

**Reproductive Adverse Outcome Pathways for Chemical Inhibitors of Steroid Synthesis in Fish.** G.T. Ankley and D.L. Villeneuve, Office of Research and Development, US Environmental Protection Agency, 6201 Congdon Blvd., Duluth, MN, 55804, USA. (ankley.gerald@epa.gov)

A key physiological process controlling reproductive success of oviparous vertebrates (fish, amphibian, reptiles, birds) involves production of the egg yolk protein precursor vitellogenin (VTG). VTG production is an estrogen receptor (ER)-mediated process that, in females, is controlled by the production of 17 $\beta$ -estradiol. As such, environmental contaminants (including several pesticides and pharmaceuticals) that affect steroid synthesis can impact reproduction in fish through their ability to inhibit VTG production. Given both physiological importance and sensitivity to chemical stressors, there has been a significant amount of effort expended on developing well-characterized adverse outcome pathways (AOPs) relating steroid synthesis and VTG production to reproductive impacts in individuals and populations of fish. This presentation will provide an overview of the research conducted to derive and evaluate these AOPs from a weight-of-evidence perspective, including characterization of molecular initiating and key events and documentation of linkages between these events. The talk also will discuss practical applications of the AOPs to different facets of both prospective and diagnostic ecological risk assessments. *This abstract does not reflect official EPA policy.*