

2024 NIH Green Labs Program for Rocky Mountain Labs, Montana

The 2024 NIH Green Labs Program (GLP) for Rocky Mountain Labs, Montana, is comprised of 28 multiple choice statements. Please select your response for each statement based on the current practices in your lab. You can skip a statement or statements or an entire section if that is not applicable to your lab. Please select the appropriate response to reflect the current practices in your labs. You will have the option to select multiple answer choices by checking the applicable boxes or selecting a "Yes: We do this" or "No: We do not do this" or "NA: not applicable" as one of the answer options. There are no negative points for selecting No or NA.

After reading the Green Lab Self-Assessment statements, if you become aware and recognize that you are willing to participate in an environmental initiative, please respond "Yes," as your commitment in doing this moving forward. For instance, if you have not subscribed to the NIH Green Zone Newsletter, you can sign up and then respond "Yes," before filling the Green Lab Assessment.

There are four levels of Green Lab Certification: Honorary mention, Gold, Silver, and Bronze as described below:

Green Lab Certification Levels	Minimum requirement to achieve the GLP Certificate
Gold Level	Labs must reply "Yes" to at least 20 statements
Silver Level	Labs must reply "Yes" to at least 12 statements
Bronze Level	Labs must reply "Yes" to at least 6 statements
Honorary mention	Labs must reply "Yes" to at least 4 statements

Waste Management

The RML Waste Management Team provides disposal of chemical, biological, and general (solid) waste and recycling services. Key goals of the Waste Management Program are to reduce waste generation, increase recycling, and ensure proper disposal of all waste types. To remain informed about the latest waste management practices, please read the RML Waste Management Plan and email questions to niaidrmlwastemanagement@mail.nih.gov.

1. We follow the guidelines stated in the [RML Waste Management Plan](#) to collect and dispose of the waste generated in our lab.
 - Yes
 - No
 - NA
2. We [do not drain dispose](#) of any liquid that is listed as hazardous according to its Safety Data Sheet (SDS). These items are tagged (see question 4) for pick-up from the Waste Management team. If uncertain, we email questions to niaidrmlwastemanagement@mail.nih.gov.
 - Yes
 - No
 - NA

Chemical Waste

Chemical waste includes non-radioactive chemical solids or liquids contaminated with hazardous chemicals. For guidance on chemical waste management, please email niaidrmlwastemanagement@mail.nih.gov. The NIH Chemical Waste Management program provides many opportunities for chemical waste reduction through various recycling programs.

3. We collect alkaline **batteries**, empty chemical bottles, liquid chemical waste, and chemically contaminated gels in the appropriate waste containers, and dispose of them through the RML Waste Management team (niaidrmlwastemanagement@mail.nih.gov).
 - Yes
 - No
 - NA

4. We ensure that the **RML Chemical Waste Tag** is completed in its entirety as listed below to dispose of liquid chemical waste. If not completely correct, the waste will not be picked up. Please check the boxes that indicate your lab's practice in filling out the items on the NIH Chemical Waste tag (clearly written). For more information or questions, please contact the RML Waste Management team (niaidrmlwastemanagement@mail.nih.gov).
 - Contact information:
 - Name, building number, room number, phone number
 - Accumulation start date
 - Identifying the hazard in the hazard pictogram:
 - inflammable, corrosive, reactive, toxic, oxidizer
 - Chemical constituents:
 - all components listed with concentration and volume
 - Yes
 - No
 - NA

Biological Waste

Biological waste includes any waste with actual or perceived presence of pathogenic agents and includes animal carcasses and organs, or tissues from humans or animals. In addition, sharps containers (e.g., scalpels, razor blades, Pasteur pipettes, pipette tips, needles, and syringes), animal bedding contaminated with pathogenic agents which cannot be decontaminated through autoclaving, and other material potentially contaminated with cytotoxic or cytostatic drug. For more information, email the RML Waste Management team (niaidrmlwastemanagement@mail.nih.gov).

