



Shelf Life:

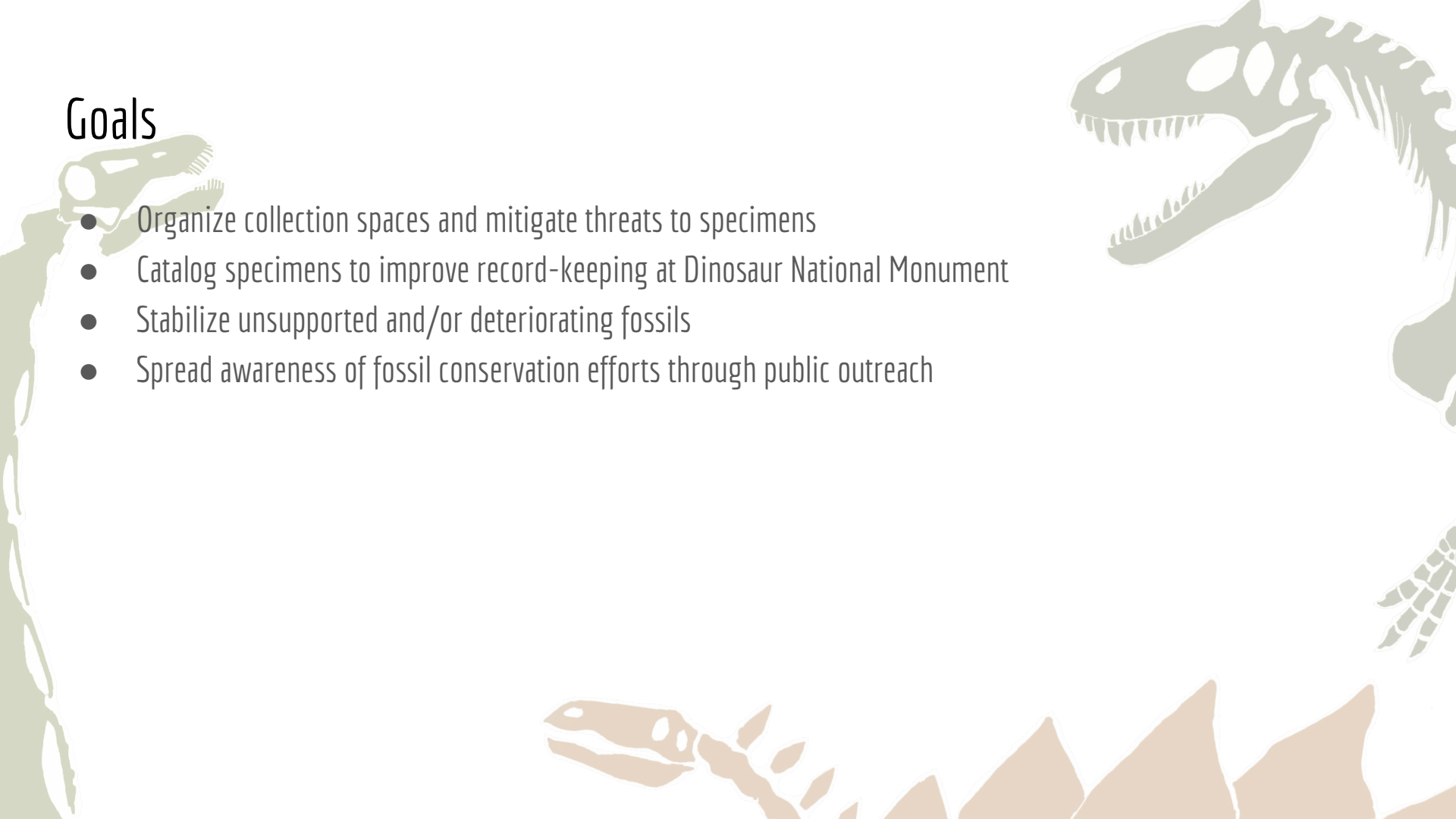
Updating and Preserving Collections at Dinosaur National Monument

Kellyn McKnight, Tut Tran,
Julia Anderson, ReBecca Hunt-Foster



Goals

- Organize collection spaces and mitigate threats to specimens
- Catalog specimens to improve record-keeping at Dinosaur National Monument
- Stabilize unsupported and/or deteriorating fossils
- Spread awareness of fossil conservation efforts through public outreach



