Pesticides often are essential to effectively manage U.S. Fish and Wildlife Service (Service) facilities. However, some pesticides can potentially cause adverse effects to non-target resources. The Service uses Pesticide Use Proposals (PUPs) as one way to ensure we select and use pesticides with the least risk to non-target resources, while still achieving our pest management objectives. In order to streamline the PUP process, the Director has delegated approval for most pesticide use to the Regions. However, for those pesticide uses that pose the greatest risk of causing adverse effects to non-target resources, the Regions must submit PUPs to the Washington Office (WO) for review.

Conditions that Require Pesticide Review by the Washington Office

1. **Restricted Use Pesticides (or Products)**. The Environmental Protection Agency (EPA) classifies pesticides into two categories: general use pesticides and restricted use pesticides. All pesticides classified as restricted use pesticides (RUPs) by the EPA, require WO review, except where the National IPM Coordinator has worked with Regional IPM Coordinator(s) and provided adequate documentation to ensure that applicators implement site-specific mitigation for potential adverse effects to non-target organisms at the time of application. A RUP is a pesticide that is available for purchase and use only by certified pesticide applicators or persons under their direct supervision. The EPA assigns this designation to a pesticide product because of its relatively high degree of potential human and/or environmental hazard even when used according to label directions.

    - **Chlorophacinone and Diphacinone.** As per the label(s), for endangered species protection, near facilities, new tree plantings, and on lawns using bait bars or a trigger-equipped bait applicator that places the pesticide in the mammal's main tunnel are exempt from WO review. Applicators must immediately seal probe holes used to place bait with sod, rock, or other material to exclude other non-target animals. These pesticide uses are exempt from WO review only if Regions use them in accordance with an approved IPM plan that considers other control methods such as flooding, exclusion devices, and barn owl housing.

    - **Zinc Phosphide** placed within rodent burrows using drip-proof methods (1) when there is a documented human safety or health concern and (2) staff cannot safely or feasibly achieve rodent control with non-pesticide methods.

2. **General Use Pesticides (or Products)**. If a pesticide generally will not cause unreasonable adverse effects on the environment, the EPA classifies the pesticide, or the particular use or uses of the pesticide, for general use. In most cases, you do not need to be a certified applicator to purchase or apply a general use pesticide (some agencies policies may differ on this).

- **Exempt from WO review**:

    - **Ground and Aerial Applications**. If Regions have implemented quantitative and defensible no-spray buffers around sensitive habitats and non-target organisms, then ground and aerially applications of general use products do not need WO review (unless otherwise stated in this document).

    - **General Use Aquatic Herbicides**. All general use aquatic herbicides are exempt from WO review if they have a low toxicity (LC_{50} greater than 50 mg/L) to non-target aquatic life. For example, some herbicides that are harmful to aquatic life at labeled application rates, like 2,4-D ester formulations, require WO review. *Warning*: Aquatic pesticides, particularly herbicides, have the potential to create low dissolved oxygen conditions, causing fish kills. Applicators must ensure this does not occur with their application.

  If regions cannot document an IPM approach and impose site-specific mitigation (i.e., buffers from water and non-target organisms; adjusting the timing of application, application method, or application area), then ground and aerial applications of general use products, require WO review.

3. **Pesticides with a High Leaching or Runoff Potential**. All pesticides with a high potential to leach or runoff or which have been frequently found in surface or ground water (listed in Table 1, https://intranet.fws.gov/contaminants/WordDocs/WOlistfinal.doc), if the proposed use is in leachable soils (less than 2% organic matter) and/or the water table is shallow (10 feet or less) and/or the underlying bedrock has high infiltration (e.g., limestone bedrock), require WO review. The Regions must submit PUPs to the WO for review for any proposed uses of acetochlor, atrazine, bentazon, bromacil, cyanazine, diuron, EPTC, metolachlor, metribuzin, norflurazon, prometon, simazine, trifluralin, or molinate due to their high leaching potentials, toxicological profiles, and/or frequent detections in surface or ground water.

