

SOTS Example Abstract for Students

Evaluation Criteria

The intent of Science Of The Service (SOTS) is to share scientific information developed and/or used by U.S. Fish and Wildlife Service (Service) employees (including temporary student employees and interns) to inform our conservation decisions. SOTS focuses on the acquisition, development, and application of scientific information by employees within the realm of their Service work.

The following equally-weighted criteria will be used to guide the evaluation and selection of abstracts:

- Clear and concise statement of the purpose of the science being discussed and its importance to meeting the Service's mission
- Presents clear natural resources management or conservation implications
- Conveys substantial findings, even if the project is not yet complete (i.e., does not simply describe proposed work)
- Reflects an original approach, innovative methodology, or other new contribution to the application of science in the Service
- Written and organized coherently

Formatting Guidelines

- Font: Helvetica
- Font Size: 12 point
- Title must be in **bold**
- Must submit in Word document, no PDF
- Abstract must not exceed 250 words
- Must include ALL relevant authors including, collaborators and principal investigator(s), and their affiliation.
- Abstract must follow the typographical emphasis (e.g. **bold** and *italics*) shown in the example below

Example

Urban Runoff Differentially Affects Coho and Chum Salmon Spawners

Urban stormwater runoff contains a complex mixture of contaminants that end receiving waters when it rains. This mixture can cause a variety of toxic responses in fish and invertebrates, including mortality and cardiovascular abnormalities. In the Pacific Northwest, stormwater runoff causes pre-spawning mortality (PSM) in adult Coho Salmon (*Oncorhynchus kisutch*) returning to spawn in urban-impacted streams. Within a few hours of exposure, symptoms progress from lethargy and disorientation to loss of equilibrium, immobility, and eventually death. Although we do not know the precise cause of PSM, we previously determined that Coho PSM is linked to storm events. Chum Salmon (*O. keta*) spawning runs often overlap with Coho. To determine whether Chum are similarly susceptible to PSM, we co-exposed pre-spawn adult Coho and Chum

to urban road runoff or well water in controlled exposures for 6 storm events. We monitored water quality and individual behavior throughout exposure. Exposures were terminated after 4 hours or when fish became symptomatic. Only Coho exposed to runoff became symptomatic. Across the 4-hour exposure, Chum appeared behaviorally unaffected by urban runoff. Furthermore, a point-of-care blood analyzer was used to measure ion concentrations and gases, pH, hematocrit, glucose, and lactate in arterial blood. Multiple blood chemistry parameters were affected in runoff-exposed Coho compared to control Coho, leading to the hypothesis of metabolic acidosis as the cause of death. In contrast, Chum exposed to runoff were much less sensitive than controls.

Authors: *Jay Davis¹, Ken King¹, Jenifer McIntyre², Michelle Chow³, Julann Spromberg⁴, James Cameron⁴, Jessica Lundin⁴, John Stark⁴, John Incardona⁴ and Nathaniel Scholz⁴ (¹U.S. Fish & Wildlife Service, ²Washington State University, ³University of Washington, ⁴National Oceanic & Atmospheric Administration)*

Presenters: *Ken King, U.S. Fish & Wildlife Service, Washington Fish & Wildlife Office, 510 Desmond Dr. SE, Suite 102, Lacey, Washington 98503. Phone: 360-753-9440. Email: jay_davis@fws.gov, kennith_king@fws.gov*