Evaluation of the Detector Dog Service (DDS) Program

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Executive summary

Program background

The Detector Dog Services (DDS) Program mandate is to support national security priorities and facilitate the free flow of legitimate people and goods.

DDS teams assist border service officers (BSOs) in detecting three types of regulated/prohibited goods. Within each type of team, detector dogs are trained to detect odours aligned to the regulated/ prohibited goods identified as the highest priorities.

Number of active teams (table note 1)

Currency	4
Drugs and Firearms (D&F)	45
Food, Plant and Animal (FPA) products	39
Total active DDS teams	88

(table note) Numbers extracted on November 30, 2022 (Program data)

Currently, there are 88 funded teams.[1]

The DDS Program is managed by the Commercial and Trade Branch (CTB) at Headquarters (HQ) and delivered across Canada by the regions.

> The Detector Dog Training Program (DDTP), under the Human Resources Branch (HRB) is a key delivery partner in the DDS Program (out of scope).

The DDS Program's A-Base expenditures over the past 5 years were between $6 million and $7.7 million.

The total expenditures increased starting in fiscal 2018 to 2019 due to additional [redacted] (not all funding went to the DDS Program or was fully spent during the Evaluation period[2]). See Annex D for details.

All [redacted] funding used to train and deploy new DDS teams will be rolled over into A-Base funding.

The following operational terminology is used throughout the report:

- A Detector Dog Service team (DDS team): consists of a detector dog and a handler (FB-03 on assignment)
- Search: purpose-driven time to screen goods, baggage or conveyances
- Indication: detector dog conveys the presence of regulated/ prohibited goods
- Confirmed Indication: presence of trained odour is confirmed (usually through secondary examination)
- Enforcement Action: seizure or Agriculture and Agri-Food Administrative Monetary Penalties Regulations (AAAMP)

Notes:

[1] Not all teams from the African Swine Fever (ASF) [redacted] funding have been deployed yet, but will be by end of fiscal year 2022 to 2023. Also, due to the nature of the Program (dogs retiring or handlers moving to another position), not all funded teams are always active. Some will be in procurement/training stages.

[2] Funding went to the CBSA College (HRB) for dog procurement and DDS teams training. The All-Weather Facility funding went to the Finance and Corporate Management Branch (FCMB) – both are out of scope for this evaluation.

Evaluation scope

Program effectiveness and performance reporting

- Achievement of intended outcomes
- Effectiveness of DDS teams as a detection tool
- Identification of gaps in performance measurement and reporting

Achievement of [redacted] deliverables

- Funds received and spent
- Progress to date in meeting the CBSA commitments

Resource utilization (Efficiency and Economy)

- Efficiency of the DDS Program
- Program resourcing model and the impact of funding on program stability
- Utilization of the DDS teams in enforcement activities

The evaluation covers the period from fiscal years 2017 to 2018 to 2021 to 2022.

Assessed outcomes

The Evaluation focused on assessing the achievement of intermediate-level Program outcomes:

- Legitimate goods cross the border in a timely fashion and are subject to minimal intervention
- Regulated and prohibited goods, including drugs, firearms, currency, and FPA products are intercepted and processed accordingly

Indicators used to assess these outcomes also covered the assessment of the immediate outcome (effective, efficient and non-intrusive screening).

Lines of evidence

Interviews, Survey, Review of Financial Data, Review of Operational Data, Case Studies, Document Review.

Evaluation approach: Attribution vs. contribution

The evaluation employed the Contribution Analysis methodology, an approach used to examine the extent of the various contributions made by the DDS Program towards the Agency's facilitation and enforcement objectives in conjunction with other internal and external factors.[3]

See Annex B for more information on the evaluation methodology and limitations.

Notes:

[3] The aim of Contribution Analysis is to produce a credible, evidence-based narrative of the program's contributions to the expected outcomes and reduce the need to attribute results to the DDS Program alone, when it is acknowledged that a multitude of factors are involved.

Overall findings

The DDS Program is effectively contributing to CBSA enforcement and facilitation objectives by:

- providing efficient and non-intrusive examinations that save time
- reducing threats by effectively intercepting the regulated/prohibited goods DDS teams are trained to detect

The DDS Program is delivering value-for-money for the Agency:

- All [redacted] commitments are on track to be met by the end of 2022 to 2023, as planned
- Program results over time show positive returns from the additional funding [redacted]

There is an opportunity to review the DDS Program's resource allocation and coverage priorities to address existing gaps and maximize enforcement.

