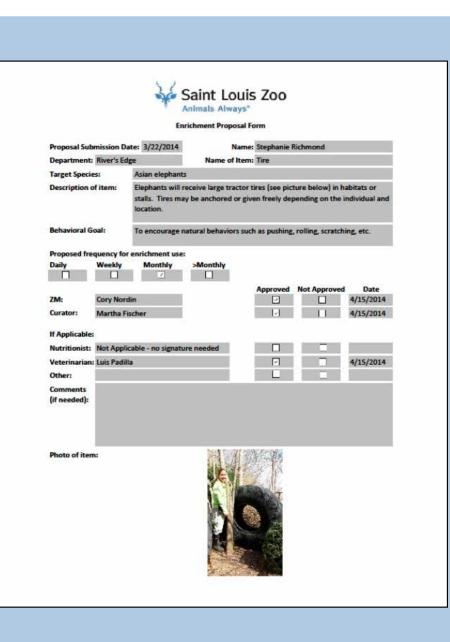
# **Evaluating for Success**

## Stephanie Richmond, Keeper/River's Edge, Saint Louis Zoo

Evaluation of enrichment is an essential component of all enrichment programs. In 2014, a welfare-based enrichment evaluation program was created and implemented at the Saint Louis Zoo. This program has enhanced animal welfare since its inception and is applied to a variety of species in the zoo's River's Edge area, including black rhinos, Asian elephants, dwarf mongoose, Egyptian geese, and more. Utilizing Microsoft Excel, the program combines an Enrichment approval form, Enrichment Catalog database, Enrichment Evaluation database, Enrichment Calendars, and Enrichment Quarterly reports. This system can be adapted for use for all species and institutions. Enrichment evaluation ratings are recorded and then computed into pivot charts, which are used to create quarterly Enrichment Reports. These keeper-produced reports are shared with zoo management and fellow keepers. Species-specific goals are generated for increasing enrichment effectiveness and welfare by combining behavioral goals with the data generated in the Enrichment Reports.

#### **Enrichment Approval Form**

For every new enrichment item an enrichment approval form must be filled out. Each form contains boxes for keepers to insert photos of the item, behavioral goal for the species, and a written description. The forms are also password protected. Only the zoological managers, curators, and veterinarians have the password for ease of simply checking a box to signify if the item is approved or not.



