



USER GUIDELINES
FOR THE QUEEN'S
UNIVERSITY BIOLOGICAL
STATION (QUBS)

<https://qubs.ca/>

April 2026

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1. Welcome & Overview

Welcome to the Queen's University Biological Station (QUBS), located in the UNESCO Frontenac Arch Biosphere and founded in 1945!

This User Guide provides important information on safety, QUBS procedures, and policies related to the operation of the field station. All users are required to read and understand its contents before using the facility. Compliance is essential—every QUBS user must work together to maintain a safe and productive environment and must follow all guidelines set out in this document.

A Brief History of QUBS

Founding & Growth: Queen's University Biological Station (QUBS) was established in 1945 when Dr. Wes Curran purchased Queen's point on Lake Opinicon from the Acton family on behalf of the University. Early buildings (1946-48) included the boathouse, Trilab and the "Bunkie Junior" cabins. Today, QUBS comprises 30 + buildings: residences, labs, library, aquatic labs, dining facilities and the Raleigh J. Roberston Biodiversity Centre (2000). The Jessie V. Deslauriers Centre for Biology (2014) houses the Jack Hambleton Library, Fowler Herbarium and three labs.

Land Holdings: QUBS owns/co-owns 3,300 hectares (8,154 acres) across 20+ properties since 1950, including Sheep Island (1950), Hughson Tract (1976), expansion of the main QUBS site by purchase from the Curtis family (1985), Bonwill Tract (1986), Eastern half of Cow Island (1988), Cape-Sauriol Environmental Studies Area (1989), Pangman Conservation Reserve (1994), Bracken Tract (1994), Moores Tract (1995), Crabbe Property (1999), Massassauga Road Property (2001-2003), Boston Wildlands (2004), Reid Property (2008), MacLean Place (2009), Bowen Property (2013), Jones Property (2013), Elbow Lake (2013), Hammond Property (2018) and Hughson Farm (2018). Additional conservation agreements cover James H Fullard Nature Reserve (2010) and Warren Property (2022), with Rideau Waterway Land Trust and Nature Conservancy of Canada. QUBS properties form a significant conservation presence in the Rideau Lakes/Frontenac Axis area within the Frontenac Arch Biosphere, a UNESCO World Biosphere Reserve, and due to the location on Opinicon Lake, it is part of the Rideau Canal, a UNESCO World Heritage site.

Mission & Activities: QUBS provides field facilities for teaching and research, with logistical support for both. Originally teaching-focused, research has grown since the 1950s. A key partner is the Ontario Universities Program in Field Biology (www.oupfb.ca). QUBS hosts researchers from Canadian and international universities, plus public outreach (Open House, seminars, Community Newsletter) and field trips/conferences. The Elbow Lake Environmental Education Centre (www.elbowlakecentre.ca) serves as the primary outreach campus (est. 2011).

QUBS Administration (Structure & Staff Roles)

QUBS is affiliated with the Department of Biology and operates under the Faculty of Arts & Science at Queen's University.

- QUBS Director, Dr. Shelley Arnott
- Associate Director, (Vacant)
- QUBS Senior Manager, Sonia Nobrega
- Opinicon Operations & Stewardship Manager, Justine Macdonald
- Elbow Lake Operations & Maintenance Coordinator, Mathew Butterill
- Facilities & Grounds Superintendent, Ian Stutt
- Outreach & Teaching Coordinator, Becky Vincent
- Kitchen Manager, Gareth Hewitt

Seasonal staff supports kitchen operations and public area cleaning needs.

Undergraduate interns funded through the Queen's Summer Work Experience Program (SWEP) support QUBS long term monitoring, outreach and stewardship initiatives.

Website Resources

The [QUBS website](#) offers resources including species lists, species accounts, blogs, data archives and maps.

2. Before You Arrive

Reservations

Research: QUBS facilities are open to researchers, subject to space limits. The Director or Managers can provide a description of facilities, fees and procedures. All researchers must submit research and accommodation applications found here

<https://www.qubs.ca/booking/applications> to qubs@queensu.ca.

Research rates are listed here: <https://qubs.ca/booking>

Researchers staying onsite must apply for accommodation annually, usually by April 1st. After review, QUBS provides a preliminary space assignment to the researchers.

Supervising researchers are responsible for all required approvals (e.g., animal care, ethics, and field safety).