    - **Elevated Pesticide Concentrations in Surface Waters**. If a refuge has drinking or surface waters with reported pesticides at possible risk levels to humans, aquatic plants and animals or other wildlife, future use of these pesticides will require WO review. Refuges can generally learn of elevated pesticide concentrations in their waters through Clean Water Act section 303(d) lists, U.S. Geological Survey reports, and through the National Conservation Training Center (NCTC) and Internet literature searches using the names of water, their state and/or county, plus "pesticide OR herbicide."

4. **High Probability of Adversely Impacting Non-target Organisms**. Pesticides with a high probability of adversely impacting non-target organisms based on toxicity, persistence, exposure potential, or site-specific conditions of the proposed applications require WO review, unless regions can document an IPM approach and impose site-

specific mitigation.

5. **Mosquito Management**. Larvicides containing *Bacillus thuringiensis israelensis* (Bti), *Bacillus sphaericus* (e.g., VectoLex®), and methoprene (e.g., Altosid®) are exempt from WO review.

   PUPs with the following proposed uses must receive WO review:
   - Larvicide temephos (Abate®).
   - Any adulticide (malathion, naled, and all pyrethrins and pyrethroids).
   - Applications of surface films (e.g., GB-1111® oil, Agnique® MMF) to areas that are 1,000 square meters (0.1 ha) or larger.

6. **Petroleum-Based Pesticides and Solvents**. All petroleum-based pesticides applied to water or wetlands and all pesticides with benzene, ethyl benzene, toluene, xylene, or polycyclic aromatic hydrocarbons (e.g., naphthalene) listed as active, inert, or other ingredients require WO review.

7. **Tank Mixes**. All tank mixes of two or more insecticides, nematicides, or miticides or any other non-herbicide combinations require WO review. As long as applicators follow label requirements and appropriate compatibility testing, tank mixes of general use pesticides do not require WO review.

8. **Insecticide and Fungicide Seed Treatments**. Insecticide and fungicide seed treatments require WO review unless the Region can ensure that all treated seed will be incorporated beneath the soil surface and no treated seeds will remain on the ground.

- It is a violation of the Federal Insecticide, Fungicide, and Rodenticide Act to use a product in a manner inconsistent with its labeling. The conditions in this document do not substitute for pesticide label instructions or state specific regulations.

- Regions always have the option to submit any PUP to the WO for review, even if the proposed pesticide use is exempt from WO review. Similarly, Regions can confer with the WO on any PUP under development, regardless of whether that PUP requires WO review.

- Any mention of specific products does not constitute endorsement by the U.S. Fish and Wildlife Service.

- Some factors to consider when analyzing any pesticide use proposal are the persistence and toxicity of the product and the potential for exposure to non-target organisms.

TABLE 1*. HERBICIDES, FUNGICIDES, AND GROWTH REGULATORS OFTEN FOUND IN SURFACE AND/OR GROUND WATER AND/OR HIGHLY LIKELY TO LEACH AND PERSIST UNDER SOME CIRCUMSTANCES [a].

2,4-D	Dichlorprop	Napthalam
Acetochlor	Diclofop	Norflurazon
Acifluorfen	Diethatyl-ethyl	Pebulate
Alachlor	Diphenamide	Pendimethalin
Ametryn	Diuron	Picloram
Amitrole	EPTC	Prometon
Asulam	Ethofumesate	Prometryn
Atrazine	Hexazinone	Propachlor
Bensulide	Imazapyr	Propazine
Bentazon	Imazaquin	Pyrazon
Bromacil	Imazethapyr	Siduron
Butylate	Linuron	Simazine
Chloramben	Maleic Hydrazide	Sulfmeturon
Chlorpropham	MCPA	Tebuthiuron
Chlorsulfuron	MCPB	Terbacil
Clomazone	Metalaxyl or Mefenoxam	Thibencarb
Clopyralid	Metolachlor	Triclopyr
Cyanazine	Metsulfuron	Trifluralin
Cycloate	Metribuzin	Vernolate
Daminozide	Molinate	
Dicamba	Napropamide	

* This table serves as a resource for regions to aid in the development of site-specific application restrictions as needed to protect against potential ground and surface water contamination https://intranet.fws.gov/contaminants/WordDocs/WOlistfinal.doc.

[a] Sources available upon request.