There is an opportunity for Program HQ to exercise their functional authority role to provide guidance on regional policies to ensure national consistency and program efficiencies.

No formal performance measurement framework (PMF) exists for the DDS Program.

Recommendations

Recommendation 1: Resource utilization and program focus

The Vice-President of Commercial and Trade Branch should conduct a review of Program priorities, performance results and current resource allocation to determine where DDS Teams could be used to maximize enforcement capacity.

Finding 4: The DDS Program's contributions to firearm interceptions were limited, presenting an opportunity to assess how D&F teams can be maximized in this area.

Finding 5: There is an opportunity to review the DDS Program focus to determine the continued need for detection of certain odours and potentially refocus on threats that are not sufficiently covered.

Finding 9: While limited program resources are generally assigned where needed, [redacted].

Recommendation 2: Program HQ role as the functional authority

With a view to improve efficiency and accountability, the Vice-President of Commercial and Trade Branch should exercise their functional management role to review regional policies/agreements (including the one-dog approach) and provide direction to all Regions to ensure consistency and efficiency of service delivery.

Finding 8: An approach adopted in two Regions, requiring the termination of a Detector Dog Handler's assignment when a detector dog retires/passes, might be creating unnecessary inefficiencies/costs for the Program.

Recommendation 3: Performance measurement and reporting

The Vice-President of Commercial and Trade Branch should formalize a performance measurement framework (PMF) for the Detector Dog Service Program, including an approach to regularly track progress against indicators and fully report on the expected results and value of the program.

Finding 1: DDS teams contribute to the Agency's facilitation objectives by saving processing time and providing efficient and non-intrusive examinations. The extent of these contributions was difficult to measure with existing data.

Finding 6: [redacted] funds were expended as planned and all commitments are on track to be met by end of 2022-2023. Some initial positive results were noted, but more time will be required to fully measure the impacts of these investments.

Finding 10: The Program's current performance measures and reporting only partially assess achievement of results and the value-add of the Program to the Agency.

A management response and action plan (MRAP) is included in Annex A.

Detailed findings

Theme 1: Contributions to facilitation

Finding 1: DDS teams contribute to the Agency's facilitation objectives by saving processing time and conducting efficient and non-intrusive examinations. The extent of these contributions was difficult to measure with existing data.

Outcome assessed: Legitimate goods cross the border in a timely fashion and are subject to minimal intervention.

Evidence from the survey, interviews, case studies and field visits indicated that detector dogs can detect contraband in a fraction of the time than it would take a BSO to search travellers or conveyances.[4] Case studies showed that DDS teams can:

- Currency (Air, Traveller) : Screen a flight of 250-300 passengers in 15 minutes
- D&F (Postal, Commercial): Screen thousands of boxes in 15-20 minutes
- D&F (Marine, Commercial): Screen a container in 5-10 minutes
- FPA (Air, Traveller): Screen a flight of 250-300 passengers in 15-20 minutes

The full extent of the Program's facilitation contributions is difficult to measure through data collected, as without the DDS teams, travellers and conveyances may not be screened at all (due to resource limitations), rather than being screened more slowly. For example, screening an entire flight for FPA products would require examining all travellers and their luggage in secondary.

Across all modes and Regions, most Chiefs and Superintendents said that the DDS teams contribute positively to facilitation objectives by:

- screening high volumes of travellers and goods
- contributing to examinations being conducted faster.

Notes:

[4] Screening times cited are for ideal conditions. Other factors impact the DDS teams' screening times such as weather conditions, high-intensity passenger peaks, and airport staffing.

Finding 2: There are limitations to DDS teams' facilitation abilities, and they must be used in combination with other Agency tools to maximize effectiveness.

Outcome Assessed: Legitimate goods cross the border in a timely fashion and are subject to minimal intervention.

All detection technology tools used by the Agency are designed to be used in alignment with their strengths, and in conjunction with each other. Therefore, limitations to the DDS teams' use do not speak to their effectiveness as a detection tool.

