

APPENDIX E
RFQ 2015-1
Restoration of Eleven (11) Dioramas in Mammal Hall at the State Museum of Pennsylvania
Scope of Work

The following scope of work was developed from reports provided to the State Museum in the fall of 2014 by three (3) experienced natural history diorama experts: Steve Quinn, Artistic Director, American Museum of Natural History; George Dante, President/Owner, Wildlife Preservations, Inc; and Joi Knight-Bittle, subcontractor, Wildlife Preservations, Inc. Appendices H.1, H.2, and H. 3 include these reports along with resume examples from the experts. These reports are for reference as there are details describing the restoration needed for the dioramas and the cost estimates, but it is not the intent of the State Museum to complete all of the work suggested in these reports. The scope of work below outlines the services the State Museum requires for this RFQ.

I. Preparing the Halls and Dioramas for Restoration:

PHMC will install the lighting upgrades prior to the start of this contract, and only the final aiming, color adjustment, and review of special effects lighting in each diorama will be included in this project.

II. What PHMC Will Provide

1. Enclosed, secure work area for each diorama.
2. Access for the Contractor to Mammal Hall, on-site workshop as necessary, basic on-site work furniture, sink, ladders, fans, electrical, etc. Mon- Fri., 9 am - 5 pm.
3. Overnight storage of tools and supplies as necessary.
4. On-site coordination with in-house preparators for fabrication of platforms and scaffolding, plastic sheeting enclosures, partitions, etc.
5. Coordination of SMOP Curatorial, Education, Marketing and Digital Media Departments and Staff with Contractor
6. Contractor access to historical content and/or relevant photo documentation about the dioramas as necessary to better complete the restoration project with accuracy.
7. A list of equipment and supplies that will be available for use by the contractor is attached as **Appendix F**

III. Description of Contractor's Role in Project

Summary:

PHMC requests to engage a project manager that will oversee a complete restoration on the taxidermy, background paintings and foreground features of (11) dioramas in Mammal Hall at the State Museum of Pennsylvania.

IV. Terminology:

A. Taxidermy Work

***General Cleaning:** A term describing the process of HEPA vacuuming the specimen to remove all loose dust and debris, followed by a series of conservation approved wet and or dry wipes, which are repeated until the specimen is deemed clean. If a more aggressive cleaning is needed it will be determined during this stage and carried out based on each specific situation. These can include conservation-approved detergent and solvent washes to remove more fixed soil and stains.

***Re-Pointing:** This is generally associated with the final stages of the taxidermy process and is standard in finishing out the piece. It consists of rebuilding any shrunken areas or dried and unnatural textures caused by the tanned skin drying during the taxidermy process. Various conservation approved materials are used to fill these areas and sculpt them to appear more full, lifelike, and anatomically accurate. Typically these are the soft tissue or exposed skin areas such as the interior of the ears, eyelids, noses, nose interiors, mouth interiors, exposed lips, beaks and feet on birds, etc. Once these areas are "re-built" the natural colors are restored based on quality reference images of live

specimens. Finally, the specimen is groomed or preened for re-installation, re-aligning all natural hair or feather patterns. Once again all conservation approved materials such as adhesives, fillers, paints, and pigments will be used.

***Re-Coloring:** This term describes the restoration of the specimen's natural colors by way of dying, painting, or the application of dry pigments. Most exhibit lights contribute to the fading of natural pigments in fur and feathers, as well as some paints on models. Other factors that contribute to the loss of natural pigments are general age of the piece as well as the type of tan used to preserve the skin. While the severity of the fade may be slight or severe, any restoration will increase the accuracy of the piece while creating a dramatic visual enhancement. All conservation approved materials such as stable dry pigments, orasol dyes, and Golden's acrylic tube colors will be used.

***Before and After treatment Photos:** Once the specimen is removed from the exhibit and placed on its temporary platform, it should be photographed before any work is carried out including cleaning. Once the restoration is complete, the same series of images are duplicated allowing for a side-by-side comparison. All images should be shot with studio lighting on neutral gray seamless paper with the presence of a color checker in the frame providing the composition permits. Details of any areas of damage or specific interest should be thoroughly documented.

***Specimen Replacement:** Several factors contribute to the recommendation for removing or replacing an existing specimen.

- The original quality of the specimen, i.e. not prime, excessive damage, etc.
- The original quality of the taxidermy.
- How the piece has aged, i.e. excessive dirt, damage, fading, etc.
- How successful a restoration would be in returning the specimen to an acceptable state.
- The cost of restoration vs. replacement.
- The availability of fresh specimens.
- How successful the existing piece represents the species.

The piece will then be rated on the level of priority there should be in replacing it.

- **Low priority:** Acceptable, however if a new specimen should become available and the budget allowed, a new mount would better enhance the exhibit.
- **Moderate priority:** Explore all options of restoration vs. replacement, the specimen should undergo an involved restoration or be replaced. However if a new specimen should become available and the budget allowed, a new mount would better enhance the exhibit.
- **High priority:** The specimen no longer represents the species successfully and detracts from the overall exhibit. Must be eliminated, or replaced.

Replacing taxidermy with models: Not only can specimens be replaced with new taxidermy, but a high quality model will also successfully represent most specimens. Many of the small birds and mammals could be replaced with models as models are more durable, stable, and can withstand being cleaned over time by someone who is not familiar with cleaning and maintaining taxidermy. They also eliminate the time and labor associated with obtaining the proper permits and locating quality specimens. Because we wish to conserve existing specimens and the increased costs associated with using models to replace taxidermied specimens, we do not anticipate using models for this project except in extraordinary circumstances.

B. Background Painting Work

There were two artists who created the background paintings in Mammal Hall, John Kucera and Jerome Connelly.

Overall, **John Kucera's** painting style is heavily textured and high in contrast with primary colors, viridian greens and purple tones to accommodate the original colored gel lighting system installed in the dioramas. He paints directly on the wall using oil pigments as the final layer. The paintings often appear to slightly overwhelm the foreground, and the horizon lines do not always complement the curved wall structure. The tie-in areas are well executed, but could be resolved further by rendering the tree trunks using earth tones such as burnt sienna, burnt umber, and in the grasses and leaves, yellow ochre and raw sienna will neutralize the tones overall. Simple glazing techniques with thin layers of oil pigments and turpentine using little to no mediums (to avoid

shine) in the middle ground and sky areas will create distance and unify the overall composition. With improved lighting, focusing on the taxidermy and botanical models in the foreground, these dioramas could be better enhanced and appear as one unit. Background paintings that will require extensive reworking will be called out in Section V.

Overall, **Jerome Connelly's** painting style is architectural with an accurate use of curved walls and an understanding of perspective and scale relative to the foreground elements. He paints in thin layers directly on the wall using a matte acrylic paint. The palette is simple with a range of earth tones. The smooth 2D surfaces create distance and space, which successfully sit behind the botanical models in the foreground. A light, soft brush cleaning (using a Japanese Hake brush or similar) over the painting is recommended. Once the foreground work is cleaned and restored, some in-painting of selected "tie-in" areas (where the 2D painting meets the 3D foreground elements) will be necessary. Along with improved lighting, the overall gray tones in the skies could be better enhanced restoring them to their original luminous and airy atmosphere.

Oil Paint, Dry Pigments and Mediums (recommended)

Handmade Williamsburg, Sennelier, Winsor and Newton, Blockx, Old Holland, Kremer XSL pigments and raw dry pigments are recommended for background painting touch-up and glazing. A combination of Weber Odorless Turpenoid, small amounts of Williamsburg refined linseed oil for touch-up in areas will also be used with color pigment.

Acrylic Paint, Airbrush Paint and Mediums (recommended)

Golden Artist Colors, Heavy Body and MSA light-fastness, Conservation-approved, Golden fluid matte and gloss mediums, Golden Airbrush Colors and Wildlife Colors are recommended for foreground botanical models as well as background painting touch-up for Connelly's paintings.

Selected Adhesives (recommended)

Beva Gel adhesives, Acryloid (Paraloid) B-72, Milliput 2-part epoxy (or similar), Jade and Lascaux glues, Methyl Cellulose, microcrystalline wax and beeswax as necessary.

Color Palette

NOTE: The main colors used will be based on the traditional color palette used by artist James Perry-Wilson at the American Museum of Natural History.

Blues

- Ultramarine
- Cobalt
- Phthalo (green shade) and/or Windsor

Reds

- Indian red
- Cadmium red(s) light and dark
- Alizarin crimson

Yellows

- Yellow ochre
- Cadmium yellow light and/or Lemon yellow
- Cadmium yellow deep

Earth Tones

- Burnt umber
- Raw umber
- Burnt sienna
- Raw sienna

Greens

A mix of blues and yellows and occasionally Viridian

White

Titanium / Flake and Zinc to replace lead white

Black

Carbon / Ivory as necessary or a mixture of ultramarine blue, alizarin crimson and raw umber

C. Foreground Work

Each diorama represents a specific location in Pennsylvania, during a specific season and at a specific time of day. Each diorama's foreground features were identified during site visits in 1964 or 1965, during which specific data for each diorama was collected. All foreground materials, both geological and botanical were well researched before being included and should be protected as work is completed on the background paintings and taxidermied specimens. Museum staff will assist with the fabricating and placement of work platforms needed to access diorama features while protecting foreground materials.

V. Work tasks, by Diorama, to be coordinated and completed by Contractor and restoration team

Work will be listed by phases in preferred order of Treatment.