| and the second se | hand PageLayout Promulas Culla Ania                  | a san pendin   |                                   |                 |                 |   | _ |     | O  | - 10 |
|---|--|--|-----------------------------------|-----------------|-----------------|---|---|-----|----|------|
| R30   | • (* A)  |  |                                   |                 |                 |   |   |     |    |      |
| A.  | e l  | c  | 0                                 |                 | E               | F | G | - H | 4. |      |
|   | Furniture/Toys                                       | + Taste  | <ul> <li>Sights/Sounds</li> </ul> | + Sceets        |                 | + | - |     | _  |      |
| 6 Bat-Eared Fex   |  | Economie Iron  |                                   |                 |                 |   | - |     |    |      |
| F Bat-Eared Fox   |  | Estreaminte  |                                   |                 |                 |   |   |     |    |      |
| B Bat-Eared Fex   |  | Detect   |                                   |                 |                 |   | - |     |    |      |
| Bat-Eared Fex   |  | Frendra Brecista (Max, Lant Accord scenit)   |                                   |                 |                 |   | - |     |    |      |
| 80 Bat-Eared Fex  |  | Paidne (twain theory available, airtig)  |                                   |                 |                 |   |   |     |    |      |
| 91 Bat-Eared Fex  |  | Reamathout 2 per fox per jesel)  |                                   |                 |                 |   | - |     |    |      |
| 12 Bat-Eared Fick   |  | Seuterne   |                                   |                 |                 |   | - |     |    |      |
| 93 Bat Eaned Fox  |  | Easter   |                                   |                 |                 |   | - |     |    |      |
| 94 Bat-Eared Fax  |  | Bat Acele Jose Bri Fred  |                                   |                 |                 |   | - |     |    |      |
| 5 Bat-Eared Fox   |  | Baz  |                                   |                 |                 |   | - |     |    |      |
| 96 Bat-Eared Fex  |  | Skouth   |                                   |                 |                 |   | - |     |    |      |
| 17 Dat-Eared Fisk   |  | Statuta  |                                   |                 |                 |   | - |     |    |      |
| 98 Bat-Eared Fire   |  | Shite Chris Sylap avon has increated an arrithm  |                                   |                 |                 |   | - |     |    |      |
| 10 Eat-Eared Fex  |  | Route  |                                   |                 |                 |   | - |     |    |      |
| 10 Bat-Eared Fex  |  | Sast   |                                   |                 |                 |   | - |     |    |      |
| 191 Eat-Earled Fick   |  | Theotering   |                                   |                 |                 |   | - |     |    |      |
| 42 Eat Earod Fax  |  | Sectorem.  |                                   |                 |                 |   |   |     |    |      |
| 03 Bat-Eared Fox  |  | Volumente  |                                   |                 |                 |   |   |     |    |      |
| 14 Bat-Eared Fex  |  | Constant of a section of the section |                                   |                 |                 |   |   |     |    |      |
| Elack Rhino   | Institut Chilten                                     | Advide.co.dea  | Excloses .                        | Daw             |                 |   | - |     |    |      |
| 05 Diack Rhine  | targets  | Additional   | Shell Polymouth                   | GROS            |                 |   | - |     |    |      |
| 197 Black Rhino   | Solding . Non-Biothering)                            | Augusta .  | Thin had                          | Cierco:         |                 |   | 1 |     |    |      |
| BB Black Rhine  | buorrential (lecter anough to not N in environmenth) | Laura .  | Elephent Recordings               | 28              |                 |   | 1 |     |    |      |
| 107 Black Rhine   | faxina 24/a  | Besta, Siltery, etc.)  | Tature.CO                         | feathers        |                 |   |   |     |    |      |
| 10 Black Rhine  | Berry Rowl   | flictering   | Eads                              | fame            |                 |   |   |     |    |      |
| 111 Black Rhina   | Cardinard house in hitse                             | Route  | Tablement                         | Contab. Terraus | ŧ               |   |   |     |    |      |
| 12 Black Rhino  | Teeder, Juck - Suscended                             | Celosi Soc. they, theretai   |                                   | Sitter          |                 |   | - |     |    |      |
| 113 Black Rhino   | Existence and  | Catend   |                                   | Siterade/       |                 |   | - |     |    |      |
| 14 Black Rhine  | fushcas.cepticas                                     | Codeducationical   |                                   | Lanten Grass    |                 |   | - |     |    |      |
| 15 Black Rhine  | Tearran Brance Suster                                | Carn as the cell   |                                   | parates         |                 |   |   |     |    |      |
| 14 Black Rhine  | Seavy Duty Pavily Faults                             | Sciulture Care   |                                   | ibst            |                 |   |   |     |    |      |
| 17 Black Rhino  | Sein   | Cratbertes   |                                   | Oresand         |                 |   | - |     |    |      |
| 18 Elack Rhino  | Large Change Traffic Barrets                         | Subjection   |                                   | Bacthene loadeb | <u>v</u>        |   |   |     |    |      |
| III Black Rhino   | Loss Three aspended how he dela                      | Evalet account   |                                   | Rosetway        |                 |   |   |     |    |      |
| 29 Black Rhine  | Vesseer these helds                                  | Dates  |                                   | State State     |                 |   | - |     |    |      |
| 21 Black Rhino  | 2423   | its.Trade  |                                   | Secret./SOT.m   | ion on teactico |   | - |     |    |      |
| 22 Black Rhino  | BR.632424T   | Instant Vasted Schebers  |                                   | 15ml            |                 |   |   |     |    |      |
| 23 Elack Rhino  | Partition Rest                                       | Jack Duran (Trans  |                                   | Tucrecia.       |                 |   |   |     |    |      |
| ZA Elack Rhine  | Experioreal  | Jacky - Robert Tree  |                                   | Vepor Hut       |                 |   |   |     |    |      |
| 15 Black Rhine  | There, besta   | Salahas  |                                   | Victory         |                 |   |   |     |    |      |
| 5 Black Rhine   | Pare Para  | Kind   | 1123                              |                 |                 |   |   |     |    |      |
| 7 Black Rhine   | She was use  | Mask-Aut on Coveral Land (water from)  | 1 MA                              |                 |                 |   |   |     |    |      |
| R. R. R. Americanish  | Doma Disponyed Zerra                                 |  | 21(4)                             |                 |                 |   |   |     |    |      |

