



**SturTOP project: Vulnerability and adaptability of the last population of the European Sturgeon (*Acipenser sturio*) to the environmental stress factors: Temperature, Oxygen, Polluants.**

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► **To cite this version:**

J. Cachot, C Lefrançois, Thibaut Larcher, S Jean, Alain Devaux, et al.. SturTOP project: Vulnerability and adaptability of the last population of the European Sturgeon (*Acipenser sturio*) to the environmental stress factors: Temperature, Oxygen, Polluants.. 7th international symposium on sturgeon, Jul 2013, Nanaimo, Canada. pp.1. hal-01190358

**HAL Id: hal-01190358**

**<https://hal.science/hal-01190358>**

Submitted on 6 Jun 2020

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SturTOP project: Vulnerability and adaptability of the last population of the European **Sturgeon** (*Acipenser sturio*) to environmental stress factors: **T**emperature, **O**xygen, **P**ollutants.

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SturTOP is a multidisciplinary project launched in 2013 to investigate effects of chemical, thermal or hypoxic stress conditions on the health, the physiology, the behaviour and the adaptability of the first life stages of the European sturgeon.

Experiments will be performed to evaluate responses of embryos and larvae exposed: i) in controlled conditions to environmental ranges of temperatures, oxygen and pollutant mixture, ii) to sediments collected from spawning grounds, iii) in situ. Studied effects will concern the individual fitness i.e. survival, ontogeny and behaviour as well as DNA damage, epigenetic modifications, gene expression and protein expression profiles.

The same effects will be studied for 3 month-old farmed sturgeon (age of stocking) exposed in experimental systems which mimic the environmental conditions. In the wild, environmental exposure to pollutants will be evaluated thanks to individual dosimeters and to chemical analysis of stomach content. In a final step, a model will be built to simulate the future for a cohort subjected to multiple stresses. Expected results will give insights into the ability of this species to grow and to reproduce in the

Gironde estuary and to adapt to changing environmental conditions. It could help decision-making by managers in charge of restoration plans.