Phase 1

V.1 Timber Wolf Diorama



V.1.a – Taxidermy Work Timber Wolf Diorama

Timber Wolf (*Canis lupis*): Standing with kill. Overall quality is very good. There are some minor anatomy issues with the muzzle and head features being stylized, but they are insignificant enough to be overlooked. The specimen should be cleaned and re-pointed with the focus being put on enhancing the anatomy of the nose, mouth and lips. There appears to be a material (hair gel, glue?) on the raised hair or hackles on the neck of the specimen. This was traditionally used to get this hair to stand up. A more thorough assessment can be done once the piece is removed and possibly a replacing of this material with something more stable and less visible. Finally, if this is in fact a Timber wolf specimen, the pelage has become quite faded and should be re-colored.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the nose, mouth, and lip anatomy and evaluate for a possible correction. An attempt will be made to correct the problems by sculpting, re-surfacing the soft tissue and re-coloring all of these areas based on good photographic reference.
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Re-coloring* Reference fresh study skin to compare pelage for fade evaluation. Mix the appropriate color and amounts of Orasol dye and re-color any and all areas where it is required.
6. Re-pointing*
7. Final photo documentation.

American Elk (*Cervus elaphus*): Calf. Very poor quality and does not represent the species accurately. There are many anatomical problems especially with the head and eyes having a very stylized, dated look of old crude taxidermy. The mouth should be open, indicative with the slack jaw of a dead prey animal. The wolf's weight should be creating depressions in the abdomen of the elk. The overall color has faded so drastically that the species is almost undetectable. This piece should be replaced with a new specimen.

Treatment proposal for replacement: Priority level - High

1. The specimen should be thoroughly photo documented in situ for both reference and archiving.
2. A temporary support can now be fabricated that will hold the specimen in the exact position as it was in situ.
3. A new specimen will be produced using both the existing taxidermy of the wolf and elk as reference for duplicating and enhancing the original piece.
4. The new piece will be installed onto the existing landform that may need to be adjusted to accommodate the new specimen.
5. The original specimen being replaced would then be returned, to be archived in the collection.
6. Final photo documentation.

Proposed costs for both conserving existing elk calf specimen and for providing a new elk calf specimen should be included in the contractor's proposal.

Timber Wolf (*Canis lupis*): Submissive wolf. Overall quality is very good. There are some minor anatomy issues with the muzzle and head features being stylized, but they are insignificant enough to be overlooked. The specimen should be cleaned and re-pointed with the focus being put on enhancing the anatomy of the nose, mouth and lips. There appears to be a material (hair gel, glue?) on the raised hair or hackles on the neck of the specimen. This was traditionally used to get this hair to stand up. A more thorough assessment can be done once the piece is removed and possibly a replacing of this material with something more stable and less visible. Finally, if this is in fact a Timber wolf specimen, the pelage has become quite faded and should be re-colored.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the nose, mouth, and lip anatomy and evaluate for a possible correction. An attempt will be made to correct the problems by sculpting, re-surfacing the soft tissue and re-coloring all of these areas based on good photographic reference.
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Re-coloring* Reference fresh study skin to compare pelage for fade evaluation. Mix the appropriate color and amounts of Orasol dye and re-color any and all areas where it is required.
6. Re-pointing*

7. Final photo documentation.

Timber Rattlesnake (*Crotalus horridus*): The condition is excellent. Specimen is dirty and should first undergo a cleaning followed by minor color enhancements if necessary.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Re-coloring* Check either photo reference or a fresh specimen to compare and assess for any necessary re-coloring.
4. If any re-coloring is necessary, apply a light barrier coat of B-72 and restore any color using conservation approved paints and pigments.
5. Final photo documentation.

Common Crow (*Corvus brachyrhynchos*): Calling specimen. Good condition. The overall piece is slightly stylized with some minor anatomical problems such as the balance and set of the wings, but acceptable. Clean and re-point the specimen is all that would be required.

Treatment proposal:

1. The specimen should be photo documented in situ. A temporary support should be fabricated that will hold the specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Final photo documentation.

Common Crow (*Corvus brachyrhynchos*): Standing perched. Fair to poor condition. The body shape is off along with the legs being elongated and poor balance. Its position on the perch must be re-set to a more proper angle. Clean and re-point the specimen but consider the option to replace.

Treatment proposal:

1. The specimen should be photo documented in situ. A temporary support should be fabricated that will hold the specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Re-install at a more proper angle.
6. Final photo documentation.

V.1b Background Painting Timber Wolf Diorama*

As this is a night scene, the background painting needs simple glazing overall without a drastic change to the forms. Currently lighting suggests that the moon is over the right shoulder of the viewer. Improved lighting will help create a more unified space. The sky is completely gray and cloud covered. In order to suggest the sky condition that would create the big cloud shadows that are rendered across the landscape in the painting, punch holes in the gray sky so blue will peek between the clouds, allowing moonlight to fall on the hills – as it is painted in the scene. The viridian green and phthalo blue tones of the shadows in the mountain range need to be glazed with a transparent alizarin crimson tone to create atmosphere and space. When viewing the mountain layers (or window pour-off to the left) there is a strong use of opaque cobalt blues. This can be modified with earth and cool ultramarine tones to create more depth, air and openness connecting the landscape and sky. The cloud forms should

be glazed and the edges softened. Also, glaze/scumble under-painting tone over detailed areas in middle distance on right and left to tone them down and push them back and then revisit with highlights and shadows.

*This is one of the three John Kucera background paintings that will need some extensive work. Museum Staff will consult with the contractor to determine the extent of the reformatting. Estimated 10 days painting.

V.1c Foreground Work – Timber Wolf

Overall, the foreground rock shale surface and all botanical models need a thorough cleaning, repainting and refreshing. This includes repainting and preserving the Juniper evergreens and White Pine needles.

Proposed Process:

These steps are to be completed in this order.

- 1) Light surface cleaning using Hepa Vacuum and conservation brush cleaning over entire foreground.
- 2) Plant and animal specimens removed.
- 3) Platforms constructed to access the background painting.
- 4) Re-work background painting using oil paint thinned with turpentine to create glazing effects.
- 5) Protect the new painting with plastic while cleaning the foreground again.
- 6) Swab cleaning using both spit swab method and distilled water on evergreens and rock shale surface etc.
- 7) In-painting and repair on rocks as necessary.
- 8) Apply conservation-approved methods such as Beva gel adhesives and Golden transparent acrylic mediums to secure and preserve foreground rock material.
- 9) Overall, the foreground plants, branches and sticks may need to be re-formed, secured and refreshed to match the painting and joints secured with B-72 conservation adhesives and coated wire or fishing line if needed.

Phase II

V.2. Striped Skunk Diorama



V.2.a Taxidermy Work Striped Skunk Diorama

Striped Skunk (*Mephitis mephitis*): The condition of this specimen fair and acceptable due to the low light levels in this diorama in which it is displayed.

From an anatomical standpoint, there are issues with the front legs that are noticeable when a light is cast on the specimen. Under the current lighting, the body of the animal casts a shadow over the legs and masks the imperfections. Begin by photo documenting in situ, then removing it from the exhibit to be placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation. It is difficult to assess the eyes and face at this time, but nothing stands out as being over egregious. Specimen is dirty and should undergo a general cleaning and re-pointing.

Treatment proposal:

1. Assess the specimen again once the new lighting has been installed and finalized.
2. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
3. General cleaning*
4. Assess any problems with the anatomy and evaluate for any possible correction.
5. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
6. Re-pointing*
7. Final photo documentation.

Northern Cardinal (*Cardinalis cardinalis*): Aside from the specimen's positioning on the branch being slightly off, the bird itself is exhibiting poor anatomy and a somewhat rough appearance.

Treatment proposal

1. The specimen should be photo documented in situ, then an assessment made on whether or not the specimen could be removed for treatment. If it can be successfully removed, it should be carried out and placed on a custom made temporary support for treatment. If it is found that the specimen cannot be removed, all work may be done in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Adjust the perch to better display the bird.
6. Final photo documentation.

Dragonfly (*Odonata*): Specimen is dry and dull. Clean and refresh color.

Treatment proposal

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72. Re-refresh color with conservation approved paints and pigments.
4. Apply a finish coat of B-72 to restore the natural sheen to the specimen and re-install.
5. Final photo documentation.

3 Snapping Turtle Eggs (*Cheldra serpentina*) Eggs are in good condition. These should be cleaned along with the foreground material and should not be removed. The yoke material in the broken eggs should be refreshed with new color to make these pop more. A final coat of gloss should be applied to all, giving the appearance of not only moist eggs being removed from the ground but also adding more in the interiors of the broken shells to replicate the interior material. During the foreground work, I would also recommend adding a slight gloss to the nest soil to achieve the look of a very damp soil.

Treatment proposal:

1. Photo document in situ.
2. General cleaning*
3. Apply a barrier coat of B-72. Re-color yokes and egg material where needed with conservation approved paints.
4. Using B-72, Gloss the eggs to create a moist appearance to the overall shells, while also using this material to create a wet look to the yokes and albumen.
5. Again using a dilution of B-72, moisten the soil in and around the nest.
6. Final photo documentation.

V.2.b – Background Mural Painting Work, Striped Skunk Diorama
list).

This is a scene at dawn. The background painting (Kucera) needs to be re-worked using glazing methods to create a more unified feeling. In particular, the viridian green tones on the left and right, and the center middle ground plant work can be toned down. Glaze under-painting tone across overly bright areas to knock them down and push them back, then break in more directional sunlight into scene and reinforce shadows, where required, with color. 3 days painting required.