#### **Enrichment Catalog** Database

Once an item has been approved it is entered into the Enrichment Catalog database. If the item was not approved it is entered into this same database, but under the "Disapproved items" tab.

Each disapproved item listing also includes the reason that it was not approved.

The Enrichment Catalog database is easily searchable with the use of built-in filters. Each enrichment item listed is hyperlinked back to the approval form for ease of access for keepers and managers.

|    | A1   | • (* f• Species  |                 |   |
|----|--|--|-----------------|---|
|    | A<br>Species +   | B Item -   | C<br>Category - | D Reason                                  |
|    | Bat-Eared Fox  | Townishoosi carpet aquares/accis/powes/hats (kether or canvas), buriag               |                 | Risk of ingestion and intestinal blockage |
|    | Bat-Eared Fox  | Stuffed Anmein   |                 | Risk of ingestion and intestinal blockage |
|    | Bat-Eared Fox  | Onen   | Scents          | Toxic to dogs and cats                    |
|    | Bat-Eared Fox  | Garte  | Scents          | Texic to dogs and cats                    |
|    | Bat-Eared Fox  | frates   |                 | Chew ingestion hazard                     |
|    | Bat-Eared Fox  | Large Pastic Cares   |                 | Chew ingestion hazard                     |
|    | and the second states of the second states and the   | Townshit was located as a real and a located by washing the first or canvas's burley |                 | Risk of ingestion and intestinal blockage |
|    | Dwarf Mongoose   |  |                 | Risk of ingestion and intestinal blockage |
| ŝ  | Dwarf Mongoose   |  | Scents          | Texic to dogs and cats                    |
|    | Dwarf Mongoose   |  | Scents          | Toxic to dogs and cats                    |
|    | the second s |  | Furniture/Toys  | Chew ingestion hazard                     |
|    | Dwarf Mongoose   |  |                 | Chew ingestion hazard                     |
|    | Asian Elephant   | Garte  | Scents          |   |
|    | Contraction of the second second second second   | 9nen   | Scents          |   |
| ŝ  | Hippo  | Garto  | Scents          |   |
| 7  | Hippo  | Onen   | Scents          |   |
|    | Red River Hog  | Oartic   | Scents          |   |
|    | Red River Hog  | Oneo .   | Scents          |   |
| ó  | Black Rhino  | 0x00   | Scents          |   |
| ĩ  | Black Rhino  | Driet  | Scents          |   |
| ż  | Asian Elephant   | champrile, sweet woodruff, paraley, chores, vanila crass                             | Scents          |   |
| ŝ  | Black Rhino  | chamonik, sweet woodruff, paraley, chives, yanila grass                              | Scents          |   |
| ŝ  | Bat-Eared Fox  | chamonile, sweet woodruff, parsiey, chives, vanila grass                             | Scents          |   |
| ŝ  | Dwarf Mongoose   | chamonile, sweet woodruff, paraley, chives, vanila grass                             | Scents          |   |
|    | Red River Hog  | chartomie, swiest woodruff, parsiev, chives, vanila grass                            | Scents          |   |
| ŕ  | Hippo  | chamotole, sweet woodfulf, paraley, chives, varille crass                            | Scents          |   |
| 5  | Bat-Eared Fox  | Cameld fut   | Scents          | Risk of entanglement                      |
| 9  | Red River Hog  | Carrielo fur   | Scents          | Risk of entanglement                      |
| i  | Dwarf Mongoose   | Carrented for  | Scents          | Risk of entanglement                      |
| ſ  |  |  |                 |   |
| 1  |  |  |                 |   |
| )  |  |  |                 |   |
| 5  | _  |  |                 |   |
| ŝ  |  |  |                 |   |
| 1  |  |  |                 |   |
| 8. | Approved   | Disapproved Itenis   |                 | ្រា                                       |

