# Waste Not: Zero Waste Coat with Alligator Collar

Susan Lindrew, Casey R. Stannard (Mentor), Louisiana State University

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## Mentor Statement

This work was produced in partial fulfillment of an undergraduate agricultural research grant. The student was challenged to work with American alligator leather in a new way to explore the creative application of this agricultural product for high-fashion apparel. The student worked with zero waste (ZW) patternmaking (Rissanen & McQuillan, 2016), and found additional inspiration from the actual materials chosen for the design. This student had never been exposed to ZW design, so the first step was for the mentor to explain the design approach. As the design progressed, the student and mentor met to discuss utilizing leftovers in the marker and alligator hide. Overall, the resulting design is a fresh take on how to apply alligator to sustainable, high-end apparel in a way that brings attention to the beauty of this material, which is a critical component of the ecological landscape in the South.

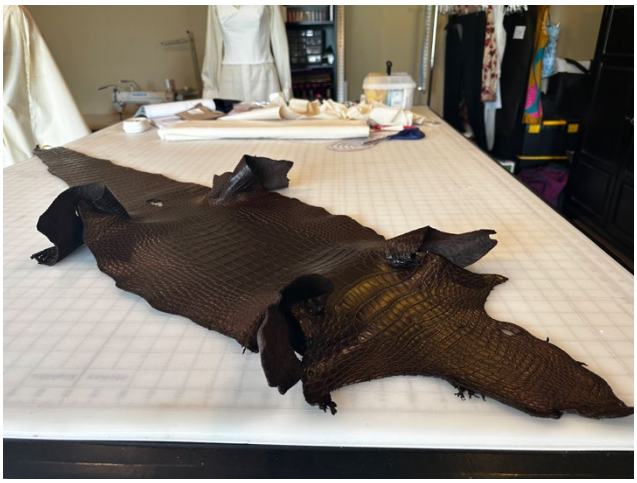

*Figure 1. Alligator hide.*

## Statement of Purpose

Traditional patternmaking techniques typically involve flat patterns and flat fabric. Because the legs of the alligator are three-dimensional, they do not lie flat (see Fig. 1), so they are not easily utilized with traditional patternmaking techniques. The result is that the legs, a large percentage of the alligator hide, are often discarded. The goal of this project was to apply the ZW experimental patternmaking technique to utilize dimensional parts of the alligator hide and create a visually pleasing design. The basis of ZW is to use every inch of the fabric with nothing left over to be discarded (Rissanen & McQuillan, 2016). This technique has been widely explored by designers (see Saeidi & Wimberly, 2015). However, to my knowledge, no one has utilized alligator hides for ZW design because typically the legs and other undesirable areas (areas with scars) are discarded

(Belleau et al., 2004). For this design, I constructed a ZW wool coat with alligator aspects using all the wool and the whole alligator hide.

## Aesthetic Properties

This design is an oversized cardigan-style camel-colored 100% wool Melton coat with a wide dark brown alligator collar and vertical alligator gusset at the center back. Smaller pieces of the hide were used to make a knot button and a patchwork belt. The leg sections of the hide were used to create a ruffle effect that makes the collar a focal point of the garment. The mirrored scales of the collar and the rich, dark chocolate brown leather give a visual impact to the front of the coat. The width of the collar also helps visually balance the thick body of the coat. The tail of the alligator was used to create a vertical gusset on the back from the yoke to the hem. This design feature gives an unexpected element to the back of the coat. Cohesion was created using complementary colors.

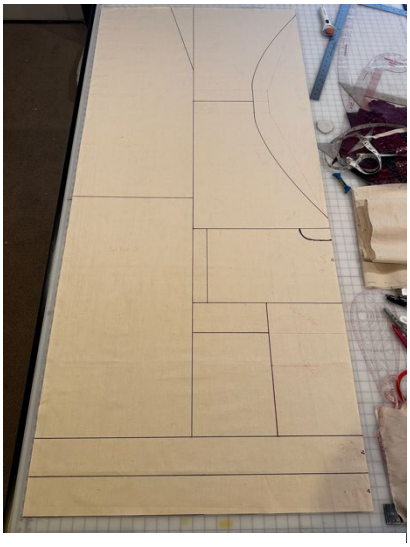

*Figure 2. ZW Pattern.*

## Process

The planning phase of this design was the most critical. The pattern for the wool fabric pieces was first drawn on muslin, and several variations of a potential pattern layout were attempted before settling on a final design layout (Fig. 2). Geometric shapes were mostly used to allow the pattern pieces to fit easily together on the fabric.

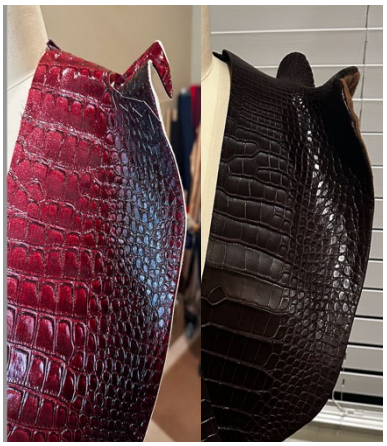

*Figure 3. Alligator Mockup.*

A mockup of the hide was made using darted vinyl to imitate the three-dimensional shape of the alligator (Fig. 3). This allowed me to test design ideas before cutting the actual alligator hide. Once the design layout was selected, I constructed the outer coat using the wool fabric along with a 100% polyester lining. The larger sections of the alligator hide were used for the coat collar. The tail was used for the back gusset and the legs and sides of the hide were also used for the oversized collar. The smaller pieces or scraps were thoughtfully pieced together to create the belt of the coat and thin strips of leather were used to make a knot button.

The body of the coat was sewn using a home sewing machine. The collar was sewn with a leather needle and fully lined with wool that was darted in some

areas to accommodate the shape of the "ruffles" created by the legs. As I created the design, I also discovered that the alligator responded well to heat which allowed me to shape the collar back from the neck seam. The lining was inserted after the coat was constructed and hems were hand sewn to finish the design.

## Cohesion

The visual cohesion of this design was achieved by a thoughtful selection of colors and fabrication that work well with the texture and color of the alligator leather. An understated, monochromatic color pallet was chosen to keep the focus on the alligator collar and back gusset detail. A completely ZW pattern was achieved for this fully lined coat design. A mock-up of the alligator hide made from vinyl allowed me to drape the collar and other sections of the coat to test my ZW approach before cutting the alligator.

## Originality and Innovation

This design successfully demonstrated the application of the ZW experimental patternmaking technique and incorporating alligator leather, including the undesirable three-dimensional parts of the hide as a means to reduce waste and potentially add value to the alligator hide. Future works should investigate other applications of alligator leather to create ZW designs. It would be interesting to create a design using ZW alligator and a lighter-weight fabric like cotton sateen.

## References

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