowl count.
- Enter the number of waterfowl you observed during your survey by species. Note that once you enter a number and a grey box next to the name appears that says "Add details." This allows you to enter more species-specific information e.g. four mallards (two hens and two drakes). You may use this option when reporting waterfowl information but for the MarshKeeper Program we only require the number of waterfowl observed and the species observed.
- Once you have completed the checklist, in the lower right corner of the window there is a question that states "Are you submitting a complete checklist of the birds you were able to identify?", select Yes and then select the green "Submit" button.
- After you have submitted your species list the following page (see left) will appear.



Data Collection and Reporting

eBird Canada *(continued)*

- ⊕ To send this report to your Regional MarshKeeper, select the “Share” button on the left side of the page.
- ⊕ Type in your Regional MarshKeeper’s email address in the “To” box.
- ⊕ Select the green “Share Checklist” button, and your report has been sent to your Regional MarshKeeper.
- ⊕ Congratulations! You have uploaded your first waterfowl survey to eBird Canada. You can log out – your waterfowl survey is complete.

Regional MarshKeepers need to be confident in using both Survey 123 and eBird Canada. They are encouraged to practise using these apps prior to assisting with training a MarshKeeper. These apps are designed to be simple and straightforward to use, however some MarshKeepers may require additional practise to become proficient. Remember, you are the support that the MarshKeeper will turn to if they struggle. Be ready to answer questions!

Waterfowl Identification

Waterfowl identification is an important aspect of being a MarshKeeper. Most marshes host ducks and geese year-round (unless they are frozen over) so expect to see waterfowl on a regular basis. It takes time and experience to be able to accurately identify each species.

Don’t be surprised if you struggle initially with identifying different species, it is a common occurrence and you will get better with practise and experience! eBird will attempt to assist in identifying different waterfowl species once photos are entered in the “Observation” section of the program. However, it is sometimes difficult to take clear, close-up pictures of waterfowl if they remain at distance. In this situation, MarshKeepers are encouraged to try and identify the species they have observed and enter it into the “What did you see?” prompt.

MarshKeepers are encouraged to begin learning the distinct characteristics of waterfowl species. There are several good online websites, such as ducks.ca/species, ducks.org, allaboutbirds.org and fws.gov.

As well, *Peterson’s Field Guide to Birds of B.C.* is a valuable resource that is small and easy to take into the field. It is available through amazon.ca and in local book stores.



MarshKeeper Impact

As a MarshKeeper you may wonder why, after completing many inspections and wildlife observations, nothing seems to be changing at your marsh. DUC has a plan for each marsh that relates to habitat protection and enhancement, water quality and conservation of wetland species.

Sometimes conservation staff look beyond one individual marsh and examine what's happening in the region when implementing changes. It may be that the marsh is already a productive wetland that does not require additional structures or enhancements. There are many other considerations as well.

Don't be discouraged if nothing visibly changes in your marsh. The goal of wetland conservation is not to make the marsh look more appealing, or to build structures that enable viewing opportunities.

The goal is to ensure that the marsh is providing the best possible habitat for waterfowl and other wildlife, as well as insects and native plants. Your observations as a MarshKeeper are highly valued, and the data you collect is assisting DUC in making the best decisions possible to conserve wetlands.

Safety

Safety in the field is critical. We encourage you to review the following safety practices and procedures to ensure an enjoyable and safe experience at the marsh.

Hazard Identification and Safety Checklists

Each site must be inspected by the Regional MarshKeeper to identify and evaluate risks and safety concerns before you begin doing inspections and collecting data.

Your project orientation with the Regional MarshKeeper will include completion of a Wetland Hazard Identification Checklist and a Wetland Safety Orientation Checklist. Examples of both forms are found below. If at any time you have a concern regarding your safety, you are encouraged to immediately contact your Regional MarshKeeper to discuss the concerns and possible remedies.