| Nack Rhino Dentita 5 1<br>Red River Hog Bewine 5                               | 8                                     |   |   |                 |                    |     |   |     |         |
|--|---------------------------------------|---|---|-----------------|--------------------|-----|---|-----|---------|
| al Eard Fox Booting 21<br>Jack Rhino Booting 21<br>ed River Hog Booting 2<br>& |                                       |   | C | 0               | 1                  | - E | G | H.  | -1) - I |
| Jack Rhino Dombra ( 1<br>ed Rover Hog Bradina ( 1<br>6                         |                                       | -Y Tacte  |   | * Sights/Sounds | * Scents           |     | _ |     |         |
| d River Hog Bradma X4  | Ato 2 Sont A to 2                     | Christen  |   |                 | Constant Tecresori |     |   |     |         |
| A CONTROL OF   | THE SOUTH A                           | Etera Ditter, str.  | 1 | Entrep.SD       | fastaa             |     |   |     |         |
| *  | Sort by Calor                         | Avacade   |   | Nature CD       | Cit                |     |   |     |         |
|  |                                       |   |   |                 |                    |     | - |     |         |
|  | Gear Filter From Turniture/Tays       |   |   |                 |                    |     | - |     |         |
|  | Pytter by Color                       |   |   |                 |                    |     |   |     |         |
|  | Text gitters                          |   |   |                 |                    |     | _ |     |         |
|  | Starth                                | 0   |   |                 |                    |     |   |     |         |
|  | V (Select Al)                         | 6   |   |                 |                    |     | - |     |         |
|  | - C) 'Hanster' ball insect feeder     | 01  |   |                 |                    |     |   |     |         |
|  | E Samboo Chimes                       |   |   |                 |                    |     |   |     |         |
|  | - C Barreis                           |   |   |                 |                    |     |   |     |         |
|  | Basketballs                           |   |   |                 |                    |     |   |     |         |
|  | - asters - from Boomerball            |   |   |                 |                    |     |   |     |         |
|  | -CBeomerbail (large enough to not fil | te  |   |                 |                    |     | - |     |         |
|  | Cowing Salts                          |   |   |                 |                    |     |   |     |         |
|  | a filt doubt of                       |   |   |                 |                    |     | - |     |         |
|  |                                       | and the second se |   |                 |                    |     |   |     |         |
|  | OK Cano                               | ek  |   |                 |                    |     |   |     |         |
|  | No.                                   |   |   |                 |                    |     | - |     |         |
|  |                                       |   |   |                 |                    |     | - |     |         |
|  |                                       |   |   |                 |                    |     | 1 |     |         |
|  |                                       |   |   |                 |                    |     | - |     |         |
|  |                                       |   |   |                 |                    |     |   |     |         |
|  |                                       |   |   |                 |                    |     |   |     |         |
|  |                                       |   |   |                 |                    |     |   |     |         |
|  |                                       |   |   |                 |                    |     |   |     |         |
|  |                                       |   |   |                 |                    |     | - |     |         |
|  |                                       |   |   |                 |                    |     | - |     |         |
|  |                                       |   |   |                 |                    |     | - |     |         |
|  |                                       |   |   |                 |                    |     |   |     |         |
|  |                                       |   |   |                 |                    |     |   |     |         |
|  |                                       |   |   |                 |                    |     |   |     |         |
|  |                                       |   |   |                 |                    |     |   |     |         |
|  |                                       |   |   |                 |                    |     |   |     |         |
|  |                                       |   |   |                 |                    |     |   |     |         |
| B Approved Dates   | as Desporoved Items 74                |   |   | 1341            |                    |     | 1 | 4.1 |         |

### **Enrichment Calendar**

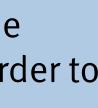
Calendars are made one month at a time for each species. At this time, the keeper making the calendar will change the fill colors in the excel file in order to track the usage of the items in the calendar.