Required Approvals (OCASP, Animal Care, Ethics)

Before arrival, Principal Investigators must provide QUBS and the Queen's Animal Care Committee (uacc@queensu.ca) with *animal care approvals and approved standard operating procedures* from their home university, as well as any relevant permits for animal work at QUBS.

In addition, Queen's University Principal Investigators must complete the Off-Campus Activity Safety Policy (OCASP) before arrival. Because QUBS property is considered off the main campus, all safety-planning records must be filed and approved before arrival:

<https://www.queensu.ca/risk/safety>

QUBS may decline proposals due to safety issues, biohazards, environmental impacts, conflicts or space limits.

Teaching: Field courses are coordinated through the Ontario Universities Program in Field Biology (OUPFB; www.oupfb.ca) each December. Proposals for OUPFB or other field courses should be submitted to the Director or Managers in advance. These will be approved depending on space availability. OCASP approval (for Queen's instructor led courses) is required for all field activities. Other teaching activities (e.g., field trips) must be approved ahead of time.

Conference/Retreat/Workshop Use: To arrange events, contact QUBS qubs@queensu.ca. Fees for events held from May to mid-October are listed at <https://qubs.ca/booking>; off-season rates depend on use and group size.

Guests: Short-term visitors are welcome. Notify the Opinicon Operation & Stewardship Manager for space confirmation and billing details. Hosts or the guests must record meal details in the visitor/guest kitchen sign in sheet in the Raleigh J. Robertson Biodiversity Centre.

Other Uses: Contact QUBS qubs@queensu.ca about other potential uses.

Fees

Fee schedules are posted online at <https://qubs.ca/booking>. Most fees follow a user-pay model, and full details are available on the QUBS website.

What to pack for your QUBS stay

- Bring your own bedding linens and toiletries (sheets or sleeping bag, towel, pillow, personal toiletries).
- Pack outdoor clothing for all weather. For fieldwork, wear long pants (with pant legs tucked into socks), and closed shoes. Light-coloured clothing helps you spot ticks.
- Bring shower sandals and indoor shoes/slippers for use in the Biodiversity Centre.
- Bring a water bottle, sunscreen, lunch bag/containers (for packed lunches on field days).
- Flashlight or head lamp for unlit paths.
- Other useful items: backpack, rain gear, hiking boots, COVID-19 test kit, insect repellent hat, sunglasses, bathing suit, laptop, quarters and loonies for washer/dryer.
- Use insect repellent with DEET, Picaridin or permethrin or wear permethrin-treated clothing.
- Most accommodations do not have Wi-Fi, so consider bringing books or board games. Wi-Fi at Queen's Point is only available in the central common buildings.
- Our cabin power system is older and limited, so we ask that you charge only essential devices. Please avoid using high-power items like fans or plugging in several chargers at the same time to prevent outages.

QUBS Code of Conduct

At the Queen's University Biological Station, we work together to create a safe, supportive and welcoming space for research, learning, and community. Everyone who uses the field station - including staff, researchers, students, educators and visitors – plays an important part in keeping our community positive and respectful.

As a member of the QUBS community, I will:

- Act with honesty, integrity, and ethical responsibility
- Take responsibility for my actions and decisions
- Be welcoming and inclusive of all people
- Interact with others in a respectful, friendly, and professional manner
- Prioritize the safety, health and well-being of others
- Use QUBS property, equipment, and resources responsibly
- Show respect to the land and all its inhabitants
- Observe quiet hours between 11 pm and 6 am
- Follow all Queen's University rules and policies

If you are concerned about conduct at QUBS, please notify your research group's Principal Investigator (PI), supervisor, instructor or member of QUBS management.

3. Arrival & Check-In

QUBS User Form

Prior to arrival, review the QUBS User Guidelines (reference it during your stay) and complete the QUBS User Form with personal details, emergency contact, medical information and confirmation you have reviewed the guidelines.

Arrival Procedures

Please familiarize yourself with the [Queen's Point site map](#) to locate your accommodations prior to arrival. Check in with a staff member upon arrival (between the hours of 8:30-4:30pm, Monday to Friday) and then proceed to your accommodations. The Operations & Stewardship Manager can review billing procedures and, if applicable, outline expected responsibilities under the chores agreement.

Maps

General and [GIS maps](#) are available at <https://qubs.ca/resources/maps>. Contact QUBS staff for specialized mapping needs.

