



Black Bear-Resistant Product Testing Program

Conducting Captive Black Bear-Resistant Product Testing



Photo by Mike Carraway, North Carolina Wildlife Resources Commission

Training Manual

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Introduction

The Southeastern Association of Fish and Wildlife Agencies (SEAFWA) is a group of state agencies with primary responsibility for management and protection of the fish and wildlife resources in 15 states, Puerto Rico, and the United States Virgin Islands. Member states include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. One of SEAFWA's activities is to "sponsor cooperative fish and wildlife programs among member states and other entities to address issues of mutual interest and to benefit fish and wildlife resources."

Recovering and managing black bears in the Southeast becomes increasingly complex as numbers of people and bears on the landscape continue to grow. Unsecured human food, garbage and other attractants is now a major source of human-bear conflicts. That makes availability of reliable products to secure a variety of bear attractants vitally important to prevention of conflicts and in many cases, permanent removal of bears. The objective of this program is to provide information about the effectiveness of bear-resistant products and ultimately provide residents with the information they need to live responsibly in areas with black bears.

This document describes the process by which bear-resistant products, intended for use in areas occupied by black bears, will be tested by the Wildlife Management Institute (WMI) using the SEAFWA Black Bear-Resistant Product Testing Protocol (Protocol). We begin by providing some background about SEAFWA and the reason for testing bear-resistant products with captive black bears.

Program Purpose

The purpose of the Black Bear-Resistant Product Testing Program is to:

1. Identify effective products that minimize easy and direct access to attractants by black bears.
2. Evaluate a product's ability to prevent a black bear from accessing the contents contained within that product, including products designed or marketed to deliver wildlife toxicants.
3. Facilitate the development of new and improved bear-resistant products and options for deterring bears.
4. Provide consistent and science-based guidance, including a list of products that passed the Bear-Resistant Product Testing Program, to the public and to wildlife professionals.

Please note that passing the SEAFWA testing protocol does not assert that these products are 100% bear-proof and does not guarantee that products will never be accessed by bears. Passing

the SEAFWA testing protocol also does not guarantee that small amounts of the contents of the containers won't be able to leak or spill out.

The Black Bear-Resistant Product Testing Program consists of a series of Phases and Steps coordinated by the Wildlife Management Institute (WMI). The Phases and Steps are as follows:

Phase 1. Initial Evaluation conducted by WMI (All products)
Phase 2. Captive Black Bear Test - Conducted by Approved Captive Bear Testing Facilities. Step 1 Visual Inspection Step 2(a) Lightweight Product Testing Step 2(b) Heavyweight Product Testing Step 3 Technical Evaluation by WMI (When required)
Phase 3. Wild Black Bear Test Conducted at Field Sites in the Southeastern United States. (For devices designed or marketed for toxicant delivery).

NOTE: Captive black bear facilities will participate in Phase 2, Steps 1-2 of the testing process.

Testing Procedures for Captive Black Bear Testing

This manual describes the process by which approved facilities housing permanent, captive, black bears will test bear-resistant products under the direction of WMI. Products submitted for testing may include a variety of commercially available food storage products, garbage containers, and wildlife feeders.

Plastic products may include coolers, plastic horse/mule panniers, backpacking canisters, residential garbage cans, and other types of storage products. Lightweight metal products may include aluminum dry boxes, horse/mule panniers, storage boxes and cases, and wildlife feeders.

Products will undergo an initial evaluation and screening by WMI to ensure they meet minimum standards for bear-resistance and captive bear testing. Products meeting these requirements will be cleared for captive bear testing at an approved WMI testing facility.

Once a product has been cleared for testing, WMI will confirm that the facility is able to conduct the test. WMI will then notify the product submitter and connect them with the testing facility. Finally, the product submitter and testing facility will select a testing date and the product submitter will arrange to get their product(s) to the facility for testing.

NOTE: Only one of each product model should be tested. If the product fails the test, it can be modified and retested, or a different version of the product can be tested. The testing facility will decide if they can accommodate another test on the same day.

Arranging for the Captive Bear Product Test

1. Schedule a Test Date— Product testing runs from April 1st through November 31st. If the product submitter would like to be present for the test, the testing facility should coordinate with them to select a date that works for both parties. This is also the time to notify appropriate zoo staff that a test has been scheduled.
2. Coordinate with appropriate keepers, curators and the zoo veterinarian (and any other necessary zoo staff) regarding any proposed changes to the bears' diet related to the testing event (i.e., bait, enrichment in the enclosure/habitat, overall amount of food fed for diet, etc.).
3. Provide any special instructions to the product submitter regarding delivery of their product to the zoo (to the appropriate person and/or area of the zoo).
4. Notify WMI of the scheduled test date and the product to be tested.

