

2022

AERIAL PESTICIDE SERVICE LICENSEE COMPLIANCE AUDIT

IPMA



Ministry of
Environment and
Climate Change Strategy

Executive Summary

Beginning in March 2022, the Ministry of Environment and Climate Change Strategy's (ENV) Compliance and Environmental Enforcement Branch (CEEB) conducted an audit of aerial service licensees to verify compliance under the Integrated Pest Management Act (IPMA or Act) and Integrated Pest Management Act Regulation (IPMR, or Regulation). The main purpose of this audit was to obtain a compliance snapshot of aerial services that use pesticides and identify opportunities for improving compliance. The compliance criteria assessed included requirements for recordkeeping, licensing and certification, adherence to weather restrictions, and the use of integrated pest management.

There are relatively few service licensees that conduct aerial pesticide treatments. These include operators of fixed-wing aircraft and helicopters for whom pesticide application is only a small proportion of the air services they provide; currently, there are 10 such licensees. However, due to the high profile of aerial pesticide treatments, there is a considerable degree of public interest and concern about aerial applications.

A total of 11 inspections were conducted in this audit. Compliance determinations were as follows:

- The overall rate of compliance was 9% for all inspections conducted.
- The inspections conducted led to one notice of compliance and 10 advisories of non-compliance.
- There was a high compliance rate (>85%) for requirements covering licensing and applicator certification, adherence to weather restrictions, and for the prevention, identification, and use of alternatives to pesticides in their IPM programs.
- Low levels of compliance (9-27%) were assessed for requirements governing recordkeeping and IPM components involving monitoring and injury thresholds. Timely submission of annual reports related to pesticide use was also a frequent challenge in being compliant.
- Several inspected aerial licences only applied pesticides as a contractor of another licensee and did not require a pesticide use licence; therefore, for these licensees, compliance findings were not determined for some sections of the IPMR.

All non-compliant parties received advisories, the lowest level of enforcement response. This demonstrates that most non-compliances were relatively minor, and most non-compliant parties demonstrated willingness to come into compliance. Overall, these audit findings provide confidence that aerial pesticide applications, as currently conducted, represent a relatively low risk to human health and the environment.

The next steps to improve compliance of aerial pesticide users under the IPMR include the following:

- Continue conducting inspections to verify and ensure compliance.
- Provide informational letters or emails outlining the record-keeping and IPM requirements.
- Ensure that aerial licensees are provided with up-to-date guidance materials on ENV website.
- Have ENV staff attend and present at association conferences, meetings, and other events.

By providing specific direction to licensees on specific methods to assess conditions and summarize observations triggering pesticide use, a higher level of compliance could be achieved with the requirements related to pest monitoring and the use of treatment thresholds. Ministry staff will continue to work with aerial pesticide applicators to promote compliance, IPM, and good pesticide use practices.

Introduction

The ENV CEEB conducts regular sector-wide audits as a method to obtain a snapshot of compliance within a specific sector. Audits can be conducted through a combination of on-site inspections and reviews of submitted data and reports. The primary objectives of audits are to evaluate the rate of compliance in a specific sector, determine if risks to human health or the environment are present, identify and implement compliance promotion and outreach opportunities, achieve transparency through public reporting, and provide recommendations to improve legislation or policy guidance.

Ministry policies and procedures for compliance verification recognize that:

- audits represent a point-in-time assessment of compliance within a particular sector of each authorized party inspected.
- many non-compliances may be administrative or have minor to no impact on the environment and human health. When a single non-compliance is found during an inspection, the whole inspection is marked out of compliance, regardless of how minor the non-compliance was.

For more information on how ministry inspectors assess and respond to non-compliances, please review the [Compliance and Enforcement Policy and Procedure](#). Inspection results from previous audits and compliance reports can also be found on the [Government of B.C.'s website](#).