4. Safety First

Health and Safety Overview

Safety is QUBS's top priority. All users must follow posted safety guidelines and participate in lab and/or field risk assessments prior to fieldwork and develop a group-

specific operations plan for safe fieldwork. Review Field & Lab Safety details <https://qubs.ca/booking/field-lab-safety>. The QUBS Opinicon Campus Safety Officer is Justine Macdonald (Operations & Stewardship Manager).

Emergency Contacts (911 Address)

QUBS is served by 911 – for fire, ambulance or police.

Report the address as: 280 Queen's University Road, Township of Rideau Lakes, South Crosby Ward (about 1 mile west of Chaffey's Lock off the Opinicon Road).

Fire Procedures

If you detect a fire:

- Immediately evacuate the affected building. Proceed to the nearest exit.
- Shout "FIRE, FIRE, FIRE"
- Ring the meal bell outside the Raleigh J. Robertson Biodiversity Centre (hereafter the "RJR Biodiversity Centre") and continue ringing to alert all station users. The RJR Biodiversity Centre and Jessie V. Deslauriers Centre for Biology have hardwired fire alarm systems with emergency backup lighting and audible danger alarms, in case of fire in those buildings.
- Call 911, notify QUBS management and assemble in the parking area immediately in front of the Workshop for head count and further instructions (signed muster areas).
- Principal investigators should always know the whereabouts of their team and should assist QUBS staff in accounting for everyone.

Smoke detectors and fire extinguishers are installed in all accommodations, and carbon monoxide detectors in major accommodations (i.e., cottages with gas/oil/wood burning heating systems). Familiarize yourself with the warning devices, extinguishers, and exits in your living/workspace. Fire Safety equipment is routinely inspected. However, if you notice defects or missing equipment (i.e., your work/living space is missing a fire extinguisher), notify QUBS staff at once. **It is illegal to tamper with, cover, remove, or disable fire alarms and smoke/CO detectors.**

Only attempt to extinguish a small fire (under 1 m³) if safe to do so, and you know how to use a fire extinguisher. If you have ANY doubts, commence emergency fire procedures as outlined above. Property can be replaced, lives cannot. DO NOT TAKE CHANCES.

Use of fireplaces and woodstoves is strictly limited – the RJR Biodiversity Centre woodstove may be used. NEVER leave a fire unattended. Outdoor fires may be permitted at Earl Cottage IF conditions are suitable. Outdoor fires will not be permitted under windy or dry conditions or when outdoor burning bans are in place or when such activity interferes with work/sleep schedules of QUBS residents. Before using the designated outdoor fire pit, please check in with QUBS Management – particularly if there might be a fire ban or if guests are staying in Earl Cottage. Fallen twigs and branches from around the

designated fire area may be collected for kindling, but larger deadfall is to be left in its natural state. Firewood is available in a shed next to Earl Cottage. To reduce the risk of invasive species introduction and dispersal, firewood may not be brought in from outside QUBS property.

Smoking Policy: As part of the university's focus on fostering a culture of wellbeing at Queen's, smoking, vaping, and the use of tobacco products is banned from its campuses and properties as of June 1, 2019. At QUBS, there will be no smoking inside ANY building or property, including boats, station vehicles or in the vicinity of the boathouse and near the fuel storage sheds. Smoking must be done out-of-doors and off Queen's property. When smoking out-of-doors, be careful not to create a fire hazard in the woods. Do not dispose of butts on the grounds.

Accident or Injury Reporting

Principal investigators are responsible for the safety of their graduate students and assistants. QUBS management **MUST** be notified immediately of ANY accident or injury sustained while on Queen's Property. QUBS management will facilitate accident reporting (Institutional and WSIB), first aid and transport for medical attention. In serious cases, call 911 right away. Even small injuries benefit from prompt attention.

Report any hazards, unsafe conditions, or equipment problems to QUBS management immediately. Do not attempt repairs yourself. First aid supplies (including epi-pens located in the kitchen area) are available in the RJR Biodiversity Centre (secured on the wall, at the top of the staircase upon entering the main front doors) and are checked regularly. Please let QUBS management know if any items are missing.

Laboratory and Field Safety

All projects must follow appropriate safety procedures. Risks must be assessed in advance, and everyone involved must be informed. Queen's-based principal investigators must prepare a group-specific risk assessment and field operations plan under the Off-Campus Activity Safety Policy, <https://www.queensu.ca/risk/safety>, have it approved by their department chair, and file a copy at QUBS. Principal Investigators must work with QUBS staff to ensure that a safe working environment is maintained at QUBS.

