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**News: Mosquitofish**

- Recently, various regions in Andhra Pradesh, Odisha, and Punjab have witnessed the release of mosquitofish into local water bodies as a measure to combat the increasing mosquito menace.

## **Mosquitofish Approach and its Related Consequences**

### **Background- Rise of Mosquito-borne Diseases**

- Global climate and habitat changes in the last century have heightened the prevalence of mosquito-borne diseases, impacting over 500 million people in 150+ countries.
- In India, approximately 40 million individuals annually suffer from these diseases, posing a persistent public health challenge for decades.

### **The Mosquitofish Approach**

- Mosquitofish, native to fresh waters of the southeastern United States, are known for their appetite for mosquito larvae.
- They can consume up to 250 larvae per day, making them a potential weapon against mosquito populations.

- Two species of mosquitofish, *Gambusia affinis* and *Gambusia holbrooki*, were considered environmentally friendly and sustainable.
- Yet, the unintended result was the worldwide dissemination of these fish from the U.S., causing ecological disturbances.

### **Introduction of Mosquitofish in India**

- *Gambusia* was first introduced in India in 1928 during British rule, as a way to combat rapid mosquito spread.
- Subsequently, government bodies and private organizations in India collectively joined efforts to combat malaria through this method.
- The initial idea was for the fish to control mosquito larvae, but the strategy backfired, resulting in their transformation into invasive alien species.

### **Negative Impacts of Mosquitofish**

- **Invasive Nature:** Their adaptability and high tolerance to fluctuating environmental conditions contribute to their extensive dispersion, making them highly invasive.
- Mosquitofish are now considered among the hundred most detrimental invasive alien species.

- **Disruption of Native Fish Communities:** They are aggressive feeders, consuming not only mosquito larvae but also eggs of native fish species.
- This can lead to the extinction of local species, particularly smaller, less competitive fishes.
- **Loss of Unique Species:** Their introduction can threaten the existence of endemic and ecologically important fish species, potentially leading to a loss of biodiversity and ecosystem resilience.
- Reports indicate a decline in *Microhyla* tadpoles (rice frogs or narrow-mouthed frogs) following the introduction of *Gambusia* in India.

### **Related Significant Steps**

- The World Health Organization stopped recommending *Gambusia* as a mosquito control agent in 1982.
- In 2018, the National Biodiversity Authority of the Government of India designated *G. affinis* and *G. holbrooki* as invasive alien species.