5. After biological waste bags are filled, we prepare them for disposal by following the procedures as stated below. For more information, refer to the [RML Waste Disposal Guide](#).
 - Tag with an autoclave label with name, date, and location
 - Attach a steam indicator and autoclave tape
 - Autoclave the waste, making sure to allow for steam generation in the bag

- Do not overfill bags (<25 lbs/bag)
- Let the bags cool before putting them in a clear bag and bringing them to the waste shed/room drop off locations
- Contact the Waste Management team with any questions (niaidrmlwastemanagement@mail.nih.gov)

Please check the box to indicate your lab's practices:

- Yes, all listed actions apply to managing biological waste generated in our lab.
- No, one or more of the listed actions are not reflective of our lab's practices.
- NA

General Waste (Clear/Black bag) and Recycling

General waste (clear/black bag waste) consists of materials free of pathological/infectious, radioactive, or hazardous chemical contamination. Materials considered as soft plastics are grocery bags, "Ziploc" bags, air shipping pillows, all clean and dry bags, pallet/shrink wrap, and bubble wrap. Other general (solid) waste items are furniture, electronics, equipment, appliances, and ice packs. Recyclable products include pipette tip boxes, #1 plastics, aluminum, steel, cardboard, toner and ink cartridges, and white paper. For more information, email niaidrmlwastemanagement@mail.nih.gov.

6. We collect and recycle white paper, magazines, aluminum, #1 plastic bottles, and ink/toner cartridges. All of these items are placed in the correct receptacles following posted instructions. For more information or questions contact the Waste Management team (niaidrmlwastemanagement@mail.nih.gov).

- Yes
- No
- NA

7. We recycle cardboard boxes by flattening the boxes and placing them in the hallways for collection.

- Yes
- No
- NA

8. We surplus government-owned personal property, accountable and non-accountable properties for reutilization and recycling, through our Logistics group by contacting (NIAIDRMLLogistics@niaid.nih.gov). This includes items such as office equipment, appliances, and electronics.

- Yes
- No
- NA

9. We participate in the tip box recycling program on campus (or another tip box recycling program) by autoclaving our tip boxes (if from a BSL2 lab) and adding them

to the labeled bins according to posted instructions in the nearest waste/recycling collection location.

- Yes
- No
- NA

10. We purchase and use products made from recycled plastic (some products are stocked in the RML stockroom).

- Yes
- No
- NA

11. We participate in recycling programs provided free (i.e. Corning recycles, New England Biolab's styrofoam mail-back program, etc) or purchased from vendors. Per RML policy, items from BSL-2 labs need to be autoclaved before shipping to the company. E-mail question to brandi.williamson@nih.gov.

- Yes
- No
- NA

Freezer Management

[NIH Manual Chapter 26101-16](#) establishes the NIH policy for the selection, inventory, placement, and maintenance of Ultra-Low Temperature Freezers (ULTF), Laboratory Grade Freezers (LGF) and Laboratory Grade Refrigerators (LGR) to increase freezer and refrigerator reliability and reduce energy consumption, operating costs, and greenhouse gas (GHG) emissions. For more information, visit the [Freezer Management](#) site.

12. We manage ULT and Laboratory Grade freezers and refrigerators per [NIH Manual Chapter 26101-16](#) as listed below.

- Conduct preventative maintenance semiannually. Please review the [video for details on](#) performing a user-level preventative maintenance.
 - Ensure freezers and refrigerators have at least 6 inches of clear space around the sides and on top.
 - Register freezers and refrigerators into the NIH Business System
- Yes, all listed actions apply to our freezer and refrigerator management.
 - No, one or more of the listed actions are not reflective of our lab's practices.
 - NA

13. We participated in the 2024 [NIH Freezer Challenge](#) to practice environmental stewardship above and beyond the requirements in the [NIH Manual Chapter 26101-16](#).

- Yes
- No
- NA

14. We operate ULT freezers capable of maintaining temperatures between -60°C and -90°C at -70°C or warmer.

- Yes
- No
- NA

Water Conservation

The NIH Water Conservation program seeks to minimize water consumption through water usage policies, best available technologies, and operations and maintenance activities. For additional information, visit the [Water Conservation](#) site.

15. We have adopted best management practices in our lab. Check all that apply.
- Close the autoclave door after removing items to prevent loss of heat and steam
 - Condense autoclave loads
 - Turn off water baths when not in use
 - Request building maintenance staff to repair leaks and malfunctioning faucets and machines (submit here: [maintenance requests](#))
 - Other, please specify:

Energy Conservation

The NIH [Energy Conservation](#) program seeks to optimize energy consumption through best available technologies, operations, and maintenance activities. For more information, please click [here](#) to learn ways for improving energy efficiency in labs.

One particularly impactful opportunity for labs is to turn off, place in standby, or sleep equipment when it's not in use or on nights and weekends. For statements 21-22, select all the equipment/appliances in your lab where this was the case *prior* to the 2024 NIH Green Labs Program (before September 2024) versus *during* the NIH Green Labs Program (after September 2024).

