Green Field Lab Certification

Cold Storage

	Action Item	Yes	No	N/A
C-1	International lab freezer challenge			
C-2	-70 degree storage temps			
C-3	Cold storage inventories			
C-4	Scheduled de-icing and defrosting			
C-5	Scheduled preventative maintenance			
C-6	Share cold storage space			
C-7	Remove samples from backup			

Materials Management & ReUse

	Action Item	Yes	No	N/A
M-1	Lab recycling station			
M-2	Regulated waste disposal with EHS			
M-3	ACT Label interest form			
M-4	Sustainable vendor programs			
M-5	Material sharing			
M-6	Sustainable printing and cartridge recycling			

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Engagement

Action Item		Yes	No	N/A
I-1	Sustainable lab training			
I-2	Office of Sustainability newsletter			

Sustainable Fieldwork

Action Item		Yes	No	N/A
F-1	Analyze and document research impacts			
F-2	Non-destructive sampling methods			
F-3	Coordinate carpooling			
F-4	Turn off equipment before field work			
F-5	Minimize habitat disturbance			
F-6	Arrive with clean gear and clothes			
F-7	Promote local science collaborations			
F-8	Share, reuse, and repair field gear			
F-9	Prioritize sustainable equipment			
F-10	Seek plastic alternatives in research			
F-11	Follow “Leave No Trace” principles			

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Sustainable Fieldwork - Marine Sciences

	Action Item	Yes	No	N/A
F-1	Sources bait locally, from non-key species			
F-2	Minimize boat emissions			
F-3	Use canvas bags for cement			
F-4	Collect nets, traps, flags, & fishing gear			
F-5	Divert from PVC piping in coral nurseries			

Sustainable Fieldwork - Plant Sciences

	Action Item	Yes	No	N/A
F-1	Camping equipment from recycled materials			
F-2	Collect all flags after research			
F-3	Use biodegradable flags or tree marking paint			

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Sustainable Fieldwork - Wildlife Studies				
Action Item		**Yes**	**No**	**N/A**
F-1	Collect nets, flags, traps, fishing gear			
F-2	Sources bait locally, from non-key species			
F-3	Minimize capture sampling			

To be eligible for certification, a lab must prequalify by having no deficiencies on their annual lab safety inspection and/or resolving any minor deficiencies found within one month.
To earn a certification, a lab must earn the necessary number of credits across five focus areas. Certifications will be awarded on a scale of Bronze to Platinum.

7 actions completed

21 actions completed

14 actions completed

28 actions completed

Once you have completed this form, please submit to greenu@miami.edu.

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Cold Storage

C-1	Our lab has registered for and participated in the International Lab Freezer Challenge and has implemented the Freezer Best Practices recommendations.

Describe your approach or explain actions taken:

C-2	We have moved samples and/or reagents to warmer storage temperatures. For example: changing set points on a ULT from -80°C to -70°C, moving DNA samples to standard -20°C, or adopting Room Temperature Sample Storage (RTSS). For a list of samples compiled by researchers at CU Boulder and UC Berkeley that can be stored safely at -70°C, please click here.

Describe your approach or explain actions taken:

C-3	We have sufficiently improved our cold storage inventory systems. Examples: performing lab-wide unit cleanouts to discard and organize, unifying sample library label systems, implementing barcoding or electronic inventory systems linked to software programs, etc.).

Describe your approach or explain actions taken:

Cold Storage

C-4	We have scheduled times to de-ice ULT units at least once per month and/or defrost standard freezers (-20°C to -40°C) at least once per year. *Note, that de-icing is simply the removal of ice and does not require a full shutdown like defrosting.*

Describe your approach or explain actions taken:

C-5	We have scheduled bi-annual/annual preventative maintenance on all cold storage units in the lab. This includes vacuuming or effectively removing dust and debris from the base of the unit, wiping or vacuuming coils to remove dust, and cleaning filters.

Describe your approach or explain actions taken:

C-6	We have consolidated cold storage space with other neighboring labs to prevent the unnecessary acquisition of excess cold storage units.

Describe your approach or explain actions taken:

Cold Storage

C-7	Any samples or reagents once stored in backup or emergency freezers or refrigerators have been removed from backup space and assigned to their appropriate permanent storage space.

Describe your approach or explain actions taken:

Materials & ReUse

M-1	Our lab has a designated recycling station with an obstructive opening lid and proper signage (**order from greenu@miami.edu**) for the collection of accepted recyclables. We participate in UM's recycling programs for batteries, E-waste, etc.

Describe your approach or explain actions taken:

M-2	We have contacted UM Environmental Health & Safety (305-243-3400) to request appropriate disposal services for regulated, biological, radioactive, or chemical waste generated in our lab. We understand that disposing of non-contaminated waste in red biohazard bags generates unnecessary pollution from incineration, and we utilize the red bags for the disposal of biomedical or biohazardous waste **only**. Disposing of 1 lb. of red bag waste costs **seven times more** than for 1 lb. of regular trash.

Describe your approach or explain actions taken:

M-3	Our lab prioritizes the procurement of sustainable research products. At least 50% of lab occupants have read about the ACT Label and have filled out the ACT Label Interest Form to encourage more transparency from science supply vendors.