Overview of the Industry Sector

There are relatively few service licensees that conduct aerial pesticide treatments. These include operators of fixed-wing aircraft and helicopters - for whom pesticide application is only a small proportion of the principally transport-focused air services they provide; currently there are 10 such licensees. However, due to the high profile of such treatments, there is a considerable degree of public awareness and concern about aerial pesticide applications.

Aerial pesticide applicators in B.C. provide services, on both public and private lands, in fixed-winged aircraft or helicopters to manage pests such as weeds, insects, and fungal diseases. The safe and appropriate use of pesticides at these locations is important as they often apply pesticides in residential areas for the control of invasive species, such as the spongy moth, and/or over large areas (see figure 1). Aerial spraying can treat remote or difficult-to-access areas and can penetrate the crowns of the tallest trees.



Figure 1. Aerial pesticide service licensees often conduct widespread applications close to human habitations—such as that shown above, of an application of a bacterial pesticide targeting the spongy moth.

This audit assessed whether pesticides used by aerial applicators were properly stored, transported, and applied in a manner that safeguards human health and the environment. In addition, aerial pesticide applicators were assessed on their implementation of an appropriate IPM program that meets the requirements set out in the IPMA and considers good pest management practices that reduce reliance solely on pesticides.

Audit and inspection activities help ensure that users of pesticides are following the environmental and human health protection requirements outlined in the federal [Pest Control Products Act \(PCPA\)](#), administered by Health Canada and in British Columbia under the [IPMA](#) & [IPMR](#).

The following requirements under the IPMR presented in table 1 were the primary criteria inspected during this audit:

Table 1. Sections and categories of the IPMR assessed for compliance.

IPMR	
Section	Category
10(11)	Public Notification Requirements
31	Requirement to notify fire department
33(1) and 33(2)	Containment, storage, transportation, disposal and use of pesticides
35(1)	Records of use — licensee
39(1) and 39(2)	Annual use report — licensee, permit holder and confirmation holder.
50(4)	Category of certificate required
63(1) and 63(2)	Treatment notice — form and content
65(1)	Pesticide container and labelling standards
66(1) and 66(2)	Pesticide storage
68(1) (a-e) and 68(2) prevention	Licensee use of pesticide — integrated pest management
71(1) (a-b) and 71(7)	Use requirements — licensee and confirmation holder
73(1)	Use requirements for pesticide-free zone — confirmation holder and licensee
78(1) and 78(2)	Use requirements — licensee and confirmation holder in relation to mosquito management
83(1)	Keeping records
3(1)(b)	General prohibitions and restrictions

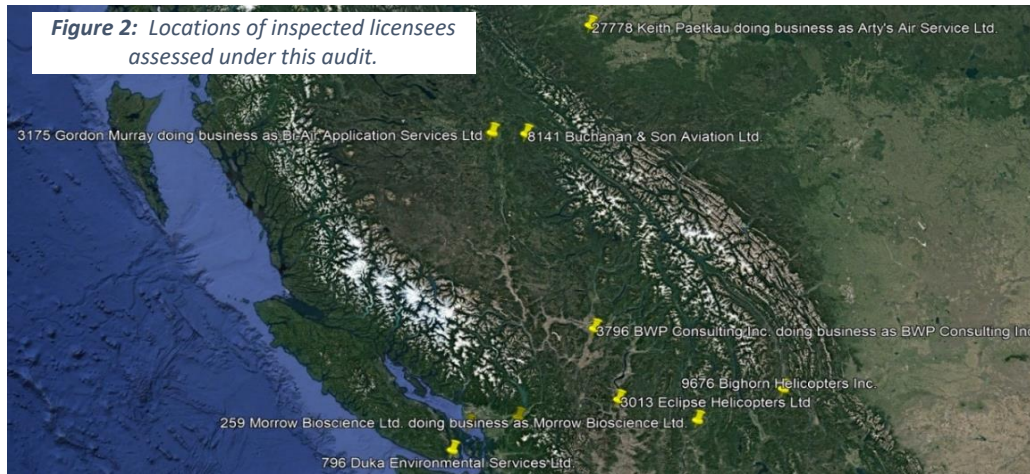
Methods

For each licensee that was inspected in this audit, ENV reviewed records required under the IPMR. Only office review inspections were conducted for this audit and included authorization information within ENV’s Comprehensive Records and Inspections System for Pesticides (CRISP) database and related submissions including:

