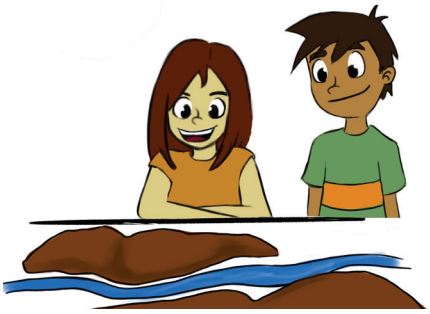
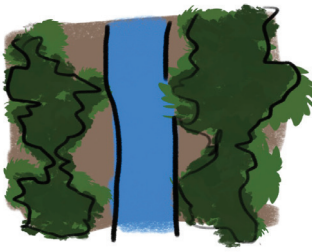


Print instructions: Print double sided.

Observation Guide

CARMEN AND ERNIE'S RIVER OBSERVATION GUIDE

Rivers can form different shapes depending on the flow of the river over slopes or inclines, the speed at which the water is flowing, and the sediment that builds up in or erodes from the river. Use this guide to interpret the types of forms the river will make in your stream table model.



Straight River Shape

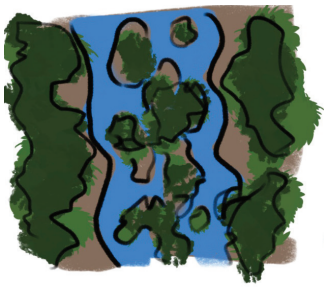
Rivers cannot flow completely straight, but if the water flow from the river is fast and coming from a river with a steep incline, a river will flow somewhat straight and deep with little meandering or braiding.

Meandering River Shape

Slower rivers that are not on a high incline and may have slower moving water are susceptible to meandering. Meandering can occur when soil, rocks and debris erode from the river and change the shape of the river as this debris deposits elsewhere. Another term for meandering is winding.

Ox Bow River Shape

When a river winds too sharply the winding can take on a circular shape, but the water will find the easiest path to flow, cutting off the wind and going straight. This creates what is called an Ox Bow Lake. Eventually the Ox Bow will dry up and only fill during rain.



Braided River Shape

Wide rivers can deposit sediment that builds up over time and can form islands in the middle of the river causing the water to flow around them. The small islands are called Braid Bars and can often be temporary, change shape or reappear along the wide river.

CARMEN AND ERNIE'S RIVER OBSERVATION GUIDE (CONT.)

Tributaries

A **tributary** is a smaller river or stream that flows into a larger river or stream and helps to recharge the river. This happens to the major rivers in the US, including the Rio Grande. It is the reason why the Rio Grande continues to have water as it flows out to the Gulf Coast.

