



Office of
INSPECTOR GENERAL

U.S. Department of the Interior

INSPECTION REPORT



**Museum Collections:
Preservation and Protection Issues
with Collections Maintained by the
Fish and Wildlife Service**



United States Department of the Interior

OFFICE OF INSPECTOR GENERAL

CENTRAL REGION – DENVER FIELD OFFICE

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January 29, 2010

To: Sam D. Hamilton
Director, U.S. Fish and Wildlife Service

From: Loralee Bennett *Loralee Bennett*
Deputy Regional Audit Manager

Subject: Inspection Report – Museum Collections: Preservation and Protection Issues with
Collections Maintained by the Fish and Wildlife Service (C-IS-FWS-0007-2010)

The long-term preservation and future availability of artwork, artifacts, and other items maintained in museum collections operated by the Fish and Wildlife Service (FWS) requires FWS to minimize those factors that tend to shorten an object's life. As a result, we evaluated FWS museum collections to determine whether FWS was adequately preserving and protecting its artwork, artifacts, and other museum objects.

Background

Bureaus within the Department of the Interior manage museum collections that are estimated to include over 146 million pieces of artwork, artifacts, and other museum objects. Museum property is acquired to be preserved, studied, or interpreted for public benefit and can include objects representing archeology, art, history, botany, zoology, paleontology, or geology.

Because museum property is intended for long-term preservation, its management requirements are necessarily different from the requirements of property that can be easily replaced. Therefore, the Department's Museum Property Handbook defines seven preservation categories for use in protecting museum property: storage, environment, security, fire protection, housekeeping, planning, and staffing.

On December 16, 2009 we issued a report titled "Department of the Interior Museum Collections" (Report No. C-IN-MOA-0010-2008). The review found that the Department was a poor steward of these museum collections and could take additional steps to improve preservation and protection of museum collections. To assess the adequacy of the Department's preservation practices, we developed a 44 question checklist assessing the seven preservation areas identified in the Department's guidance. Using the checklist, we visited four FWS sites and

completed the checklist based on both our observations and interviews with museum personnel. We also received self-reported checklists from an additional three FWS sites. This report provides you with specific results for the FWS sites.

Results of Inspection

Overall, we found widespread issues with the preservation practices. While some sites had only a small number of deficiencies, others had numerous deficiencies in multiple categories. *See Appendix.* For example, one site did not perform more than half of the preservation controls we inspected. Overall, all seven of the FWS sites (100 percent) had one or more deficiencies. Specifically:

Site	Percentage of Checklist Items with Deficiencies
Mason Neck NWR	11%
Parker River NWR	36%
Patuxent Research Refuge	27%
Rocky Mountain Arsenal	25%
DC Booth Historic Site	18%
Kenai National WR	50%
Portland Regional Office	59%

- **Insulation was not adequate to help maintain stable environmental conditions.** For example, at the Kenai National Wildlife Refuge in Soldotna, AK we observed that all artifacts, including such items as a rifle barrel, razor leather, pocket watches, and brass rifle cases were stored in an outside storage shed with no environmental controls. Gas cans, lawn mowers, and other maintenance equipment were stored in the same shed. At the Rocky Mountain Arsenal National Wildlife Refuge in Commerce City, CO we observed that museum objects were stored in a temporary building that contained no climate control devices. Artifacts such as old shoes, breakable lights, and a wooden time card rack were stored directly on the floor without adequate padding or pallets and were intermingled in large storage boxes without adequate protection. Intermingling these items in one box increases the risk of potential damage since fragile items were not properly wrapped to protect the items from other, heavier items, in the same box.



- **Museum property was not safeguarded from overcrowding, breakage, or cross contamination.** For example, at the Patuxent Research Refuge in Laurel, MD we observed that historic maps stored at this location were stacked on top of each other without protective barriers. Maps were also rolled up and appeared to have damage to the ends of the maps.



- **Museum property was not protected against temperature and humidity changes.** At the Portland Regional Office in Portland, OR we observed that artifacts were stored near improperly sealed windows. The only humidity control for the location consisted of a shower curtain over the fireplace opening. We observed a wooden chair, a historic photograph, and papers documenting the history of the refuge improperly stored behind this curtain. The site had a humidity reader, however, we were informed that the reader could be off by as much as 10 percent.
- **Pest control devices were not always used.** A historic farm onion sorter was stored in a barn with broken and missing windows. As a result, owls had unrestricted access to the barn and droppings covered the artifact and floor.
- **Museum property was not safeguarded against fire.** There was a heightened risk of fire at the Kenai National Wildlife Refuge in Soldotna, AK because some of the museum objects were stored along with highly flammable liquids. This site also did not have a fire detection or suppression system.