- Annual Use Summary data from 2019 to 2021,
- Compliance history,
- Current licence status,
- Certification data for pesticide applicators,

- Daily pesticide use records for treatments conducted during the previous year
- Related pest management plans (PMP's), when applicable

The office review also may have included direct communication with the authorization holder to ask questions as needed to gather additional information necessary to complete the inspection. Photographic documentation, provided by licensees, was also used to assess compliance with relevant site-related requirements. Inspections were conducted throughout the province, with the number of inspections in each region being related to the concentration of aerial service licensees (Figure 2).



Compliance Determinations and Responses

ENV determined the appropriate administrative response based on the compliance verification findings of the inspection using the non-compliance decision matrix contained in ENV's [Compliance and Enforcement Policy and Procedure](#).

Individual inspection reports completed under this audit are available from the [Natural Resource Compliance and Enforcement Database](#).

Data Analysis

To maintain quality and consistency, inspectors were provided guidance on assessing each applicable section of the IPMR. There were no outlying inspections that were excluded from this audit. However, given the variety in the types of services provided by the aerial licensee inspected, inspectors only reviewed and assessed sections relevant to the operation.

Results

Inspectors completed a total of 11 inspections of aerial service licences between May 05, 2022, and November 22, 2022. Of the 11 licensees inspected, one (9%) was fully in compliance, while the remaining 10 (91%) were out of compliance with at least one aspect of the IPMR (see Figure 3 and Figure 4). Licensees meeting all assessed regulatory requirements were issued a notice of compliance; non-compliant licensees were issued advisories per the [Ministry's Compliance and Enforcement Non-](#)

[Compliance Decision Matrix](#). A list of all of the inspected licensees and the compliance determinations made under the IPMR can be found in Appendix A.

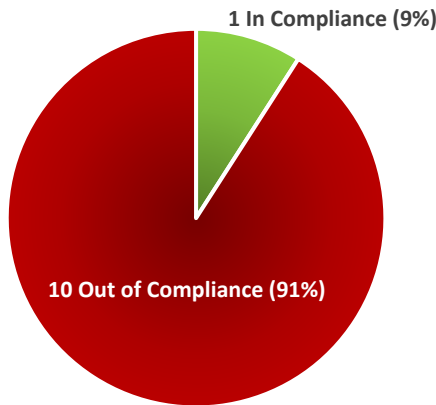


Figure 3. Overall compliance rate of aerial service licensees inspected in 2022

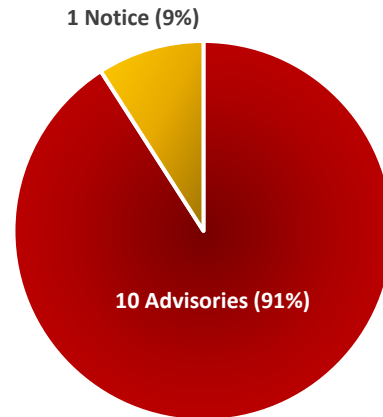


Figure 4. Compliance determinations for aerial service licensees inspected in 2022

Inspectors conducted compliance inspections to assess the following requirements for all 11 licensees: recordkeeping, licensing and certification, adherence to weather restrictions, and implementation of IPM elements (see figure 5).