Preparing for the Captive Bear Product Test

1. Perform a visual inspection of the product to ensure that the product is safe for the bears and facility staff.
2. Make sure the necessary supplies are on hand (i.e., bait foods, SD cards, video recording device (i.e. camcorder), tripod, data sheets, and staff people).
3. Familiarize testing personnel with testing equipment (especially the video recording device (i.e. camcorder) and with the product being tested (how product opens, closes and latches). You don't want to be struggling with this at the time of testing!
4. Charge the video recording device (i.e. camcorder) batteries and camera batteries if applicable. It is important to be ready to start recording the test from the beginning because the video recording device (i.e. camcorder) will be used to track the amount of "bear contact time" that the product receives.
5. Complete the first section of the "Product Testing Form" by filling in the contact information for the product submitter and the product being tested.
6. Record the product name and/or model number on the outside of the product in paint marker or vinyl stickers in BIG, BOLD letters and numbers so they can be seen from the viewing area (Fig. 1). This will help identify the test product later.



Figure 1. Model number of product (applied in vinyl letters - green arrow) is viewable from the bear enclosure viewing area.

Performing the Visual Inspection

Testing personnel should perform a visual inspection of the product prior to testing. The purpose of the visual inspection is to ensure that the product does not have loose parts or sharp points or edges that could injure testing personnel or bears.

The visual inspection consists of two steps:

Step 1 - Inspect the product to ensure that it is clean and safe for the bears, and to document the condition of the product prior to testing.

Testing personnel have the right to refuse testing of products that may be dangerous for the bears (e.g., products that have sharp edges, protrusions, loose parts, extremely heavy lids, etc.). Please notify the WMI Captive Bear Testing Coordinator as soon as possible if you have to decline a product for safety reasons.

- If the product is deemed safe for testing, proceed to Step 2.
- If the product has defects that make it unsafe or potentially harmful to the bears or staff, notify the manufacturer of the defects and proceed based upon one of the two following options:
 - a) If the product can be modified on-site to correct the defects, and you have the flexibility to accommodate them, allow manufacturer to make corrections and then proceed with testing.
 - b) If corrections cannot be made in a timely manner or the product must be modified off-site, reschedule the test and notify WMI that the current test was cancelled or rescheduled.

Step 2 - Take “**BEFORE**” photographs and video of the product while you are performing the visual inspection. While recording video of the product, be sure to say the name and model number of the product to help keep track of the product being tested.

Take a lot of photos of the test product **before** the test because things can get hectic when testing starts (Fig. 2).

Keep in mind that after the product leaves the facility, you lose the ability to get photographs.

- Photograph sides, front, back and top of the product(s).
- Photograph latches (inside and outside of product) to show how product latches.
- Shoot some video of opening and closing/latching the device before testing.

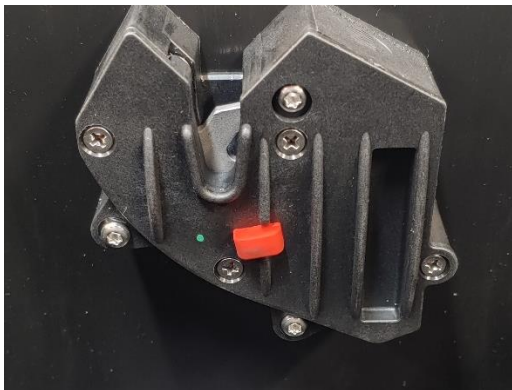


Figure 2. Photos of test products taken prior to testing.

Conducting the Captive Bear Product Test

1. Complete the information on the test data sheet (see Appendix B) by recording name of person or company submitting the product for testing, information about the product being tested, the bait used, names of the bear(s) used for that test, weather conditions at time of test, and name of person conducting test. Also record any gaps at lid/body or door/body interfaces.
2. Confirm that “before” photos of product have been taken and put a check mark on the line (on the data form) to confirm that pictures have been taken.
3. Make sure the video recording device (i.e. camcorder) is ready to start recording and place it on the tripod in the location where filming will take place. This should be done **before** the product is placed in the bear enclosure to ensure that filming can start as soon as the bears begin interacting with the product.
4. Bait the test product according to the following guidelines:
 - a) Place an appropriate attractant (i.e., food item) inside the container. Use foods that are not part of the bears’ normal diet whenever possible. Using novel foods will help get the bears interested in the product. When testing wildlife feeders, an attractant intended for use in the feeder shall be used when possible.

