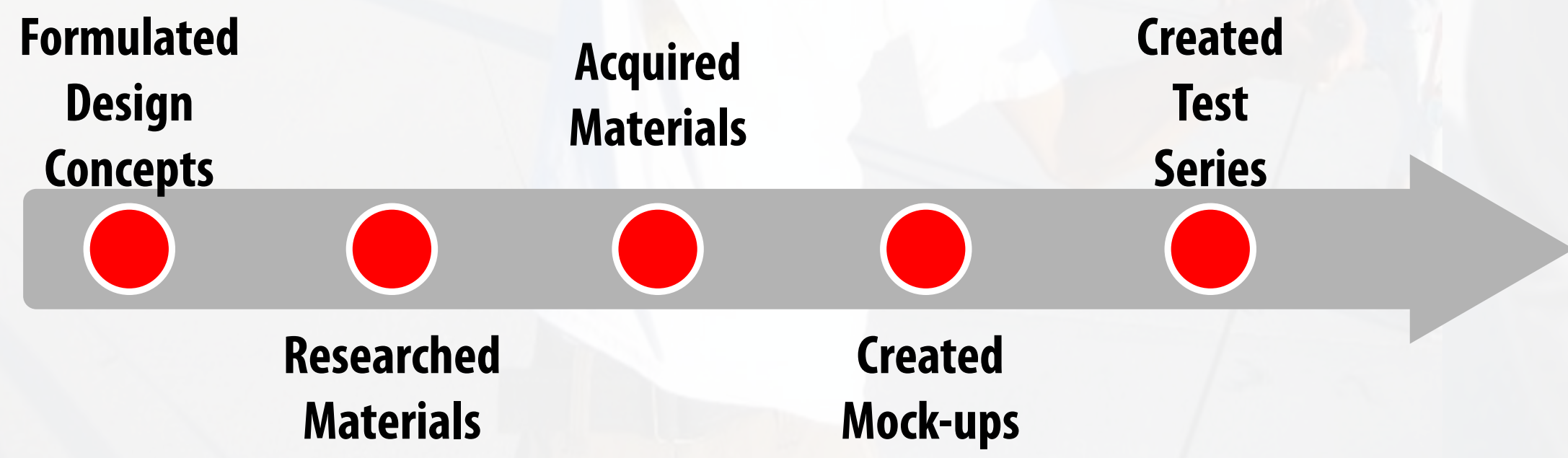
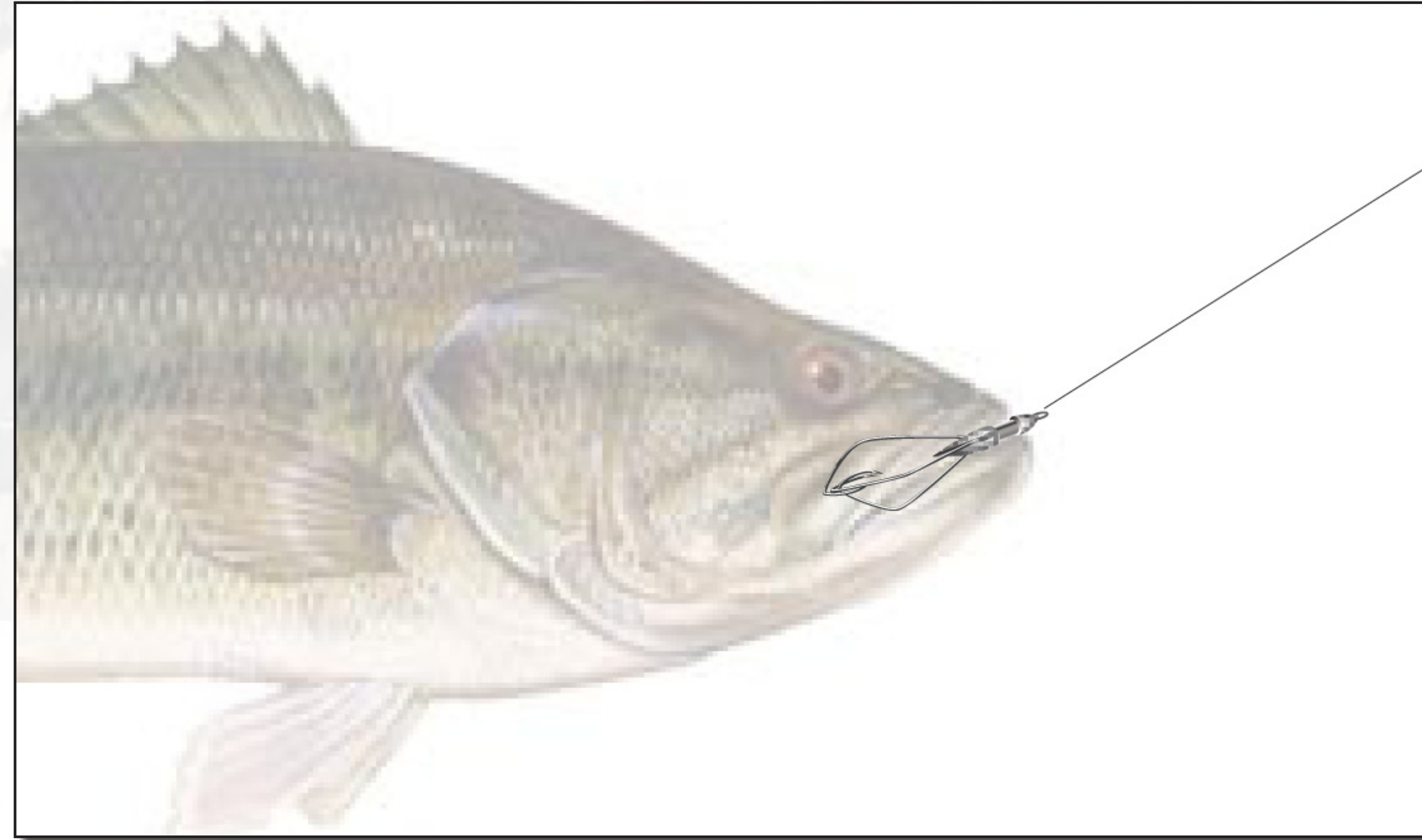