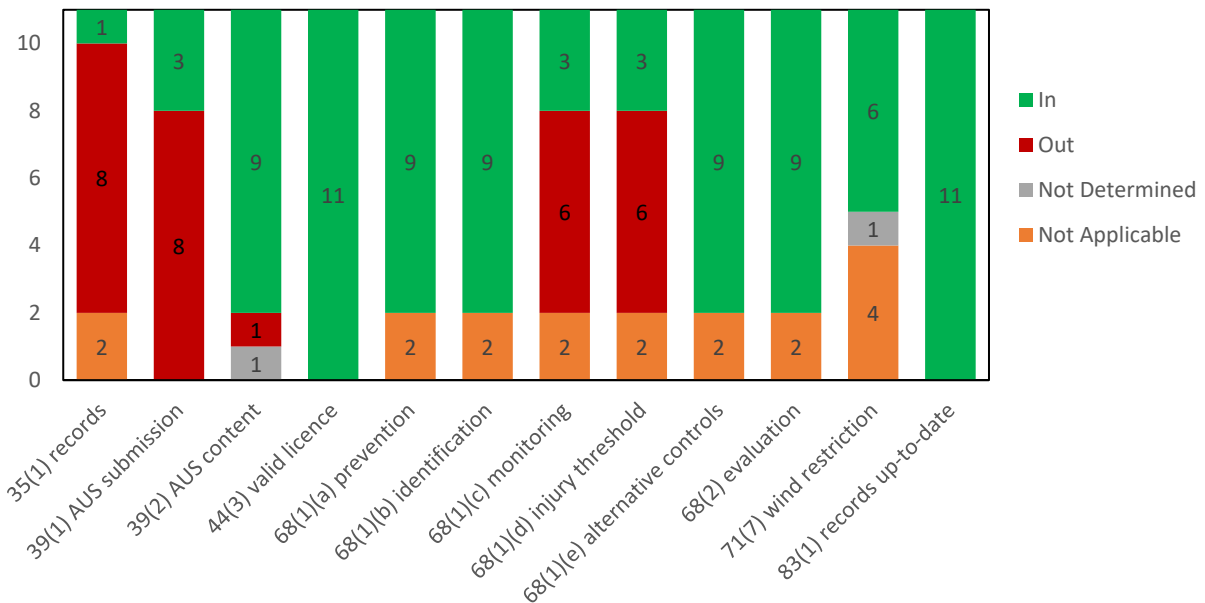


Figure 5. Compliance findings for assessed sections of the IPMR for aerial service licensees in 2022

The recordkeeping requirements assessed under Section 35(1) of the IPMR included prescriptions for information that must be recorded for each pesticide use. Of the 11 licensees inspected, only one was fully in compliance with these requirements. The most common non-compliances for record-keeping were failure to record monitoring methods and injury thresholds. There was a similarly high rate of non-compliance for Section 39(1) as many of the licensees had at least one instance, over the past 3 years, of a failure to submit their Annual Use Summary by January 31 for each calendar year.

Pesticide treatments must be conducted by applicators holding valid certification in the appropriate category under Section 50(4) of the IPMR. Only 9 of 11 licensees conducted aerial applications during the inspection period and 2 of those recorded treatments were conducted by applicators with an expired certification.

Before using pesticides, licensees must implement all specified components of an IPM program. All 11 licensees complied with the requirements for undertaking preventative actions to reduce pesticide use. Some examples of prevention performed by aerial licensees included reducing nuisance mosquitoes by doing the following: breeding site reduction/management, outreach programs detailing what can be done on private properties to reduce mosquito breeding sites, emptying birdbaths, or removing containers that can collect water. Other prevention methods for competitive brush release programs included the following: early identification of brush prone sites, selection of appropriate species, selection of appropriate stock type, site preparation, use of improved seed, minimizing regeneration delay, and maximizing seedling performance. As is the case for other sectors, many aerial licensees did not properly record the monitoring observations and the linked injury thresholds required before using pesticides implementing these components of IPM and were assessed as being out of compliance with related requirements. High levels of compliance were assessed for adhering to the requirements for the use of alternatives to pesticides, efficacy evaluation, weather-related restrictions, and keeping records up-to-date.