Radioisotopes and any genetically-modified organisms (GMOs) are not permitted without extensive review and approval. Projects involving hazardous chemicals must be reviewed with the Director or Management, and appropriate safety documentation must accompany all chemicals brought to QUBS. Material Safety Data Sheets (MSDS) are available on-line for all chemicals, and users should be familiar with how to access this information. Chemical waste must be disposed of properly (i.e., in designated containers that users provide)—never by dilution, flushing down drains, or dumping on site. Principal Investigators will consult with QUBS Management to discuss details of chemical lists, labeling, MSDSs, storage on site and disposal.

QUBS recommends that all users access the land base travel with a partner and download the

[what3words](#) app in advance. This simple step can make a big difference in staying safe and locating one another. What3words divides the world into 3-metre squares and assigns each one a unique three-word address, making it easy to pinpoint and share exact locations. The app works offline and is especially helpful in remote areas for navigation, meeting up, or supporting emergency response in open or hard-to-describe spaces.

Training & Safety Equipment: Principal Investigators must ensure that graduate students and assistants receive the necessary lab safety and Workplace Hazardous Materials Information System (WHMIS) training when working with chemicals or biohazards. They are also responsible for providing suitable protective clothing, field gear, and other safety equipment appropriate for the proposed work. Eyewash stations are available in QUBS labs and are inspected regularly.

Chemical Storage: Bring only the minimum amount of chemical materials needed. Each lab must maintain an up-to-date inventory of all chemicals on-site, and all unused chemicals must be removed off site at the end of the season. Do not store chemicals in open labs in containers exceeding 1 litre and not exceeding 4 litres in flammables cabinets. Flammable chemicals must be stored in the yellow flammable cabinet inside the lower Brown Lab, never in laboratory refrigerators because of the risk of explosion. Refrigerators and freezers must be designated for either chemical storage or food storage, not both. Keep incompatible chemicals separated.

Disposal: Researchers are required to bring appropriate containers for liquid chemical disposal. QUBS Management can assist with pickup and disposal through Queen's Environmental Health & Safety, for Queen's researchers (see details <https://www.queensu.ca/risk/safety/waste-disposal>). Hazardous waste must be clearly identified with its contents and principal investigator.

Swimming Safety

Swimming at QUBS is unsupervised - no lifeguard is on duty. All swimming is at your own risk. Never swim alone, after dark or while impaired.

QUB has two swimming areas:

- Keast's Beach- suitable for children (with adult supervision) and weak swimmers. Access may be restricted during fish nesting research.
- Diving board area – deep water, for strong swimmers only.

Safety equipment (throw rings and ropes) is located near both areas—do not remove or misuse it. Note that the diving area lies within a boat channel; avoid swimming far from shore or across the channel.

There are inherent dangers in recreational swimming. *Be safe. Recognize potential hazards.*

Weapons Policy

For safety reasons, weapons and replica weapons are prohibited at QUBS and all

Queen's University properties. See

<https://www.queensu.ca/secretariat/policies/administration-and-operations/weapons-and-replica-weapons-policy> for full details.

Harassment/Discrimination

Queen's University has a comprehensive policy and process for harassment and discrimination complaints. This includes sexual harassment, physical or emotional harassment, discrimination based on sex, race, visible minority or religion and any conduct that interferes with your dignity or privacy.

Contact the Director or Senior Manager for further information concerning harassment/complaint procedures and review Queen's *Harassment and Discrimination Prevention and Response Policy*:

<https://www.queensu.ca/secretariat/harassment-and-discrimination-prevention-and-response-policy>

5. Daily Living

Meals

Meals are served buffet-style in the RJR Biodiversity Centre. Station users are expected to bus their own dishes to the racks beside the sinks.

Meal hours:

- Breakfast 07:30-08:30
- Lunch 12:00-13:00
- Dinner 17:30-18:30
- Sunday brunch: 10:00-13:00

The RJR Biodiversity Centre bell signals meal times. Meals are healthy and balanced, and we accommodate allergies and/or medical/religious dietary restrictions provided to us with advance notice. Please complete the QUBS User Form, or email qubs@queensu.ca (1 week prior to arrival).

Field lunches can be prepared with 24-hour notice provided to the kitchen staff team – prepared by users at designated times. Otherwise, kitchen and food storage areas are off-limits - do not remove equipment or food from the kitchen. Snacks will be placed on serving counter or out in the servery.