The following limitations to the DDS teams were identified:

- DDS teams are trained to detect one of four types of regulated/prohibited goods:
  - some (but not all) drugs
  - traditional firearms
  - currency
  - food/plant/animal products
    - They cannot be used to detect regulated/prohibited goods for which they have not been trained
- Each detector dog is trained to detect specific odours by type, for example, D&F dogs cannot detect FPA products
  - Three different types of DDS teams need to be present at the same time to screen for all four types of regulated/prohibited products
- The success of DDS teams (as a detection tool) is dependent on the type of DDS team requested and the specifics of the situation
  - This depends of factors such as the experience and judgment of the BSOs and the availability of DDS teams
- The ability to adjust quickly to new threats is limited by the time it takes to design training and train/retrain DDS teams to detect new emerging threats[5]

Note: The use of Contribution Analysis allowed the evaluation to acknowledge that DDS teams are one option among the many detection tools available to Border Services Officers and that other options may have contributed to the success in facilitation or enforcement objectives.

Notes:

[5] The ability to adjust quickly to new threats is limited – time is needed to train DDS teams to detect new threats, including finding safe training aids. Then the teams would need to be evaluated and certified to ensure accuracy. For example, the Program explored the idea of detecting Covid-19, however, Health Canada wasn't able to provide safe training aids. Of note, training (DDTP) is out-of-scope for this evaluation. The case of fentanyl is discussed in Finding 5.

Finding 3: DDS teams are generally effective at intercepting the regulated/prohibited goods they are trained to detect and are positively contributing to the Agency's enforcement objectives.

Outcome assessed: Regulated and prohibited goods, including drugs, firearms, currency, and FPA products are intercepted and processed accordingly.

The percentage of confirmed indications is high amongst all types of DDS teams, meaning they are all operating with a high degree of accuracy (rare false positives).[6]

Average per year (percentages may be over 100 because a single search may yield multiple indications):

- Searches involving DDS teams: [7] 24,834
- Types of DDS teams used (% of total searches):
    - Currency: 5%
    - D&F: 71%
    - FPA: 24%
- % of searches leading to indications:[8]
    - Currency: 179%
    - D&F: 37%
    - FPA: 150%
- % of indications confirmed (prohibited/regulated good found):
    - Currency: 95%
    - D&F: 92%
    - FPA: 91%
- % of confirmed indications leading to enforcement action:
    - Currency: 27%
    - D&F: 76%
    - FPA: 13%

In certain circumstances, DDS teams are more effective or more convenient to use than other technologies.

Since the addition of 19 new FPA DDS teams to airports and postal facilities ([redacted]), the number of pork interceptions has increased from 775 in 2020 to 2021 to 2,310 in 2021 to 2022[9] helping to reduce the threat of African Swine Fever (ASF). ASF poses a significant risk to the health of the Canadian swine herd, the pork industry and the Canadian economy.

Other positive contributions:[10]

Public awareness: DDS teams educate the travelling public on proper declaration requirements, which goods may or may not be brought across the border, as well as awareness sessions at schools and other functions

Spontaneous admission: these are admissions by travellers of having prohibited/regulated goods once a BSO informs them that a DDS team will be called to search them.

Deterrence: DDS teams are visible and contribute to increasing public compliance.

Supporting Traveller Modernization: as the Agency moves towards low-touch environment, DDS teams are integral to enforcement and screening traveller/goods, such as supporting roving.[11]

Quantitative and qualitative evidence shows that DDS teams benefit the Agency by filling a complementary role along with other detection technology.

DDS teams are contributing to Integrated Customs Enforcement System (ICES) seizures[12] with a greater average monetary value per use compared to when no technology or large-scale imagers (LSIs) are used.

