



NPS Expanded 72 Hour Report
Cowles Bog Accident

Indiana Dunes National Lakeshore

February 7, 2013

Midwest Region
National Park Service

This report is intended to inform interested parties, for a safety and training tool, and as an aid to preventing future occurrences. Because it is published on a short time frame, the information contained herein is subject to revision as further investigation is conducted and additional information is developed.

SUMMARY

On Thursday, February 7, 2013, at approximately 1251 hours a 31-year old Wildland Firefighter (Firefighter A) was struck by a falling tree. He was clearing trees on a wetland restoration project in the Cowles Bog area of Indiana Dunes National Lakeshore (INDU). He was limbing out a previously felled tree when another tree, approximately 58 feet away from his location fell without warning. An initial estimate of accident tree was 7.5" DBH and approximately 50 – 60 feet tall. Firefighter A was bent over cutting when he was struck across the shoulders by the tree, knocking him to the ground. The force of the impact drove his face onto the motor housing of the chainsaw. His injuries included a severely broken nose, fractured right eye orbit and fractured T-1 vertebrae. Despite his injuries, he had the presence of mind to shut the chainsaw off to prevent further injury. Firefighter A is an experienced sawyer; he was wearing proper safety gear to include eye and ear protection, as well as a hard hat and chaps. Firefighter A was also working with a partner (Firefighter B) and was able to call out to him for help. Examination of the hard hat shows no indication that it was not contacted by the tree. An initial investigation revealed that the accident tree was poorly rooted into soft soil. Winds were calm at the time of the accident and the soil was thawing after recent freezing rain and snow.

Local EMS resources responded to the scene and transported Firefighter A to the local Regional Hospital. Firefighter A was treated for his injuries, which included plastic surgery to repair his facial injuries. Firefighter A was released from the hospital and did not stay overnight. At this time there is a safety stand-down for the project until a more thorough assessment is completed.

SEQUENCE OF EVENTS

Two Firefighters were working as tree fellers (sawyers) for the project supervisor of the wetland restoration site at Cowles Bog. They were cutting trees in the northwest corner of the project site. The working distance between firefighters was 66 yards. Both had called on-duty at the site at approximately 1207 hours.

Firefighter A (injured firefighter) had finished cutting his third tree of the day and was in the process of "bucking it" when another tree north of where he was sawing, unexpectedly uprooted and fell. This tree struck Firefighter A across his shoulder knocking him to the ground. It was later determined his face had struck the edge of the chainsaw cowling between the chain brake and the handle. This resulted in a fracture of his nose, right eye orbit, and T-1 vertebrae.

Firefighter A stated that he shut off the chainsaw and called for help from Firefighter B. At 1251 hours Firefighter B heard and responded to Firefighter A's distress call. Firefighter B moved over to the location of Firefighter A and immediately called 911 for assistance. Firefighter B removed Firefighter A's PPE and provided first aid. At 1253, Firefighter B received a call back from 911 confirming the response, at which time Firefighter B asked that INDU law enforcement and fire staff respond. Two INDU Wildland Firefighters responded from INDU Fire Station #2 arriving at the scene soon after and provided additional first aid support to the injured firefighter.

At 1303, hours a Porter County ambulance arrived at the scene assuming control of the care provided to the injured firefighter.

Topography

The Cowles Bog Wetland Complex comprised of bog, fen, forested swamp, sedge-meadow, wet-prairie, and marsh, includes the only remaining coniferous swamp associated with southern Lake Michigan, the only native population of white cedar in Indiana, and the only raised fen in Indiana without adjacent higher topographical features.

Accident Scene

Approximately 175 feet West of Mineral Springs road, 162 yards north of Cowles Bog parking lot.

Weather

Winds were from the East at 5 mph, with a few clouds and haze, temperature 33degrees, 73% humidity.

The safety team identified the following as items that should be completed prior to resuming project work at the Cowles Bog restoration site:

Requirements

- Prior to resuming felling operations, remove dead and down trees from the immediate area of planned operations for that day.
- Once operations continue, cut material needs to be removed immediately from work area upon completion of daily felling operations.
- Evaluate the root balls of trees in the work area, determining those that that have unstable or compromised root systems and mitigate as necessary.
- During the process of felling trees, if the crown of the felled tree has contacted an adjacent tree, the contacted tree must be reevaluated prior to resuming operations.
- Establish a maximum wind speed for felling operations.
- Constantly evaluate the work environment being particularly aware of the freeze thaw cycle and how it may affect the root ball integrity of standing trees.
- Establish a specific Job Hazard Analysis (JHA) for this project.

Figure 1: View of accident scene with exposed root ball of subject tree in foreground



Location of Firefighter A

Root ball of subject tree

Figure 2: Close up of root ball of subject tree



