




Biomonitoring Needs to Understand Exposures to Perfluoroalkyl and Polyfluoroalkyl Substances (PFASs) from Consumer Products

Simona A. Bălan, PhD, Simona.Balan@dtsc.ca.gov

 California Environmental Protection Agency

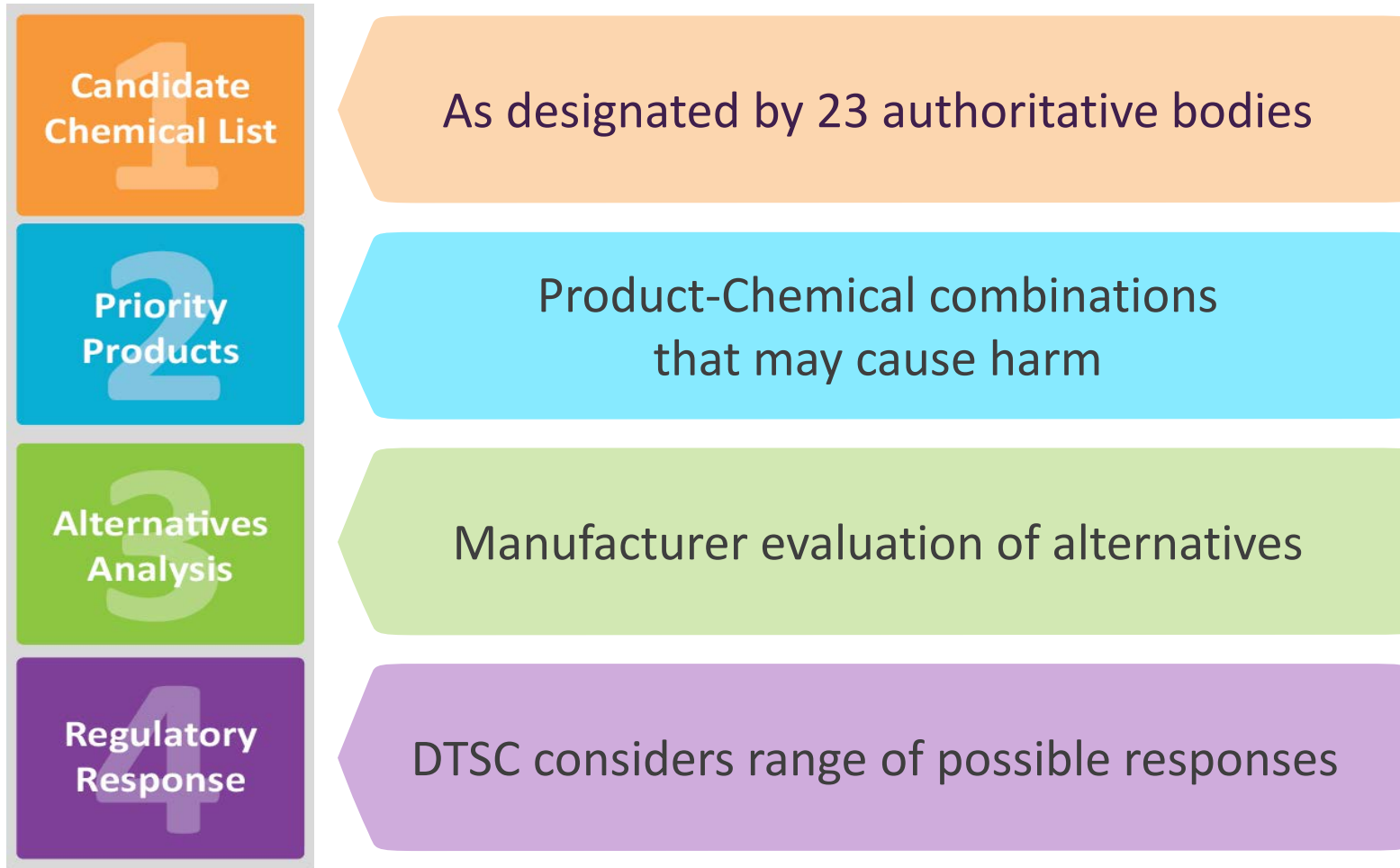
 Department of Toxic Substances Control

August 22, 2018 • Biomonitoring CA SGP



Safer Consumer Products Regulations

Cal. Code Regs, Title 22, Division 4.5, Ch. 55



A Priority Product is a product-chemical combination that meets these criteria:



- There are potential **exposures** to a Candidate Chemical in the product

AND

- One or more exposures have the potential to contribute to or cause **significant or widespread adverse impacts**