V.2.c Foreground Work, Striped Skunk Diorama:

Overall, the foreground surface and all botanical models need a thorough cleaning and repainting. This includes simple refreshing and possible replacement of the grasses and Cocklebur plant. The Black Willow on the right needs refreshing and should be repositioned so that it doesn't touch the surface of the background painting on the upper right side.

Proposed Process:

These steps are to be followed and completed in this order:

- 1) Surface cleaning using Hepa Vacuum and conservation brush cleaning over entire foreground.
- 2) Plant and animal specimens removed to access the painting.
- 3) Platform may NOT be necessary as the foreground depth is shallow. Re-work background painting using oil paint thinned with turpentine to create glazing effects.
- 4) Protect the new painting with plastic while cleaning the foreground again.
- 5) Swab cleaning using both spit swab method and distilled water on the tree, grasses, branches and leaves (NOTE: New grasses can be fabricated outside the diorama as the painting is being done).
- 6) Airbrush using conservation-approved Golden flow acrylic over the surface of the Cocklebur leaves to tie-in with the background painting.
- 7) Apply conservation-approved methods such as Beva gel adhesives and Golden transparent acrylic matte/gloss mediums as necessary.
- 8) Overall, the foreground plants, branches and sticks may need to be re-formed, secured and refreshed to match the painting and joints secured with B-72 conservation adhesives and coated wire or fishing line if needed.

V.3 Raccoon Diorama



V.3.a Taxidermy Work Raccoon Diorama

Raccoon (*Procyon lotor*): Due to the low levels this diorama will most likely exhibit, we will deem this specimen acceptable. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.

The ear skin has split and “drummed” away from the form. The overall shape of the ears is poor and I would evaluate the piece further after removing for a possible candidate for an ear replacement. Meaning, we would replace the ears on this specimen with a freshly prepared set of ears.

The shape of the eyes and nose needs to be corrected by relaxing the skin, re-positioning the eyelids and re-sculpting the nose. The piece is very dirty and should undergo a general cleaning and re-pointing. The low light levels have preserved the natural color and there seems to be no visible signs of fading.

Treatment proposal for restoration:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. Evaluate ears for a possible replacement or to correct the split and drummed skin. Skin may respond to relaxing and reforming to the original ear liner. A stable adhesive will be used to glue the skin back onto the original form and all seams repaired with conservation approved fillers. If this cannot be successfully completed or the ears are deemed too damaged, we will obtain a fresh specimen, preserve the ears in a conventional manner and transplant them onto the existing mount.
3. General cleaning*
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Apply a barrier coat of B-72 to the original nose and sculpt over this with Epoxy Sculpt to correct any anatomical imperfections.
6. Relax skin around the eyes and re-position to a more accurate shape. This step is subject to the success of the skin rehydrating. If the skin will not rehydrate, an attempt will be made to correct the problems by sculpting in a more correct eyelid or leaving the specimen as is.
7. Re-pointing*
8. Final photo documentation.

Barred Owl (*Strix varia*): The specimen's condition is fair and may need to be further evaluated once removed from the diorama. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.

The position of the specimen on the perch seems to be tilted and off balance. This may have been either mounted in this position or moved on its own over time. I would suggest removing the entire branch from the existing tree and fix this onto a temporary platform at the exact angle it is in the space. With this, the specimen can try to be re-positioned if possible. If the specimen is not repositionable, the branch itself should then be re-attached to the tree at an angle that would better display the bird. Along with this, the wings are slightly out of position in an unnatural posture. This specimen is also very dirty and should undergo a general cleaning and re-pointing.

Treatment proposal for restoration:

1. The specimen should be thoroughly photo documented in situ for both reference and archiving.
2. Removed both the specimen and its perch from the tree by severing the branch at the trunk and marking the cut area for re-installation.
3. The specimen and its branch will be placed on a custom made temporary support for treatment at the exact angle and position, as it was in situ.
4. Before treatment photos should be taken at this time along with any other necessary documentation.
5. A more thorough assessment of the owl can now be carried out to evaluate its condition. This would be a good time to discuss the issues with the wing placement and decide on whether or not this is an acceptable imperfection.
6. General cleaning*
7. Alter the posture of the specimen on the perch with subtle manipulation to try and achieve a more correct angle and pose. If this is not successful, the angle will need to be changed by the way the branch is re-attached to the trunk.
8. Re-position the existing eyelids or re-sculpt new to enhance the accuracy of the overall eye set.
9. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
10. Re-pointing*
11. Final photo documentation.

Crayfish (Cambarus): This is a disassembled specimen (it's being eaten by the raccoon). The crayfish is a natural preserved specimen which is dried in appearance and lacking the color of a fresh specimen. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation. The specimen will be cleaned, stabilized, and re-colored.

Treatment proposal

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply B-72 to the entire specimen as both a barrier coat and method for stabilizing the delicate parts.
4. Utilizing photo reference, re-color the specimen using conservation approved paints to depict a fresh crawfish.
5. Final photo documentation.

V.3.b Background Mural Work Raccoon Diorama (Kucera Painting)

Since this is a night scene, the background painting needs a simple cleaning and minor re-touching around the tie-in areas to better merge with the foreground. However, this may depend on the final lighting design. Estimated 1 day painting.

V.3.c Foreground Raccoon Diorama

Overall, the foreground surface and all botanical models need a thorough cleaning and some repainting with a focus on the water and mud surfaces. **NOTE:** TBD. The water element may need additional fabrication and tonal work with colored resin to match the painting, but this can only be assessed further once the diorama is open, the surface cleaned and night lighting format installed. Estimated 2 days foreground work.

Proposed Process:

These steps are to be followed and completed in this order:

- 1) A soft brush cleaning over the surface of the background painting is needed.
- 2) Re-touch background painting using oil paint thinned with turpentine to create glazing effects to create glazing effects at the tie-in.
- 3) Spit swab cleaning and distilled water on all leaves and foreground elements.
- 4) Apply conservation-approved methods such as Beva gel adhesives and Golden transparent acrylic gloss and matte mediums to seal the leaves.
- 5) Overall, the foreground plants, branches and sticks may need to be re-formed, secured and refreshed to match the painting and joints secured with B-72 conservation adhesives and coated wire or fishing line if needed.

Phase III

V.4. Bison Diorama



V.4.a Taxidermy Work, Bison Diorama

American Bison (*Bison bison*): Specimen is in very good condition. Based on an evaluation done with an external lighting source the specimen exhibits good anatomy and little visible signs of damage except for a small rub spot on the lower abdomen. Based on the lighting design in this case and the condition of the specimen, it can be left alone with no work necessary. If case is opened to work on snow, follow treatment proposal below.

Treatment proposal:

1. The specimen should be thoroughly photo documented in situ for both reference and archiving.
2. Using a HEPA vacuum, lightly clean the surface of the entire animal.
3. Clean and polish the eyes.
4. Inspect for any signs of damage such as cracks, splits, or delaminating of the skin. If any issues are discovered, they will be documented, assessed and a treatment proposal submitted.
5. Add a small amount of color to the rub spot on the abdomen to blend it in with the surrounding skin.
6. Groom the mount and re-sculpt all hair patterns disturbed by cleaning.
7. Final photo documentation.

Eastern Cottontail (*Sylvilagus floridanus*): Very good condition. Based on an evaluation done with an external lighting source the specimen exhibits good anatomy and little visible signs of damage with the exception of the eyes having hazed over and the color of the ear interiors being non-existent. Based on the lighting design in this case and the condition of the specimen, it can be left alone with no work necessary.

If it is decided to open this diorama to work on the snow or mural, follow treatment below.

Treatment proposal:

1. The specimen should be thoroughly photo documented in situ for both reference and archiving.
2. Using a HEPA vacuum, lightly clean the surface of the entire animal.
3. Clean and polish the eyes.
4. Inspect for any signs of damage such as cracks, splits, or delamination of the skin. If any issues are discovered, they will be documented, assessed and a treatment proposal submitted.
5. Add a small amount of color to the interior of the ear based on photo reference of a live specimen.
6. Groom the mount and re-sculpt all hair patterns disturbed by cleaning.
7. Final photo documentation.

V.4.b Background Mural Painting Work BISON Diorama

Background Painting (Kucera):

Since this is a night scene, the background painting does not need to be re-worked overall. Improved lighting will help create deeper tones in the already cerulean blue sky while accenting the pinhole stars. The tree line on the right side could be improved by muting that area with lighting or a simple glaze over the surface to create distance. Estimated 1 day painting.

V.4.c Foreground Work Bison Diorama:

Overall, the foreground snow surface and forms do not need re-fabrication. However, the original snow material is pressed against the inside surface of the glass creating an unnatural effect (similar to Bobcat and Cougar). Re-sculpting and removing that edge will help create a more realistic appearance for the entire diorama. Adding a superficial mixture of conservation approved ceramic batting fill, chopped acrylic and glass beads over the entire surface will enhance a crisp, white sparkle effect. These materials have been tested and used at AMNH. The snow will not yellow over time. 3 Days estimated for foreground work

Proposed Process:

These steps are to be followed and completed in this order:

- 1) Light surface brush cleaning by hand to remove large pieces of debris.
- 2) Platform may only be necessary on the right side to access the tree line in the background painting and/or in the center.
- 3) If necessary and depending on new lighting, glaze over the tree line on the right using oil paint thinned with odorless turpentine.
- 4) Render Mastodons and 3-4 Bison to scale in the background painting. A series of pencil sketches showing a variety of postures will be done for approval and discussion.
- 5) Re-sculpt and remove snow edge pressing against glass.
- 6) Over the original snow surface, add a mixture of conservation-approved ceramic batting fill, chopped acrylic, glass beads, and dry pigments for night shadow tones as necessary.