Discussion

High levels of non-compliance with monitoring and injury threshold requirements were noted as aerial licensees neglected to provide written confirmation of the use of these IPM elements in their pesticide use records as required under section 35 of the IPMR. The use of appropriate monitoring and thresholds prior to any pesticide application is key to ensuring that the use of the pesticide is necessary and justified. However, the audit determined, through supplementary questioning, that licensees were, in fact, making use of appropriate monitoring and thresholds before resorting to pesticide use in accordance with IPM practices outlined in pest management plans held by confirmation holders. This indicates that licensees require additional guidance in recording concise observations related to monitoring methods and injury thresholds.

An Annual Use Report of pesticide treatments is due by January 31 of the year following licensed use. High levels of non-compliance with this requirement were largely the result of late submissions or failure of licensees who had not conducted any treatments to report that fact.

ENV also determined during this audit that several of the aerial pesticide licensees held a licence, but were not required to do so, as they only conducted pesticide applications as a contractor of another

licensee. A pesticide applicator contracted by another licensee is not required under the IPMA or IPMR to hold their own service licence. However, all pesticide applicators are required to have an active pesticide applicator certificate in the appropriate category prior to using pesticides. For some sections of the IPMR, compliance findings were not determined or were not applicable if aerial licensees did not actually require a licence. When working as a subcontractor to a licensee, applicators are not required to provide IPM elements or to keep pesticide use records—which is the responsibility of the contracting party. Several applicators, however, indicated they maintained licences in case work comes up that is not contracted by another licensee.

Next Steps to improve compliance

Overall, audit findings indicate that current aerial pesticide use by service licensees represents a relatively low risk to human health and the environment. Office inspections allowed Integrated Pest Management Officers (IPM Officers) to inform aerial licence holders of the requirements of the IPMR and determine which sections were non-compliant and could use additional guidance. The inspections conducted as part of this audit are the best tool for increasing awareness of the requirements under the IPMA and IPMR and improving compliance within the sector.

Some of the key challenges that were encountered by aerial licensees during this audit were meeting the record-keeping requirements, ensuring that IPM is being used prior to pesticide use, and timely submission of annual use summaries. To improve compliance in these areas, ENV will consider improving communications outlining the record-keeping and IPM requirements under the IPMR and associated online resources. ENV will also continue to update the digital resources on the ENV website and provide IPMR-compliant templates and forms to help improve the rate of compliance. In 2022, the [Annual Use Report for Licence Holders](#) was transitioned to online submission to make it easier to submit and track annual pesticide use.

ENV CEEB also attends conferences, webinars, and meetings held by various associations and provides answers to questions relating to the IPMA and IPMR, and presents new information to stakeholders. Ensuring that compliance-related information reaches aerial licensees is key to improving compliance throughout the industry. Ministry staff will continue to work with regulated parties in the aerial service industry to promote compliance, IPM, and good pesticide use practices through outreach such as sector meetings, webinars, and digital resources.

Appendices

Appendix A—Inspected licensees, inspection locations, and compliance response.

EP System Number	Regulated Party	Inspection Number	Response
796	Duka Environmental Services Ltd.	199412	Advisory
259	Morrow Bioscience Ltd. doing business as Morrow Bioscience Ltd.	187382	Advisory
27198	The Salt Spring Island Golf And Country Club	187381	Advisory
3175	Gordon Murray doing business as Bi-Air Application Services Ltd	187380	Advisory
3013	Eclipse Helicopters Ltd	187379	Advisory
763	Western Aerial Applications Ltd.	187378	Advisory
3195	Spectrum Resource Group Inc.	187363	Advisory
27778	Keith Paetkau doing business as Arty's Air Service Ltd.	187362	Advisory
3796	BWP Consulting Inc. doing business as BWP Consulting Inc	187361	Notice
3669	David Sproule doing business as Twin Aviation Inc.	187359	Advisory
8141	Buchanan & Son Aviation Ltd.	187350	Advisory
9676	Bighorn Helicopters Inc.	187293	Advisory