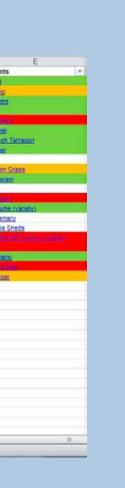
It is important to track the usage of items so each enrichment item is evaluated frequently.

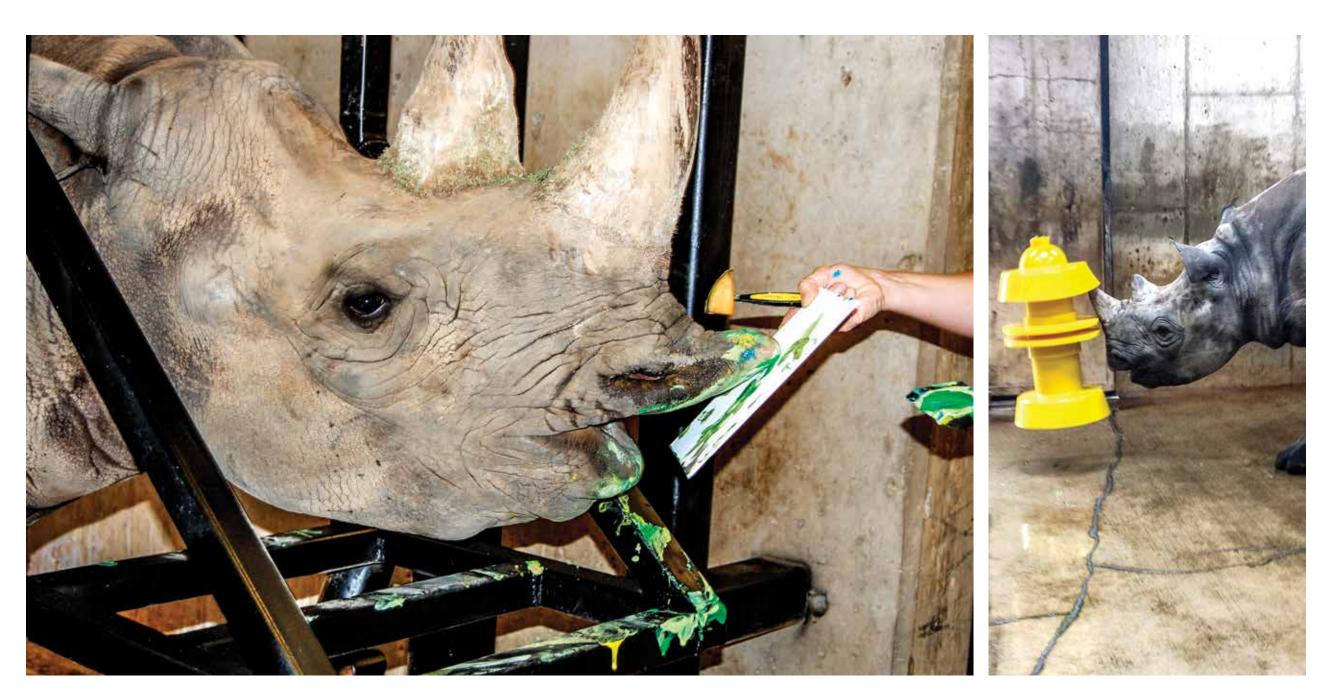
|    | -   | ne bisert Pagela  | yout Formulas Data Review View                    | Developer     |                  |       |
|----|---|---|---|---------------|------------------|-------|
|    | G20   | - (-  | f   |               |                  |       |
| 2  | Δ   | 8 C   | P   | £             | F                | G     |
|    |   |   |   | in the second | (I)ndirect<br>or | Notes |
|    | a long to the second | distant and a second |   | Evaluation -  |                  | Notes |
|    | April   | 1 Mongoose  | Essetain  |               | 1                |       |
|    | April   | 1 Bat-Eared Fox   | feeluin   |               | 1                |       |
|    | April   | 1 Hog   | Bawing Bala                                       |               | 1                |       |
|    | April   |   | Sheweniterers/Services                            |               | D                |       |
|    | April   | 1 Sacred Ibis   | Baskettels  |               | D                |       |
|    | April   | 1 Hippo   | Barreis   |               | D                |       |
|    | April   | 1 Rhino   | Bowling Bala                                      |               | 1                |       |
|    | April   | 2 Mongoose  | Line/Lenon Arice                                  |               | D                |       |
|    | April   | 2 Bat-Eared Fox   | LiteLemin 2058                                    |               | 1                |       |
|    | April   | 2 Hog   | LitrefLetton Juice                                |               | D                |       |
|    | April   | 2 Egyptian Geese  | Melona  |               | 1                |       |
|    | April   | 2 Sacred Ibis   | <b>CREMAKEN</b>                                   |               | 1                |       |
|    | April   | 2 Hippo   | LineSumm_Juice                                    |               | D                |       |