V.5 Woodchuck Diorama



V.5.a Taxidermy Work for Woodchuck Diorama

Woodchuck (*Marmota monax*): Adult standing. The overall condition is fair. There are several issues with anatomy on this piece including distortions to the muzzle, the front teeth protrude too far forward, as well as a poorly executed lip line displaying exposed skin and excessive fill material. The eye shape and set is weak and inaccurate. Both front legs are elongated and bent at an incorrect joint placement.

Even with all of these issues, the need to replace the specimens is low priority. The current lighting design sets the specimen in shadow, disguising most of the anatomical problems. This may need to be re-evaluated once the new lighting is in place and finalized. The specimen is very dirty and does show signs of fading, especially to the darker fur of the top of head and tail. Minor re-coloring is recommended.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the eye and mouth anatomy. These problems may be correctable with relaxing and re-positioning the skin or a re-sculpt and hair implementation process. The issues with the leg anatomy cannot be corrected.
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Re-coloring* Reference fresh study skin to compare pelage for fade evaluation. Mix the appropriate color and amounts of Orasol dye and re-color any and all areas where it is required, especially those described above.

6. Re-pointing*
7. Final photo documentation.

Woodchuck (*Marmota monax*): Adult coming out of hole. The overall condition is fair. There are several issues with anatomy on this piece including distortions to the muzzle, the front teeth protrude too far forward, as well as a poorly executed lip line displaying exposed skin and excessive fill material. The eye shape and set is weak and inaccurate. Both front legs are elongated and bent at an incorrect joint placement. Even with all of these issues, the need to replace the specimens is minimal. The current lighting design sets the specimen in shadow, disguising most of the anatomical problems. This may need to be re-evaluated once the new lighting is in place and finalized. The specimen is very dirty and does show signs of fading, especially to the darker fur of the top of head and tail. Minor re-coloring is recommended.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the eye and mouth anatomy. These problems may be correctable with relaxing and re-positioning the skin or a re-sculpt and hair implementation process. The issues with the leg anatomy cannot be corrected.
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Re-coloring* Reference fresh study skin to compare pelage for fade evaluation. Mix the appropriate color and amounts of Orasol dye and re-color any and all areas where it is required, especially those described above.
6. Re-pointing*
7. Final photo documentation.

Indigo Bunting (*Passerina cyanea*): Overall condition is fair. The position and angle of the bird is off which may be a result of the branch drooping over time. The legs of the specimen are set too far back creating some anatomy issues. The general shape of the body is acceptable. Good candidate for restoration.

Treatment proposal:

1. The specimen should be photo documented in situ, then an assessment made on whether or not the specimen could be removed for treatment. If it can be successfully removed, it should be carried out and placed on a custom made temporary support for treatment. If it is found that the specimen cannot be removed, all work may be done in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Adjust the perch to better display the bird.
6. Final photo documentation.

Tiger Swallowtail Butterfly (*Papilio glaucus*): The overall condition is good with the exception of the small tips of the tail broken off and missing. There are some very minor signs of fading but can be masked or overlooked because of the lighting. This specimen can either be left in place and simply cleaned with the foreground work, or replaced with a fresh specimen mainly because of the broken tail parts.

Treatment proposal:

1. The specimen should be thoroughly photo documented in situ for both reference and archiving.
2. General cleaning*
3. Final photo documentation.

Treatment proposal for replacement: Priority - Optional

1. The specimen should be thoroughly photo documented in situ for both reference and archiving.
2. The specimen should be removed and transferred onto a fabricated platform.
3. A new specimen will be produced using the existing piece as reference for duplicating the original piece as closely as possible.
4. The original specimen being replaced would then be returned to be archived in the collection.
5. Final photo documentation.

Estimated costs for both restoration and replacement should be submitted with the proposal.

American Goldfinch (*Carduelis tristis*): Adult male. Specimen condition is poor. There are many anatomical issues with the overall appearance being rough with feathers looking dry, dull, and very dirty.

Treatment Proposal

1. The specimen should be photo documented in situ, then an assessment made on whether or not the specimen could be removed for treatment. If it can be successfully removed, it should be carried out and placed on a custom made temporary support for treatment. If it is found that the specimen cannot be removed, all work may be done in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing
5. Adjust the perch to better display the bird.
6. Final photo documentation.

V.5.b Background Painting Work, Woodchuck Diorama (Kucera)

There is very little work needed for this painting. As the foreground is shallow, the texture in the painting appears heavy and there are shadows from the foreground. New lighting will improve these issues. Add color highlights on distant ridge and clouds, reinforcing light direction based on the position of the sun in the scene. Enhance effect of sunlight coming into the scene from the left side. Begin with toned under-painting wash in shadows.

Estimated 0 days painting.

V.5.c. Foreground Work, Woodchuck Diorama

Overall, the foreground surface and all botanical models need a thorough cleaning, repainting and refreshing. This includes repainting of the Foxtail grasses on the left to tie-in with the background painting. In particular, the Bull Thistle flowers need to be a more vibrant cool pink-violet. Estimated 4 days foreground work.

Proposed Process:

These steps are to be completed in this order.

- 1) Surface cleaning using Hepa Vacuum and conservation brush cleaning over entire foreground.
- 2) Plant and animal specimens removed to access the painting.
- 3) Platform may NOT be necessary as the foreground depth is shallow.
- 4) Re-work background painting using oil paint thinned with turpentine to create glazing effects.
- 5) Protect the new painting with plastic while cleaning the foreground again.
- 6) Swab cleaning using both spit swab method and distilled water on the leaves.
- 7) Hand paint and airbrush using conservation-approved Golden flow acrylics over the grasses and Bull Thistle etc.
- 8) Apply conservation-approved methods such as Beva gel adhesives and Golden transparent acrylic matte/gloss mediums as necessary.
- 9) Overall, the foreground plants, branches and sticks may need to be re-formed, secured and refreshed to match the painting and joints secured with B-72 conservation adhesives and coated wire or fishing line if needed.

V.6 Beaver Diorama

V.6.1. Beaver Diorama (Small Lodge Interior)



V.6.1.a Taxidermy Work, Beaver Diorama, Small Lodge Interior

2 Beaver Juveniles (*Castor Canadensis*): Overall condition is fair, however there are several anatomical issues. The Head shape is bulbous with poor anatomy to the nose and mouth. The anatomy to the feet is slightly obscured with the back feet being over-filled. The shape of the body is slightly elongated and the tail shows some areas of shrinkage that can be corrected.

The specimen is dirty and should undergo a general cleaning and repointing. The shrinkage in the tail should be filled and re-sculpted along with a slight modification to the lips to try and conceal some of the anatomical problems.

Because of the current light levels in this case, many of the problems described above will be in shadow and can be overlooked. If the lighting should change with the problem areas become more visible, they might be considered for replacement if quality specimens were available.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the mouth anatomy. These problems may be correctable with relaxing and re-positioning the skin or a re-sculpt and hair implementation process. The issues with the feet anatomy cannot be corrected to any real degree.

4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Correct all shrunken areas on the tail.
6. Re-pointing*
7. Final photo documentation.

V.6.2 Beaver Diorama Large Upper Section



V.6.2.a Taxidermy Work Beaver Diorama Large Upper Section

Beaver (*Castor Canadensis*): Specimen holding branch. Overall condition is good. The mouth and nose exhibit some minor anatomy issues that do appear to be correctable. The tail is also shrunken in some areas and is void of accurate color. The specimen is dirty and should undergo a general cleaning and re-pointing.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the mouth anatomy. These problems may be correctable with relaxing and re-positioning the skin or a re-sculpt and hair implementation process.
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Correct all shrunken areas on the tail.
6. Re-pointing*
7. Final photo documentation.

Beaver (*Castor Canadensis*): Specimen in front on all fours. The overall condition is fair, however the anatomy has several problems including a shrunken tail, void of accurate color and poor mouth features. There is also a

problem the way the specimen is seated on the landform; the topography should meet the body of the animal more convincingly. The tail is “hovering” out straight and should have a solid base underneath it. This can be achieved with the foreground work.

The anatomical problems are enough to consider this specimen for a replacement, however because both specimens in the diorama are stylized and very similar, it would be too dramatic and inconsistent to introduce a new specimen and keep the other. I would restore this piece and correct as many problems as possible. Along with this, a general cleaning and re-pointing.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the mouth anatomy. These problems may be correctable with relaxing and re-positioning the skin or a re-sculpt and hair implementation process.
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Correct all shrunken areas on the tail.
6. Re-pointing*
7. Final photo documentation.

River Otter (*Lutra Canadensis*): Good specimen. There are some minor anatomy issues at the base of the tail, however because of the orientation in the diorama, this should not be obvious to the viewer. The overall pelage is faded and should be re-colored after a general cleaning and re-pointing.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
4. Re-coloring* Reference fresh study skin to compare pelage for fade evaluation. Mix the appropriate color and amounts of Orasol dye and re-color any and all areas where it is required.
5. Re-pointing*
6. Final photo documentation.

Belted Kingfisher (*Ceryle alcyon*): Specimen condition is very poor. There are many anatomical issues with the overall appearance being rough with feathers looking dry, dull, and very dirty.