Hot water for tea is always available in the servery area. Early risers breakfast food or special diet condiments are stored in the mini fridge (hereafter the "Birder Fridge"). Do not store/chill alcoholic beverages or any personal food items in the Birder Fridge. Keep food and beverage counters clean. Menu suggestions are welcome.

Drinking Water

Only the RJR Biodiversity Centre, White House and Phelan Cottage have treated and regularly tested well water safe for drinking. All other cottages and labs receive untreated

water (from the lake or untested wells) suitable only for washing or showering.

Safe drinking water is available in **blue jugs** located in cottage kitchens. Refill them at the RJR Biodiversity Centre (dish sink) or contact QUBS staff when more is needed.

Refuse Disposal

Septic: All water-borne waste (toilets, sinks, showers) flows to septic systems – treat them gently. Do not flush plastic, paper towels, cardboard, feminine hygiene products, or bulky items. Never pour chemicals into sinks or toilets.

Garbage: Place day-to-day solid waste in appropriate containers (using clear plastic bags only). For research-produced garbage, which cannot be reused or recycled (completed experimental designs, broken field equipment), please speak with QUBS Management regarding disposal of these items. Animal material should not be placed with garbage - consult management about burial or alternate disposal.

Package sharp or hazardous items (e.g., broken glass, blades, pipettes) in appropriate sharp disposal bins. QUBS has a sharps container available in each lab, however if your research team expects to produce a significant volume, please bring your own sharps container labelled with your lab name. Do not dispose of chemicals in garbage.

Recycling: Available in bins next to dishwashing area. Larger bins are in recycling shed located near the workshop (paper, plastics, metals).

Compost: food scraps in containers at the RJR Biodiversity Centre, to reduce landfill waste and support sustainability.

Chores & Housekeeping

To help reduce costs, QUBS users may choose to perform assigned duties for a fee reduction, up to 5 hours per week. Tasks are scheduled by the Operations & Stewardship Manager and typically include dishwashing or cleaning in the Biodiversity Centre, though other duties may be assigned. Chore schedules are designed to accommodate research commitments—if you can't complete your shift, please arrange a substitute.

Housekeeping in private accommodations (cabins, cottages) and labs is the user's responsibility. In shared spaces (e.g., Curran or the White House dormitories), residents must cooperate to keep common areas tidy. QUBS staff provide limited support but expect users to maintain cleanliness.

Remove outdoor footwear indoors, clean spills promptly, and wear indoor shoes in the Biodiversity Centre. Follow the rule: "Leave it at least as clean as you found it." Cleaning supplies are available in a caddie in the laundry room of the RJR Biodiversity Centre—please return items after use. If you require additional cleaning items, please speak with QUBS management.

Parking & Road Rules

Never leave a vehicle unattended in the fire route roundabout in front of the RJR

Biodiversity Centre. Do not block roadways, ramps, driveways, or building access for other users, maintenance, or emergency vehicles. Park in the lots next to the workshop. Do not block workshop garage doors. For early morning or late-night research, park away from residences. Cottage residents may park nearby if it doesn't block access. No parking on the loop to the boathouse—brief stops for loading/unloading are permitted, then move to a designated parking area. Never park in front of the tractor, located next to the workshop.

Road: The QUBS access road is narrow, winding and has blind corners – use extreme caution. Obey all speed limit signs, violations could result in loss of access. Drive carefully to share the road safely with children, pedestrians, runners and cyclists. Near buildings, slow down to reduce dust and hazards.

Pets Policy

No pets are permitted overnight at QUBS (Queen's Point). One residence located a 15 min drive from central facilities where pets are permitted overnight (Hughson farmhouse).

Alcoholic Beverages/Drugs

Alcohol is prohibited in workplaces (RJR Biodiversity Centre, classrooms, workshop, labs) per Queen's University and Ministry of Labour regulations but permitted in private residences. Keep bottles and cans out of plain sight.

There is zero tolerance for illegal drugs at QUBS or on QUBS properties. Smoking or vaping of cannabis is prohibited on the Queen's University campus, unless approved for medical or research use, per the Smoke-Free University Policy <https://www.queensu.ca/secretariat/smoke-free-university-policy>. All users must behave responsibly at all times.

Basic Services (Reporting Issues, Conservation)

QUBS management maintains essential services including water, septic systems, electricity, heating, telephones, and Wi-Fi. Report any problems immediately—do not attempt repairs yourself.