NOTE: WMI provides a list of foods that could be used to bait products (Appendix C). The list of foods provided by Wildlife Management Institute is meant to provide ideas for baits. When possible, please use foods from this list as it helps provide consistency in our testing. We understand that your bears might have specific dietary needs and restrictions, and that not all of these foods will be allowable according to the zoo’s dietary guidelines. Please consult with appropriate zoo personnel to ensure that bear diet protocols are not violated.

- b) Put a food item that makes noise inside the product (i.e., dog kibble, bones, apples, grapes or other hard fruit (Fig. 3). Make sure the bait will make noise as the bear rolls the product across the ground.



Figure 3. Containers baited with foods that make a sound when the bear rolls product.

- c) Apply a small amount of something that smells interesting or tastes good to latches, hinges and other vulnerable areas of the product (Fig. 4).

NOTE: Be conservative when applying bait to the outside of a product or the bear(s) will spend too much time licking the product, rather than really working to get into it. Roughly one tablespoon of something tasty applied to vulnerable areas should be adequate.



Figure 4. Small amount of bait applied to latches and inside rim of products.

- d) If the bears are not very hungry or if they tend to fight over novel items, a trapping lure like beaver castor oil or marten lure might get the bears interested in the product without causing fights.
5. Ensure that products are closed and secured as per the manufacturer's instructions. When the product is latched and baited, place it inside the bear enclosure.

Place the product in an area where there aren't any visual obstructions between the product and the viewing/filming area. The bear(s) will move the product around, but try to place the product in an area where it's least likely to get blocked from view.

6. It's preferred that products undergo contact by a number of bears of various sizes and with varying levels of experience with products.
7. Release the bears into the enclosure, allow them to begin interacting with the product, and start filming and timing the test. Begin filming the test (hit "record" button) as soon as the bears make physical contact with the product.

8. Record only “bear contact time” which is defined as “biting, pounding, clawing, rolling, compressing, chewing or scratching” the product. **Licking the product does NOT count as bear contact time.**
9. Ensure that the video recording device (i.e. camcorder) follows the product throughout the testing event. This means that the tri-pod must be moved as the product is moved by the bears. In other words, so that the video recording device follows the product.

Time the test using a stopwatch or the time counter on the video recording device (i.e. camcorder). Video recording devices (i.e. camcorders) can be used to track bear contact time by pausing recording (push the “record” button to put the recording on stand-by mode) when the bear stops interacting with the test product. If the bear returns to the product, press the “record” button again to begin recording again.

For example, if the bear is rolling the product along the ground, stops interacting with product, walks away, and returns to the product later, the video recording device (i.e. camcorder) should be paused at the point when the bear first stops interacting with the product.

Similarly, when testing coolers and backpacking canisters, **bear contact time stops if the bear takes the product into a water feature/pond.** When the product is in the water, you won’t be able to tell if or when the product is breached. Resume video recording and timing the test if and when the bear(s) remove the product from the water.

Interpreting Captive Bear Product Testing with the Public

Bear-resistant products testing is a great opportunity to talk to your visitors about why there is a need for bear-resistant products, why product testing is important, and how testing of bear-resistant products is helping bears in the wild. If you would like help developing a script for use in interpreting the program, the WMI Captive Bear Testing Coordinator can assist you.

You might get questions about whether this testing program is part of the program that uses grizzly bears in West Yellowstone to test bear-resistant products. That program, overseen by the Interagency Grizzly Bear Committee (IGBC) is widely recognized and is separate from the black bear testing program. Products that pass the IGBC testing protocol are considered to be grizzly bear-resistant and are listed on the IGBC web site.

Declaring the Captive Bear Test Complete

A product test is complete when one of two things happens. A product fails if it is breached by the bears before it accumulates 60 minutes of bear contact time. If 60 minutes of bear contact time is reached and the product remains intact and functional, the product is considered to “pass” the test.

It is a good idea to keep shooting video footage beyond the 60 minutes in case it is later determined that some of the bear contact time counted during the test should not be included.

Extra footage also helps when products are breached after the 60-minute mark but for one reason or another, it is difficult to determine exactly when the product was breached. You can go back and review the video footage and if it turns out that you counted time that you shouldn't have, you'll have extra documented bear contact time.