The following reflects data from 2017 to 2018 to 2021 to 2022:

- BSO examination (no technology): 68% of all ICES seizures did not use detection technology, accounting for 44% of the monetary value of all seizures
- DDS teams: DDS teams were involved in 4% of all ICES seizures and accounted for 9% of the monetary value of all seizures
- Large-scale imager:[13] 1% of all ICES seizures used LSIs, and accounted for 1% of the value of all seizures.*

Stakeholders (survey and interviews) agreed that DDS teams provide a unique value that cannot be replicated by other CBSA detection tools:

- DDS teams are mobile and can work multiple modes and POEs with little to no set-up
- [redacted]
- LSI takes three to four BSOs to operate and can break down, and is sometimes unavailable for long periods of time
- [redacted]

Note: Contribution analysis allowed comparisons to be made between DDS teams and other forms of detection technologies to assess the extent of the Program's contributions in relation to other contributing factors. It is important to note that a comprehensive analysis of the benefits of other detection technologies was not completed in this evaluation. Comparisons highlight the unique contributions of DDS teams, and are not meant to assess the value of other detection technologies.

Notes:

[6] A false positive is when a detector dog indicates the presence of a regulated/prohibited good, but such good is not found during a search. This could be due to a variety of reasons, including residual odours, cross contamination, or other.

[7] A search is defined as "purpose-driven time" in which the detector dog and DDH are searching for contraband. A search could consist of searching one traveller, or a room with 500 boxes.

[8] A single search may yield multiple indications

[9] Prior to that, the Agency did not specifically track pork seizures.

[10] For additional contributions, see Annex C.

[11] Roving is a fundamental part of the CBSA enforcement and used to screen and refer travellers and conveyances for examination.

[12] ICES is one of the CBSA systems where enforcement actions and seizures are recorded. See Annex B for data limitations.

[13] This includes all LSIs (pallet, mobile and fixed).

* Time period for the data is from 2017-2018 to 2021-2022.

Finding 4: The DDS Program's contributions to firearm[14] interceptions were limited, presenting an opportunity to assess how D&F teams can be maximized in this area.

Outcome Assessed: Regulated and prohibited goods, including drugs, firearms, currency, and FPA products are intercepted and processed accordingly.

D&F teams are used most often (71% of DDS team total use, compared to 24% FPA and 5% currency); however, D&F teams have the lowest percentage of searches leading to indications (37%, compared to over 100% for FPA and currency).[15, 16]

Data from 2017 to 2018 to 2019 to 2020 data shows an increase in total number of firearms (including parts, magazines and ammunition) seizures when DDS teams were used.

Fiscal year	Firearms and Magazine
2017-2018	108
2018-2019	156
2019-2020	200
2020-2021	88
2021-2022	134 (Table note 1)

Table note 1: Upward trend is noticed prior to 2020-2021. Pandemic years (greyed out) cannot be used for trend analysis.

However, DDS teams contributed to less than 1% of total ICES firearms seizures from 2019/20 to 2021-2022:

- Total firearm seizures: 71,003
  - DDS contribution to firearm seizures: 514
- Firearms seizures in Postal Mode: 68,338
  - DDS contribution to Postal Mode firearm seizures: 123

While 96% of CBSA firearms seizures (also includes parts, magazines and ammunition seizures) occurred in postal mode, which since 2019 to 2020 is well-covered by DDS teams, DDS teams contributed very little to interceptions in this mode.

While DDS firearms seizures increased from 2017 to 2018 to 2019 to 2020, the contribution of DDS teams compared to the total number of firearms seizures decreased. This suggests that the DDS teams may not be the most effective detection tool in use to locate firearms.

D&F DDS teams are trained to detect specific odors associated with traditional firearms, [redacted]. This could play a part in reduced DDS contributions to total firearms seizures.

Notes:

[14] Firearms (includes parts, magazines and ammunition)

[15] Percentages may be over 100 because a single search may yield multiple indications.

[16] With FPA and currency – some lack of understanding or awareness of the rules and risks of bringing currency and FPA products across the border. Meanwhile, the rules, risks and consequences of bringing in drugs and firearms are generally well understood. D&F teams are finding mostly prohibited goods, while FPA and Currency teams are finding mostly regulated goods. This speaks to the factor of opportunity, more people are likely to bring across FPA products and currency than prohibited drugs and firearms.