Many services are buried underground, so do not drive stakes, posts, or excavate without consulting staff first.

To support QUBS's sustainability goals, conserve energy by minimizing water, electricity, and heat usage.

6. Facilities & Equipment

Mail & Telephone

The mailing address for QUBS is:

Queen's University Biological Station
280 Queen's University Road

RR # 1 Elgin, Ontario K0G 1E0.

Mail is typically checked a few times a week and made available to users in the RJR Biodiversity Centre. Incoming mail is placed in bin by the beverage dispenser. Outgoing mail may be dropped off at the mailboxes in Chaffey's Lock, or at the Canada Post office in Elgin.

The main phone line connects to phones in the RJR Biodiversity Centre and is intended for business and incoming calls. Phones are local-only, and personal calls are not permitted unless arranged in advance with QUBS Management.

The main QUBS number is: (613) 359-5629. Anyone answering the phone should help direct callers or take clear messages. Messages should be posted in the Biodiversity Centre bulletin board (in public kitchen area).

E-mail /Internet Access

The RJR Biodiversity Centre local area network (LAN) connects all on-site computers and provides internet access through a broadband wireless link. The RJR Biodiversity Centre, Brown Lab, Jessie Deslauriers Centre for Biology, White House, and Phelan Cottage also have wireless access. You can connect your own computer to the LAN wirelessly to use Wi-Fi; no password is required.

Equipment & Facilities

GPS/GIS: Contact QUBS management to arrange use and access to the GIS archive (ESRI ArcView/ArcInfo).

Binoculars/Field Guides: Class sets of binoculars and field guides (birds, fish, mammals, plants, etc) are available. Please email qubs@queensu.ca to reserve a class set for teaching.

AudioVisual Equipment: Data projectors, TV screens, mobile screens, and a foyer monitor are available. Contact management for details.

All-Terrain Vehicle (ATV): Three ATVs are available for research, to access remote sites, especially when a large amount of equipment is required. These ATVs are not for recreational use. Use of an ATV requires special training and careful handling. QUBS staff will provide a general use and safe operation tutorial, and users will have to pass a test based on safety materials obtained from the 4H clubs or equivalent. Helmets must be always worn. Joyriding, racing or handling the machine in a dangerous manner is prohibited. Care must be taken not to damage trails, paths or shorelines when in use. Operation of an ATV must not conflict with other research uses of QUBS properties. Contact QUBS staff for access to an ATV and to schedule training/testing sessions before use.

Aquariums: A variety of tanks for holding fish or for experimentation or observation is

available at QUBS. Tanks can be supplied with lake or well water, warm or cold water, and oxygen (air). Individual experimental rooms can be assigned. Discuss needs with QUBS management.

Library Materials: The Jack Hambleton Library offers quiet study space, basic reference materials, field guides, journals and a collection of theses resulting from fieldwork at the field station (current theses now available online). Library materials are not to leave the building.

Weather Stations: Satellite-linked climate stations track air, soil and water temperatures, relative humidity, rainfall, windspeed, wind direction, solar radiation, and barometric pressure. Data are available on-line and from our data archive. Email QUBS management qubs@queensu.ca for details.

Computers: ArcGIS is installed on a dual-processor computer in the GIS office. Email QUBS qubs@queensu.ca for access to a station laptop or digital GIS files.

Storage Building: Storage for extraneous lab gear when not in use. Small equipment must be containerized and labeled before storing. The storage building is kept locked - see QUBS staff for access. Storage plans must be made with QUBS Management if lab gear/equipment is to be stored at QUBS long-term. All lab gear/equipment must be labeled with date and who they belong to (full name, affiliation, supervisor) prior to storage. If unlabeled equipment/gear are left without notice it may be disposed of or re-purposed for others to use.

Insect & Vertebrate Collection: In the collections room(s) of the Jessie V. Deslauriers Centre for Biology, QUBS has a basic reference collection of local insect, birds and bird eggs. Researchers interested in using or contributing to the collection should contact QUBS staff.

Herbarium: As of 2014 the Fowler Herbarium (140,000+ specimens) is part of QUBS and provides a wonderful resource for teaching and research. For access, please consult QUBS management.

Photocopier: A photocopier is available in the common lower floor area of the Biodiversity Centre. Record the number of copies produced in the logbook. You will be billed for each copy + HST.

