## Appendix 2: National Guidance ESRA for Imidacloprid

### Environmental National Assessment

<table>
<thead>
<tr>
<th>Pesticide:</th>
<th>Imidacloprid</th>
</tr>
</thead>
</table>

| Hazard Status: | Imidacloprid is a highly hazardous pesticide (HHP) based on its classification in the Acute Toxicity hazard group and demonstration of the potential for acute toxicity to mammals and birds (Criterion 2) per the FSC Pesticides Policy (FSC-POL-30-001 V3-0 EN) and the FSC Lists of Highly Hazardous Pesticides (FSC-POL-30-001a EN). However, risks from other FSC hazard groups and toxicity categories were not precluded from this assessment. |

| Specific Formulation: | PrimeraOne Quali-Pro |

### Exposure Elements

<table>
<thead>
<tr>
<th>Description of why/why not a risk</th>
<th>National-level Mitigation strategies defined to minimize risk:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal indication of adverse effects to soil was found when imidacloprid is used according to label instructions in forestry applications. Additional considerations are provided, below.</td>
<td>Follow all pesticide label application instructions. Follow applicable criterion and indicators from the FSC US FM Standard V1.0 (e.g., Criterion 4.3 for worker safety, Criterion 7.3 for worker training, Criterion 6.5 for protecting water resources, and Criteria 8.1 and 8.2 for Monitoring). Applicators or persons supervising application of restricted use pesticides are required to be certified in accordance with EPA regulations and state, territorial and tribal laws. Additional risk mitigation strategies are provided below. Organizations should take reasonable steps to avoiding environmental and social impacts by considering the mitigation strategies provided below, as well as application-, Organization-, or location-specific strategies.</td>
</tr>
<tr>
<td>No indication of adverse effects on soil microorganisms, although transient changes in soil microorganism population have been documented (1).</td>
<td>General consideration of exposure variables designed to mitigate risk:</td>
</tr>
<tr>
<td>The most affected terrestrial soil invertebrate is the earthworm, with only transient effects on earthwork populations (1).</td>
<td>-Know and understand the specific pesticide formulation and/or tank mixture, as its unique formulation may provide a different risk characterization.</td>
</tr>
<tr>
<td>Risk to aquatic species with minimal overall risk to human water resources. Accidental spill into small pond presents highest risk for contamination of water, along with potential contamination of surface water due to soil injection (1).</td>
<td>-Understand how the mixture of active ingredients affects the pesticides risk profile.</td>
</tr>
<tr>
<td>These do not present a considerable risk to human water resources but may adversely affect aquatic invertebrates (1).</td>
<td></td>
</tr>
<tr>
<td>Risk varies among groups of aquatic invertebrates, with severe risk characterization for sensitive groups.</td>
<td></td>
</tr>
</tbody>
</table>
Sensitive groups of aquatic invertebrates include: Ephemeroptera, Ostracoda, Diptera, and Hemiptera. Bivalves, most species of Cladocera and Artemia are four among the least sensitive groups of aquatic invertebrates (1).

Substantial adverse effects on sensitive aquatic invertebrates in the event of an accidental spill. For non-accidental applications, highest risk is associated with soil injection. Less analysis of tree injection exposure risk exists: adverse effects will depend on the volume of water contaminated by falling leaves and the total number of leaves transported to the body of water (1).

Mitigating Risk to the Environment: reduce contact with water resources and minimize application amounts and number of applications.

General and non-target species:
- This product is highly toxic to bees exposed to direct treatment or residues on blooming plants or weeds. Do not apply product to blooming plants or weeds if bees are foraging in the treatment area (2).

Water:
- Do not allow to get into surface water, drains and ground water (2).
- Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water (2).
- Do not apply when weather conditions favor runoff or drift (2).
- Do not apply near lakes, streams, rivers, or ponds (2). Use buffer strips between application areas and sensitive areas.
- Do not apply to soils which are waterlogged or saturated (2).
- Do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters, or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours.
exposure pathway for vertebrates, it is not quantifiable. Potential secondary effects to nontarget species exist; for example, “adverse effects on terrestrial invertebrates may reduce populations of insectivorous birds” (1).

Secondary effects could occur for virtually all nontarget organisms. These secondary effects caused by insecticide or mechanical methods could either be detrimental or beneficial to affected species (1).

| Environmental | Non-timber forest products (as FSC-STD-01-001 V5-2 FSC Principles and Criteria, criterion 5.1) | Minimal indication of adverse effects to non-timber forest products was found when imidacloprid is used according to label instructions in forestry applications. Additional considerations are provided, below.

Potential for secondary effects on terrestrial or aquatic animals and plants, including changes in food availability and habitat quality (1). |
| High Conservation Values (particularly HCV 1-4) | Minimal indication of adverse effects to High Conservation Values was found when imidacloprid is used according to label instructions in forestry applications. Additional considerations are provided, below.

Unintentional secondary effects on habitat, landscape and ecosystem could occur (1). |
| Landscape (aesthetics, cumulative impacts) | Minimal indication of adverse effects to landscape values was found when imidacloprid is used according to label instructions in forestry applications. Additional considerations are provided, below.

Potential for secondary effects on terrestrial or aquatic animals and plants, including changes in food availability and habitat quality (1). |
| Ecosystem services (water, soil, carbon sequestration, tourism) | Minimal indication of adverse effects to ecosystem services was found when imidacloprid is used according to label instructions in forestry applications. Additional considerations are provided, below. |

will help to ensure that wind or rain does not blow or wash pesticide off the treatment area (3).