Treatment proposal:

1. The specimen should be photo documented in situ, then an assessment made on whether or not the specimen could be removed for treatment. If it can be successfully removed, it should be carried out and placed on a custom made temporary support for treatment. If it is found that the specimen cannot be removed, all work may be done in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Adjust the perch to better display the bird.
6. Final photo documentation.

Common Yellowthroat (*Geothlypis trichas*): Specimen condition is very poor. There are many anatomical issues with the overall appearance being rough with feathers looking dry, dull, and very dirty.

Treatment proposal:

1. The specimen should be photo documented in situ, then an assessment made on whether or not the specimen could be removed for treatment. If it can be successfully removed, it should be carried out and placed on a custom made temporary support for treatment. If it is found that the specimen cannot be removed, all work may be done in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Adjust the perch to better display the bird.
6. Final photo documentation.

Red-winged Blackbird (*Agelaius phoeniceus*): Overall condition is fair. The anatomy is slightly incorrect for the position this bird is in, however it is not that egregious that it warrants immediate replacement. A good cleaning and re-pointing would greatly enhance the specimen. One point that stands out the most is the faded wing patches. These must be re-colored and enhanced.

Treatment proposal:

1. The specimen should be photo documented in situ. The entire perch and specimen should be removed from the plant specimen at a juncture that can be easily fused back together later. The cut area should be marked appropriately inside the exhibit. A temporary support can now be fabricated that will hold the perch and specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-coloring* of the wing patched with conservation approved dry pigments.
5. Re-pointing*
6. Re-installation of the perch with conservation approved adhesives.
7. Final photo documentation.

Virginia Rail (*Rallus limicola*): Specimen condition is very poor. There are many anatomical issues with the overall appearance being rough with feathers looking dry, dull, and very dirty.

Treatment proposal:

1. The specimen should be photo documented in situ, then an assessment made on whether or not the specimen could be removed for treatment. If it can be successfully removed, it should be carried out and placed on a custom made temporary support for treatment. If it is found that the specimen cannot be removed, all work may be done in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Adjust the perch to better display the bird.
6. Final photo documentation.

Dragonfly (*Odonata*): Specimen is dry and dull. Clean and refresh color.

Treatment proposal

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72. Re-fresh color with conservation approved paints and pigments.
4. Apply a finish coat of B-72 to restore the natural sheen to the specimen and re-install.
5. Final photo documentation.

V.6.1&.2b Background Painting Work (Kucera) Beaver Lower and upper sections*

The background painting needs to be re-worked in the center using glazing methods to create a more unified feeling with the sky. The center tree forms and tones over power the foreground slightly. In particular, sepia undertones and glazes can be added to help create more realism, and the cadmium yellow and permanent green tones can be simplified throughout. Estimated 10 days painting.

***NOTE:** This is one of the three John Kucera background paintings that needs considerable reformatting. A significant amount of time will be needed to design and construct structures necessary for contractor to access the background painting and some foreground features.

V.6.1 &.2c Foreground Work Beaver Diorama:

Overall, the foreground water surface and all botanical models need a thorough cleaning, repainting and refreshing. This includes repainting the Sedge grasses, Spatterdock flowers, Alder and Arrowhead plants. **NOTE:** TBD. The water element may need additional fabrication and tonal work with colored resin to match the painting, but this can only be assessed further once the diorama is open and the surface cleaned. **NOTE:** A light box in the lower diorama needs to be camouflaged. Estimated 5 days foreground work.

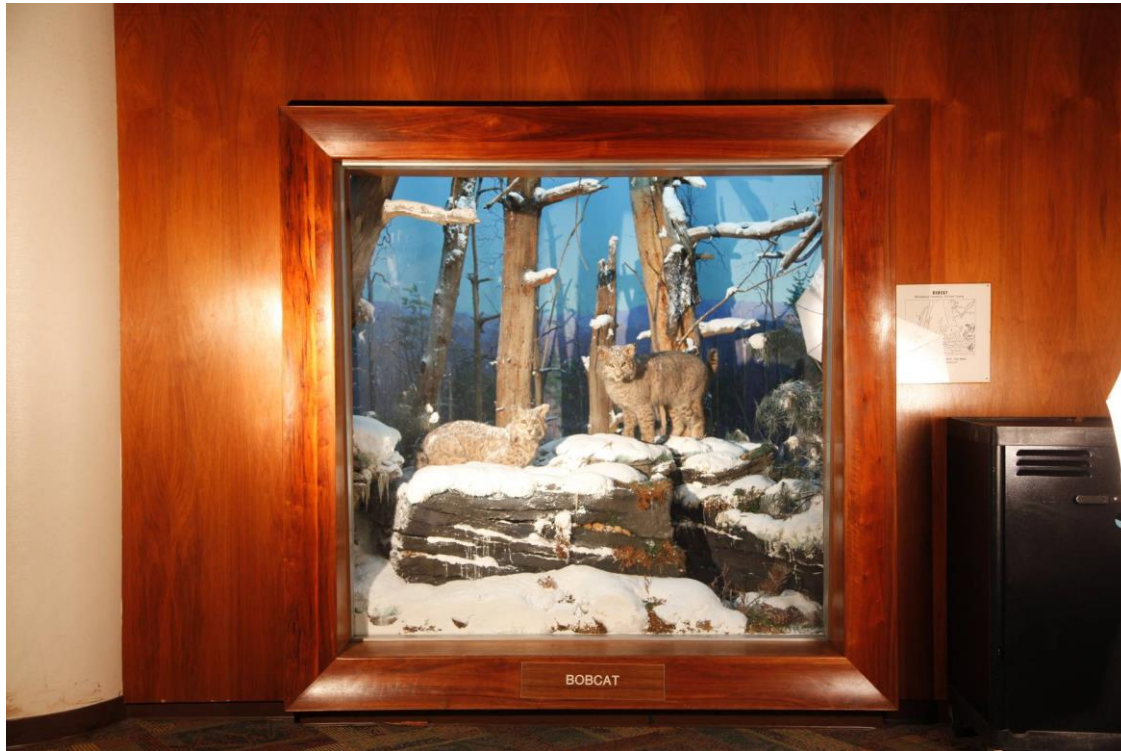
Proposed Process:

NOTE: These steps are to be completed in this order:

- 1) Surface cleaning using Hepa Vacuum and conservation brush cleaning over entire foreground.
- 2) Plant and animal specimens removed to access the painting.
- 3) Platform will be necessary to access the painting.
- 4) Re-work background painting using oil paint thinned with turpentine to create glazing effects.
- 5) Protect the new painting with plastic while cleaning the foreground again.
- 6) Swab cleaning using both spit swab method and distilled water on foreground sticks, mud, leaves etc.
- 7) Hand paint and airbrush using conservation-approved Golden flow acrylics over the Sedge grasses, Spatterdock etc
- 8) Apply conservation-approved methods such as Beva gel adhesives and Golden transparent acrylic matte/gloss mediums as necessary.
- 9) Overall, the foreground plants, branches and sticks may need to be re-formed, secured and refreshed to match the painting and joints secured with B-72 conservation adhesives and coated wire or fishing line if needed.

Phase IV

V.7 Bobcat Diorama



V.7.a Taxidermy Work Bobcat Diorama

Bobcat (*Felis rufus*): Standing specimen. The overall condition is poor. The size of the cat, fur quality, and markings all contribute to its value, however, the major anatomy problems lie in the focal point of the piece, the face. The eyes, nose, mouth, and ears, are misshapen and distorted enough to ruin the aesthetics of the piece. With cats especially, the quality of the overall piece falls on the eye set. The specimen is also dirty and exhibits a very dry, tired look to the pelage. The piece should be removed from the space and replaced with a new specimen.

Treatment proposal for replacement: Priority - High

1. The specimen should be thoroughly photo documented in situ for both reference and archiving.
2. The specimen should be removed and transferred onto a fabricated platform.
3. A new specimen will be produced based on a new concept and design.
4. The original specimen being replaced would then be returned to be archived in the collection.
5. Final photo documentation.

Bobcat (*Felis rufus*): Sitting specimen. The overall condition is poor. This specimen suffers from the same problems as the other with the major anatomy problems being with the focal point of the piece, the face. The eyes, nose, mouth, and ears, are misshapen and distorted enough to ruin the esthetics of the piece. The piece should be removed from the diorama and NOT replaced. It is very rare to see two bobcats together, therefore by eliminating this mount and re-directing the focus on a single specimen, the diorama will be much more effective.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support. The piece will be eliminated from the diorama and placed in the collection.

Red squirrel (*Tamiasciurus hudsonicus*): The condition of this mount is fair. There are anatomical issues with the legs as well as the eyes and mouth. These problems may be less obtrusive once the mount is cleaned and repointed. One must also take into consideration the distance at which the specimen is from the viewer.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the facial anatomy and evaluate for any possible correction.
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Re-pointing*
6. Final photo documentation.

Downey Woodpecker (*Picodes pubescens*): This specimen is acceptable. The appearance is slightly tattered and rough, however because of the distance from the viewer, a cleaning and re-pointing may be enough to freshen its appearance and enhance its aesthetics.

Treatment proposal:

1. The specimen should be photo documented in situ. A temporary support will be fabricated that will hold the specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
8. General cleaning*
9. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
10. Re-pointing*
11. Final photo documentation.

V.7.b Background Painting Work (Kucera):

The background painting will not need re-touching with the new lighting since it is a minimal, secondary component behind the large foreground rocks. The phthalo blue-green tree shadows could be simplified with glazing techniques, and the form of the painted tree trunk on the left side needs more resolution.