Wetland Hazard Identification Checklist

<input type="checkbox"/> Working Alone/Isolation	<input type="checkbox"/> Hunting
<input type="checkbox"/> Vehicle (parking, long drive, traffic)	<input type="checkbox"/> Garbage & Litter (glass, metal,
<input type="checkbox"/> Communication (dead zones)	<input type="checkbox"/> Dangerous Wildlife (bear, cougars, snakes)
<input type="checkbox"/> Danger Trees (snags, windfall forest health)	<input type="checkbox"/> Invasive noxious alien plant species (hogweed)
<input type="checkbox"/> Control Structures (drop boxes, weirs)	<input type="checkbox"/> Hand Tools (manual/motorized)
<input type="checkbox"/> Utilities (powerline, gas-line, limits of approach)	<input type="checkbox"/> Terrain Conditions (Steep, uneven ground, holes)
<input type="checkbox"/> Weather Conditions (heat exhaustion/hypothermia)	<input type="checkbox"/> Working on/near water (hip waders, PFD)
<input type="checkbox"/> Remote Wetland Location	<input type="checkbox"/> Urban Interface (dogs, bikers, campers, upset people)
<input type="checkbox"/> Farmland (electric fence, cattle, irrigation)	<input type="checkbox"/> Underbrush (eye hazards)
<input type="checkbox"/> Infrastructure (bridges, gates)	<input type="checkbox"/> Motorized Equipment (recreational, industrial)
<input type="checkbox"/> Weather (rain, wind, lightening, sun)	<input type="checkbox"/> Heat Exhaustion/Hypothermia
<input type="checkbox"/> Environmental (flood, wildfire, slide, tsunami, fire)	

Hazard Notes:

Personal Protective Equipment (PPE) - circle all that apply.

Gloves	Eye Protection	Hat/Hard Hat	Cell Phone/SPOT
Bear Mace	PFD	First Aid Kit	Appropriate Footwear
EpiPen	Hearing Protection		

Safety Orientation Checklist Completed by:	MarshKeeper Signatures:
Regional MarshKeeper Name & Date:	Name & Date:
Regional MarshKeeper Name & Date	Name & Date:
Regional MarshKeeper Name & Date	Name & Date:

Wetland Safety Orientation Checklist

DU Wetland:		DUC	
Geographic Area:		Region:	
Coordinates:	Lat: (DD/MM/SS)	Road Name:	
Regional MarshKeeper	Long: (DD/MM/SS)	Cell/Phone #	
MarshKeeper/s:		Cell/Phone #	
Alt. MarshKeeper:		Cell/Phone #	

Marsh Keeper Orientation & Wetland Release

Reviewed MarshKeeper scope of work (waterfowl survey, control structure inspection, and reporting)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Discussed and identified other partners in wetland?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Reviewed wetland site hazards?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Reviewed required PPE considerations when conducting survey and inspections?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Reviewed Project Info Package and Site Map?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Complete a wetland orientation (identify survey type, control structures, survey viewing stations)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
MarshKeeper training manual overview and field training complete?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Is a follow up with the Regional MarshKeeper required?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA

Wetland Safety

Access Type	<input type="checkbox"/> 2x4	<input type="checkbox"/> 4x4	<input type="checkbox"/> Long Walk	<input type="checkbox"/> Other
Cell Coverage	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Method of Communication	<input type="checkbox"/> Visual	<input type="checkbox"/> Cell/Phone	<input type="checkbox"/> Text	<input type="checkbox"/> Spot
Check in/out Name & Phone #:				
Nearest Hospital Name & Phone #:				
Emergency Contact Name & Phone #:				
Emergency Contact Name & Phone #:				

Provincial Emergency Contact Information

Wildfire Reporting	1-800-663-5555, *555	Poison Control Center	1-800-567-8911
Provincial Emergency Reporting	1-800663-3456	Report a Poacher/Polluter (RAPP)	1-877-952-7277
RCMP	911		

Landowner Relations

There are three general classifications of sites. The first are those located on property owned or managed by DUC. If you are assigned to a marsh owned or managed by DUC, you are free to visit the site whenever you wish and carry on your duties at will. Expect to occasionally see members of the public visiting the site. Feel free to explain who you are and what you are doing, as a means of promoting the MarshKeepers Program.