If you have questions about what counts as bear contact time or whether a product has passed, please contact Patti Sowka, the WMI Captive Bear Testing Coordinator.

Completing the Captive Bear Product Test

1. Try to retrieve the product from the bear enclosure as soon as the test is finished - additional product damage can occur after the test is complete, making it difficult to determine exactly what damage happened during the test and after the test was complete.
2. Complete the rest of the testing data form to document the amount of time until breach (if applicable), any damage to the product, the status of latch functioning, and the test result.
3. Photograph the product to document its condition after the test. Make sure to photograph all damage (Fig. 5), each side of the product, the top and the bottom and the latching mechanism.
4. Take a short video of damage done to the product and show how the product is rendered non-functional (i.e., does not open, close or secure). Make sure you shoot some video of opening and closing/latching the product after testing.



Figure 5. Photos illustrating damage to products that render them non-functional.

Identifying and Preventing Captive Bear Testing Fatigue

There is another situation that could result in a completed test. Test bears can exhibit “testing fatigue” which means the bears show little or no interest in the test product. Some bears never exhibit testing fatigue and others seem to get it rather easily. There are things that can help prevent testing fatigue and there are specific procedures for completing product tests when testing fatigue occurs.

Testing fatigue can make it difficult or impossible to get the 60 minutes of bear contact time needed to complete a product test. This phenomenon can occur when the test bears fail to breach products and therefore fail to receive food rewards from too many test products.

Allowing the bears to breach products that have already been tested, or from products that are not bear-resistant (i.e., a regular household garbage can or a cooler without locks, etc.), and allowing them to receive food rewards from those products will help keep the bears’ interest.

Testing too many products in a short period of time can also cause bears to lose interest. Giving the bears a break between testing days can help prevent burn-out. Rotating the type of products tested in consecutive testing sessions (when possible) also helps keep the bears “fresh” and engaged.

NOTE: A testing session can be terminated at the discretion of the testing personnel or facility staff if the bears exhibit too much testing fatigue or if product submitters do not treat testing personnel in a professional and courteous manner.

For products receiving at least 45 minutes, but less than the required 60 minutes, of bear contact time, testing will be completed using a combination of bear contact time and a technical evaluation. Testing personnel should contact Patti Sowka, WMI Captive Bear Testing Program Coordinator with information about accumulated bear contact time and any other information relative to the captive bear test and WMI will then complete the test.

Determining Captive Bear Test Results

To determine the test result, measure any gaps or holes in the product (Fig. 6). Measuring should occur as the product is stationary and not being handled by staff. In other words, gaps and holes should be measured without the product being manipulated by the person doing the measuring.



Figure 6. Measuring the gap between the lid and cart body that was created by the bears.

A product will be considered to have failed if it is rendered non-functional:

- Lid no longer closes or no longer latches,
- Doors no longer close or latch,
- Bears received food reward from inside of the product via a hole or gap larger than the ones allowed, or
- Hinges, seams, lids or doors are opened, torn, bent or broken at any time during the test.

For garbage containment products, gaps, tears or holes anywhere in the product of one inch or less are allowable. For game feeders, food storage containers, and all other products, gaps, tears or holes of ¼ inch or less are allowable. All gap or hole measurements should be taken with the product standing or laying still, without any pressure being applied to any part of the product.

Documenting Captive Bear Test Results

All product photos and testing video footage should be uploaded to a Dropbox account provided by WMI. The Testing Program Coordinator will send you a link to a Dropbox folder named **WMI-Bear Testing**. In that folder you will find a folder for your facility. That is where you can put all of the data from each test that you conduct.

Please upload the files according to the following instructions:

- Name a folder with the appropriate year that the test took place (e.g., a folder named “2022” has already been created for you (Fig. 7).
- Create a new folder within the Year folder with the name of the company supplying the product for testing (e.g., Toter).
- Create a new folder within the Company folder with the name of the product that is being tested (e.g., Bear Tight 95-gal cart #BT95).
- Create a new folder within the Product folder using the date that the product is being tested (e.g., 04-12-21).
- Save all data sheets to the Year/Company/Product/Date series of folders you created for this test.
- Save all videos to the Year/Company/Product/Date series of folders you created for this test.

- Do NOT record over or delete video, data forms or photos from the SD card until the WMI Testing Program Administrator (Patti Sowka) has confirmed that she has received them from the Dropbox folder.