|    | April   | 2 Rhino   | Line Lenot Joint                                  |               | 1                |       |
|    | April   | 3 Mongoose  | Eutona  |               | 1                |       |
|    | April   | 3 Bat-Eared Fox   | Dutoma  |               | D                |       |
| 18 | April   | 3 Hog   | Dubbins   | 1             | 1                |       |
|    | April   | 3 Egyptian Geese  | Musch   | 0             | 0                |       |
| 20 | April   | 3 Sacred Ibis   | Invich  |               | 1                |       |
| 21 | April   | 3 Hippo   | Bettins   |               | D                |       |
| 22 | April   | 3 Rhino   | Buttitta  |               | 1                |       |
| 23 | April   | 4 Mongoose  | Steep Wool  | 4             | P                |       |
| 24 | April   | 4 Bat-Eared Fox   | Sheep Wingi                                       |               | 1                |       |
| 25 | April   | 4 Hog   | Sheep Wool  |               | 1                |       |
| 26 | April   | 4 Egyptian Geese  | Mealworm Feeder                                   |               | 1                |       |
| 27 | April   | 4 Sacred Ibis   | State Shada                                       | 2             | 1                |       |
| 28 | April   | 4 Hippo   | Stake Steda                                       | 3             | 1                |       |
| 29 | April   | 4 Rhino   | Stake Sheda                                       | 2             | 1                |       |
| 30 | April   | 5 Mongoose  | Kenus   | 1             | D                |       |
| 31 | April   | 5 Bat-Eared Fox   | Kanas   | 0             | 4                |       |
| 32 | April   | 5 Hog   | Post Ros  | 2             | 1                |       |
| 33 | April   | 5 Egyptian Geese  | Shavinga - aina                                   | 1             | 1                |       |
| 24 | April   | 5 Sacred Ibis   | Plastic/Rubber Toys - not small enough to swallow | 0             | i i              |       |