Limitations of detector dogs as a tool for enforcement

Survey respondents (dog handlers) expressed other valid limitations of DDS teams which would need to be considered when making decisions around future investments in detection technology:

- Detector dogs are living beings:
    - Detector dogs can get sick, tired, and can sometimes lose focus, motivation or intensity to search
    - They require attention to basic needs (such as food, water, rest etc.) which can impact their availability
    - Certain temperatures make it difficult for the detector dogs to work (e.g. too hot or too cold)
- Availability of DDS teams and detector dog capability:
    - Limited number of DDS teams and as such they are not always available
    - The detector dogs can only detect contraband if they have been trained in a particular odour or if the contraband has not been concealed in a way that eliminates the odour
- Operational environment factors:
    - Certain environments are not safe for the detector dogs (containers with strong, unknown odours, busy roadways in highway mode) – detector dogs cannot be used
    - Large volumes of passengers or goods sometimes make it challenging for the DDS teams to operate and could present a safety issue for the detector dogs

A note on seizures: Contribution vs. attribution

The evaluation used a contribution analysis approach to acknowledge that seizures cannot be solely and directly attributed to the DDS Program due to the fact that DDS teams are used in conjunction with other tools and are used for confirmation purposes in some instances.

Theme 2: Program focus and priorities

Finding 5: There is an opportunity to review the DDS Program focus to determine the continued need for detection of certain odors and potentially refocus on threats that are not sufficiently covered.

Outcome assessed: Regulated and prohibited goods, including drugs, firearms, currency, and FPA products are intercepted and processed accordingly.

General consensus amongst dog handlers, superintendents and chiefs that the Program is focusing on the right priorities and is aligned with the CBSA Traveller Modernization initiatives and the concept of low-touch environment.

What stakeholders said we should continue to detect:

- ASF (remains a threat to Canada)
- currency and the various drugs that the detector dogs are already trained to detect (remain a threat to Canada)

What stakeholders said about no longer needing to detect marijuana:

- While the *Cannabis Act* (2018) lowered the level of threat that marijuana poses to Canada, it is still illegal to transport it across the border. Some respondents questioned the continued need for this legislation.
- Potential review of the *Cannabis Act* by Strategic Policy Branch could result in changes to CBSA's authority – is the risk health and safety, economic, or both?
- Some dog handlers and their managers felt that it was time to reassess the need to continue to enforce for marijuana at the border.[17]

What stakeholders said we should detect more:

- Some dog handlers and their managers believed that there is a need to train more detector dogs on fentanyl and drug precursors.
- Other considerations and supporting evidence:
    - 86% of all opioid-related deaths in 2021 in Canada involved fentanyl
    - [redacted]
    - [redacted]

Fentanyl precursors: A case study (Annex G-4)

A D&F DDS Team in the Pacific Region (marine mode) was called in to examine a pallet, which had boxes containing an unknown substance.

While the IonScan showed negative results,[18] the detector dog that was trained to detect fentanyl indicated on the boxes.

Further testing revealed the unknown substance as a fentanyl precursor, with the amount seized valued at $18 million.

Detector dogs not trained on fentanyl may not have indicated on the substance, in which case it likely would not have been sent for further testing.

Notes:

[17] Not all respondents agreed. Others noted that, while now legal within Canada, marijuana is illegal to import or export across the border and should remain within the DDS repertoire. It is worth noting too that the Agency's Strategic Policy Branch is engaged in a potential review of the *Cannabis Act* that may results in changes to the CBSA's authority.

[18] The IonScan is an explosives and narcotics trace detector. A negative result indicates that no explosive or narcotics is present in the sample.

Theme 3: Achievement of [redacted] commitments

Finding 6: [redacted] funds were expended as planned and all commitments are on track to be met by end of 2022 to 2023. Some initial positive results were noted, but more time will be required to fully measure the impacts of these investments.[19]

The addition of new DDS teams under the Opioid Crisis and African Swine Fever [redacted] fulfilled the underlying purpose of the [redacted]. The addition of new DDS teams under the Guns and Gangs [redacted] has not fully achieved the expected results of [redacted] – the Program should explore this further. For full details on the [redacted] see Annex D.

