FLY CASTING:
FUNDAMENTALS OF A CAST
OVERVIEW

CONSERVATION / EDUCATION / COMMUNITY
WHAT ARE THE FUNDAMENTALS OF A “FOUNDATION” CAST?
For our purposes, a “foundation” fly cast is an efficient, functional cast we would all use during a typical fly fishing outing. There are many variations of this cast used for a variety of fishing purposes, but this is the cast we all use more than any other. Trademark features of a good foundation cast are front and back loops with relatively straight top (fly) legs and enough speed to deliver the fly to the intended target.

WHAT IS A “LOOP”?
In fly casting we call the shape of the line in the air while casting the “loop”. The shape of the loop is very important. Here are drawings of the 3 most common loop shapes.
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WHY IS THE SHAPE OF THE LOOP SO IMPORTANT?
In spin or bait casting, the weight we are casting is the weight of the lure, bait or sinker, not the line. When fly casting we are normally casting flies that are too light to cast with spin or bait casting gear. Fly casting utilizes a special line, a fly line, that is the casting weight. Rather than having the weight of the lure pull the line off the reel, in fly casting the weight of the fly line itself pulls the fly through the air and delivers it to the target.

If we don’t control the shape of the line in the air, wind resistance makes casting even short distances difficult. The top (fly) leg of the loop is travelling very fast, the rest of the loop much slower. For that reason it is most important that we control the top leg of the loop, the rest is much less important.

Below is a simple drawing showing the difference in wind resistance between two loops.

Pretty straight top leg, very little wind resistance
Curved top leg, very wind resistant, inefficient

So, when we fly cast, we want to make loops with top (fly) legs that are as straight as possible, unless we have a specific reason to want it to curve one way or another. If any part of the top(fly) leg is curved, that part will be wind resistant and reduce the efficiency, accuracy and distance of the cast. All this applies to both loops, front and back.

HOW DO WE MAKE A GOOD BASIC LOOP WITH A STRAIGHT TOP LEG?
The basic motions of fly casting are very simple, accelerate the fly rod through an arc then stop it. When the rod tip decelerates, the fly line overtakes the rod tip and a loop forms. The path in which the fly rod tip travels while casting determines whether the top leg will be straight or curved. If the rod tip path is straight, the top leg will be straight. If the tip path is curved, the top leg will be curved and less efficient.
HOW DO WE CAST SO THE ROD TIP PATH IS STRAIGHT?

Simply, the rod tip path is determined by the “casting arc” and how the caster applies force to the fly rod. The casting arc is just the angle change of the fly rod during the cast, and it looks like this:

Because the fly rod bends while casting, it is possible for the rod tip path to be very straight. That would look like the drawing below:

In this next drawing the maximum rod bend is exactly the same as above, but the casting arc is too wide and that makes the rod tip path a big upward curve. That makes the top leg of the loop a big, inefficient curve too:

If the casting arc is too narrow, the tip path will dip down, and so will the top leg, creating an inefficient “tailing” loop:

KEYS TO THE FOUNDATION CAST

1. Top (fly) leg of the loop is relatively straight.
2. The loop has enough speed to get to the target, not much more or less.
3. Front and back loops are very similar
4. Adjust casting arc to match rod bend to maintain straight tip path.
5. Stop the rod quickly.

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