Because the preservation of the collections at many FWS sites has been neglected, countless artwork, artifacts, and other museum objects are in jeopardy. Identified deficiencies could jeopardize museum objects and result in irreparable harm, irreversible damage, or loss of the item.

Recommendations

We recommend that the Director, Fish and Wildlife Service, ensure that a plan is developed and implemented to:

Recommendation 1. Correct and/or mitigate, to the greatest extent possible, all identified deficiencies at the seven sites identified in this report.

Recommendation 2. Inspect all remaining FWS sites that house museum collections and correct and/or mitigate, to the greatest extent possible, all identified deficiencies.

We would appreciate being kept apprised of the actions planned, or taken, on our recommendations as we will track the status of their implementation. We ask that you inform us of the planned course of action of the recommendations within 30 days.

If you have any comments or questions regarding this advisory, please call me at (303) 236-9243.

☐ No Deficiencies Noted

☒ Deficiencies Noted

% Percentage of Deficiencies Noted

	Observed				Self-Reported		
	Mason Neck NWR	Parker River NWR	Patuxent Research Refuge	Rocky Mountain Arsenal NWR	DC Booth Historic NFH	Kenai National WR	Portland Regional Office
STORAGE	0%	8%	15%	38%	23%	62%	54%
1. Safe from flooding.				X	X	X	X
2. Appropriately insulated.				X		X	X
3. Appropriate space.			X	X		X	X
4. Sufficient space.			X		X	X	X
5. Adequate storage cabinets.							
6. Cabinets not over-stacked.							
7. Open shelving safe.						X	
8. Stacked items protected.				X		X	
9. Earthquake safe.						X	X
10. No overcrowding.				X		X	X
11. Secure exhibit cases.		X			X		
12. Appropriate exhibit cases.							X
13. Properly framed artwork.							
ENVIRONMENT	0%	78%	56%	44%	11%	44%	67%
14. Temperature & humidity monitored.		X	X	X		X	X
15. Observations recorded.		X	X	X			X
16. Observations permanently saved.		X		X			X
17. Observations analyzed.		X		X	X		X
18. Hygrothermographs maintained.							
19. Outside lights appropriately controlled.		X	X			X	X
20. Artwork away from vents.							
21. Pest control devices used.		X	X			X	
22. Type of pests analyzed.		X	X			X	X
SECURITY	13%	25%	0%	13%	13%	38%	100%
23. Appropriate staff have keys.		X			X	X	X
24. Keys are controlled.							X
25. Visitors escorted.						X	X
26. Visitors sign in.						X	X
27. Closing procedures documented.		X					X
28. Alarm systems maintained.	X			X			X
29. Sensitive items stored separately.							X
30. Irreplaceable items guarded.							X

☐ No Deficiencies Noted

☒ Deficiencies Noted

% Percentage of Deficiencies Noted

	Observed				Self-Reported		
	Mason Neck NWR	Parker River NWR	Patuxent Research Refuge	Rocky Mountain Arsenal NWR	DC Booth Historic NFH	Kenai National WR	Portland Regional Office
FIRE PROTECTION	20%	20%	20%	20%	0%	0%	0%
31. Fire detection and suppression.	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
32. Fire extinguishers.							
33. Staff trained on fire extinguishers.		<input checked="" type="checkbox"/>					
34. Fire suppression systems clear.							
35. No flammable liquids.							
HOUSEKEEPING	25%	75%	0%	0%	0%	75%	75%
36. Housekeeping performed.							<input checked="" type="checkbox"/>
37. Written rules on housekeeping.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
38. Housekeepers trained.		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	
39. Smoking & eating prohibited.		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PLANNING	67%	67%	100%	0%	100%	67%	67%
40. Written plan.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
41. Assessment of property.	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
42. Plan to evacuate property.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
STAFFING	0%	0%	50%	0%	0%	100%	0%
43. Staff assigned responsibilities.			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
44. Staff have been trained.						<input checked="" type="checkbox"/>	
ADDITIONAL DOCUMENTS							
1. Checklist Report	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2. Basic Security Protection Report	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3. Fire Protection Plan			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
4. Integrated Pest Management Plan	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5. Environmental Control Plan	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6. Annual Emergency Management Plan			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
7. Current Collection Storage Plan	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8. Written Handling Procedures	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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