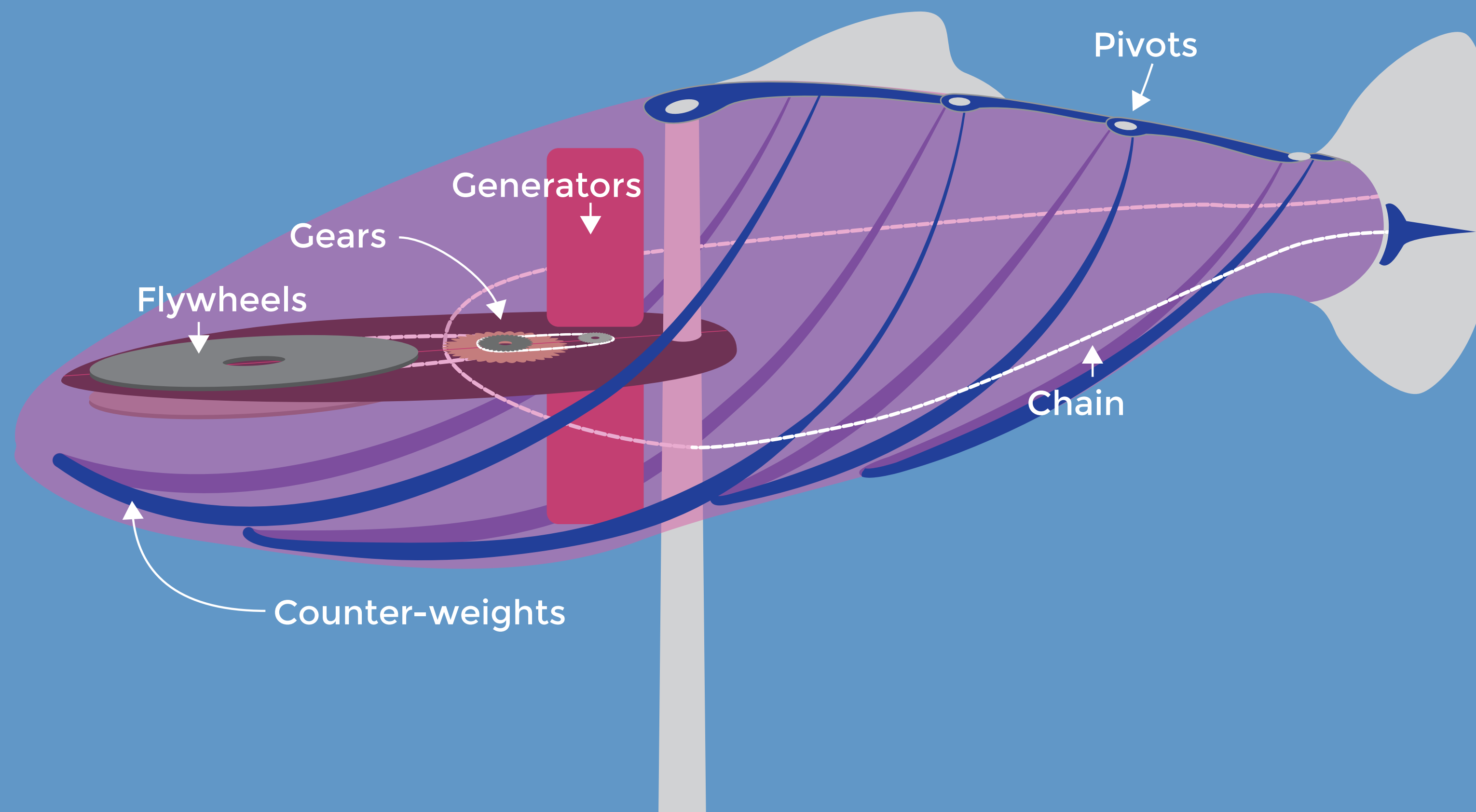
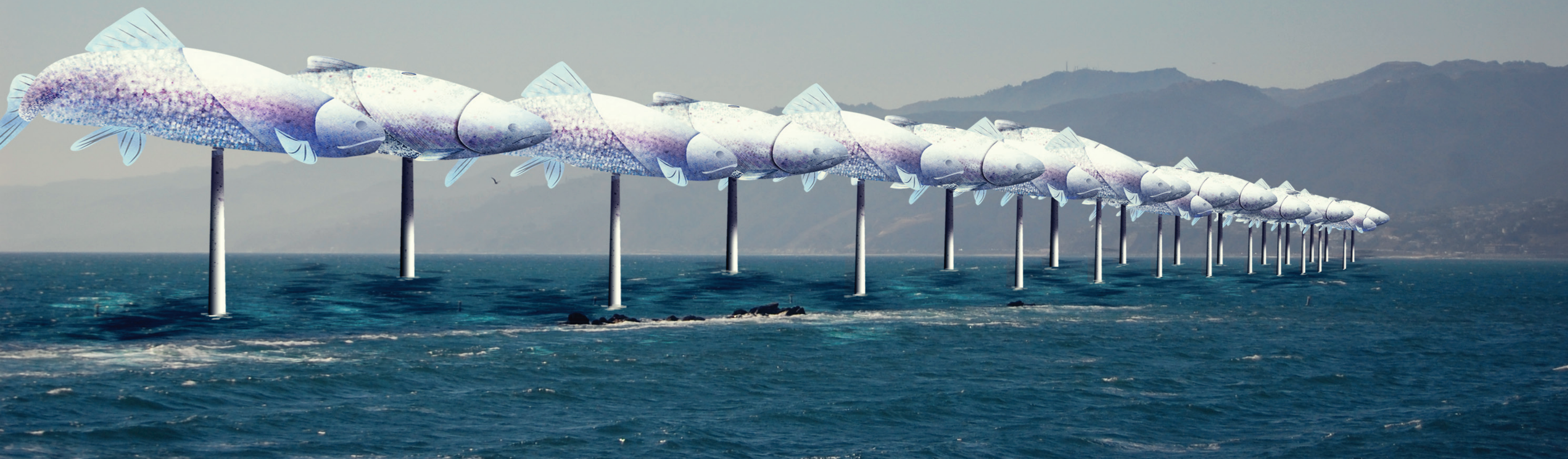