Distributaries

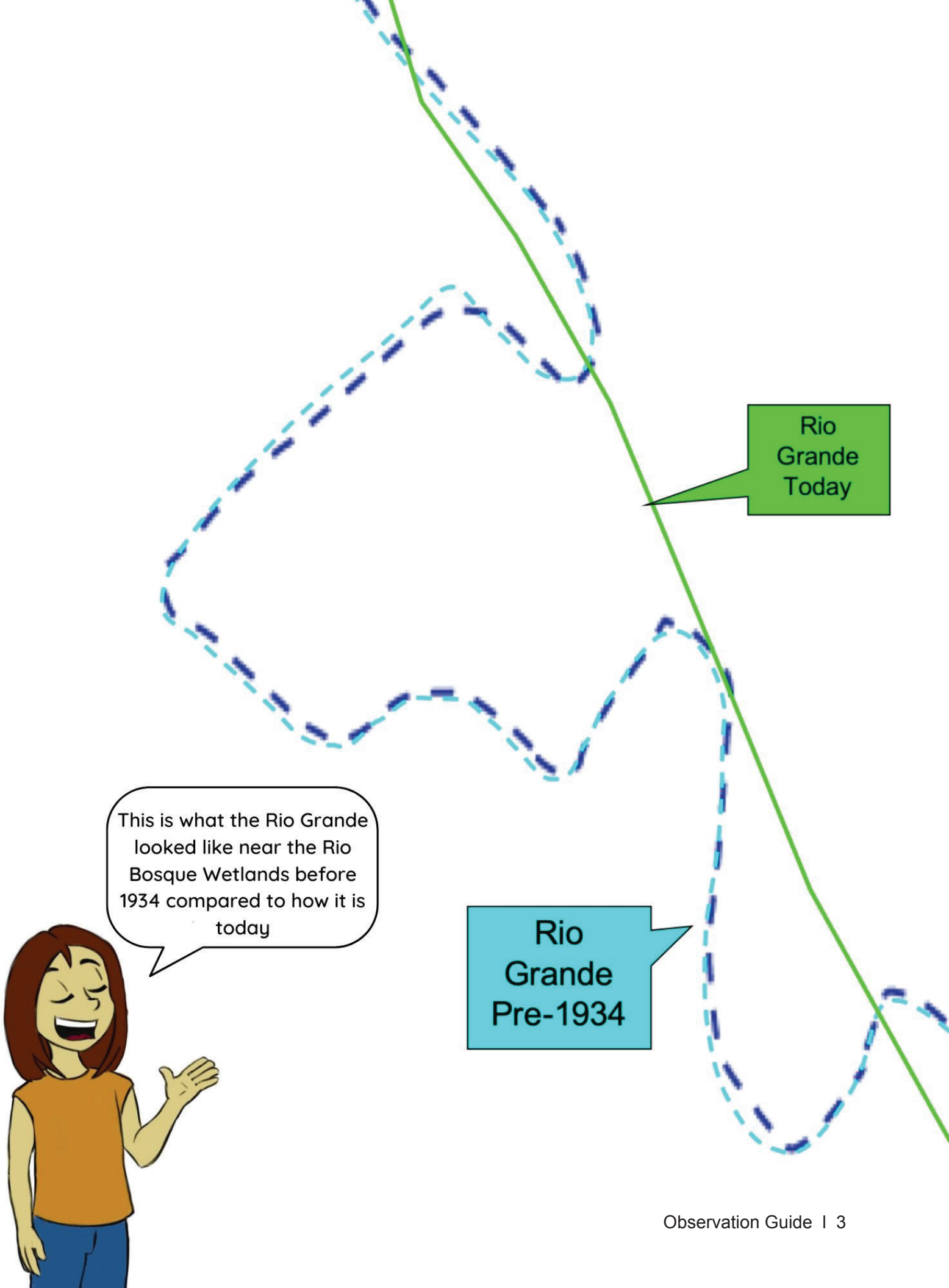
A distributary is when a larger river breaks into smaller channels.

