# Collaborative net repair project

Dale Hollow National Fish Hatchery has partnered with the Nashville US Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) office to repair the stations net system. The purpose of this net is the exclusion of animals in order to limit predation or biological contamination.

The net at the hatchery lasted 18 years with little maintenance but slow loosening of taught points and annual storms to a cumulative toll that led to a decline in viability and eventual net structural failure in 2020. The net solution was proven as an effective solution, efficiently providing a relatively low cost, low maintenance, long-term solution to a facility need. Repairs have been focused on sustaining the effective aspects of the initial net with a few tweaks to help keep the net system at a peak performance.

Repair stage one is the replacement of anchor points. The old anchors have pulled out of the ground from the winds pulling against the net and guy wires. That loosening caused the net to sag, poles to lean, some real safety and structural decline in the system. 18 years is a good long run, but the new anchors are rated at 43k lbs, mounted in place and taughtened with 10k lbs, and located at new points that require much fewer ground attachment points.

The original net for the hatchery with installation cost less than $200k, 20 years ago and the commercial ‘repair-only’ bids in 2021 came back with quotes between $800k and $1.2million dollars. Construction-type project costs have risen like home prices and the hatchery deferred maintenance plan was about 15% of this amount. Even utilizing an interagency cooperative plan, costs are higher than the long-term infrastructure planning was designed for, leaving the service to make some difficult prioritization choices to try to take advantage of this ideal use of funds. Collaboration like this has great potential to utilize some of the skilled tradesmen within these agencies and develops some repeatable approaches to infrastructure alternatives (especially true regarding the relative cost of anything construction related).

Captions:

1. The new ground anchors are similar to modern ship anchors – they are pounded into the ground and pulled back until the bottom plate is in a horizontal position.
2. The anchor points are 6-7 feet deep
3. This shows some of the heavy equipment used to pull existing poles to plum while installing and tightening new ground anchor guy wire attachment points.

Photo credit: USFWS

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