The FLYING **STEELHEAD of** **SANTA MONICA**



Each steelhead balances on a single pole, but the poles are not centered on the fish. The tail section of the fish is twice as long as the head section. This helps the fish follow the wind and allows the wind to swim the fish, (like a flag). It also heightens the surreal look. Not everyone knows why it seems mysterious, but something doesn't feel right. This adds to the effect that these fish are swimming. The secret to this is how the tail is counterweight balanced. Each section of the tail has a counter weight stretching towards the head, maintaining a perfect equilibrium. This allows the tail to move with the slightest of breeze.

Because the breeze at the pier is almost always blowing, these immense creatures almost never stop moving. The fish have a light frame of aluminum, with anodized aluminum skin over the head and front of the fish. Much of the fish is covered with anodized aluminum scales that act as the outside surface, as well as hold together a matrix of light elastic cords that allow flexibility so the fish can swim. The tail and fins are made of a sail cloth with flexible stays for reinforcing, similar to an actual fish fin.

These fish that remind us of our roles as stewards of our environment help us in more ways than inspiration and beauty. This is actually a power plant. Each twenty meter fish is equipped with twin 400kW generators, that at peak capacity yield 800 kW for each fish.

Most wind generators require strong winds and lots of space for the wind to regroup after getting churned up. The fish thrive on turbulence and are optimized grouped close together. On the ocean side of the fish, at the edge of the site boundary, is an occasional triangular concrete column. This insures the wind has enough turbulence. In the winter, when the wind is often off shore, the land and buildings churn the wind enough for this system. The movement of the fish allows for pistons to drive generators. The resulting electricity goes down the towers and through underground cables back to land.

There are so few moving parts, it would also be efficient to generate power through mechanical means. As the fish swim, one side gets longer and the other side gets shorter. Then it goes back the other way. A cable or chain is attached to both sides of the tail, running up the insides of the fish to a gear near the front. As the gear spins one way then the other, that power is put into two flywheels that spin opposite directions. This evens out and gears up the energy, that then powers two generators spinning two different directions. This idea is also scaleable. It could be built by individuals on a much smaller scale with bicycle parts and car generators.