

National Ocean Service Marine Forensics Archive



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Shortnose Sturgeon Genetic Archive



- Archive all shortnose sturgeon genetic samples collected.
- Sub-samples may then be requested by researchers from the archive for analysis.

Current Protocols for Collection



- **Currently most tissue samples collected for genetic analysis must be preserved in 100% ethanol.**
 - Individuals shipping samples preserved in ethanol must be certified to ship hazardous materials.
- **Currently many individuals shipping samples to the archive are not certified.**

Solutions to Address Current Protocols



- **Training and Certification**

- NMFS is currently investigating what training is required as well as the associated costs, recertification requirements, and accessibility of the training.
- If training is accessible and feasible training, ethanol could continue to be used by certified individuals.

Solutions to Address Current Protocols



- **Alternative Preservative Options**
 - RNA Later - non-toxic, shipped at room temperature, RNA and DNA extraction
 - ✦ Samples can be stored at 4°C for one month, at 25°C for one week or at -20°C indefinitely.
 - ✦ Archive RNAlater-treated tissues at -20°C.
 - ✦ Long term storage by Archive would require purchase of a 20 chest freezer, hotels, cryovials, and RNA Later.
 - FTA Cards - non-toxic, stored at room temp in simple storage device such as index card holder.
 - ✦ May be more costly for researchers, but in terms of ease of use, is the most preferable option.
 - ✦ Subsample requests would be a “punch” from the FTA card.

Discussion Points



- **Solution must consider limitations of archive**
 - Storage
 - Ease of sub-sampling
 - For RNA Later - does DNA need to be extracted and then stored at -20C indefinitely? Or can the tissue shipped be stored as is at archive?
- **Solution must consider limitations on researchers**
 - Feasibility
 - Reliability
- **Feedback?**
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