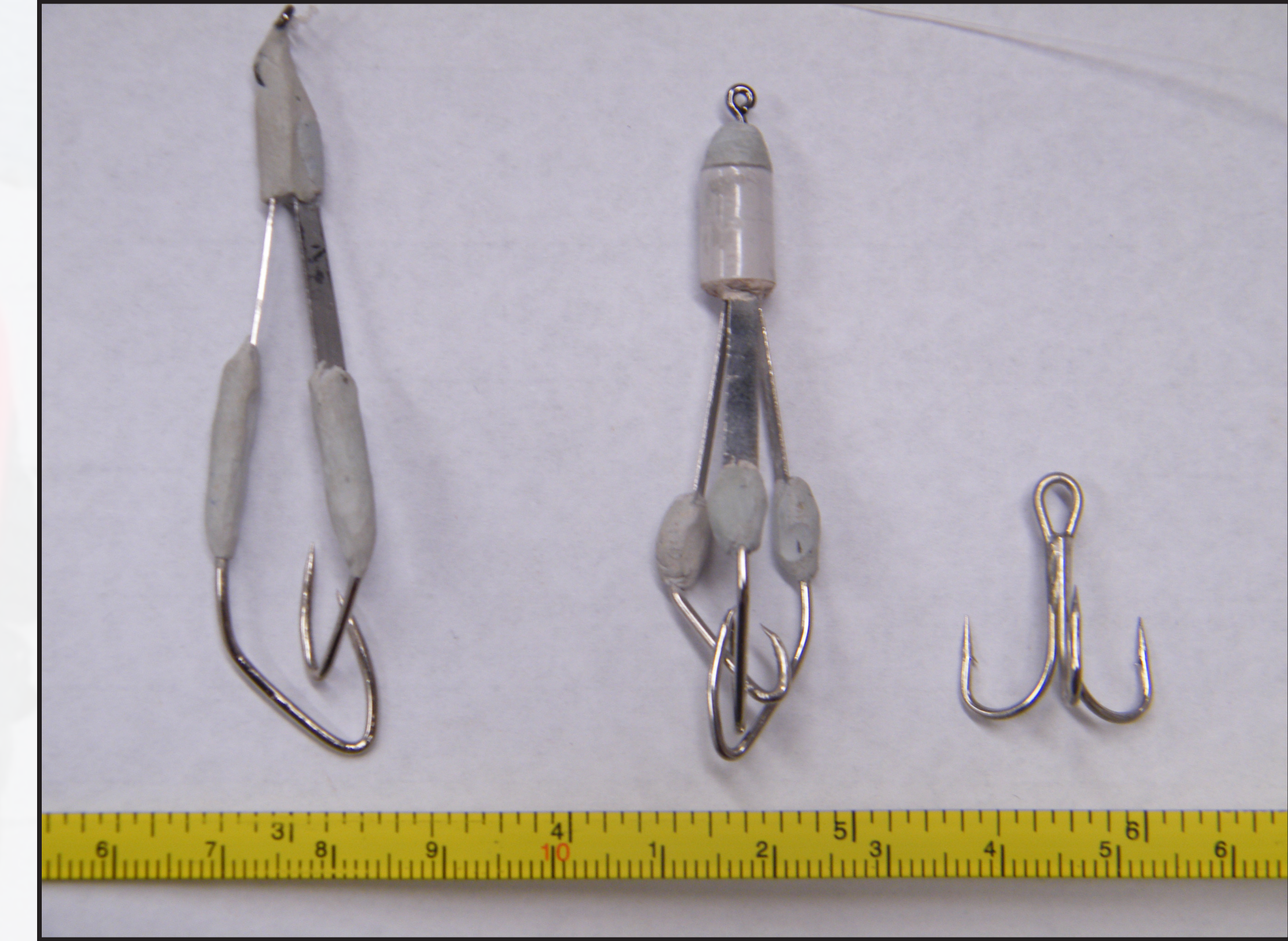
Development Progress



Fish bites down on the hook

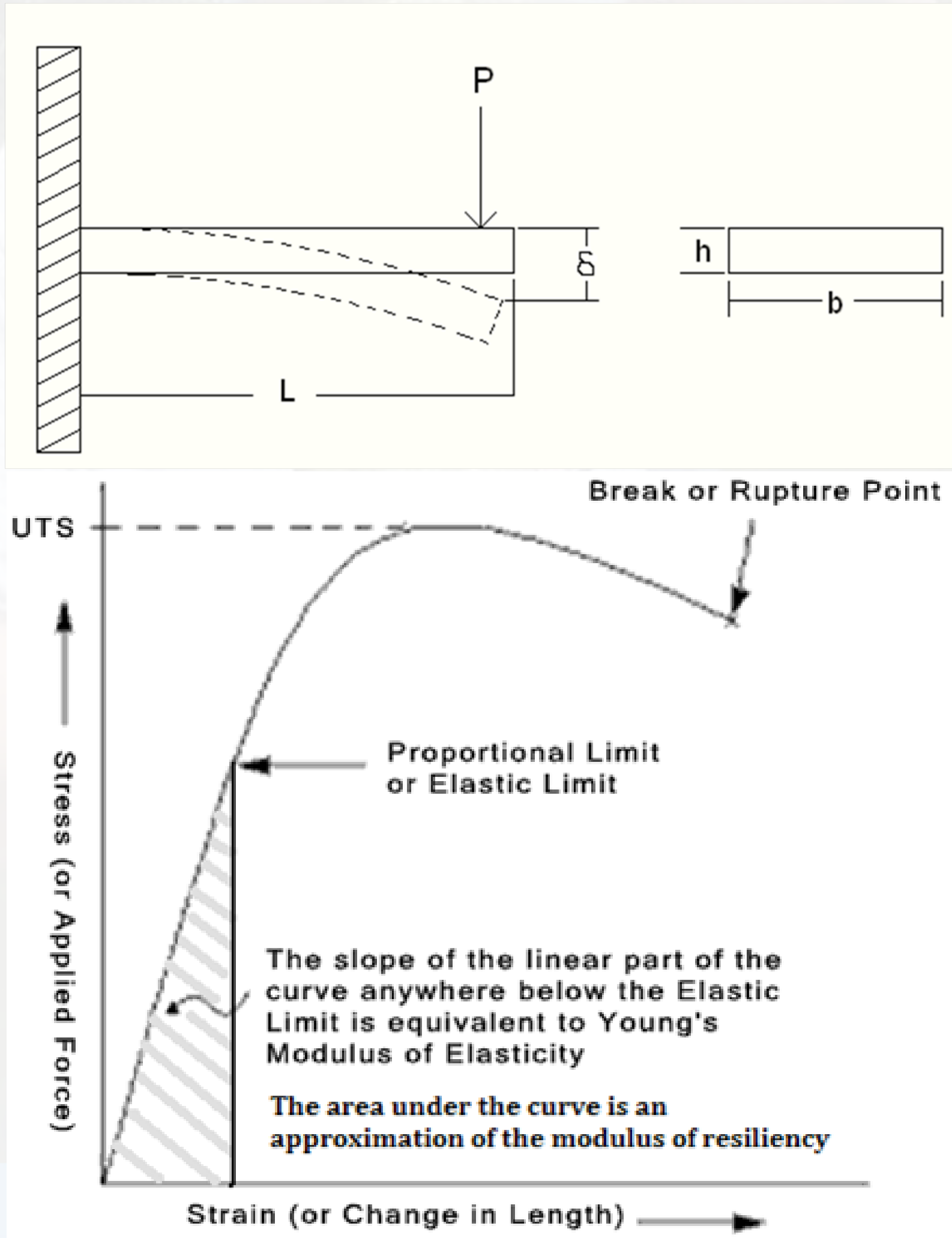


Mock-ups



Shown above from left to right: team developed Mock1, team developed Mock2, and a standard treble hook for comparison.