Every 3 years, DTSC issues a Priority Product Work Plan that identifies:

- Product categories
- Policy priorities



Products in all the 2015-2017 Work Plan product categories contain PFASs



Building Products



Household/Office Furniture & Furnishings



Cleaning Products



Clothing



Beauty, Personal Care, and Hygiene Products



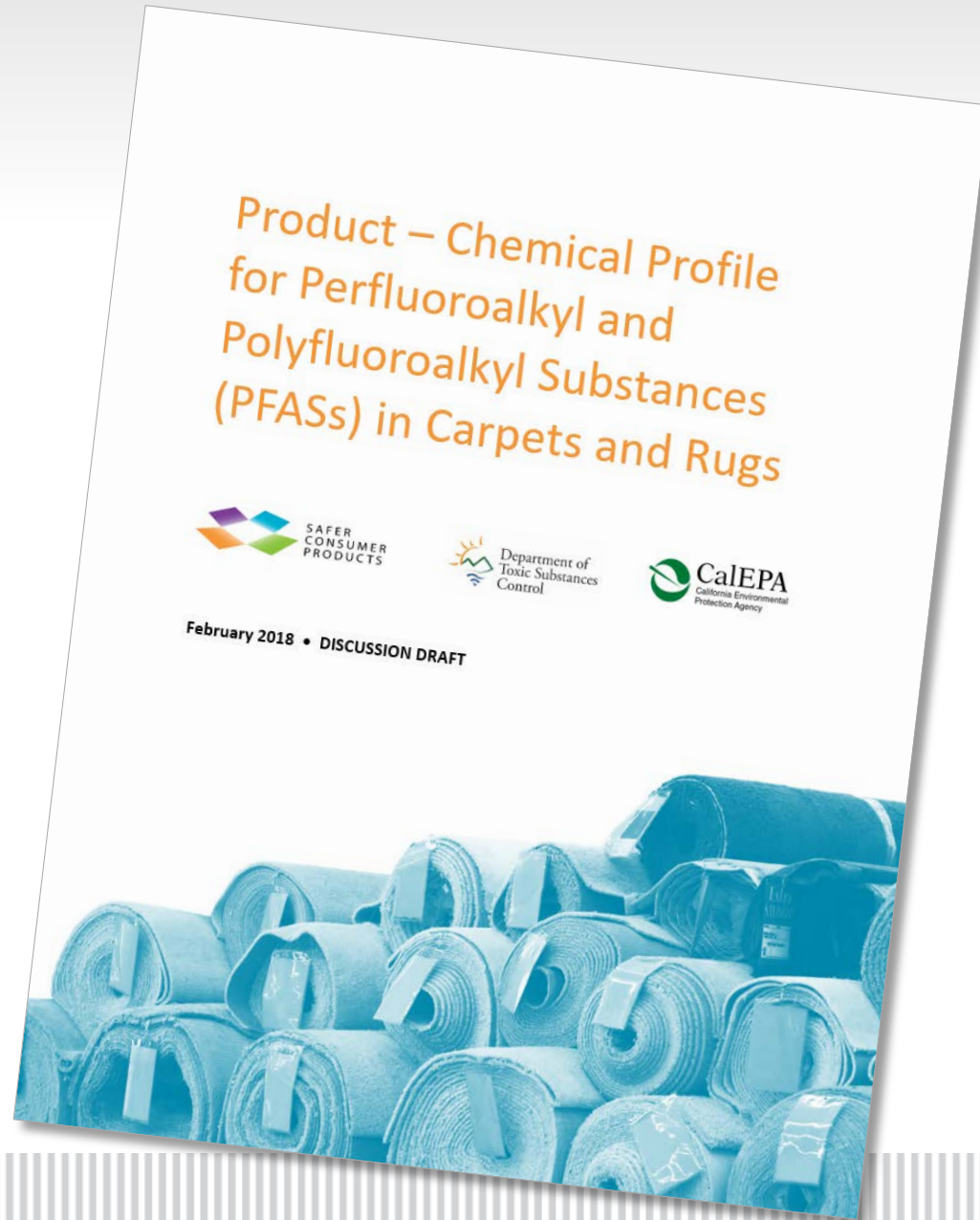
Fishing and Angling Equipment



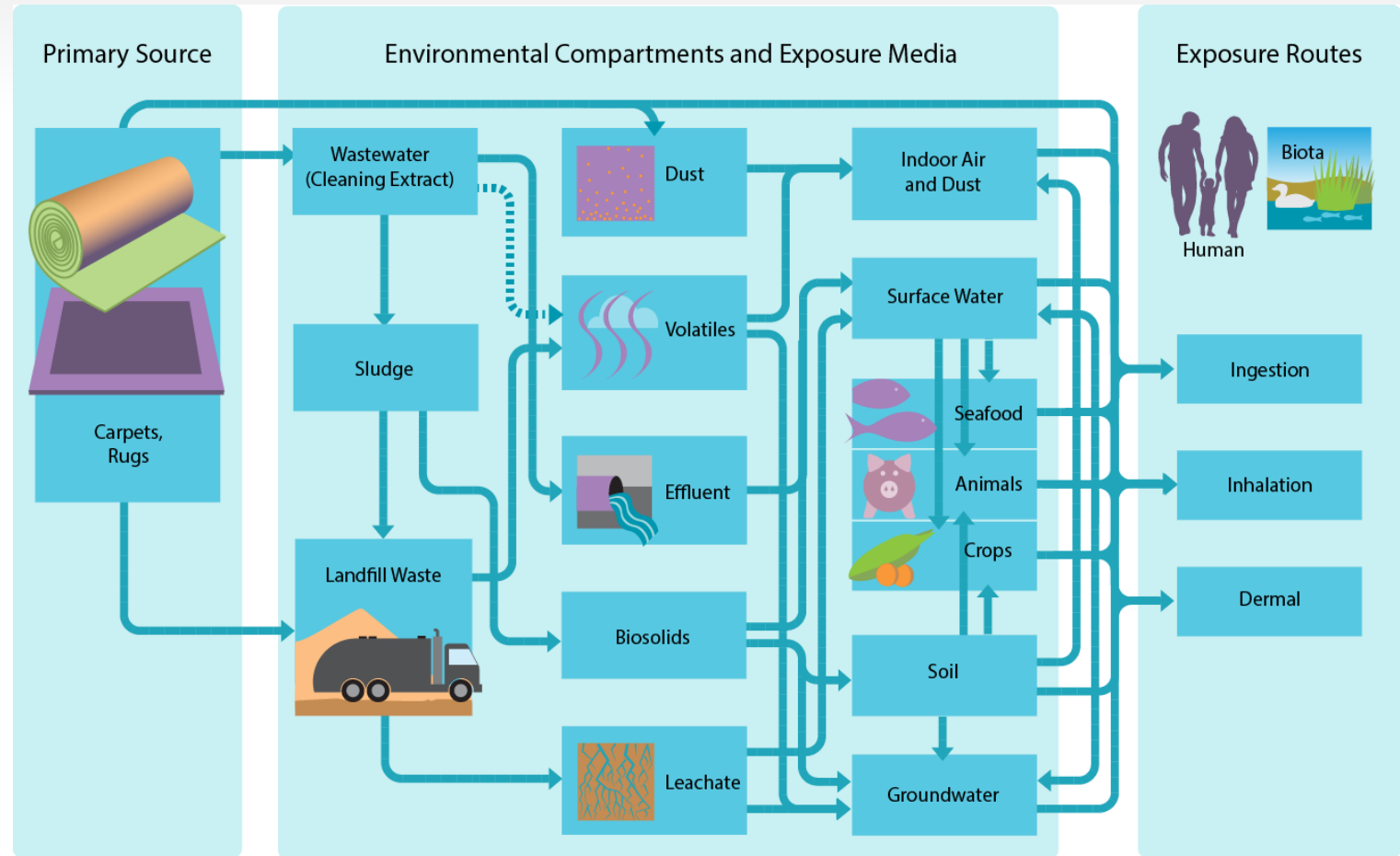
Office Machinery (Consumable Products)



**DTSC is
proposing to
regulate
carpets and
rugs with
PFASs**



Conceptual exposure model



Some key data gaps

- Publicly-available data limited to perfluoroalkyl acids (mainly longer-chains) and some precursors
- Unclear relationship between PFAS environmental presence, levels in biota and humans, and adverse health impacts
- Unknown effects of exposure to PFAS mixtures
- Unclear relative importance of various PFAS exposure sources



Potential biomonitoring studies

- Studies on shorter-chain PFASs in different matrices (e.g., whole blood, nails, hair, urine), including intermediate degradation products and metabolites (e.g., 5:3 fluorotelomer carboxylic acid)
- Studies focused on California's most vulnerable and sensitive subpopulations
- Intervention studies before and after removal of specific consumer product sources of PFAS exposure



Other PFAS-containing products within the 2018-2020 Work Plan

- Beauty, personal care, and hygiene products
- Cleaning products
- Household, school, and workplace furnishings and décor
- Building products and materials used in construction and renovation
- Consumable office, school, and business supplies
- Food packaging