16. Select all the equipment and appliances in your lab from the list below that were turned off or were set to be on standby/sleep mode, prior to September 2024, i.e., before this year's Green Labs Self-assessment went live. Check all that apply.

- a. Autoclaves
- b. Cell counters
- c. Centrifuges
- d. Computers or laptops that run the equipment (SPE's)
- e. Copiers
- f. Film developers
- g. Heating blocks
- h. Imagers

- i. Incubators
- j. Microscopes
- k. Orbital shakers
- l. Ovens
- m. Printers for lab equipment
- n. PCR
- o. Rotators/Rockers
- p. Water bath

17. Select all the equipment and appliances in your lab from the list below that you will be turning off or programming them to be on sleep mode or standby mode, during this year's Green Labs Self-assessment (i.e., after September 2024). Check all that apply.

- Autoclaves
- Cell counters
- Centrifuges
- Computers or laptops that run the equipment (SPE's)
- Copiers
- Film developers
- Heating blocks
- Imagers
- Incubators
- Microscopes
- Orbital shakers
- Ovens
- Printers for lab equipment
- PCR
- Rotators/Rockers
- Water bath

18. We are interested in learning about making our research more energy efficient.

- Yes
- No
- NA

19. Explain other practices in your labs to make your research energy efficient.

Sustainable Procurement

The Biden Administration released the [Executive Order 14057: Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability](#) that outlines a coordinated, whole-of- government approach, along with individual agency goals and actions, to transform Federal procurement and operations to reduce greenhouse gas (GHG)

emissions and environmental impacts and secure a transition to clean energy and sustainable technologies. A few sustainable procurement and operational practices are listed below:

20. We review the [Sustainable Marketplace: Greener Products and Services website](#) and [Significant New Alternatives Policy \(SNAP\) program](#) to identify green products/services and to determine acceptable chemical substitutes for ozone-depleting substances, respectively, before purchasing items to be used in our laboratories.

- Yes
- No
- NA

21. We purchase energy-efficient products (appliances, equipment, and instrumentation) certified by [ENERGY STAR](#) and energy and water efficient products designated by DOE Federal Energy Management Program ([FEMP](#)) per the [Federal Acquisition Regulations](#).

- Yes
- No
- NA

22. We keep an updated chemical inventory and refer to this list before purchasing an item.

- Yes
- No
- NA

23. We search the [NIH FreeStuff](#) website and the RML Stockroom free table before purchasing any lab-related product.

- Yes
- No
- NA

24. We collaborate with the Research Technologies Branch (RTB) to utilize shared resources offered by the various collaborative research technology groups to further our scientific agenda.

- Yes
- No
- NA

Communications and Outreach

Communication and outreach are essential to the successful implementation of environmental programs at the NIH. To learn more about the communication and outreach opportunities at the NIH, please visit the [Outreach](#) site.

25. We volunteer for, participate in, or stay apprised of RML Environmental Stewardship Committee (ESC) meetings or activities. Email brandi.williamson@nih.gov to participate in the RML ESC.

- Yes
- No
- NA

26. We [subscribe](#) to the monthly [NIH Green Zone Newsletter](#) to stay informed about NIH environmental programs. The NIH Green Zone Newsletter includes 3 articles in each monthly issue, typically a Featured Article, a Take Action article and a Staff Spotlight or Event article.

- Yes
- No
- NA

27. In 2024 we completed the [NIH Environmental Management System](#) (NEMS) Awareness Training, which informs NIH staff of their roles and responsibilities within NEMS.

- Yes
- No
- NA

28. We have motivated our peers/colleagues from another lab to participate in the NIH Green Labs Program. Please provide the name of your peers/colleagues in the box below.

Optional open-ended questions that will not count toward your GLP score/Certification.:

A. How did you hear about the NIH Green Labs Program?

- Meeting or working group (please provide name in the text box below)
- Principal Investigator or Scientific Director (please provide name and IC in the text box below)
- Colleague (please provide name and IC in the text box below)
- NIH Green Labs Fair
- NIH Intranet site
- NIH Green Zone Newsletter
- Green listserv
- NIH Twitter (X)
- Other: [Insert text box]

B. Are you experiencing any challenge while managing chemical waste, especially filling out the chemical waste tag?

C. Any suggestions for improving the NIH Green Labs Program self-assessment form for the Rocky Mountain Labs (RML), Montana?

Thank you for participating in the 2023 RML Green Labs Program. Please provide your comments/feedback for improving the program.