Guns and Gangs (2017-2018)	Opioid Crisis (2018)	African Swine Fever (2019)
Expected deliverable: 5 D&F teams	Expected deliverable: 6 D&F teams	Expected deliverable: 24 FPA teams
5 D&F Teams were added in 2018-2019	6 D&F Teams were added in 2018-2019	19 FPA teams were deployed and 2 more will be added by 2022-2023
28% increase from 2018-2019 to 2019-2020 in DDS firearms and magazines seizures	101% increase in total ICES narcotics seizures	198% increase in pork interceptions (reporting began 2020-2021)
7% decrease in DDS contribution to ICES firearms seizures (Table note 1)	373% increase in DDS contribution to ICES narcotics seizures	725% increase in pork-related enforcement actions

Table note 1: Total ICES firearms seizures increased by 156% and DDS contribution decreased by 7%

Notes:

[19] The pandemic years (2020-2021 to 2021-2022) presented a particular challenge to assessing the impacts of these investments, as most teams were added just before the pandemic.

Note: Unless otherwise indicated, calculation are made over the evaluation period (2017 à 2018 to 2021 à 2022)

Theme 4: Program spending and value for money

Finding 7: The Program demonstrates good value-for-money for the Agency. Program contributions to seizures increased substantially over time, while overall Program expenditures increased at a lower rate.

The value of ICES seizures with DDS contribution increased by 515% from 2017 to 2018 to 2021 to 2022, while DDS Program expenditures only increased by approximately 77% within the same timeframe.

During the pandemic in 2021 to 2022 and 2022 to 2023, some DDS teams normally assigned to traveller stream were redirected to the commercial stream, resulting in higher value seizures – a trend that might be worth exploring further.

Comparison of DDS Program contributions to seizures vs. Program expenditures (2017/18 to-2021/22)

$203.00 M

Value of DDS contributing seizures

$33.00 M

Total DDS Program Expenditures

$6.00 M $10.60 M
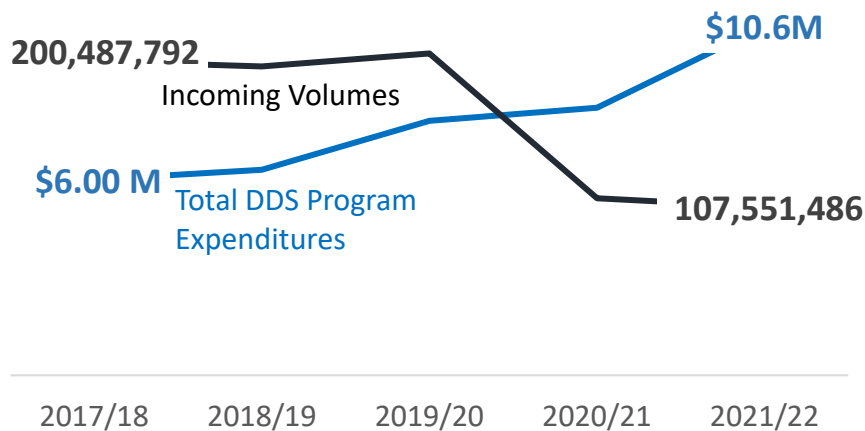
2017/18   2018//19   2019/20   2020/21   2021/22
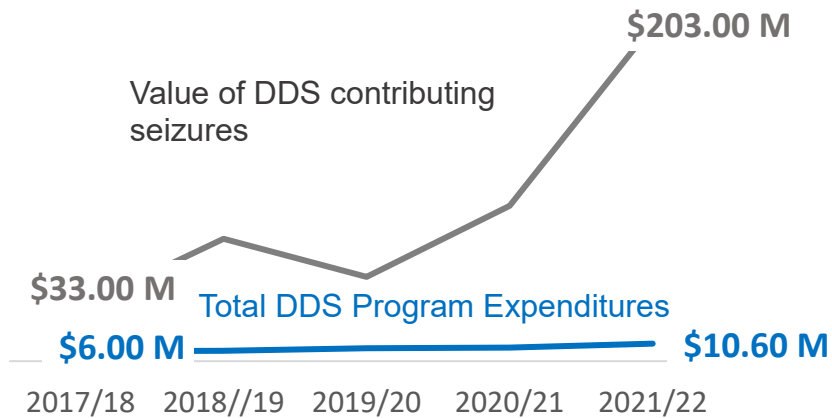
➢ Text version

Despite the fact that total traveller and commercial volumes decreased by 46% since 2017 to 2018 (likely as a result of the Covid-19 pandemic), Program expenditures increased within the same timeframe due to funds already committed [redacted].