Quarry Exhibit Hall



<https://www.flaminggorgecountry.com/Museums>

Quarry Exhibit Hall



<https://www.flaminggorgecountry.com/Museums>

Quarry Exhibit Hall 2.0

- Quarry Exhibit Hall included collections facility until 2006
- Facility was removed when QEH was condemned
- Specimens formerly housed there had to be moved quickly



<https://www.flaminggorgecountry.com/Museums>

Collections Facilities



Fire Cache



Canyon Visitor Center

Collections Facilities: Fire Cache (Utah)



Fire Cache

- Temperature Fluctuation
- Rainwater
- Insects

Collections Facilities: Fire Cache (Utah)



Fire Cache



Collections Facilities: Fire Cache (Utah)



Fire Cache



Collections Facilities: Canyon Visitor Center (Colorado)

- Holds paleontology and archeology collections
 - Uncatalogued
- Rodents
 - Hantavirus



Canyon Visitor Center

Collections Facilities: Canyon Visitor Center (Colorado)



Canyon Visitor Center

Collections Facilities: Canyon Visitor Center (Colorado)

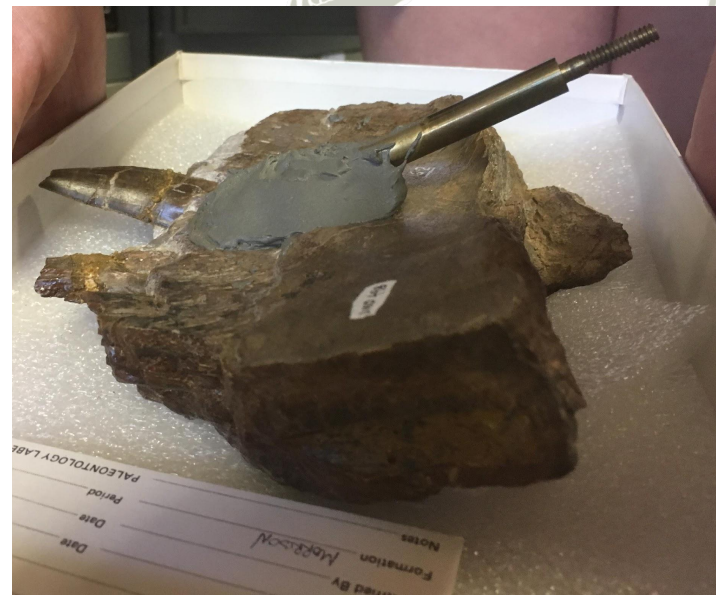


Canyon Visitor Center

Specimen Conditions



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Specimen Conditions



- Smaller fossils found freely rolling in drawers
- Specimen boxes often wrong size
- Larger fossils: half-jackets made of burlap and plaster
- Non-archival materials
- Delicate specimens unsupported

Tackling the Issues

- Hantavirus Mitigation
- Catalog and Inventory
- Plaster Cradle Construction
- Foam Cradle Construction
- Outreach & Education



Tackling the Issues

- **Hantavirus Mitigation**
- Catalog and Inventory
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Tackling the Issues

- Hantavirus Mitigation:

Hantavirus

- Found in rodent feces and urine
- Can contract Hantavirus Pulmonary Syndrome (HPS) by inhalation or touch
- HPS is rare, but **lethal**. No vaccine or cure.

Tackling the Issues

- Hantavirus Mitigation:
PPE

- 3M Tyvek body suit
- 3M half-face respirator
- Nitrile gloves



Tackling the Issues

● Hantavirus Mitigation: Cleaning Equipment

- Bleach solution
- Mouse repellent
- Steel wool



Tackling the Issues

- **Hantavirus Mitigation:**
Decontamination

- Sun bleaching for min. of 4 hours
- Spraying the worst areas with bleach solution



Tackling the Issues

- **Catalog and Inventory**

- Filled in digital catalog of paleo, archeo, and herbarium collections
- Spreadsheet should contain info on 43-44,000+ specimens when complete
- Physical inventory



Tackling the Issues

- Hantavirus Mitigation
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- **Plaster Cradle Construction**
- Foam Cradle Construction
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Tackling the Issues