Specimen Freezers: Two freezers are available in the basement of the White House for storage of frozen specimens. Consult with QUBS management concerning use of these freezers. Do not use for storing food. Storage plans must be made with QUBS Management if specimens/samples are to be stored at QUBS long-term (> 1 field season). If specimens/samples are left without notice or labels (full name, affiliation, supervisor) they may be disposed of without warning.

Liquid Nitrogen Dewars: Two Dewar units are available for ultracold storage of specimens. A 21 litre container with 9 small containers is available for field use, short - term storage and transportation. A 47 litre container with 6 large containers is available for long - term storage. Principal investigators using Dewars will be charged for the liquid nitrogen used to fill these containers. For use of Dewars, contact QUBS management far in advance.

Optical Equipment: QUBS has a few microscopes available for use on-site use. Presently, we have four compound microscopes (light microscopy capability), 10 dissecting microscopes and one quality teaching-head dissecting microscope. In addition, a dissecting 'scope and a compound' scope are available which are fitted with cameras for teaching and research purposes. We also have a microscope - mount digital camera, which can be linked to a computer for research or teaching purposes. Also available is a class set of binoculars and a spotting scope and tripod. Access to this optical equipment is via QUBS staff.

Balances: There is a general-use weighing station in the White House basement lab. A Mettler AE100 electronic pan balance (accuracy to 0.1 mg) is installed atop a marble slab weigh table. Also available is an Ohaus C305 electronic top-loading balance (accuracy to 0.1 g). The former is a precision balance, requiring special care during use. The latter is more durable and should be used for wet weights of specimens.

Other Equipment: Limited collecting equipment, sound recording equipment, fish nets and traps, insect nets, chest waders etc. are also available by contacting QUBS staff.

Workshop

QUBS maintains a workshop equipped with wood- and metalworking tools for use by all trained and approved users. All users must be trained by QUBS staff before using any equipment. Training covers equipment functions, safe operation, protective safety session will include functions of equipment, safe use, safeguards, personal protective equipment and other safety requirements.

Workshop projects should be discussed with QUBS staff in advance so training can be arranged, equipment use can be coordinated, and access can be shared fairly. QUBS staff may also be available to assist with projects, depending on availability and applicable staff time fees applied.

Tools may be borrowed for short periods only and must be signed out and returned promptly. For routine work with common hand tools, a tool kit, stocked with simple tools, is available outside of the workshop beside the side entrance doorway. Workshop equipment can be extremely dangerous. Untrained users may not operate equipment, protective safety gear must be worn and the workshop is normally kept locked unless QUBS staff are present

Laundry

Coin-operated washer/dryer machines (\$1.75 washer and \$1.50 dryer; requiring loonies and quarters) are located in the laundry room of the Biodiversity Centre. See or email QUBS management qubs@queensu.ca, Monday to Friday, 8:30am-4:30pm for change. Kitchen staff do not have change available.

7. Field Operations

Boating (Research, Recreational, Teaching)

QUBS motorized boats are research tools, not for general use. Canoes are available for sign out by users for recreational use. Always let someone know where you are going and when you expect to return.

There are many hazards in Lake Opinicon, especially drowned lands and Rideau Canal traffic. Operators are responsible for their actions and the minimum safety equipment. Misuse, abuse or dangerous operation of any QUBS boat will not be permitted.

Research Use: Boats leased to a researcher are for that researcher and their assistants only during the lease period. All motorboat users must have a Pleasure Craft Operator Card and complete QUBS boating safety training before use. This session will ensure that users have a basic knowledge of boating safety, “rules of the road,” minimum safety equipment required, operation of outboard motors, hazards, sign-out sheets and security arrangements.

QUBS provides the required safety gear, including life jackets for each passenger, a set of oars, an anchor and line, 15 meters of heaving line, a bailer or pump, a whistle, and a watertight flashlight or 3 flares (all located on the lower floor of the boathouse). Life jackets (PFDs) must be always worn while operating a boat. Boats must also be signed out each time they leave the dock and kept locked when not in use. Boats must be secured at the dock so they cannot be damaged by contact with other boats, the dock itself or other equipment. Do not leave boats on shores subject to wave action - this will wear the hull.

Users are responsible for safe operation, including proper docking, reasonable speeds, and awareness of weather and wake hazards (windstorms, thunderstorms, and periods of cold air and water temperatures). Boats must not be used in unsafe conditions, and any damage or maintenance issues should be reported to QUBS staff immediately.

