# IMPORTANCE OF AQUACULTURE TO URBAN COMMUNITIES



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## **CIRCUMSTANCES**

Healthcare is \$4.7 Trillion, accelerating rapidly (17%)

38 Million Americans are diabetic

100 Million Americans are pre-diabetic

88% of Americans are metabolically unhealthy

40% are now obese and rising

Dietary assumptions of 1945 are being questioned

### KINSHIP AROUND FISH

Fish - is a important source of dietary protein

Nutritionally Rich - Magnesium, Iron, Zinc, Iodine, Omega 3's, and Potassium

Efficiency - the 2nd best Feed Conversion Ratio (FCR) of animal proteins

Species Variability - Must we eat Salmon all the time?

Water - The midwest is asset rich with our water capability

### SHARED CHALLENGES

Needed marketing responses - Wild caught, Farmed Raised, etc.....

Mercury risk - (The atmosphere holds 4,000 metric tons)

Contaminated water - He can be filtered out to the 95 to 97 percentile by RO

Nitrate management - Must increase uses

Hybrid supply chain management - Expand beyond wholesale - retail

More robust feed options - Another industry is waiting to spawn

### **POSSIBILITIES**

Live Food Industry - Worms, black soldier fly, new aqua feeds

Fish Oils - Raise oily fish for consumption and oils (Jade Perch)

Fish waste - as soil amendments and fertilizers

Satellite operations - More options

**Expanding Species options - more is better** 

### **MY HOPE**

Reasoned approach to plant based combinations

Reestablishment of Urban and Rural food connection

Land Based Salt water fish options

Municipal Officials need help with the science implications

Pay attention to the "Miners Canaries" (No such thing as a isolated problem)

The Social Determinants of Health