However, the platform construction may disrupt the foreground snow and trees, and may not be necessary for minimal changes to the background painting. Estimated 1 day painting.

V.7.c Foreground Work, Bobcat Diorama

Overall, the foreground snow surface and forms do not need re-fabrication. However, with careful observation, we felt that lowering the prominent rock forms in the center about 18-24 inches to reveal more of the painting will create perspective and more distance.

We propose to remove the two original Bobcat mounts and replace them with one new single Bobcat mount. Additional fabrication and/or alterations to the existing rock form will need to be fitted naturally to the new specimen.

In addition, a large amount of the original snow material is pressed against the inside surface of the glass creating an unnatural effect (similar to Bison and Mt. Lion). Re-sculpting and removing that edge will help create a realistic appearance for the entire diorama. In process, adding a superficial mixture of conservation-approved ceramic batting fill, chopped acrylic and glass beads over the entire surface will enhance a crisp, white sparkle effect in the snow. These materials have been tested and used at AMNH. This material will not yellow over time. Estimated 7 days for foreground work.

Proposed Process:

NOTE: These steps are to be completed in this order:

- 1) Light surface brush cleaning by hand to remove large pieces of debris.
- 2) Re-work the tree shadows in the painting, with a focus on further rendering tree trunk forms.
- 3) Lower center rock bed slightly revealing the painting, but keeping a similar feel of a high altitude, timberline scene overall.
- 4) Re-fabricate and/or alter rock forms to fit the new Bobcat specimen's posture (as necessary).
- 5) Re-sculpt and remove snow edge pressing against glass.
- 6) There are areas where the original cotton batting is discolored and exposed throughout. Conservation-approved ceramic batting fill and B-72 adhesives can be added to selectively patch these areas.
- 7) Over the original snow surface, a mixture of chopped acrylic, glass beads, and dry pigments can be added to enhance the snow lying over the rock forms.
- 8) Some in-painting using conservation-approved Golden acrylics, dry pigments and matte mediums on the rock forms and exposed grasses.

V.8 Black Bear Diorama



V.8.a Taxidermy Work Black Bear Diorama

Black bear (*Ursus americanus*): Adult. Very good specimen. Very clean, solid taxidermy piece. Some minor anatomy problems with the eyes and nose that can be addressed fairly successfully. The mount should be cleaned thoroughly to bring back the natural luster to the black hide as well as undergo a solid re-pointing which would also re-color some epidermal loss around the top of the muzzle.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the nose and eye anatomy and evaluate for any possible correction. Relax skin around the eyes and re-position to a more accurate shape. This step is subject to the success of the skin

rehydrating. If the skin will not rehydrate, an attempt will be made to correct the problems by sculpting in a more correct eyelid or leaving the specimen as is.

4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Apply a barrier coat of B-72 to the original nose and sculpt over this with Apoxie Sculpt to correct any anatomical imperfections.
6. Re-pointing*
7. Final photo documentation.

Two (2) Black bear cubs (*Ursus americanus*): Very good specimen. Very clean, solid taxidermy pieces. Some minor anatomy problems with the eyes and nose that can be addressed fairly successfully. The mount should be cleaned thoroughly to bring back the natural luster to the black hide as well as undergo a solid re-pointing which would also re-color some epidermal loss around the top of the muzzle.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the nose and eye anatomy and evaluate for any possible correction. Relax skin around the eyes and re-position to a more accurate shape. This step is subject to the success of the skin rehydrating. If the skin will not rehydrate, an attempt will be made to correct the problems by sculpting in a more correct eyelid or leaving the specimen as is.
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Apply a barrier coat of B-72 to the original nose and sculpt over this with Apoxie Sculpt to correct any anatomical imperfections.
6. Re-pointing*
7. Final photo documentation.

Porcupine (*Erethizon dorsatum*): Good condition overall. Minor anatomical issues with the face and eyes, but can be relieved to an acceptable state. Specimen needs a good cleaning and re-pointing.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the facial anatomy and evaluate for any possible correction. An attempt will be made to correct the problems by sculpting in a more correct eyelid or leaving the specimen as is.
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Re-pointing*
6. Final photo documentation.

Gray squirrel (*Sciurus carolinensis pennsylvanicus*): Acceptable specimen for the distance in which it is viewed. Eyes appear to be bulging and should be assessed once removed. Clean and re-point.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the eyes and evaluate for any possible correction.

1. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
4. Re-pointing*
5. Final photo documentation.

Blue Jay (*Cyanocitta cristata*): Jay in tree calling. Specimen condition is poor. There are many anatomical issues with the overall appearance being rough with feathers looking dry, dull, and very dirty.

Treatment proposal:

1. The specimen should be photo documented in situ, then an assessment made on whether or not the specimen could be removed for treatment. If it can be successfully removed, it should be carried out and placed on a custom made temporary support for treatment. If it is found that the specimen cannot be removed, all work may be done in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Adjust the perch to better display the bird.
6. Final photo documentation.

Blue Jay (*Cyanocitta cristata*): Jay in tree sitting perched. Specimen condition is fair. The anatomical issues are very slight but may need some re-coloring. The overall color seems a bit washed out and should be checked against a fresh study skin. If necessary, re-color using conservation approved dry pigments. The specimen should be cleaned and re-pointed as well.

Photo documentation in situ, then remove bird from exhibit and put on a fabricated platform where work will be performed. Final photo documentation will be then taken after this installation.

Treatment proposal:

1. The specimen should be photo documented in situ. A temporary support should be fabricated that will hold the specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-coloring* with conservation approved dry pigments to any areas that might need it after referencing a fresh study skin.
5. Re-pointing*
6. Final photo documentation.

V.8.b Background Painting Work BLACK BEAR Diorama*

Background Painting (Kucera):

Orange lights are aimed at an attempt to enhance the time of day as just before sunset. Not very successful. These sunset effects are better achieved in paint, not by light. A full sunset is depicted on extreme right, yet center distance features cloud shadows across the landscape which, in order to occur, demand a sun high in the sky. These two conditions cannot occur within one scene.

The background painting needs to be re-worked using glazing methods to create more distant space and atmosphere with a focus on decreasing the strong green, purple and cadmium yellow tones in the middle ground areas. The sky has a strong turquoise and yellow gradient band moving left to right, which is unnatural.

First use under-painting tone to unify entire scene, then start to use color to define highlights and shadow created by directional light throughout scene. Overall, there are chroma, color palette and tonal issues throughout. Glaze and scumble over middle distance, sky, and cornfields. Sky needs help as it is too intense in chroma and jumps forward

of landscape in scene. Tone down cloud shadows. Tie-in is challenging as distance jumps from immediate foreground to several hundred yards away in painting at tie-in, with no middle distance in painting. Wherever possible, add middle distance elements, in painting such as shrubs, trees, hills, or fences, to correct this. Tie-in is nice on extreme right side – repeat, where appropriate, in other areas. 10 days painting required.

NOTE: *This is one of the three John Kucera background paintings that will need some extensive work. Museum Staff will consult with the contractor to determine the extent of the reformatting.

V.8.c Foreground Work BLACK BEAR Diorama

Overall, the foreground surface and all botanical models need a thorough cleaning and some repainting. This includes refreshing the leaves of the Black Huckleberry, Red Maple and White Oak leaves. The oak tree branch near the Black Bear cub in the back can be lifted and reformed to create open space around his face showing the quills in the muzzle. New red Maple leaves could be collected and vacuform multiples made as necessary. Simple refreshing of leaf litter is needed to better tie-in with the background painting on the right and left sides. Estimated 5 days foreground work.

Proposed Process:

NOTE: These steps are to be completed in this order.

- 1) Light surface cleaning using Hepa Vacuum and conservation brush cleaning over entire foreground.
- 2) Huckleberry specimens and leaf litter removed and stored.
- 3) Platforms constructed to access the background painting.
- 4) Re-work background painting using oil paint thinned with turpentine to create glazing effects.
- 5) Protect the new painting with plastic while cleaning the foreground
- 6) Swab cleaning using both spit swab method and distilled water on the Maple, Oak, rocks etc. (NOTE: if plants can be removed, they can be worked on outside the diorama as the painting is being done).
- 7) Refresh leaf litter by turning leaves over and selective airbrushing using conservation¹³ approved Golden flow acrylic over the surface of the leaves and moss areas to tie-in with the background painting.
- 8) Apply conservation-approved methods such as Beva gel adhesives and Golden transparent acrylic gloss medium as necessary.
- 9) Overall, the foreground plants, branches and sticks may need to be re-formed, secured and refreshed to match the painting and joints secured with B-72 conservation adhesives and coated wire or fishing line if needed.

Phase V

V.9 American Elk Diorama



V.9.a Taxidermy Work American Elk Diorama

Elk (*Cervus elaphus*): Cow lying down. Of the elk specimens in this diorama, this seems to be older than the rest and or of a different taxidermist than the other two. This is very apparent in the style and quality of the piece, which is fair and not as good as the other two.

The eye set and shape is poor, especially the skin alignment of the eyelids. This should be evaluated with a closer inspection and corrected. The positioning of the skin on the neck is weak and the ear skin has pulled away from what is probably a lead liner. The ear skin may be relaxed and stabilized, but the neck skin cannot be improved.