When storing fuel in the researcher fuel shed available (next to Trilab), use an approved labelled container and adhere to safe handling and storage procedures. Use of boats may be denied, or revoked, to anyone operating a boat in an unsafe manner.

Recreational Use: Canoes are available for recreation, if not booked for research or teaching (signage with reservation date/time of canoe(s) will be posted at sign out form). Users must be familiar with boating safety and use of canoes. Recreational use of

motorboats is not allowed.

Canoes require the following basic safety equipment: a lifejacket for each person, paddles, 15 metres of buoyant heaving line, a bailer, and a sound-signaling device (whistle). Be sure that these are in the canoe each time it is used. Wear PFDs when using canoes. Canoes belonging to the station must be signed out using the sign out sheet in the boathouse. Do not use private canoes without the permission of the owner.

Teaching Use: Boat operation for teaching requires extra care. Operators must be trained and ideally hold SVOP certification; at minimum, they must have a Pleasure Craft Operator's Card (maximum 6 passengers).

Transport Canada regulations class our pontoon boats as small commercial vessels and strict standards, including special safety requirements come into play for these boats. QUBS pontoon boats must not exceed 6 passengers under the Pleasure Craft Operator's Card, for greater than 6 but less than 12 passengers, the Small Vessel Operator Proficiency (SVOP) is required. Large craft with many passengers are difficult to handle and require practice and good judgement. When unskilled users are involved, QUBS staff will pilot boats for teaching purposes.

Research Properties

QUBS manages extensive land holdings, available for research and teaching. Discuss specific needs with QUBS management.

Public Relations

Research and teaching activities make QUBS users highly visible in the lake surrounding areas. You represent Queen's University, QUBS, and the research community – ensure your field behaviour is professional and courteous.

Obtain proper permits for work, request permission for private property access, and remove all research markers when the study is completed (especially flags, markers). Respond politely to curious observers and invite locals to the Open House, weekly seminars or outreach events. QUBS's community relationships are essential for its continued success.

8. Community & Events

Seminars

Wednesday evening public seminars series run May to August from 19:00 to 20:00.

Open House/Community Newsletter

Each summer, QUBS hosts an Open House (typically last Sunday in June, 12:00 to 15:00) day and distributes a digital community newsletter to foster connections with local residents. Researchers should prepare project displays, assist with tours, and contribute

content for the newsletter.

Annual Report

QUBS staff compiles this report documenting research, teaching, personnel and publications. It is shared with Queen's administration, QUBS users and supporters (also available on QUBS website). Researchers are invited to submit a summary: project/thesis title, supervisor (if applicable), assistants, and resulting publications. The newsletter highlights major events, improvements, and trends in use.

Principal Investigator and General Meetings

QUBS may hold policy/operations meetings for major users (in-person or online) and general user meetings for events, procedures, and feedback.

Visiting Scientist or Artist-in-Residence

Occasionally an artist-in-residence or visiting scientist (e.g., via the J. Allen Keast Field Biology International Exchange Fund) present seminars and interact with users during their stay. These programs add an extra dimension to life at QUBS.

Co-operation Among Users

All QUBS users should respect the need for integrity of research projects and make every effort not to disturb other research efforts. Every QUBS user has the right to privacy and non-disturbance. Be aware that not all users operate by the same schedule. Do not disturb others trying to sleep. Immediately cease disruptive activities upon peer request or when directed by QUBS staff. Research/teaching takes priority over recreation.

EMERGENCY NUMBERS FOR QUBS USERS

FIRE OR MEDICAL EMERGENCY

DIAL **9-1-1**

(Fire Department, Police and Ambulance)

PROVIDE OPERATOR WITH NECESSARY INFORMATION

DESCRIBE NATURE OF EMERGENCY

GIVE LOCATION OF FIELD STATION

QUBS IS LOCATED AT 280 QUEEN'S UNIVERSITY ROAD,
TOWNSHIP OF RIDEAU LAKES, SOUTH CROSBY WARD

DO NOT HANG UP UNTIL INSTRUCTED TO DO SO BY
OPERATOR

Emergency services can also be reached at:

ELGIN FIRE DEPARTMENT
613-359-5373

ONTARIO PROVINCIAL POLICE
1-888-310-1122

Ontario Provincial Police (Elgin)
613-359-9911 (inquiries - office hours only)

POISON INFORMATION CENTRE
1-844-POISONX

EMERGENCY REPORT CENTRE (Queen's Campus)
613-533-6111

Hydro One (Emergencies and Outages)
1-800-434-1235