This room is devoted to electric fish.
这个房间装的是发电鱼.
The eel in the tank behind me can produce a strong jolt of electricity to stun its prey, but most of the fish in here produce only weak electrical impulses that are useful for navigating, locating food, and even for communicating.
我身后水槽中的鳗鱼能产生强烈的电击去打昏它的猎物，但在这里的大部分鱼类只能产生弱电脉冲，这对导航，定位食物，甚至对通讯有用。
The knife fish is a good example.
刀鱼是个很好的例子。
This fish navigates, using tiny receptors in the skin that are sensitive to electrical impulses.
这种鱼使用皮下对电脉冲敏感的微小的神经末梢航行。
The knife fish produces an electrical signal, and the receptors in its skin let it know when the signal is distorted by a tree root, or some other obstacle, so it can go around it.
刀鱼产生一个电信号，然后它皮肤里的神经末梢让它知道什么时候信号被树根或其他障碍物扭曲了，因此它能够绕过它。
Fish also use the ability to produce and detect electrical impulses to communicate.
鱼类也用这种能力来产生和探测电脉冲来通讯。
They can tell each other what species they belong to, how big they are, and whether they're male or female.
它们能告诉对方它们属于什么种类，它们多大，还有它们否是雄性或雌性。
We have a tank here that's specially equipped to convert the inaudible signals the fish produce into sounds you can hear when you put on these headphones.
我们这里有一个特殊装备的水槽，用来把鱼类产生的听不见的信号转变为当你戴上这些耳机时能听见的声音。
I urge you all to listen in when I'm done speaking.
当我说完的时候，我强烈要求你们都去收听。
Now have a look at the electric rays.
现在看一看电鳐。
Rays are especially interesting to medical researchers because of the organs they use to produce electricity.
鳐鱼因为它们用来发电的器官，医学研究人员对它很感兴趣。

These organs contain a chemical that carries signals from one nerve ending to the next, not only in rays, but also in people.
这些器官含有一种化学物质携带信号从一个神经末梢到下一个，不仅是在鳐鱼体内，而且在人类体内也是如此。
By studying these organs, scientists hope to learn more about diseases that interrupt the transmission of impulses from one nerve to another.
通过研究这些器官，科学家希望了解更多关于把脉冲从一个神经传递到另一个神经的过程中断的疾病。