



Physical Anthropology Section – 2009

H92 Recovery of Human Remains From Vehicles Submerged in Fresh Water

Stephen P. Nawrocki, PhD, and Anthony J. Koehl, BS*, University of Indianapolis, Archeology & Forensics Laboratory, 1400 East Hanna Avenue, Indianapolis, IN 46227*

After attending this presentation, attendees will begin to appreciate the unique difficulties and specialized procedures involved in conducting controlled recoveries of decomposed or skeletonized human remains from vehicles submerged in fresh water rivers and lakes. Two recent examples from Indiana are used to illustrate how anthropologists modify traditional techniques of archeological excavation and taphonomic reconstruction to fit these unusual circumstances.

This presentation will impact the forensic community by using two recent examples from Indiana to illustrate how anthropologists modify traditional techniques of archeological excavation and taphonomic reconstruction to fit these unusual circumstances.

The first case involved an automobile submerged in a major western Indiana river. The car was discovered by local authorities and linked to an individual who had been missing for five years. Divers verified the presence of human remains by retrieving a femur through the partially opened driver's side window. The automobile was removed from the river and subsequently stored in a secure evidence bay. The University of Indianapolis Archeology and Forensics Laboratory (AFL) was contacted to assist in recovery of the remains from the car. The members of the AFL team were the first individuals to see the car's interior since its retrieval from the river. Even though this forensic scene was confined to the automobile's interior, it still required thorough and systematic processing. The driver's side window was open approximately six inches and had faced up-river prior to discovery. Large deposits of river sediment had washed into the vehicle, mixing and burying the remains. Pneumatic "jaws of life" were used to open the passenger door, where the sediment was less pronounced. Excavation was conducted using a mix of hand trowels and plastic and wooden tools in order to minimize damage to the bones. Sediment was transferred to a wet-screening station to find small elements. While no formal mapping was conducted, the locations of bones were recorded as discovered, and a field inventory of the remains was conducted throughout the excavation process. The distribution of the individual bones allowed for a reconstruction of the likely original position and location of the decedent at the time of the crash. The body was completely skeletonized and the bones presented taphonomic modifications typical of fresh water interment, including sediment staining and superficial erosion.

The second case involved a jeep submerged in a retaining pond in central Indiana. The vehicle was registered to an individual who had been missing for 1.5 years. It was removed from the water and initial investigation of its interior produced a partial corpse. The individual's postcranial elements were articulated due to the protective nature of the clothing still on the body as well as by thick adipocere formation. The head and hands were fully skeletonized and dispersed throughout the sediment, which had accumulated along the floorboards. Similar recovery techniques were applied in this case, as described above. However, fewer elements were missing and the jeep had an open design that allowed water and sediment to flow more freely without being trapped.

Both cases presented unique challenges and required the anthropologists to adapt and modify their archeological recovery strategies. Facilities and equipment for water screening large amounts of sediment are essential, and the local authorities will have to find a way to dispose of this material. Special safety procedures are required to protect the investigators from sharp, rusty metal, glass fragments, and even tiny fish bones, which can be incredibly sharp. Water action makes it difficult to reconstruct the original position of the body within the vehicle, information that may be essential to understanding the nature of the accident. Lastly, the taphonomic processes that modify human remains submerged in deep water are very different from those that affect remains on the surface or buried in the ground.

Submerged Vehicles, Human Remains, Forensic Archeology