**Subsidies threaten high seas fisheries**

By Brandon Adams

It’s hard to imagine governments supporting an industry that is neither economically nor environmentally viable, yet according to a recent study by environmental economists, governments around the world are pouring millions of dollars into high seas fishing, despite losses and overfished stocks. The report, titled “Catching More Bait,” examines the subsidies provided by many governments, and finds high subsidies, which are estimated to total around US $30.34 billion per year worldwide. One of the key points is that these subsidies are pushing the fishing industry and its subsidies out of the high seas. Rashid Sumaila, director of the UBC Fisheries Centre’s Fisheries Economic Research Unit, said that the fish found within the high seas are unique and more sensitive to fishing than coastal fisheries. “These are the animals that they normally live very long lives, they grow very slowly, and combining those kind of features with what we think is a dangerous combination,” he said.

And yet despite their sensitivity, high seas fisheries are losing out to large subsidies from many countries including Russia, Japan, South Korea, Spain, and Australia. Worldwide subsidies to high seas fishing, explained Sumaila, total more than US $150 million per year.

“With subsidies many of these fleets would not be able to go fishing, economically,” said Sumaila. “But now with the subsidies and the floodgates, they’re still able to go out and fish.”

Interest rates also play a large role in how these subsidies interact. “If you are going to get a higher interest rate in the bank compared to the growth rate of a fish population, it is going to pay you to empty the ocean and turning all the fish into money in the bank because it will grow faster.”

The study focused on the use of a widely-available fish type, the cod, which is the most subsidised fish type, then you are better off emptying the cod. “With open access, they could actually damage a natural resource industry like fishing.”

"Even for normal fish—by that I mean fish that grow very fast—[it is a challenge] to beat the market interest rate. If you look at deep sea stocks, they grow so slowly it’s almost impossible [to beat the interest rate]. You really have to fish them very carefully if you want them to be sustainable fished, not emptied.”

**With the subsidies we just open the floodgates, they’re still able to go out and fish!**

Rashid Sumaila

Director

Fisheries Economic Research Unit

The study was published in the European Economic Review and the Ecological Economics and it examines the subsidies provided by many governments and the impact they have on high seas fisheries.

**The associations that we found suggest that SSRIs use apart from depression itself increases low bone-density,” she said. “There’s something specific to the biochemistry of SSRIs.”

While all of this seems to paint a rather bleak picture for users of SSRIs, there are many lifestyle adjustments to one’s lifestyle that can lower one’s risk of developing osteoporosis.

According to Marcel Drover, associate professor and head of the Academic Division of Spine at UBC’s Department of Orthopaedics in the Faculty of Medicine, having a healthy diet and getting enough exercise are the most important preventative measures.

“If you maintain a healthy, normal diet, and if you maintain a high level of physical activity, then those are the best ways to ensure the best [outcome],” he said.

Drover also said that high bone mass needs to be maintained at every stage of life, not just in old age.

“If you think of your bone mass as a bank, and during your life, you’re making deposits into that bank and you’re building up your bone mass, at a certain point that bone mass starts to diminish and wear away,” he said. “What you want to do is you want to get the best possible bone mass… before you hit those years when your bone mass starts to diminish.”

The study found that SSRIs were still associated with an increased risk of low trauma fractures. Goltzman also made reference to studies involving insurance company records of medications and injuries.

“Previous studies in administrative databases, [such as] large databases accumulated usually by governments or insurance companies to track health care usage and costs, had indicated that there was a relationship between SSRIs and osteoporosis,” he said.

While the nature of the SSRIs link is unknown, there are several theories that researchers are considering.

“SSRIs alter serotonin transport into cells and previous work in vitro and in animals had found that serotonin transport into bone cells and action in bone cells seems to be important to make bone,” said Goltzman.

CaMOS is also theorising serotonin’s role as a neurotransmitter and the potential for it to affect the sympathetic nervous system, which governs the mobilisation of the body in times of stress. Jeroilyn Prior, professor of Endocrinology and Metabolism at UBC and research member of CaMOS, said that inhibiting neurotransmitters from the sympathetic nervous system, like epinephrine and norepinephrine, impairs bones.

“Norepinephrine is hard on bones,” said Prior. However, Prior said that serotonin’s specific effect on the system is still unknown.

Prior added that there were certain behaviours that associated depressed patients that could contribute to osteoporosis and associated bone fractures, such as inactivity, treatment with SSRIs and the use of SSRIs instead of other medications and agents.

Prior said in an e-mail, “[But] we anticipate customer demand.”

Carol Hively, spokesperson for Walgreens, said in an interview, “It is too soon to tell how the product is doing.”

However, some experts disagree with the product’s projected effectiveness.

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