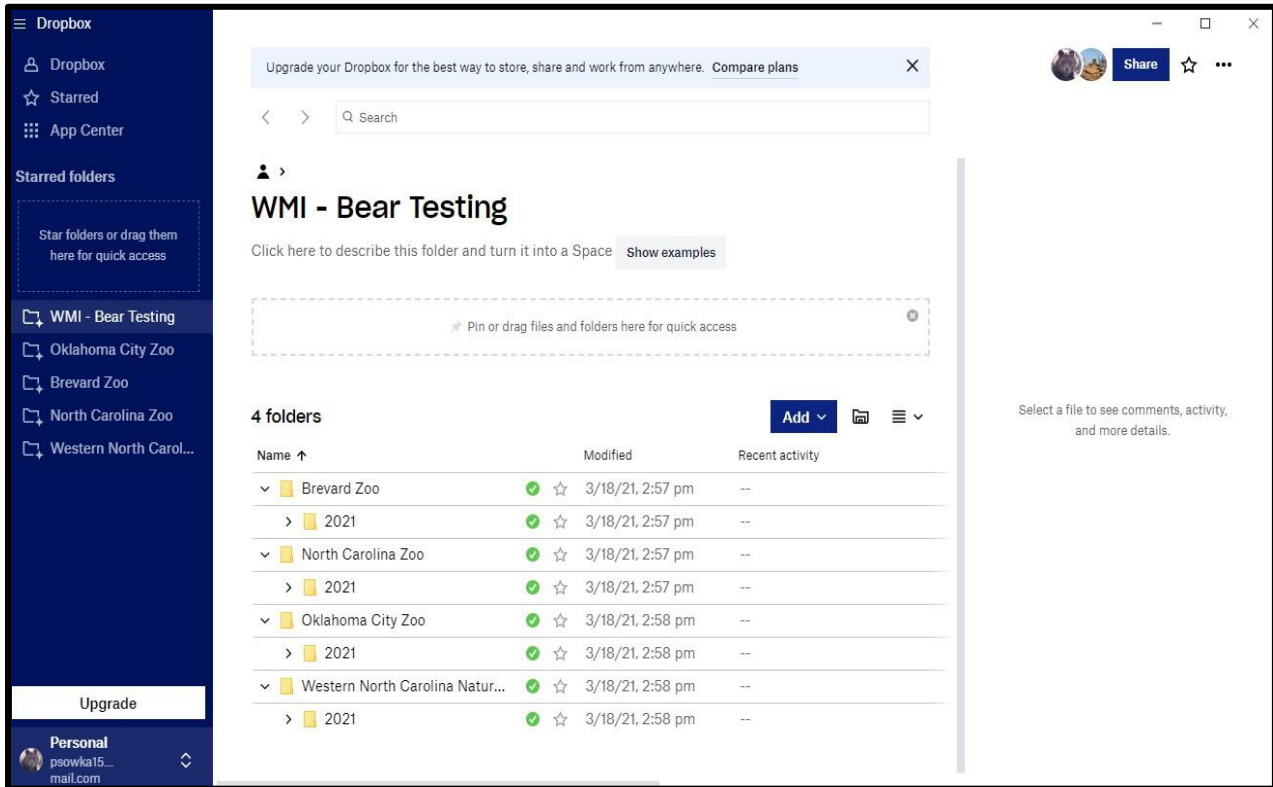


Figure 7. Screenshot of Dropbox data folders.

Reporting of Captive Bear Testing Results

A determination of whether or not a product passes the captive bear test will be made by the testing coordinator after testing results have been reviewed. This determination is final.

Results of testing performed using the SEAFWA black bear-resistant testing protocol apply only to the specific product as evaluated. If a product's design and/or specifications change, such as by altering materials, dimensions, hinges, latches, or other features of the container, the product will likely require retesting. Contact the bear-resistant product approver for questions regarding modified products (please see end of this document for contact information).

Upon completion of testing:

- Testing personnel will notify product submitters that testing is complete and will advise whether the product(s) has/have passed or failed testing (i.e., met or did not meet SEAFWA requirements for bear-resistant products). This determination is final.

- Testing Coordinator will review testing footage and documentation and will consider the product for WMI certification.
- Manufacturers/vendors with products that are certified by WMI will receive a letter confirming the product(s) approved status and assigning a unique certification number. This number applies only to the specific product model(s) that is approved.
- The letter from WMI will also provide instructions for proper display of the assigned number(s) on the corresponding product(s) and how to include a program logo image that can be utilized for display. This image will show that the product passed the Black Bear-Resistant Product Testing Program.
- The certification number must be visibly displayed on certified products. The number may be etched, molded, stamped, or otherwise embossed, stickered or labeled onto the product.

