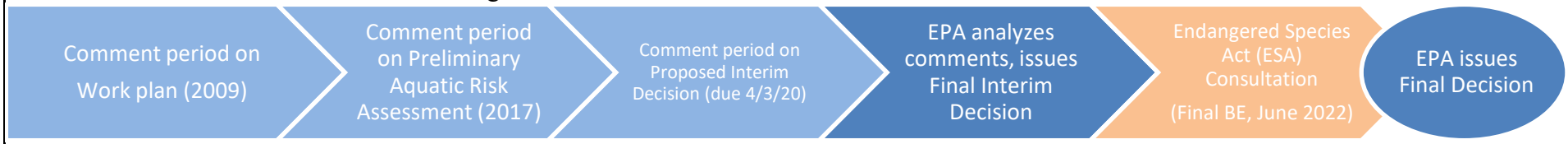
Pesticide: **Neonicotinoid Insecticides: Clothianidin, Imidacloprid, and Thiamethoxam** [Docket EPA-HQ-OPP-2021-0575]
Use: Pet flea control products; indoor ant/roach/bedbug treatments; direct use inside sewers and manholes
Why we care: Highly toxic to aquatic invertebrates. Proven ability to pass through POTWs and appear in POTW effluent. Monitoring data exceeds aquatic benchmark in many areas of California.
Actions taken: BACWA submitted a comment letter on the Preliminary Aquatic Risk Assessment (2017), Proposed Interim Decision (2020), and Draft Biological Evaluation (2021).
Status: EPA released the Final Biological Evaluation in June 2022.



Next steps: EPA will analyze comments and issue a Final Interim Decision.
Recommendation: No action needed at this time as there is no current opportunity for public comment.

BACWA Comments to EPA	**EPA Response**	**Did EPA incorporate BACWA's comment?**
BACWA 4/21/2018 Comments to Preliminary Aquatic and Non-Pollinator Terrestrial Risk Assessment (RA) (BACWA resubmitted these comments in 10/25/21 letter to EPA, since EPA did not respond to the 2018 comments.) BACWA would like to respectfully submit the following recently published studies that were not included in the RA: • Maloney, et. al. (2017) measured acute toxicity of thiamethoxam to *C. dilutus*. • Raby, et.al. (2018) measured acute toxicity of thiamethoxam to 21 different aquatic invertebrates. While these papers provide additional acute toxicity data, BACWA requests that EPA seek to obtain chronic toxicity data to incorporate into the findings in the proposed decision in	EPA Response to Public Comments Received on Draft Biological Evaluations for Imidacloprid, Thiamethoxam, and Clothianidin (June 2022): Specific response to BACWA regarding thiamethoxam: **EPA Response:** *EPA appreciates the submission of both acute and chronic toxicity data to be included in the BE. Acute toxicity data from Maloney* et al. *(2017; ECOTOX reference 183458) and Raby* et al. *(2018; ECOTOX reference 178290) were utilized in the aquatic insect species sensitivity distribution (SSD) in the thiamethoxam BE (**Appendix 2-5**). As for chronic toxicity data, EPA has reviewed and incorporated all available chronic toxicity data that were deemed appropriate for use into the thiamethoxam BE. When evaluating unpublished studies submitted by registrants, EPA utilized the standard test guidelines that were most representative of the studies (*e.g., *OCSPP 850 test guidelines, OECD test guidelines). For studies available in the scientific literature (identified using the ECOTOX database), EPA used its open literature guidance. Additionally, EPA has acknowledged that it does not have the information sufficient to model POTW effluent toxicity and is using the aquatic concentrations derived for residential uses as a surrogate for indoor uses. EPA has included a summary of the Sandaria* et al. *papers (2016; 2017) in **Appendix B**, as well as a comparison of the modeled concentrations to those in municipal wastewater. EPA will work with the Services, as necessary, on finding ways to mitigate the impact of neonicotinoids in municipal wastewater on listed species.*	**Yes.** EPA acknowledged that POTW effluent should be considered as well as acknowledging and including scientific literature submitted by BACWA. In Appendix B, EPA also conducted a comparison of modeled concentrations of all three neonics to monitoring data from the scientific literature submitted by BACWA, noting that most were on the same

order to ensure that any associated mitigation measures are sufficient to prevent POTW effluent toxicity. Chronic toxicity data are recommended for two reasons: 1) POTWs continuously discharge to surface waters. **2)** Use of acute toxicity data and the common default assumption that the acute-to-chronic toxicity ratio is 10 might significantly underestimate chronic toxicity given that some neonicotinoids are known to have chronic toxicity values that are more than 300-fold lower than the lowest acute toxicity value.[1]		order of magnitude or higher than the values from the Sadaria studies.
BACWA 10/25/2021 Comments to Draft Biological Evaluations for the Neonicotinoid Insecticides Clothianidin, Imidacloprid, and Thiamethoxam 1) BACWA was surprised and disappointed that despite detailed scientific evidence shared with EPA Office of Pesticide Programs (OPP) on multiple occasions since 2017 (attached), the neonicotinoid **Draft Biological Evaluations do not include the indoor sources of neonicotinoids** that are subsequently discharged to municipal wastewater systems, pass through POTWs, and result in discharges that pose ecological risks. Based on the scientific data, we conclude that pet treatments should be	EPA did not directly respond to each of our comments but EPA did note that: "*EPA will work with the Services, as necessary, on finding ways to mitigate the impact of neonicotinoids in municipal wastewater on listed species."* (EPA Response to Public Comments Received on Draft Biological Evaluations for Imidacloprid, Thiamethoxam, and Clothianidin (June 2022): Specific response to BACWA regarding thiamethoxam)	**To be determined.** They state that they will mitigate indoor impacts but because they do not have "information sufficient to model POTW effluent toxicity, their modeling used "residential uses as a surrogate for indoor uses."

[1] Roessink, I et al. (2013). *Environmental Toxicology and Chemistry* V.32, No. 5, pp. 1096–1100.

expected to cause widespread non compliance with the Federal Clean Water Act. Because 100% of POTWs must comply with the Federal Clean Water Act 100% of the time, risk mitigation for the neonicotinoids is imperative. 2) **We request that EPA and the Services lay out a specific plan that addresses the primary source of neonicotinoids in municipal wastewater – topically applied pet treatments** (pet "spot-ons" and sprays). **A first step would be to implement a program to eliminate unnecessary use of neonicotinoids in pet treatments and to minimize POTW discharge quantities.** In multiple enclosed scientific papers, we again share the scientific evidence (see Sandaria et al. 2017 and Sandaria et al. 2016, enclosed) around neonicotinoids in municipal wastewater, highlighting the concentrations in municipal wastewater effluent.		