Lower commercial and traveller volumes did not impact Program resource use, as the number of searches by DDS teams increased by 29%, and the number of enforcement actions increased by 654% between 2017 to 2018 and 2021 to 2022.

Comparison of Program costs to incoming traveller and conveyance volumes

200,487,792

Incoming Volumes

$10.6M

$6.00 M

Total DDS Program Expenditures

107,551,486

2017/18   2018/19   2019/20   2020/21   2021/22

➢ Text version

Theme 5: Process efficiencies

Finding 8: An approach adopted in two Regions, requiring the termination of a detector dog handler's assignment when a detector dog retires/passes, might be creating unnecessary inefficiencies/costs for the Program.

The one-dog approach:

- Adopted by the PAC and GTA Regions [redacted]
- The approach states that the assignment of DDH duties in the BSO work function will not be extended past the working life of the detector dog[20]

Active years for a detector dog:

- Expectation is that most detector dogs retire after 8 to 10 years of service; however, the evaluation's analysis shows that 66% of detector dogs served between 1 to 7 years, with an average of 6 active years (Annex E)
- Under this one-dog approach, new DDHs must be trained every 6 years (on average) in GTA and PAC

Potential inefficiencies/costs created by the one-dog approach: Investment in terms of money and time is higher for new versus experienced handlers – training a new handler costs at least 2.5 times more than training a new detector dog with an experienced handler.

Comparison of investment (money and time)

Criteria	New DDH	Experienced DDH
Training (time)	Basic course - 10 weeks	Replacement course - 5 weeks
Training (money)	$38,617 – including college costs (accommodation, supplies and training) and regional costs (travel and per diems)	$19,308 – college costs (retraining)
Recruitment (time and costs)	Salary costs of recruitment staff (i.e. time required to run a competition, select candidates and send them to the college for two-day selection process).	Nothing required
Other costs (home kennel)	$14,400 for a new kennel (or between $2,000 and $11,000 to move an existing kennel to a new DDH's home)	No cost
Total costs	**Between $40,617 and $53,017 + training and recruitment resources**	**$19,308 + training resources**

Other unquantifiable impacts:

- loss of gained experience
- loss of relationships built with stakeholders (importers, other handlers, enforcement partners)

- Impact on morale and motivation to perform (according to survey/interviews
  - 88% Of handlers perceived the lack of certainty in terms of a career path to be a main challenge for the program, largely due to this policy

"Very hard to find encouragement to better myself and the dog when, let's face it, this is the only dog I am getting. This also translates over to when new handlers come in, no one wants to assist them because, why bother, we only get one dog."

– DDH

Due to the newness of the approach, it was not possible to track its impact on the number of applicants for recent DDH competitions. However, limited preliminary data suggests the number of applicants may be declining.[21]

When the collaborative agreement was initiated in the PAC Region in 2021, HQ was consulted and agreed with the Region's implementation. At the time, the Program noted HQ is responsible for monitoring results and setting direction in response to the Program's outcomes. HQ's current stance is that the impacts of the one-dog approach, particularly with respect to inclusivity, should be reviewed.

Stakeholders in favour of the approach stated that it is a means through which the Region can reduce performance issues from DDHs, as their continuation in the role is not guaranteed. No evidence was found to confirm this perception. Additionally, underperforming DDHs can be performance-managed through existing channels, including individual performance assessments and ending an assignment early, if necessary.

Under FMM, HQ Program staff (the functional authority) has the responsibility to assess the current impact of the one-dog approach on the consistency and efficiency of service delivery across the Regions.

Notes:

[20] The PAC Region's Collaborative Agreement states that while each assignment is for the duration of the working life of the detector dog, the same handler may apply for a new assignment, with a new detector dog, once the first has concluded. Should the detector dog need to be replaced within the first 4 years of the team for any reason, the handler will be considered to receive a new detector dog.

[21] Numbers of applicants may be declining due to other factors concerning the DDH role, such as: requirement to have a yard to construct a home kennel which is becoming a challenge with high property prices, and policy around long-term leave (losing the assignment if going on leave for 90 consecutive days or more).