- **Plaster Cradle Construction**

- ¼" Ethafoam sheets / felt
- Fiberglass
- FGR 95 Hydrocal plaster



Tackling the Issues

- **Plaster Cradle Construction**

- $\frac{1}{4}$ " Ethafoam sheets / felt
- Fiberglass
- FGR 95 Hydrocal plaster



Tackling the Issues

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Tackling the Issues



- **Foam Cradle Construction**


- 1/4" Ethafoam sheets or blocks
- Tyvek paper
- B-72 adhesive (acryloid & acetone)
- Coroplast (corrugated plastic)

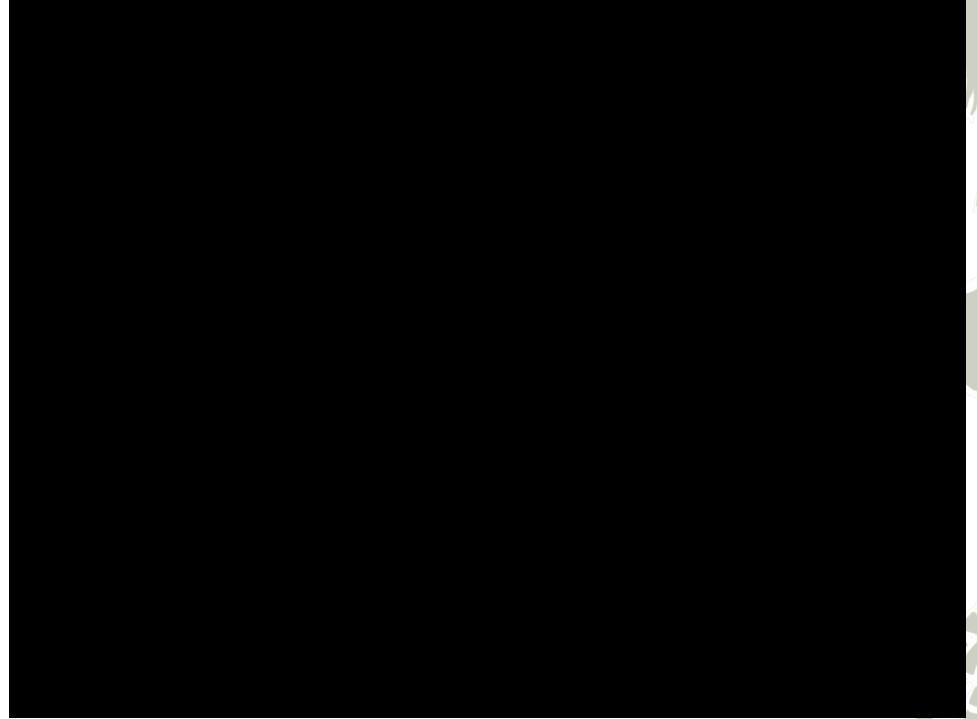


Tackling the Issues



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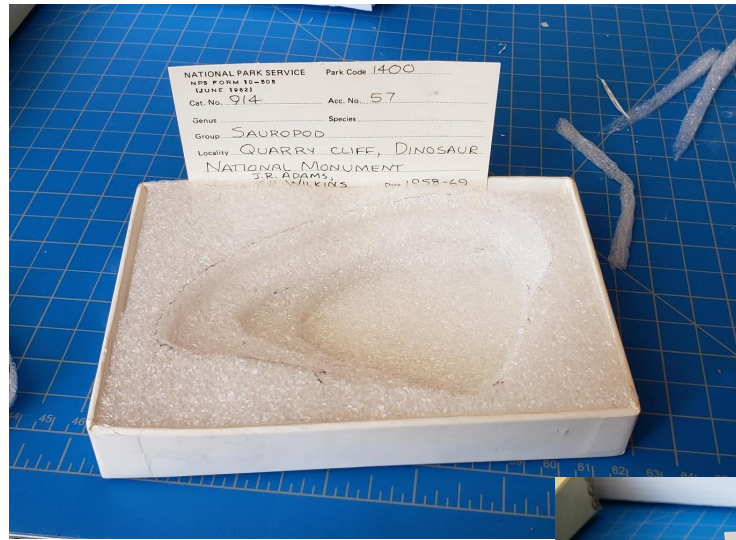
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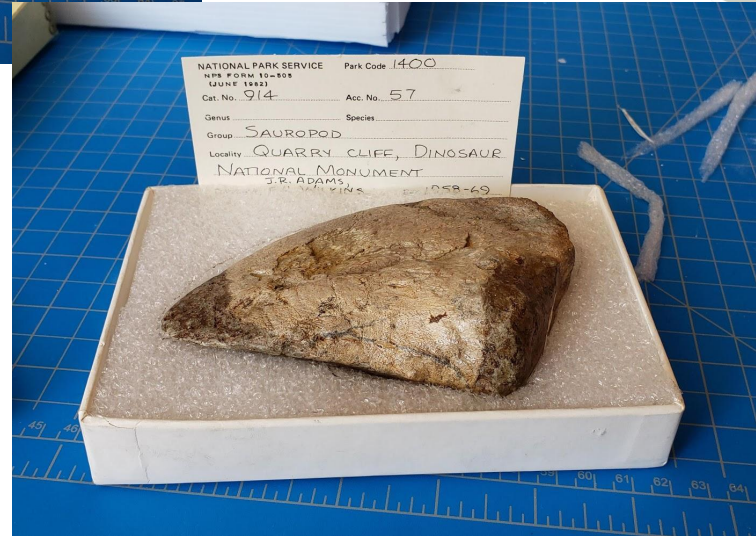


Tackling the Issues

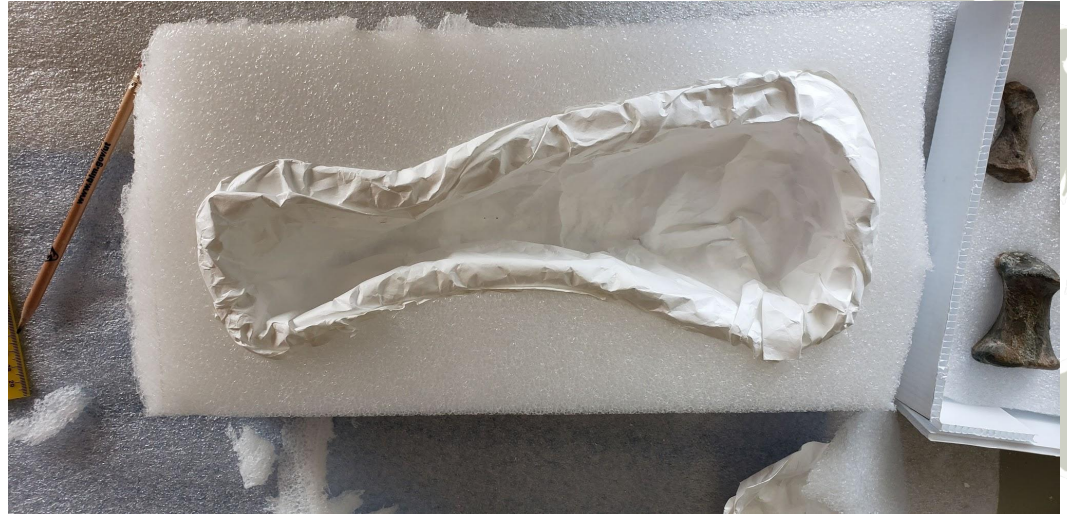


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Tackling the Issues

- Hantavirus Mitigation
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Tackling the Issues



- Outreach & Education

- Thur. & Fri., 9:30 AM - 4:30 PM
- Foam & Plaster cradles
- 200-400+ visitors/day



Tackling the Issues



- Outreach & Education

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Conclusions

- Cradle-making was effective in stabilizing fossils
- Hantavirus mitigation practices will have to continue in future collections management at Canyon Visitor Center
- Outreach has impacted 3000+ people
- Laying foundations for ongoing collections management at DINO

What's Next?

- Fossil stabilization efforts will need to continue
- Currently only short-term solution
- Long-term solution: erect a new collections facility
 - New facility would need to simultaneously protect older specimens and accommodate new acquisitions



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Katie Nemmer

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Geoscientists-in-the-Parks

Stewards Individual Placement
Program

Mosaics in Science Diversity
Internship

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