The second classification of marshes are those located on private land, owned by a private citizen. With this comes the responsibility of interacting with the landowner. If your marsh is located on private property, your Regional MarshKeeper will have already made contact with the landowner. They will have provided an overview of the program and obtained permission for you to visit the site. They will go with you on your first visit to introduce you to the landowner, and help you get acquainted with the marsh. Please refer to The Private Property Access Procedure on Page 21.



The third classification of marshes are those found on Crown land. You are free to access at will.

The respectful relationship between MarshKeepers and landowners is critical to the success of this program. By following basic safety procedures/practices, you will help yourself and the landowner remain safe as you do your important work on site.

Before arriving on site and beginning your work:

- ⊕ Contact the landowner regarding your planned visit. Ensure it's an appropriate time for an inspection.
- ⊕ If possible, check in with the landowner when you arrive.
- ⊕ Establish a place to safely leave your vehicle.
- ⊕ Discuss with the landowner any areas on the property that may have special concerns (presence of livestock, open or closed gates, machinery working, areas freshly seeded, wildlife concerns, etc.)
- ⊕ Leave pets at home. This prevents the possibility of interactions between your pet and livestock/wildlife.
- ⊕ Contact the landowner when you leave the property if possible (check-out) and thank them for supporting the MarshKeepers Program!

Some remote marshes may not be near the main residence of the landowner, making them inconvenient for you to check in before doing an inspection. In this case, call the landowner the night before your planned visit. Regular communication with the landowner is both respectful and part of a safety-first attitude.

Severe Weather/Environmental Conditions

MarshKeepers are expected to be aware of any safety concerns affecting their marsh prior to arriving. MarshKeepers are not expected to carry out surveys when their marsh is affected by severe conditions. Severe conditions include, but are not limited to:

- ⊕ Flooding
- ⊕ Wildfires
- ⊕ Thunderstorms
- ⊕ High winds
- ⊕ Low visibility
- ⊕ Poor air quality
- ⊕ Extreme temperature (high or low)
- ⊕ Excessive precipitation

Do not visit your marsh if severe conditions are present or forecasted.



A Special Concern About Water

Many marshes, by their very nature, are surrounded by unstable, saturated ground. This ground can be difficult to traverse, and in some circumstances can lead to getting wet or getting stuck in the mud. Proper boots or waders may help to reduce risk.

Be cautious around edges of marshes. Visiting your site with another person is always a good idea. Having someone to assist you with your various duties, and to be there if problems arise, is both smart and responsible. Your Regional MarshKeeper will assist you in identifying any risks on your site.



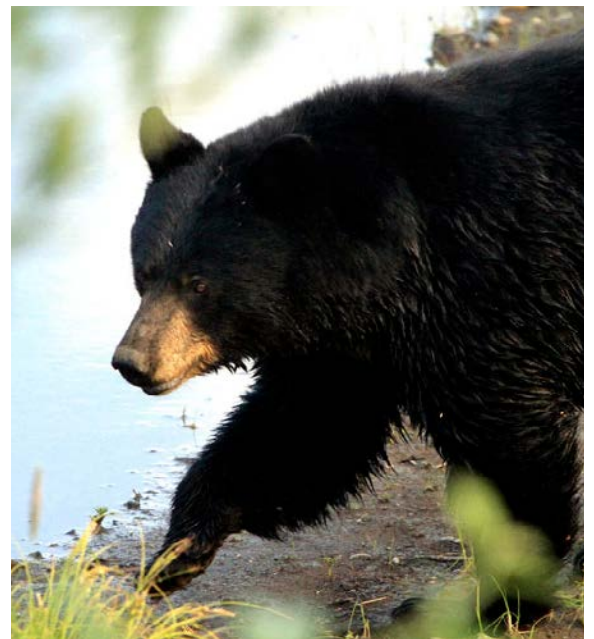
A Word About Wildlife

Wildlife is common around marshes. Both large and small animals are drawn to wetlands. It is not uncommon to see them, especially early in the morning and at dusk.