- Do not apply near fish pools, ponds, streams, or lakes (3).
- Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems (2).
Potential for secondary effects on terrestrial or aquatic animals and plants, including changes in food availability and habitat quality (1).

Mitigation strategies have been categorized to avoid redundancy.

Sources


### Pesticide: Imidacloprid

**Hazard Status:**
Imidacloprid is a highly hazardous pesticide (HHP) based on its classification in the Acute Toxicity hazard group and demonstration of the potential for acute toxicity to mammals and birds (Criterion 2) per the FSC Pesticides Policy (FSC-POL-30-001 V3-0 EN) and the FSC Lists of Highly Hazardous Pesticides (FSC-POL-30-001a EN). However, risks from other FSC hazard groups and toxicity categories were not precluded from this assessment.

**Specific Formulation:**
PrimeraOne Quali-Pro

### Exposure Elements

<table>
<thead>
<tr>
<th>Minimum list of values</th>
<th>Description of why/why not a risk</th>
<th>National-level Mitigation strategies defined to minimize risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Conservation Values (especially HCV 5-6)</td>
<td>Minimal indication of adverse effects to high conservation values was found when imidacloprid is used according to label instructions in forestry applications.</td>
<td>Follow all pesticide label application instructions. Follow applicable criterion and indicators from the FSC US FM Standard V1.0 (e.g., Criterion 4.3 for worker safety, Criterion 7.3 for worker training, Criterion 6.5 for protecting water resources, and Criteria 8.1 and 8.2 for Monitoring). Applicators or persons supervising application of restricted use pesticides are required to be certified in accordance with EPA regulations and state, territorial and tribal laws. Additional risk mitigation strategies are provided below. Organizations should take reasonable steps to avoiding environmental and social impacts by considering the mitigation strategies provided below as well as application-, Organization-, or location-specific strategies. General consideration of exposure variables designed to mitigate risk: -Know and understand the specific pesticide formulation, as its unique formulation may provide a different risk characterization. -Understand the mixture of active ingredients. -Seek to minimize the frequency, interval, and amount of application. -Use the most efficient and effective method of application by seeking to minimize risk to environmental and social values. -Understand the site (e.g., soil type, topography, etc.) and climatic (e.g., wind, temperature, and</td>
</tr>
<tr>
<td>Health (fertility, reproductive health, respiratory health, dermatologic, neurological and gastrointestinal problems, cancer and hormonal imbalance)</td>
<td>Minimal indication of adverse effects to health values was found when imidacloprid is used according to label instructions in forestry applications. Additional considerations are provided below. As long as one adheres to proper worker protections there is no substantial risk for workers or members of the general public (1). Imidacloprid is neurotoxic to humans in acute exposures but “neurotoxicity is not generally noted in subchronic or chronic toxicity studies” (1). Effects occurring at lowest exposures (most sensitive effects) are on the endocrine system (1). Some accidental exposures (i.e. wearing contaminated gloves) are of concern: as with any pesticide; use of proper safety procedures render this risk insignificant (1). “Exposure scenarios would involve consumption of contaminated surface water following an accidental spill, or concentrations in surface water following soil injections” (1).</td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>Welfare</td>
<td>Evidence of non-carcinogenicity in humans as classified by EPA (1).</td>
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<td>-------------------------------------------------------------------</td>
</tr>
<tr>
<td>Food and water</td>
<td>Minimal indication of adverse effects to welfare was found when imidacloprid is used according to label instructions in forestry applications.</td>
<td>- Have appropriate waste management systems in place.</td>
</tr>
<tr>
<td>Social Infrastructure; (schools and hospitals, recreational infrastructure, infrastructure adjacent to the management unit)</td>
<td>Minimal indication of adverse effects to social infrastructure was found when imidacloprid is used according to label instructions in forestry applications.</td>
<td>Mitigating Risk to Workers: When applying pesticides, label instructions should be followed.</td>
</tr>
<tr>
<td>Economic viability (agriculture, livestock, tourism)</td>
<td>Minimal indication of adverse effects economic viability was found when imidacloprid is used according to label instructions in forestry applications. However, secondary effects due to lower invertebrate populations may be detrimental to some species and beneficial to others; for example, reduction in bird populations may result from imidacloprid use (1).</td>
<td>- In case of skin contact: Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately (2). Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust (3).</td>
</tr>
</tbody>
</table>

Adhere to the below exposure controls (2):
- Chemical resistant nitrile rubber gloves
- Safety glasses with side-shields
- Wear long-sleeved shirt and long pants and shoes plus socks.
- Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.
- In case of skin contact: Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately (2).
- Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust (3).
### High risk to honeybees if imidacloprid is administered in maple trees prior to flowering and bee foraging in the spring. Risks are highest for foliar applications and soil injection applications and lowest for bark applications (1).

- Keep people and pets away from treated area until it has been watered and allowed to dry (3).
- Reduce the possibility of public consumption of contaminated wild food (e.g., fruit or fungi) and public exposure to pesticides through public outreach and engagement, limiting access, and/or appropriate signage. For instance, users of the forest may be excluded from the area using barriers or signage until the pesticide dries.
- In case of accidental release: Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces (2).
- Consider effects on local communities and indigenous peoples when considering limiting access to treatment areas.
- Do not allow children or pets to enter the treated area until it has dried (2).

### Minimal indication of adverse effects to rights was found when imidacloprid is used according to label instructions in forestry applications.

- **Social** (Rights (legal and customary))

- **Others**

### No additional values were identified in this assessment.

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1 Mitigation strategies have been categorized to avoid redundancy

### Sources: