Preliminary Summary of National Marine Fisheries Service Biological Opinion for Chlorpyrifos, Diazinon, and Malathion – January 9, 2018

	Jeopardy (of 77)	Adverse modification of critical habitat (of 50 species with listed critical habitat)
Chlorpyrifos	38	37
Diazinon	25	18
Malathion	38	37

For chlorpyrifos and malathion, NOAA Fisheries made jeopardy and adverse modification of critical habitat calls for all listed Pacific salmon and steelhead; for diazinon, NOAA Fisheries made jeopardy calls for all but 7 listed salmon and steelhead and adverse modification for all but 12.

NOAA Fisheries made jeopardy and adverse modification of critical habitat calls for all three pesticides for Southern Resident Killer Whales which depend on salmon, and primarily chinook salmon, for their diet.

NOAA Fisheries also made jeopardy and adverse modification calls for most listed sturgeon for chlorpyrifos and malathion and jeopardy (but no adverse modification calls) for some of the listed sturgeon for diazinon; jeopardy and adverse modification for smalltooth sawfish (although no adverse modification for diazinon); and for Pacific smelt (for chlorpyrifos and malathion only).

NOAA Fisheries made no jeopardy and no adverse modification calls for the other listed species within its jurisdiction.

NOAA Fisheries has developed reasonable and prudent alternatives consisting of three options that would avoid jeopardy and adverse modification of critical habitat by reducing the concentrations of these pesticides that reach aquatic habitats. The options apply within 300 meters adjacent to or that drain into listed species habitat for which jeopardy or adverse modification calls have been made. The options are:

1. Prohibiting use of high risk uses within a species range, which could entail modifying the pesticide labels to reflect actual usage.
2. EPA could require no application buffers with a 6-meter vegetative filer strip for all high risk uses within the species range.
3. Adopt a point system that gives pesticide users flexibility to choose from a variety of risk reduction measures including no-spray buffers, vegetative filter strips, spray reduction technologies, and participation in pesticide stewardship programs like “Salmon-Safe.”