IMPORTANT: The official list of products that have been certified by WMI will appear on the WMI website at <https://wildlifemanagement.institute>. If a specific product does not appear on this list, it is not considered by SEAFWA to be a bear-resistant product.

Other Noteworthy items

Manufacturers/vendors wishing to obtain an SD card of testing video ***must*** indicate their preference on the Product Submission Form. Video will be provided by the WMI Captive Bear Testing Coordinator. There will be an additional and separate fee charged for copies of video footage. Video footage is not edited. Requests for testing videos made after the testing process has been completed will not be honored.

Captive bear testing of products will be conducted between April 1st and November 31st. The testing facility may decline products during that time period due to circumstances that would adversely affect product testing (e.g., change in captive bear behavior, inclement weather) or due to a high volume of products submitted during the season.

Bear-resistant products submitted for testing become the property of the designated testing facility if appropriate arrangements for disposition have not been made within 60 days after product testing.

Appendix A

WMI Captive Bear Testing Coordinator:

Patti Sowka
P.O. Box 922
Pauls Valley, OK 73075
cell: (406) 544-5307
bear-resistant@wildlifemgt.org

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Appendix B

CAPTIVE BLACK BEAR TESTING FORM

TEST DATE: _____
COMPANY: _____ CONTACT: _____
ADDRESS: _____
PHONE: _____ CELL: _____
EMAIL: _____ COMPANY REP PRESENT DURING TEST? Y / N

PRODUCT NAME: _____ MODEL NUMBER: _____
PRODUCT RE-TEST: Y / N
PRODUCT TYPE: BACKPACKING CANISTER / SMALL STORAGE DRUM: _____
COOLER: _____
SOFT-SIDED FOOD STORAGE PRODUCT: _____ RES. GARBAGE CART: _____
PANNIER / DRY BOX: _____ DUMPSTER/GARBAGE ENCLOSURE/ FOOD STORAGE: _____
CONSTRUCTION MATERIAL: _____

VISUAL INSPECTION: Pass / Fail COMMENTS: _____

GAPS BEFORE TESTING: _____ GAPS AFTER TESTING: _____
EASE OF OPERATION: _____
PICS BEFORE TEST: _____ PICS AFTER TEST: _____ VIDEO: _____ LATCH WORKS: YES / NO
BEARS USED FOR TESTING: _____
BAIT USED: _____
WEATHER: _____
TEMPERATURE: _____
CONTAINER BREACHED: Y / N NUMBER OF MINUTES: _____ **TEST RESULT: PASS / FAIL**
DAMAGE COMMENTS: _____

SD CARD: YES / NO \$70 FEE PAID _____ DATE MAILED _____
PRODUCT DISPOSITION: SUPPLIER KEEPS _____ TEST FACILITY KEEPS _____
PRODUCT RETURNED: YES _____ NO _____
CUSTOMER FED EX ACCT # _____

Appendix C

POTENTIAL BAIT FOODS

FOODS THAT MAKE NOISE

- SECTION OF ANIMAL BONE
- DOG KIBBLE
- FRUIT (GRAPES, PEACHES, CHERRIES, WATERMELON, APPLES, ETC.)
- VEGETABLES (AVACADOS, BROCCOLI CROWNS, POTATOES)
- WHOLE FISH
- MEAT CHUNKS

FOODS TO APPLY TO HINGES, LATCHES AND SEAMS

- JAMS OR JELLIES
- MARSHMELLOW FLUFF
- CHOCOLATE SAUCE
- MARINADES
- SWEET AND SOUR SAUCES
- APPLESAUCE
- SARDINES/ANCHOVIES
- PEANUT BUTTER
- HONEY

SCENT ATTRACTANTS

- TRAPPING LURES
- PERFUMES
- COFFEE GROUNDS

Appendix D

Documents Referenced

Interagency Grizzly Bear Committee. 2020. Interagency Grizzly Bear Committee Bear-Resistant Products Testing Program Testing Protocol For the 2020 Testing Season. 19 pp.

USDA Forest Service. 1989. Bear Resistant Containers – Minimum Design and Structural Standards; Inspection and Testing Methodology. Interagency Grizzly Bear Committee. 35 pp.