The overall color of the specimen has faded beyond what we would consider acceptable. The dark browns on the head and neck, as well as the legs are the most troublesome. The treatment proposed should be the same as well. One of the most interesting indicators of the fade is the elk, which are painted in the background painting. The fresh, vibrant elk in the painting create an unfortunate disconnect between them and the taxidermy specimens. Along with these corrections and the recoloring, the piece should be thoroughly cleaned and re-pointed.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the eye anatomy and evaluate for a possible correction. An attempt will be made to correct the problems by sculpting in a more correct eyelid or leaving the specimen as is.
4. Relax and re-adhere the inner ear skin to the liner.
5. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
6. Re-coloring* Reference fresh study skin to compare pelage for fade evaluation. Mix the appropriate color and amounts of Orasol dye and re-color any and all areas where it is required.
7. Re-pointing*
8. Final photo documentation.

Elk (*Cervus elaphus*): Bull. Good specimen, nice anatomy and features. in this diorama, this seems to be older than the rest and or of a different taxidermist than the other two. This is very apparent in the style and quality of the piece, which is fair and not as good as the other two.

The eye set and shape have some very minor issues and should be evaluated with a closer inspection and corrected. The overall color of the specimen has faded beyond what we would consider acceptable. The dark browns on the head and neck, as well as the legs are the most troublesome. The antlers show minor signs of fading as well and should be re-colored based on referencing specimens from this area of PA. The treatment proposed should be the same as well. One of the most interesting indicators of the fade is the elk, which are painted in the background painting. The fresh, vibrant elk in the painting create an unfortunate disconnect between them and the taxidermy specimens. Along with these corrections and the recoloring, the piece should be thoroughly cleaned and re-pointed.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the eye anatomy and evaluate for a possible correction. An attempt will be made to correct the problems by sculpting in a more correct eyelid or leaving the specimen as is.
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Re-coloring* Reference fresh study skin to compare pelage for fade evaluation. Mix the appropriate color and amounts of Orasol dye and re-color any and all areas where it is required.
6. Re-coloring antlers using conservation approved paints based on reference of specimens from this area of PA.
7. Re-pointing*
8. Final photo documentation.

Elk (*Cervus elaphus*): Juvenile. Good specimen, nice anatomy and features. in this diorama, this seems to be older than the rest and or of a different taxidermist than the other two. This is very apparent in the style and quality of the piece, which is fair and not as good as the other two.

The eye set and shape have some very minor issues and should be evaluated with a closer inspection and corrected. The overall color of the specimen has faded beyond what we would consider acceptable. The dark browns on the head and neck, as well as the legs are the most troublesome. The treatment proposed should be the same as well. One of the most interesting indicators of the fade is the elk, which are painted in the background painting. The fresh, vibrant elk in the painting create an unfortunate disconnect between them and the taxidermy specimens. Along with these corrections and the recoloring, the piece should be thoroughly cleaned and re-pointed.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the eye anatomy and evaluate for a possible correction. An attempt will be made to correct the problems by sculpting in a more correct eyelid or leaving the specimen as is.
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Re-coloring* Reference fresh study skin to compare pelage for fade evaluation. Mix the appropriate color and amounts of Orasol dye and re-color any and all areas where it is required.
6. Re-pointing*
7. Final photo documentation.

Cedar Waxwing (*Bombycilla cedrorum*): Good specimen. A cleaning and re-pointing will be enough to freshen its appearance and enhance its aesthetics.

Treatment proposal:

1. The specimen should be photo documented in situ. A temporary support will be fabricated that will hold the specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Final photo documentation.

American Woodcock (*Philohela minor*): Good specimen. A cleaning and re-pointing will be enough to freshen its appearance and enhance its aesthetics.

Treatment proposal:

1. The specimen should be photo documented in situ. A temporary support will be fabricated that will hold the specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Final photo documentation.

Song Sparrow (*Melospiza melodia*): Specimen condition is poor. There are many anatomical issues with the overall appearance being rough with feathers looking dry, dull, and very dirty.

Treatment proposal:

1. The specimen should be photo documented in situ. A temporary support will be fabricated that will hold the specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Final photo documentation.

Red Spotted Newt (*Notophthalmus viridescens*): Specimen is dry and dull. Clean and refresh color.

Treatment proposal

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation. If the specimen cannot be removed, the work may be done in situ.
2. General cleaning*
3. Apply a barrier coat of B-72. Re-fresh color with conservation approved paints and pigments.
4. Apply a finish coat of B-72 to restore the natural sheen to the specimen and re-install.
5. Final photo documentation.

Meadow Vole (*Microtus pennsylvanicus*): Poor specimen. The body shape is elongated and distorted. The pelage has a very dry, tired look.

Treatment proposal:

1. The specimen should be photo documented in situ. A temporary support will be fabricated that will hold the specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.

2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Final photo documentation.

V.9.b Background Painting Work American Elk Diorama

Background Painting (Connelly):

The background painting does not need to be re-worked, only cleaned with improved lighting. However, once the foreground is cleaned, the grasses and water element are restored, the tie-in areas in the painting may need simple touch-up. Estimated ½ day painting

V.9.c Foreground Work American Elk Diorama

Foreground:

Overall, the foreground is in good condition. The surface, water element, rocks and all botanical models need a thorough cleaning. This includes the leaves of the Yellow Birch, and Hornbeam needs to be re-positioned away from the inside of the glass. Refreshing and repainting the Rattlesnake grasses is needed to tie-in with the background painting. A gloss medium can be added to preserve and enhance the footprints in the mud. **NOTE:** TBD. The water element may need additional fabrication and tonal work with colored resin to match the painting, but this can only be assessed further once the diorama is open and the surface cleaned). Estimated 4 days foreground work.

Proposed Process:

NOTE: These steps are to be completed in this order:

- 1) A soft brush cleaning over the surface of the background painting is needed to enhance the original color with a focus on the tie-in area (where the 2D painting merges with the 3D foreground elements).
- 2) Hepa Vacuum and conservation brush cleaning over entire foreground.
- 3) Apply conservation-approved methods such as Beva gel adhesives and Golden transparent acrylic mediums to seal the leaves.
- 4) Selective airbrushing using conservation approved Golden acrylic over the surface of the leaves and grasses to tie-in with the background painting as needed.
- 5) Golden transparent acrylic gloss mediums or resins can be applied to the mud and footprints as necessary.
- 6) Swab cleaning using both spit swab method and distilled water on leaves and any fragile elements etc.

V.10 White Tailed Deer Diorama



V.10.a Taxidermy Work White Tailed Deer Diorama

White-tailed deer (*Odocoileus virginianus*): Adult doe. Poor specimen. There are numerous anatomical problems along with the facial features being very stylized and dated. The overall pelage has faded beyond what is acceptable. This specimen does not represent the species successfully and should be replaced.

Treatment proposal for replacement:

1. The specimen should be thoroughly photo documented in situ for both reference and archiving.
2. A temporary support can now be fabricated that will hold the specimen in the exact position as it was in situ.
3. A new specimen or model will be produced using the existing taxidermy and as reference for duplicating the original piece.
4. The new piece will be installed onto the existing landform.
5. The original specimen being replaced would then be returned, to be archived in the collection.
6. Final photo documentation.

Two (2) White-tailed deer (*Odocoileus virginianus*): Fawns. Both of these specimens seem to be of good quality and sound condition. A good cleaning is needed, as both are very dirty. They should be further assessed once they are removed from the exhibit, as the most noticeable concerns are first, the stylized, anatomical distortions to the facial features. The overall appearance looks dated but in solid condition. The second is the overall fading to the specimen's pelage. The fade is not significant, but once compared to a fresh study skin, or photographic reference, it will be apparent that some re-coloring will be necessary. Most of this is visible on the heads where the colors seem to be excessively washed out and very pale. The overall bodies also lack a warm, vibrant tone.

Treatment proposal:

1. The specimens should be photo documented in situ, then removed from the exhibit and placed on custom made temporary supports for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Assess the problems with the facial anatomy and evaluate for any possible correction. From what can be observed during this assessment, it does not look as though the problems can be corrected. It is more of an overall stylization.
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Re-coloring* Reference fresh study skin to compare pelage for fade evaluation. Mix the appropriate color and amounts of Orasol dye and re-color any and all areas where it is required.
6. Re-pointing*
7. Final photo documentation.

Ruffed Grouse (*Bonasa umbellus*): Overall specimen is fair. Extremely dirty. The pose is troubling, where it must be researched to see if this bird can forage for food as it is displayed with its tail fanned in an open position.

Treatment proposal:

1. The specimen should be photo documented in situ. A temporary support will be fabricated that will hold the specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Final photo documentation.

Red-Eyed Vireo (*Vireo olivaceus*): Specimen is in fair condition and can be salvaged. Piece is dirty and dingy, with a slightly rough appearance to the feathers. From this assessment, the specimen also appears to be faded and can benefit from a color enhancement using the conservation approved dry pigments after the piece has been thoroughly cleaned.

Treatment proposal:

1. The specimen should be photo documented in situ. A temporary support should be fabricated that will hold the specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-coloring* with conservation approved dry pigments to any areas that might need it after referencing a fresh study skin.
5. Re-pointing*
6. Final photo documentation.

Wood Thrush (*Hylocichla mustelina*): Overall the condition is poor. The specimen is dirty, faded, and the feathers in throat area are tattered and poorly arranged. The balance of the bird is off by the legs being set back too far along with its placement on the branch being at an incorrect angle.

Treatment proposal:

1. The specimen should be photo documented in situ. A temporary support will be fabricated that will hold the specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.