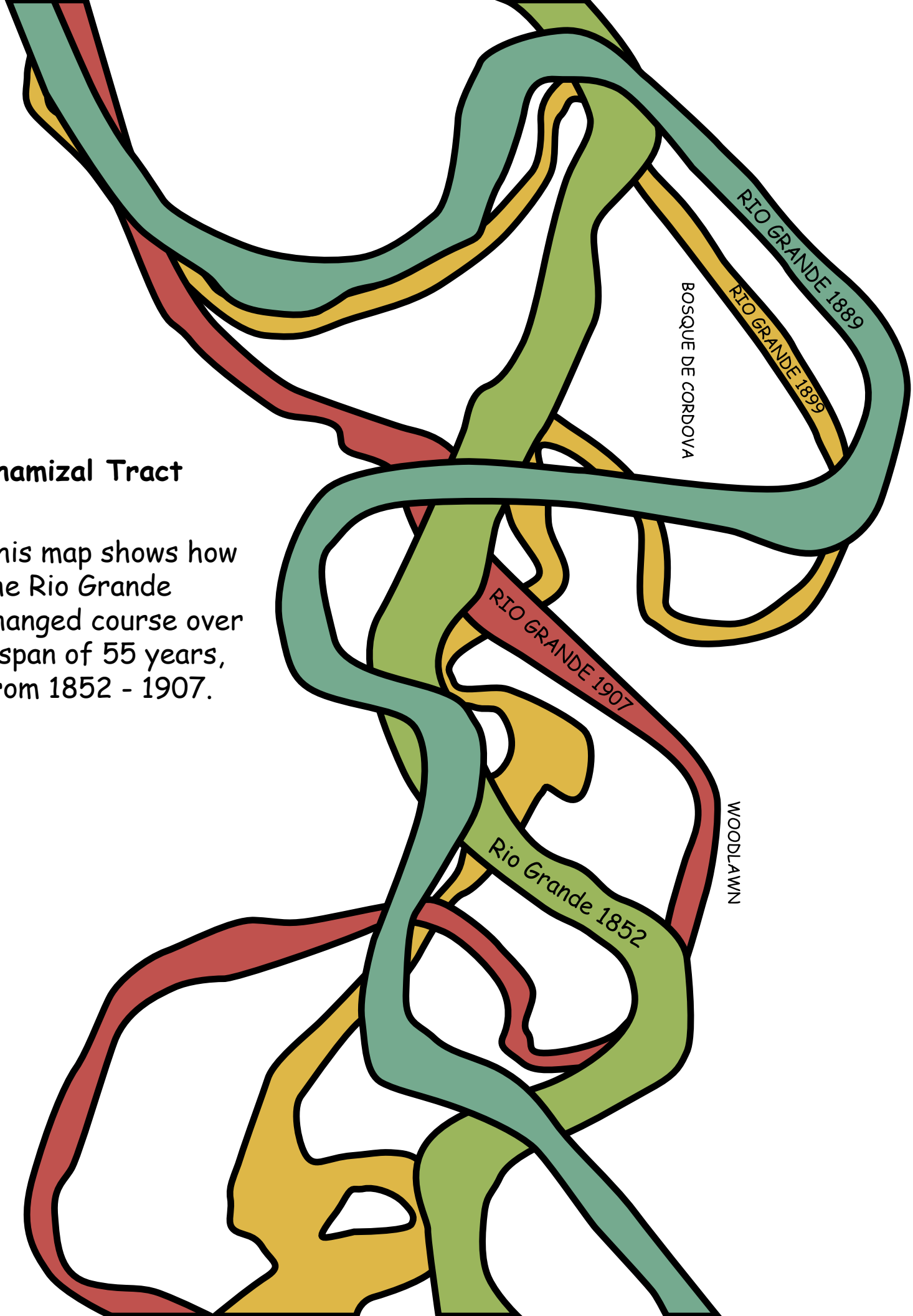
Deltas

A delta is sometimes formed at the end of a river as it empties out to the sea. Usually triangular in shape, a delta is formed through deposition of silt and sand. Water from the river is then channeled into distributaries as the water flows out to the ocean.

Which shapes did you see in your model?

Describe what you saw happening in your model. Did your river become braided? Did it start to meander? Was there evidence of sediment that formed as braid bars or deltas? Explain how your model is like what happens to the Rio Grande.

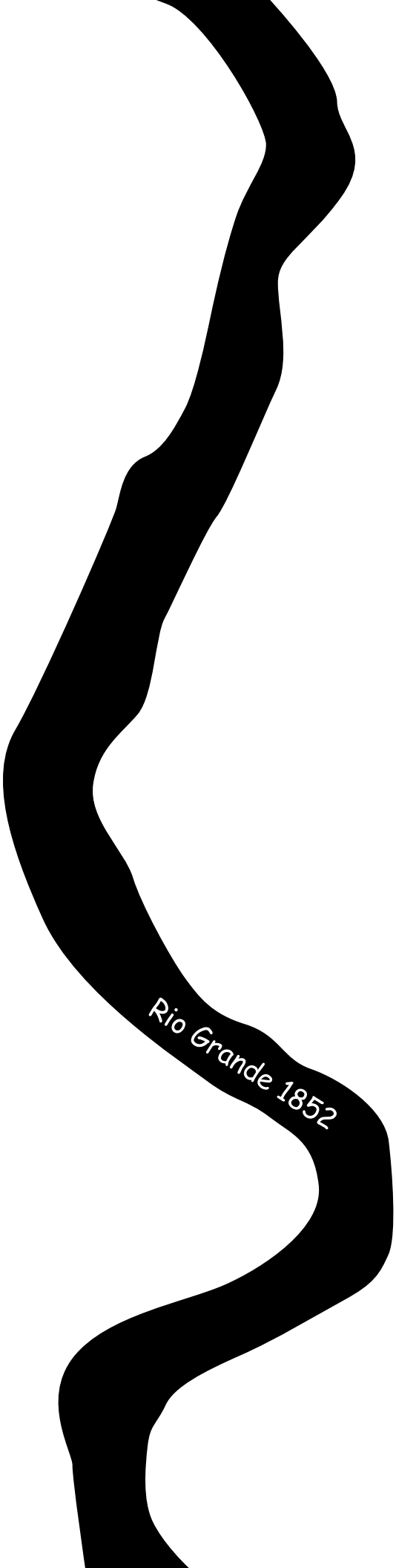

Rio Grande Today
Rio Grande Pre-1934
This is what the Rio Grande looked like near the Rio Bosque Wetlands before 1934 compared to how it is today