| A        | A       | B  |     | C  | D                                       |   |          |
|----------|---------|--|-----|--|---|---|----------|
| 1 Spec   | cles    | T Furniture/Toys   | Ŧ   | Taste  | Sights/Sounds                           |   | Scen     |
| 10 Blac  | k Rhino | Banboo Chimes  |     | Alfalfa cubes  | 10000                                   |   | Date:    |
| 11 Blac  | k Rhino | Derreis  |     | Accientoca   | close Crawings                          |   | Catnic   |
| 12 Blac  | k Rhino | Bobbins - from Boomertral  |     | Longate  | Diage bal                               |   | CONT     |
| 13 Blac  | k Rhino | Boomerball (large enough to not fit in anyone's mouth)   |     | Esosis   | Electronic Recordings                   |   | 2.0      |
| 14 Blac  | k Rhino | Boostop Bala   |     | Boara (Where, etc.)  | Nature CD                               |   | a sum    |
| 15 Ellac | k Rhino | Burry Basel  |     | Blatheries   | 14100.                                  |   | Fentre   |
| 16 Blac  | k Rhino | Cardboard - boxes or tubes   |     | Bread .  | Television                              | - | Franc    |
| 17 Blac  | k Rhino | Propose dame international   |     | Ceresi Rix, chex, cheerios)  |   |   | Gine     |
| 18 Blac  | k Rhino | Firehoas bal   |     | Coconut  |   |   |          |
| 19 Blac  | k Rhino | Firehose beenlives   | 1.2 | Contraction in the second  |   |   | Leno     |
| 20 Ellac | k Rhino | Frenhuse Browse Holder   |     | Com on the cob   |   |   | Mario    |
| 21 Blac  | k Rhino | Heavy Duty Plastic Floats  | -   | Cracked Com  |   |   | Mint     |
| 22 Blac  | k Rhino | Keté   |     | Cranberries  |   |   |          |
| 23 Ellac | k Rhino | Large Orange Traffic Barreis   |     | Cucumber   |   |   | Perfu    |
| 24 Blac  | k Rhino | Loga/Stumps - approved browse only   |     | Diet cut smaller or left whole   | 1 C C C C C C C C C C C C C C C C C C C |   | Roser    |
| 25 Blac  | k Rhino | Support of the Second  |     | Erozen produce   |   |   | Sneke    |
| 26 Blac  | k Rhino | Maint  |     | Erozen produce   |   |   | 1.010    |
| 27 Blac  | k Rhino | Trewspaper   |     | tioney   | 1                                       |   | a series |
| 28 Ellac | k Rhino | Part (non-toxic)   |     | Hide Diet tema   |   |   | Turns    |
| 29 Elac  | k Rhino | Faper Seps   |     | Ice Treats   |   |   | 1000     |
| 30 Ellac | k Rhino | Phone books  |     | traiant Mashed Pictatoes   | 10                                      |   | Vineo    |
| 31 Blac  | k Rhino | The second s |     | Jata (sugar tree)  |   |   | 1.111    |
| 12 Blac  | k Rhino | Shavinga - pine  |     | Jely - super free  |   |   |          |
| 33 Ellac | k Rhino | ShowerMedera/Sponkera  |     |  |   |   |          |
| 34 Blac  | k Rhino | Streated Paper   |     | fani   |   |   |          |
| 35 Blac  | k Rhino | Show   |     | Kock-Aid or Crystal Light Isopor free  | •                                       |   |          |
| 36 Blac  | k Rhino | Sed  |     | Line/Lemon Juice   |   |   |          |
| 37 Blac  | k Rhino | Street Brush   |     | Hanap  |   |   |          |
| 38 Blac  | k Rhino | 10.000   |     | Rebos  |   |   |          |
| 39 Ellac | k Rhino | Used storage barrels (dainfect before use)   |     | Hoisaca  |   |   |          |
| 40 Ellac | k Rhino | Wester   |     | Nutterd  |   |   |          |
| 41 Blac  | k Rhino | Zipline to hang approved items from  | -   | Qatrical   |   |   |          |
| 42 Blac  | k Rhino |  |     | Qata   |   |   |          |
| 43 Blac  | k Rhino |  |     | Espera   |   |   |          |
| 44 Blac  | k Rhino |  |     | Fasta  |   |   |          |
|          | k Rhino |  |     | Frailtes   |   |   |          |
| 46 Ellac | k Rhino |  |     | Pearul Indiar  |   |   |          |
|          | Approve | d Items Disapproved Items Key  |     | and a second |   |   |          |