4. Re-pointing
5. Final photo documentation.

Scarlet Tanager (*Piranga olivacia*): The condition of this piece is good. The body shape is acceptable with some minor anatomy problems at the head and neck juncture. The eyelid shape needs to be adjusted and the piece is extremely faded. A good cleaning and re-coloring is essential. The re-coloring of these red birds with dry pigments is very successful and greatly enhances the esthetics of the piece.

Treatment proposal:

1. The specimen should be photo documented in situ. A temporary support should be fabricated that will hold the specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-coloring* with conservation approved dry pigments to any areas that might need it after referencing a fresh study skin.
5. Re-pointing*
6. Final photo documentation.

Eastern Wood Pewee (*Contonpus virens*): Condition is fair to poor. Bird has a very dry, tattered appearance. The eye shape is poor, color is faded.

Treatment proposal:

1. The specimen should be photo documented in situ. A temporary support will be fabricated that will hold the specimen in the exact position as it was in situ. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Apply a barrier coat of B-72 to the original beak and feet then re-color using conservation grade paints.
4. Re-pointing*
5. Final photo documentation.

Eastern Chipmunk (*Tamias striatus*): This specimen is acceptable. There are some anatomy problems with the overall body shape but not enough to warrant a replacement. The pelage has faded beyond what is acceptable and should be re-colored after a good cleaning.

Treatment proposal:

1. The specimens should be photo documented in situ, then removed from the exhibit and placed on custom made temporary supports for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. Further assess pieces for minor damages which could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
4. Re-coloring* Reference fresh study skin to compare pelage for fade evaluation. Mix the appropriate color and amounts of Orasol dye and re-color any and all areas where it is required.
5. Re-pointing*
6. Final photo documentation.

V.10.b Background Painting Work WHITE-TAILED DEER Diorama

Background Painting (Kucera)*:

White-tailed Deer – See original lighting (with colored lights) to understand what Kucera was attempting to convey in this scene, then proceed with the following - tone down rich chroma and bright value in upper left and left central

portion of background, where artist is attempting to suggest light is originating. This should be done by washing over with under-painting tone (burnt sienna or burnt umber), then revisiting these areas with color for highlights and shadow. These new highlights and shadows should be added across entire scene.

As there are multiple Mountain Laurel blossom models in foreground, paint a few going back into the distance in the background to facilitate a tie-in. After toning middle distance with under-painting wash (burnt sienna) then punch up color on highlights or cool down shadows with color. Use same under-painting tone to punch "holes" (shadow highlights) in the hay-scented fern tie-in on the left side. Mist over (glaze under-painting tone, then revisit with cool glaze (ultramarine and alizarine) in upper left (bright green) canopy area. Then return and pick out canopy highlights and shadows with warm tones to suggest sun-dapppling.

***NOTE:** This is one of the John Kucera paintings where it is optional to proceed with reformatting the painting. Cost estimates should be provided for two (2) days of painting to complete paragraph one above and for six (6) days of painting to complete paragraph 2 above.

Due to the elaborate foreground and fragile elements, the platform will need to be carefully constructed or plant models removed to access the painting.

V.10.c Foreground Work White Tailed Deer Diorama

Foreground:

Overall, the foreground surface and all botanical models need a thorough cleaning and some repainting. This includes airbrushing the leaves and flowers of the Mountain Laurel. Over time, the color has faded and the waxy sheen is lost. Spit swab and distilled water cleaning of the ferns, and simple refreshing of leaf litter and Hemlock is needed to better tie-in with the background painting. Estimated 4 days foreground work.

Proposed Process:

These steps are to be completed in this order.

- 1) Light surface cleaning using Hepa Vacuum and conservation brush cleaning over entire foreground.
- 2) Plant and animal specimens and ground coverage removed.
- 3) Platforms constructed to access the background painting.
- 4) Re-work background painting using oil paint thinned with turpentine to create glazing effects.
- 5) Protect the new painting with plastic while cleaning the foreground
- 6) Swab cleaning using both spit swab method and distilled water on plant models, ferns, rocks etc. (NOTE: if plants can be removed, they can be worked on outside the diorama as the painting is being done).
- 7) Airbrush using conservation-approved Golden flow acrylic over the surface of the leaves to tie-in with the background painting.
- 8) Apply conservation-approved methods such as Beva gel adhesives and Golden transparent acrylic gloss medium to create a waxy sheen.
- 9) Overall, the foreground plants, branches and sticks may need to be re-formed, secured and refreshed to match the painting and joints secured with B-72 conservation adhesives and coated wire or fishing line if needed.

V.11 – Mountain Lion (Cougar) Diorama



V.11.a Taxidermy Work Mountain Lion Diorama

Mountain Lion (*Felis concolor*): The overall quality of the piece is good, however the major problems lie with the taxidermy being very stylized and dated. The body anatomy is almost anthropomorphic with this “creeping” or stalking pose. The accuracy of this pose is questionable. The head features exhibit these same qualities in addition to the angle of the eyes, nose, mouth and slope of the head being incorrect. The muzzle is pushed in and squared off in its appearance. A majority of the vibrissae are missing and should be replaced. The tip of the tail appears to be broken or drooped in an unnatural manner, most likely a result of some sort of damage. Aside from being dirty, the overall color of the pelage has faded beyond an acceptable level. It’s most visible in the dark markings of the face and tail, with the overall body looking very dry and tired.

Plan A: The specimen should be replaced with a more accurate piece. A new pose which would successfully capture the tension in a cat about to pounce on its prey. The sculpting or altering of the new taxidermy’s armature should be carefully positioned in such a way that major adjustments need not be made to the foreground to accommodate the foot placement.

Plan B: The specimen would be cleaned, refurbished and reinstalled.

Treatment proposal for replacement: Priority level - High

1. The specimen should be thoroughly photo documented in situ for both reference and archiving.
2. A temporary support can now be fabricated that will hold the specimen in the exact position as it was in situ.
3. The piece will be removed from exhibit and installed on this platform.
4. A new specimen will be produced based on research for a more accurate pose.
5. The new piece will be installed onto the existing landform with some alterations having to be made to the foreground in order to accommodate the new footprint.
6. The original specimen being replaced would be returned to be archived in the collection.
7. Final photo documentation.

White-tailed deer (*Odocoileus virginianus*): Adult doe. The quality is good and acceptable. Much like the cougar, the head features are stylized and dated. These are problems that cannot be corrected to any degree where a dramatic change is noticeable. The piece is very dirty as well as faded and in need of a good grooming. Following a cleaning and any feasible restoration, a re-coloring and re-pointing is strongly recommended.

If it is decided to replace the mountain lion, the decision to replace this specimen should be explored. The main reason for this would be the esthetic compatibility with a new mountain lion being introduced to the group.

Treatment proposal:

1. The specimen should be photo documented in situ, then removed from the exhibit and placed on a custom made temporary support for treatment. Before treatment photos should be taken at this time along with any other necessary documentation.
2. General cleaning*
3. The problems with the structural anatomy and style of this piece cannot be corrected and must be left as is.
4. Further assess pieces for minor damages that could not be seen in situ. These are typically small cracks, splits, bald spots, or delaminating skin. Each will be addressed and repaired.
5. Re-coloring* Reference fresh study skin to compare pelage for fade evaluation. Mix the appropriate color and amounts of Orasol dye and re-color any and all areas where it is required.
6. Re-pointing*
7. Final photo documentation.

Treatment proposal for replacement: Priority level - Optional

1. The specimen should be thoroughly photo documented in situ for both reference and archiving.
2. A temporary support can now be fabricated that will hold the specimen in the exact position as it was in situ.
3. The piece will be removed from exhibit and installed on this platform.
4. A new specimen will be produced based on the existing taxidermy and installed onto the existing landform.
5. The original specimen being replaced would be returned to be archived in the collection.
6. Final photo documentation.

V.11.b Background Painting Work Mountain Lion Diorama

Background Painting (Connelly):

The background painting does not need to be re-worked, only cleaned with improved lighting.

V.11.c Foreground Work Mountain Lion Diorama

Foreground:

Overall, the foreground snow surface and forms do not need re-fabrication. However, one consultant proposed to replace the original Cougar mount with a new specimen. If so, additional fabrication and/or alterations to the existing rock form will need to be fitted naturally to the new specimen's posture. In addition, a large amount of the original snow material is pressed against the inside surface of the glass creating an unnatural effect (similar to Bison and Bobcat). Re-sculpting and removing that edge will help create a more realistic appearance for the entire diorama. Also, adding a superficial mixture of conservation-approved ceramic batting fill, chopped acrylic and glass beads over the entire surface will enhance a crisp, white sparkle effect. The snow will not yellow over time.

Proposed Process:

NOTE: These steps are to be completed in this order.

- 1) Light surface brush cleaning by hand to remove large pieces of debris.
- 2) Re-fabricate and/or alter the rock forms to fit the new Cougar specimen's posture (as necessary).
- 3) Re-sculpt and remove snow edge pressing against glass.
- 4) There are areas where the original cotton batting is discolored and exposed throughout. Conservation-approved ceramic batting fill and B72 adhesives can be added to selectively patch these areas.
- 5) Over the original snow surface, a mixture of chopped acrylic, glass beads, and dry pigments can be added to enhance the white snow lying over the rock forms.
- 6) Some in-painting using conservation-approved Golden acrylics, dry pigments and matte mediums on the rock forms and exposed grasses.
- 7) Overall, the foreground plants, branches and sticks may need to be re-formed, secured and refreshed to match the painting and joints secured with B-72 conservation adhesives and coated wire or fishing line if needed.

Resumes of those who prepared the condition reports and treatment recommendations in Appendix H.