Shank Deflection and Material Selection

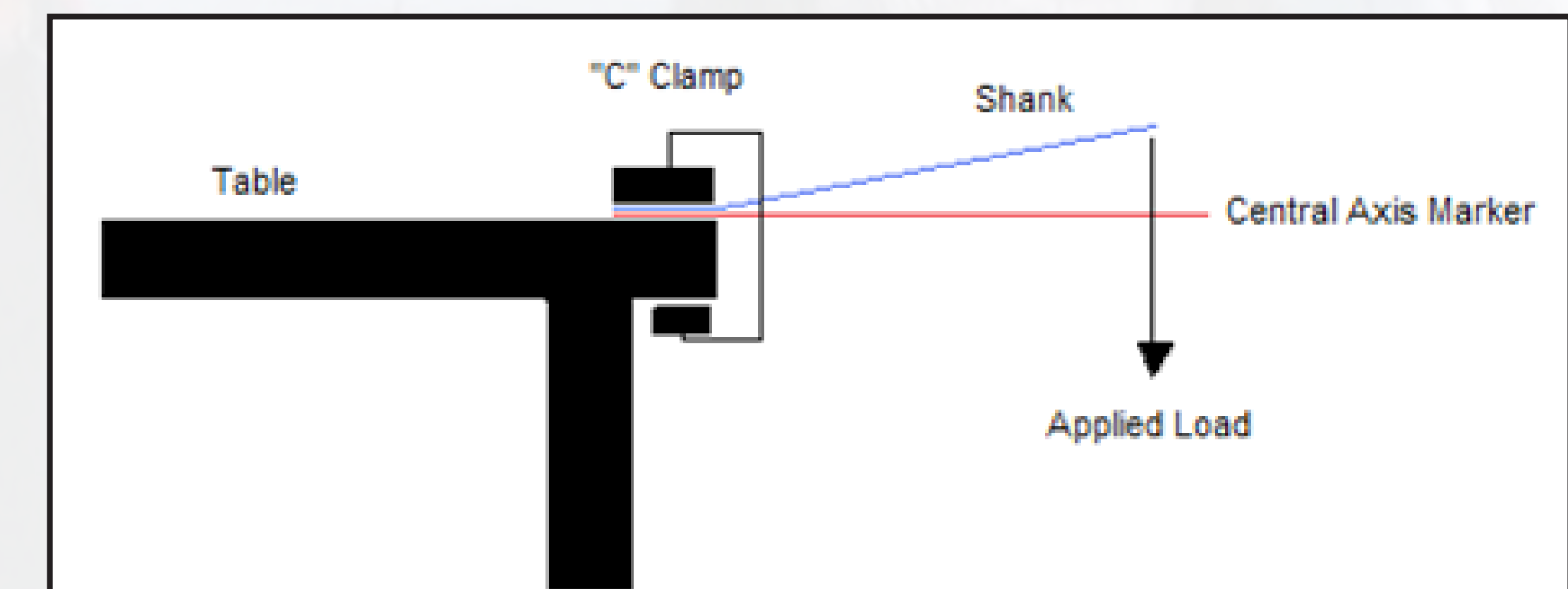


Angler sets the hook

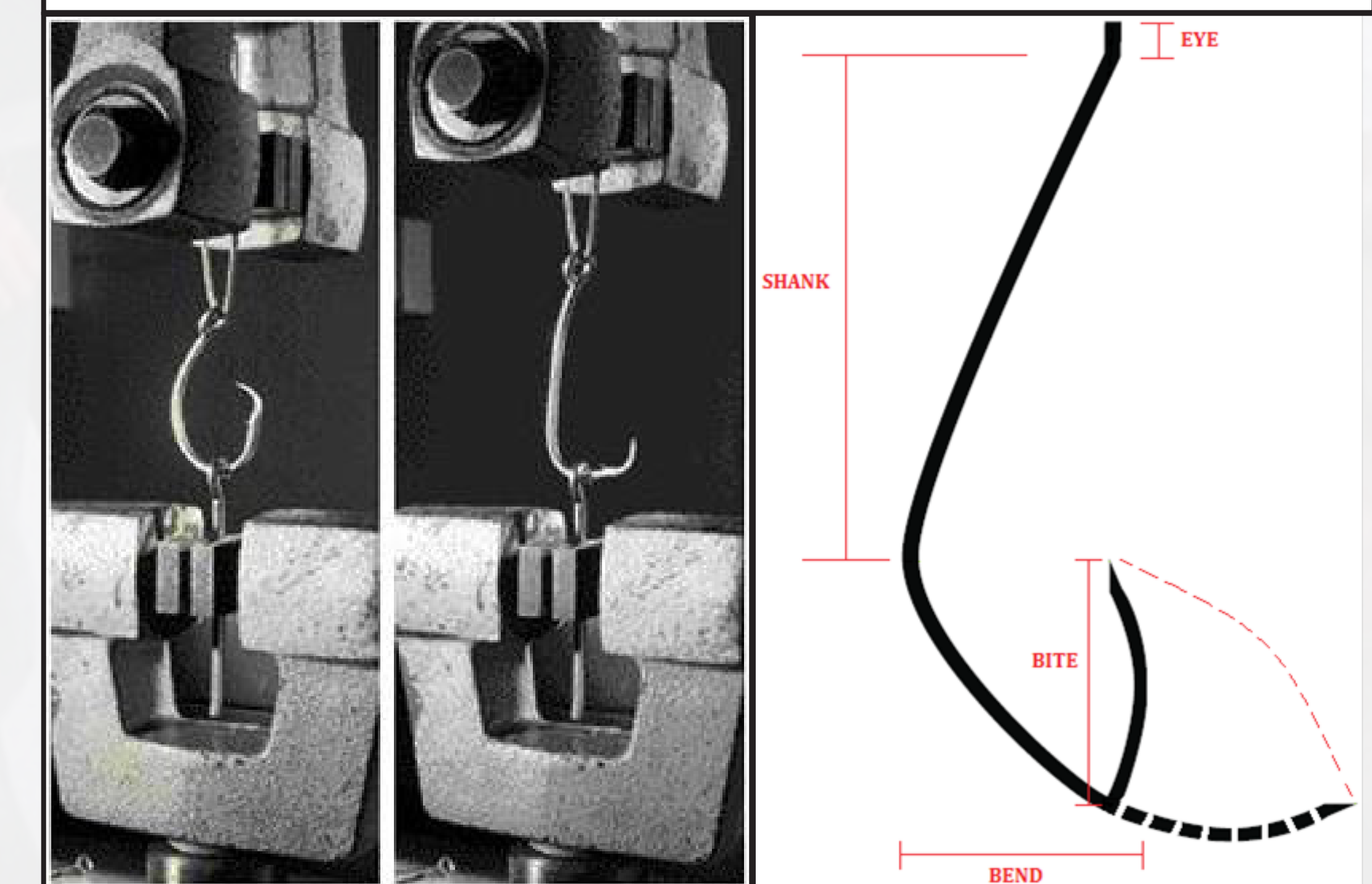
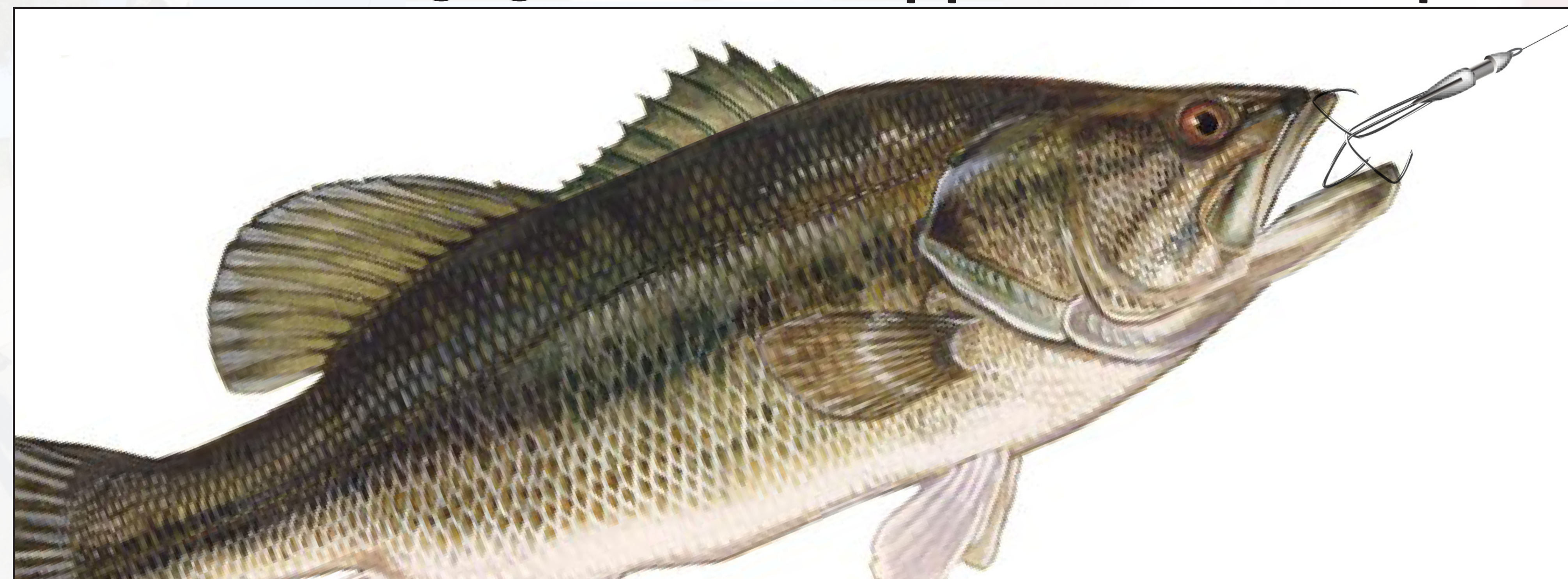


Mock-up Testing

- Bending (shown below)
- Corrosion Resistance
- Customer Satisfaction
- Engagement Mechanism
- Fatigue
- Snag
- Tensile (shown below)



Hook is engaged in both upper and lower lips



$$\delta = \frac{PL^3}{3EI}; I = \frac{bh^3}{12}; E = \frac{4PL^3}{\delta bh^3}$$

Preliminary Materials Testing			
Materials	Modulus of Elasticity [gpa]	Yield Strength [mpa]	Modulus of Resilience [mpa]
316 Stainless Steel	190	200	0.11
Medium carbon steel • (0.3 to 0.6% carbon)	206	310	0.23
Titanium Alloy • (Niobium, 30%) • (Titanium, 70%)	70	500	1.8
High Carbon Spring Steel • (0.7 to 1.0% carbon)	210	580	2.2
420 stainless steel	200	1400	4.9