### **Thank You!**







#### **Enrichment Evaluation**

All enrichment items are evaluated via direct observation the first time the item is given to a species. Each enrichment item will then be evaluated a minimum of every third use, either directly or indirectly. After an item has re-adjustments made to it, it will be evaluated via a direct observation at its first use.

During the evaluation process, each enrichment item's behavioral goals (found on that item's enrichment approval form) will be taken into account. Re-adjustments may be suggested in order to achieve these behavioral goals.



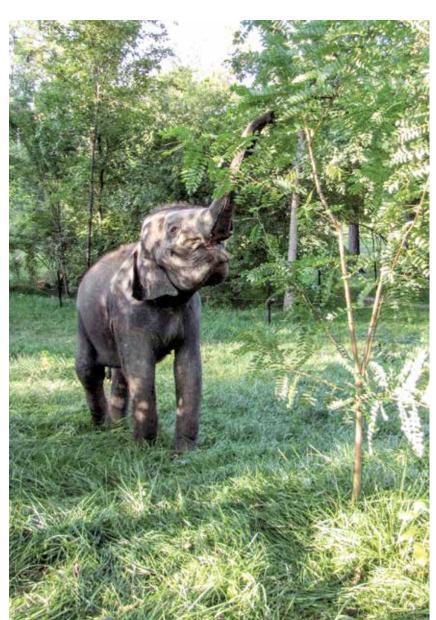


## **River's Edge Enrichment Evaluation Rating System Direct Evidence Scale (D)**

This occurs when the keeper directly observes the interaction between animal and enrichment item

#### Rating

- **D0** = Undesired Response (i.e. ingestion, device hazard, avoids item, interacts dangerously or aggressively with item, etc.)
- **D1** = No Observed Interaction with Enrichment
- **D2** = Animal Orients Toward Enrichment, but Has NO Physical Contact with Item
- **D3** = Between 1 to 5 Visits or Minutes of Interaction with Enrichment Item
- **D4** = Between 5 and 10 Visits or Minutes of Interaction with Enrichment Item
- **D5** = Greater than 10 Visits or Minutes of Interaction with Enrichment Item



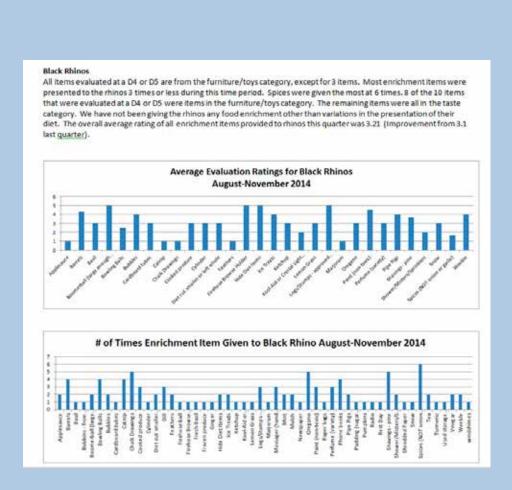




- Enrichment Item (i.e. Box moved, Scent marked etc.)
- **I3** = Significant Evidence of Interaction (i.e. Box completely destroyed and scattered etc.)

Evaluation ratings are recorded in the River's Edge Enrichment Calendar and **Evaluation Database.** 

- If an item is evaluated at a 0, a re-adjustment will be suggested before its next use.
- If an item is evaluated at a 1, three times in a row, a re-adjustment will be suggested.
- If an item is evaluated at a D5 more than 10 times, the item will be considered a "high-ranking enrichment item" and will no longer need to be evaluated every third use.



#### **Quarterly Reports and Goal Setting**

Quarterly (March, June, September and December), the River's Edge Enrichment Committee representative will examine the evaluation results and produce a report to River's Edge management and staff. At this time, a meeting with the River's Edge unit may be suggested and re-adjustments to our enrichment program may be recommended. During these

meetings behavioral goals will be discussed for each species and a list will be developed for furthering the overall goals of animal enrichment in the River's Edge.

Pivot tables are used to illustrate the average evaluation rating each species in the River's Edge receives for all items given and the number of times each species received all items. This allows the River's Edge staff to set goals such as: suggest a re-adjustment for Sacred ibis paper

bag enrichment or brainstorm new ideas or re-adjustments to heighten rhino scent enrichment.



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