To avoid negative encounters, follow these practices:

- ⊕ Make enough noise to advertise your presence. Animals don't like surprises.
- ⊕ Do not approach large animals. This can be perceived as a threat and may lead to aggressive behaviours.
- ⊕ Moving slowly away from them reduces the threat.
- ⊕ Do not feed animals – this encourages problematic behaviours.
- ⊕ Most large animals will move away from you if given the chance.
- ⊕ Inform the landowner if you encounter any large wildlife on the property.
- ⊕ Pack in and pack out all supplies and debris (lunch materials like banana peels) to avoid food conditioning wildlife.

Please take some time to view the following resources. If you have questions, forward them to your Regional MarshKeeper. There are many resources available to help inform you about wildlife encounters.



- ⊕ Read the article "How to Stay Safe in Bear Country". Type the article title into any of the main search engines (Google Chrome/Safari/Firefox), and select search. It is published by BC Parks.
- ⊕ Watch a video on YouTube titled "How to Properly Use Bear Spray". Select YouTube, type in the title of the article, and click search. It is short, very informative, and contains great information on dealing with aggressive bears.
- ⊕ Read some excellent information on cougars and moose. Visit wildsafebc.com, select species, scroll to cougars and click. Follow the same directions for information on moose. Both articles are informative and worth reading.
- ⊕ There is also some good information online from HealthLink BC entitled "How to Avoid and Remove Ticks".
- ⊕ If you encounter dead waterfowl or wildlife during your inspection, please do not touch. If safe you can take a photograph, make note of location and notify your Regional Marshkeeper who will provide direction. The concern is the attraction to other wildlife, so please leave the area immediately.

Suggested Clothing and Equipment

This list is suggested. Remind MarshKeepers that weather conditions can change throughout the day. Having the proper clothing and equipment will make the visit to the marsh more enjoyable.

Consider taking the following clothing/equipment:

- ⊕ Cell phone
- ⊕ Rain gear
- ⊕ Proper footwear (*including high top boots in rattlesnake country*)
- ⊕ Gloves
- ⊕ Hat
- ⊕ Sunglasses
- ⊕ Insect repellent
- ⊕ Waders (*if appropriate*)
- ⊕ Sunscreen
- ⊕ Water and snacks
- ⊕ Binoculars
- ⊕ Notebook (*pencil or smart device*)
- ⊕ Bear spray (*if appropriate*)
- ⊕ Safety glasses
- ⊕ Epi-pen (*if appropriate*)
- ⊕ Emergency whistle
- ⊕ Small first aid kit



Frequently Asked Questions (*from a MarshKeeper*)

When, and how often, should I visit my marsh?

DUC marshes are found throughout the province, in all climatic zones. Some marshes, such as those located in the Lower Mainland, are accessible year round. Others, like those found in the Central Interior, become inaccessible due to ice and snow during the winter months. The location of your marsh will dictate how often you can visit it. If your assigned marsh is accessible year round, you will likely be able to visit it every month. If your marsh freezes during the winter, we recommend you make your visits during the spring, summer and fall.

What if I discover that being a MarshKeeper is not what I had envisioned?

As a volunteer, you are free to leave the MarshKeepers Program at any time. Contact your Regional MarshKeeper. We will thank you for your service to DUC!

Can I bring a friend or family member to assist me when I do inspections?

Yes, and for safety reasons, we encourage it. Bringing along a partner will add a layer of enjoyment to your outing, as well as helping in making accurate observations.