Describe your approach or explain actions taken:

Materials & ReUse

M-4	Our lab participates in at least one specialized vendor sustainability program. Visit the Green U website for more information on vendor recycling programs.

Describe your approach or explain actions taken:

M-5	To prevent material waste from over-purchasing or expiration, our lab utilizes available forums (such as the Research Listserv) to announce back-stock available for sharing or posting requests when only a small amount of a chemical or reagent is needed.

Describe your approach or explain actions taken:

M-6	Our lab prints sustainably. We use FSC-certified printer paper with at least 30% recycled content and participate in UM's toner cartridge recycling program.

Describe your approach or explain actions taken:

Engagement

I - 1	The Green Liaison, the primary contact between the lab and GreenU, has taken the Green Lab 101 training webinar offered by GreenU.

Describe your approach or explain actions taken:

I - 2	The lab's Green Liaison has subscribed to the Office of Sustainability's monthly newsletter and shares events and opportunities with lab members when appropriate. The Green Liaison also shares best practices from this checklist regularly with lab members.

Describe your approach or explain actions taken:

Sustainable Fieldwork

F-1	Our lab recognizes that we have a fundamental obligation to the species and habitats that we study. To this end, we have analyzed and documented the impact of our research on our target species, on non-target species, on the ecosystem where the target species are studied, and on the local human communities and host cultures.

Describe your approach or explain actions taken:

F-2	Our lab challenges the use of destructive sampling methods. Destructive sampling methods are any procedure that cause a permanent change to a specimen. These methods are often quickly justified by cost without having made a thorough case for the use of non-destructive alternatives. To earn this credit, our lab either does not use destructive sampling methods, or has conducted an in-depth review of the impact of our destructive sampling methods versus alternative sampling methods.

Describe your approach or explain actions taken:

F-3	Our lab coordinates carpooling efforts to research sites or docks to reduce transportation emissions.

Describe your approach or explain actions taken:

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Chemicals & Reagents

F-4	Our lab turns off all computers and equipment before going to the field.

Describe your approach or explain actions taken:

F-5	Our lab reduces habitat disturbance and trampling by reusing the same walking and driving paths when possible.

Describe your approach or explain actions taken:

F-6	We arrive at study sites with clean gear and clothes to reduce the unintentional spread of disease, parasites, contaminates, and invasive species.

Describe your approach or explain actions taken:

F-7	Our lab minimizes the need for travel by promoting local science collaborations. Describe how you address engaging local science.

Describe your approach or explain actions taken:

Chemicals & Reagents

F-8	Our lab shares, reuses, and repairs camping equipment, field clothes, and other materials as much as possible before buying new.

Describe your approach or explain actions taken:

F-9	When buying new equipment, our lab considers durability of the product to reduce excess purchasing, and prioritizes buying recycled or sustainably made products.

Describe your approach or explain actions taken:

F-10	Our lab looks for sustainable alternatives to plastic products used in our research.

Describe your approach or explain actions taken:

F-11	Our lab follows the Leave No Trace principles, packing out all personal trash and materials brought on field excursions to minimize impacts on the local environments.

Describe your approach or explain actions taken:

Sustainable Fieldwork: Marine Sciences

F-1	If our lab uses bait, we source it from a local vendor. The bait we use comes from prey that is not a key species in our ecosystem.

Describe your approach or explain actions taken:

F-2	Boats release numerous harmful substances into aquatic and marine environments, including nitrogen oxide, particulate matter, carbon monoxide, and non-methane volatile organic compounds (NMVOCs). To combat this, we do not idle our boat, we observe reasonable speeds, and we are careful when refueling.

Describe your approach or explain actions taken:

F-3	Our lab uses canvas piping bags for cement instead of plastic piping bags.

Describe your approach or explain actions taken:

SF – Marine Sciences

F-4	Our lab collects all nets, traps, and flags when our research is complete.

Describe your approach or explain actions taken:

F-5	Our lab uses ceramic or another sustainable material (such as bamboo) for coral nursery trees instead of PVC.

Describe your approach or explain actions taken:

Sustainable Fieldwork: Plant Sciences

F-1	When it comes time to purchase new camping equipment, our lab purchases equipment that is produced from recycled materials.

Describe your approach or explain actions taken:

F-2	If our lab uses flags, we collect all flags when our research is complete.

Describe your approach or explain actions taken:

F-3	Instead of plastic marking flags, we either use a biodegradable alternative or tree marking paint.

Describe your approach or explain actions taken:

Sustainable Fieldwork: Wildlife Studies

F-1	Our lab collects all nets, traps, flags, and fishing gear when our research is complete.

Describe your approach or explain actions taken:

F-2	If our lab uses bait, we source it from a local vendor that already delivers to the area. The bait we use comes from prey that is not a key species in our ecosystem.

Describe your approach or explain actions taken:

F-3	Our lab minimizes capture sampling by using cameras traps, tags and sensors, satellites, drones, or other less intrusive methods. When capture sampling is necessary, organisms are treated ethically with empathy and respect.

Describe your approach or explain actions taken: