Name(s)

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Project Number

S0418

Project Title

Urbanization of Coastal Waters and Concocting Hormonal Chaos

Abstract

Objectives/Goals

The populace of Greater Los Angeles, a highly urbanized metropolis, use an abundance of chemicals every day. As a result, increased concentrations of endocrine disruptive contaminants are likely to occur in the area's environment, where they may hinder and alter healthy endocrine function in many organisms, including humans and wildlife. Consequently it is critical that the endocrine disruptive potential of this environment be assessed.

Methods/Materials

To assess the area's endocrine disruptive potential, a study involving an environmental sampling of 20 male Pleuronichtys verticalis was conducted at five trawling sites (n=4 at each site) in the coastal waters off Greater Los Angeles. Four male Pleuronichtys verticalis, acquired from Dana Point, CA and acclimated in the lab, served as controls. All 24 Pleuronichtys verticalis were blood sampled and assayed for vitellogenin, an egg yolk protein not typically produced in males, but inducible in the presence of endocrine disruptive estrogenic stimuli.

Results

The results show that:

·Environmental exposure to the urbanized coastal waters off Greater Los Angeles results in endocrine disruption.

·The endocrine disruptive potential is uniformly distributed over the coastal waters.

Conclusions/Discussion

From this it can be concluded that there is an elevation of endocrine disruptive activity in the environment surrounding Greater Los Angeles. Possible errors limiting the accuracy of these conclusions include:

·Inadequate sample size.

·Inadequately quantifiable data

·Questionable sourcing of controls

Summary Statement

An analysis of the endocrine disruptive potential of the coastal waters off Greater Los Angeles.

Help Received