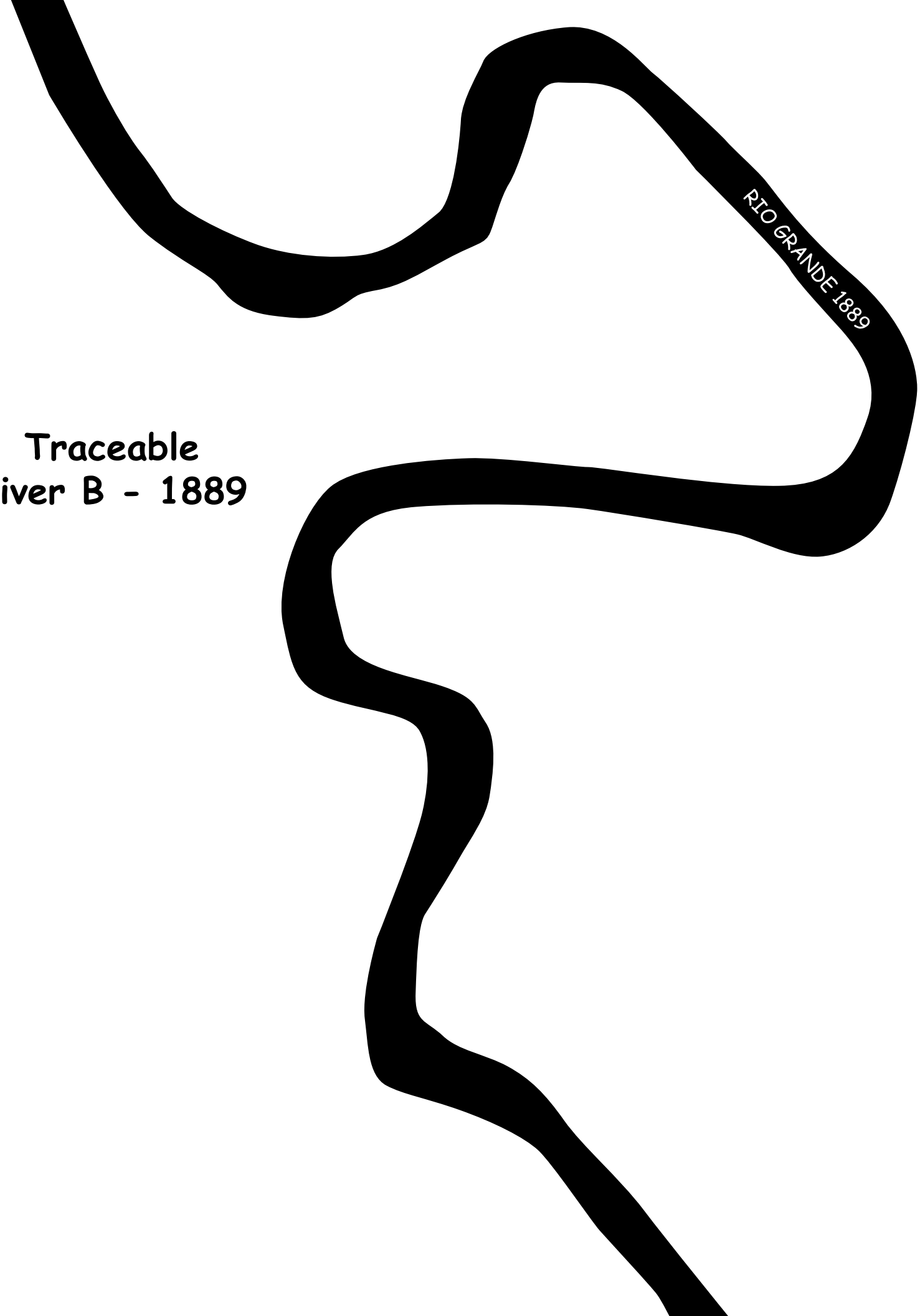


Chamizal Tract

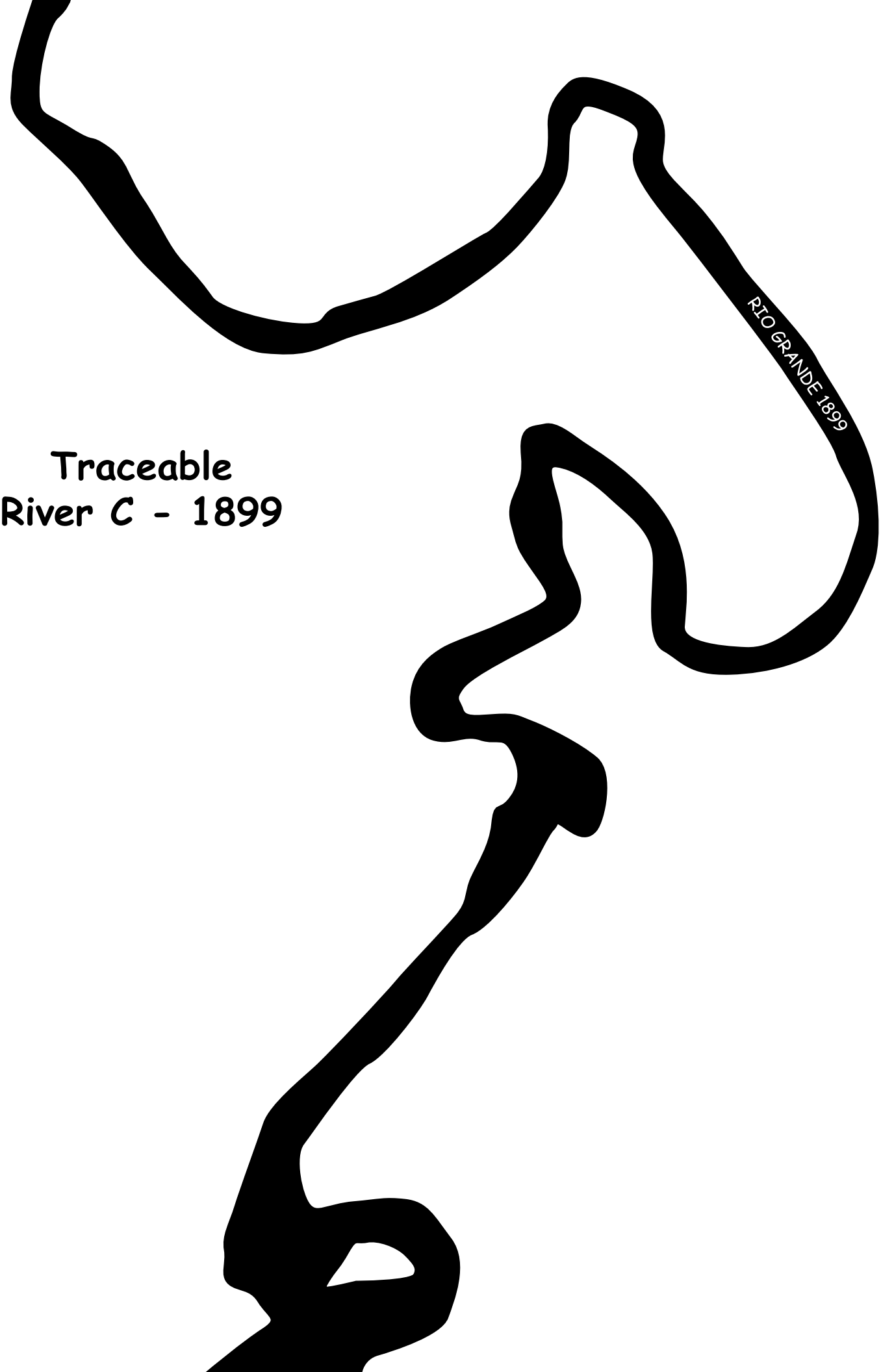
This map shows how the Rio Grande changed course over a span of 55 years, from 1852 - 1907.

Traceable River A - 1852





Traceable
River B - 1889



Traceable
River C - 1899

Traceable
River D - 1907