What if I notice a member of the public doing something destructive or illegal?

The Report All Poachers and Polluters (RAPP) hotline should be used to report wildlife-human interactions where public safety may be at risk. RAPP is a toll-free tip line and online service that also allows you to report known or suspected violations of fisheries, wildlife, or environmental protection laws anonymously and without risk of confronting the offender.

Environmental violations to report include:

- ⊕ illegal waste disposal
- ⊕ unlawful open burning
- ⊕ discharge of chemicals/sewage
- ⊕ damage to fish or wildlife habitat
- ⊕ fishing or hunting out of season or in closed areas
- ⊕ unauthorized collection or sale of fish and wildlife, or their parts

Your observations should be recorded as soon as possible, and should include, if possible, a description of suspect(s), details of violation, including date, time and location. If possible, also include transport involved, including vehicle or vessel number, make, model, year, colour, and any descriptive features. Also include the name, address, and phone number of any witnesses. **Never confront or attempt to apprehend a suspect.** Make your observations and collect evidence discreetly. Once you are in a secure location, contact the RAPP Hotline at **1-877-952-7277** or **#7277** on the TELUS Mobility Network. If it is a fisheries violation related to salmon, contact Fisheries and Oceans Canada (DFO) at **1-800-465-4336**. You can also contact your local RCMP. Once you have made a report, we ask you to contact your Regional MarshKeeper.

What if I am not trained to identify invasive species?

MarshKeepers are encouraged to learn the distinct characteristics of invasive species at their assigned wetland. You may want to set a goal of learning one new invasive species during an inspection to broaden your knowledge of invasive species and their impact to native vegetation. There are good online websites, such as coastalisc.com and bcinvasives.ca

Private Property Access Procedure

Gaining access to private property is a joint process involving DUC Conservation and Regional MarshKeepers (RMK). It is complicated given the small number of RMK currently available throughout the province.

It will be necessary that we utilize members of DUC Conservation to suggest appropriate sites, provide marsh descriptions and introduce the program to the landowner. This will, in most cases, be done over the phone or internet. As more RMKs become available across the province, they may be able to approach a landowner in person, if a relationship is already established.

Once a new volunteer has indicated an interest in becoming a MarshKeeper (through Lisa or others):

- ❶ RMKs, with the assistance of DUC Conservation staff (Katie, Ola, Sarah, others) will conduct a review of available marshes. The initial focus will be on a) Crown land, or b) property owned by DUC. If no sites are available or appropriate, a review of marshes on private property will be completed, and a selection made. If possible, Conservation will forward a Marsh Description Document to the RMK to assist with the decision making.
- ❷ DUC Conservation, or the RMK (depending on who has the best relationship), will contact the landowner to discuss the program, answer questions and to obtain permission to use the site.
- ❸ Once the landowner has granted permission, a meeting between the landowner and the new MK can be scheduled. It is important that the new MK attend this meeting accompanied by someone affiliated with DUC. Appropriate supports could be:
 - a.) Another local MK
 - b.) RMK , if available
 - c.) DUC Conservation staff
 - d.) DUC member from a local chapter
 - e.) Members of the MarshKeepers Committee

It is important that the new MK feels supported and comfortable during the visit to the marsh. It is during this meeting that a site orientation and the Hazard Identification and Safety Checklists are completed.

- ❹ The Landowner Relations section on page 17 of the training manual provides additional information that may be useful when meeting the landowner and completing the orientation.



Notes

Contact information to support MarshKeepers

Regional MarshKeeper: _____

Email: _____ Phone: _____

Name of Assigned Marsh: _____

Name of Landowner: _____

Landowner Phone: _____

GPS Coordinates: _____

Physical Address: _____

Emergency Numbers

RCMP	911
Poison Control	1-800-567-8911
Wildfire	1-800-663-5555 or *555
RAPP	1-877-952-7277

Local Hospital: _____