Evaluation of Pesticide Use on U.S. Fish and Wildlife Service Lands

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Through our pesticide use proposal process and pesticide analysis, we can better assess risks and potential impacts to native habitats and organisms to ensure protection of our trust resources.

MATERIALS AND METHODS (cont.)

- Conduct a site-specific qualitative and/or quantitative assessment of each proposed pesticide:

  **Qualitative assessment:**
  - Analytical pesticide and its characteristics, such as pH, solubility in water, vapor pressure, half-life, and exposure to water
  - Evaluate pesticides toxicological profile—acute, chronic, and subchronic toxicity data
  - Evaluate environmental factors—sorption, soil texture, pH of soil and water, proximity to surface water
  - Use these measures to determine any possible impacts to nontargets; implement integrated pest management and best management practices and if needed, other mitigation measures

  **Quantitative Assessment:**
  - Conduct qualitative assessment and then use Effluent Quantitative Ecological Risk Assessment Planning—Risk Quotient (RQ), modeling each pesticide: 
  - Assess pesticide and its characteristics, such as: pH, solubility in water, vapor pressure, KOC, KOC, KOW, half-life

- Compare RQ to Environmental Concentration (EC) or Toxicological Endpoint = Risk Quotient (RQ)

Conduct site-specific assessment of the pesticide use proposal process. Use EPA's Quantitative Ecological Risk Assessment Process - Risk Quotients (RQs), modeling such pesticide.

RESULTS AND DISCUSSION

Assessments for effects to fish and wildlife may be conservative in nature due to uncertainties introduced by data limitations. This may lead to requirements that are more restrictive than those required for management of non-fish and non-wildlife species. This can result in higher costs for producers and increased pesticide movements to manage pest species.

- Most toxicity testing is performed on active ingredients only and may not fully reflect the actual toxicity of the final formulated product used in practice.
- Actual application rates may vary and may only capture unique-specific characteristics that have not been tested.
- Toxicity of degradation is often assessed or fully considered when assessing environmental risks of a pesticide.

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- Between 30 and 50

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The benefits the Service gains from PUPs are:
- Reductions or eliminations of unnecessary pesticide use.
- Compliance with the ESA and other applicable laws and regulations.
- Adequate pesticide application buffers are maintained.
- Pesticide label instructions are followed.

According to the EPA, the main pesticide used on Service lands is glyphosate. The benefits the Service gains from PUPs are:
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CONCLUSIONS

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