Theme 6: Resource utilization

Finding 9: While limited program resources are generally assigned where needed, [redacted].[22]

Generally, there is good coverage in air mode and a good rationale for assigning DDS teams to other modes, including:

Team type	Coverage	Rationale for assigning DDS Teams

FPA	[redacted]	FPA products are higher risk when coming from overseas ([redacted]).
Currency	[redacted]	Although there are only 4 teams, they show good results in [redacted], including seizures of $16.5M over 5 fiscal years.
D&F	[redacted]	High use of DDS teams in these modes; overall, high number of seizures (although limited firearm seizures in postal specifically).

[redacted]: DDS teams could be used as an efficient, non-intrusive tool to determine risks in [redacted].

[redacted]; evidence of risk.

[redacted]. For example:

- [redacted] – 3 DDS teams assigned: 1 FPA team in air and 2 D&F teams in land. Vast geographical area; increasing commercial volumes
- [redacted]. Large geographical area; high traveller and commercial volumes in land, air, marine, and rail

Other potential limited coverage:

- [redacted] (where there are 21 million commercial releases over the period of 5 fiscal years, [redacted]).[23]

[redacted].[24]

DDS teams are called into marine when available and needed.

- [redacted].

In the marine mode commercial volumes are high. In 2019:

- Halifax Port reported 1,774,872 metric tonnes (MT) in imports;
- Port of Vancouver reported 16,598,382 MT in foreign inbound volumes.

Preliminary data shows that D&F teams add value when used in the marine mode:

- Over the past five years: 1,820 ICES seizures in marine - DDS teams contributed to 44 of these (2% of all seizures).
- Total value of all seizures was $1B - the DDS teams contributed to $673M (67% of total value).

Regional stakeholders expressed strong support to add DDS resources to the marine mode.

Example from the Pacific Region

Over the last nine months (April to December 2022), a D&F team has been assisting in the marine mode due to the pallet LSI being broken down. Their contributions included:

- 524 searches (136 hours)
- 44 DDS indications
- 21 indications confirmed[25]
- 18 seizures ($118.8M)
    - 3,527 kg of meth and fentanyl precursors
    - 1,807 kg of opium 593 kg of marijuana[26]
    - 18 kg of methamphetamine

In comparison, the same D&F teams had the following statistics in the postal mode during the same period:

- 160 searches (52 hours)
- 139 DDS indications
- 112 indications confirmed
- 101 seizures ($805,607)

Note that though success rate (confirmed indications and seizures) is higher in postal, the monetary value is much lower.

This is not to discount the importance and value add of teams in postal, but to showcase how teams can contribute to enforcement in both modes.

Notes:

[22] To conduct the analysis, the evaluation looked at the current funded teams (October 2022) and used other contextualizing information such as travellers and commercial volumes, geographical information, interviews and document review to assess coverage .

[23] GTA has [redacted] funded teams, all placed at Pearson's International Airport (PIA) and the Mail Centre. GTA DDS teams are available to other POEs and off site examination facilities within the region when requested. [redacted].

[24] [redacted].

[25] Interesting to note: In this example, the percentage of confirmed indications is much lower than the overall average for all modes (48%, compared to average above 90% for all modes). It could be that the detector dogs were indicating on traces of drugs possibly concealed in the area and subsequently moved, or that BSOs were unable to locate something that was actually there, as dismantling and examining marine conveyances can be complex.

[26] [redacted]. Without the DDS teams, BSOs would have to dismantle and examine the pallets to find contraband.

Theme 7: Performance measurement and reporting

Finding 10: The program's current performance measures and reporting only partially assess achievement of results and the value add of the program to the Agency.

No formal performance measurement framework (PMF) exists, including a logic model and associated, relevant indicators and targets to measure and report on progress to achieving expected outcomes.

A logic model was developed by the evaluation team and approved by the program during the scoping phase (Annex F). The outcomes in the logic model align with the program's stated mandate and could be used as the basis to develop a formal PMF.

In the past three years, the program has made some improvements in measuring and tracking performance:

- Improvements to the Handler Activity Report (HAR) system that allow for granular and aggregated reporting
- The program reports to the Agency on five key performance indicators annually, which are aligned to some expected outcomes, but do not cover achievements of all expected results; and
- In the past two years, the program created the Program Integrity Analysis Report, but this provides limited performance information.

Opportunity exists to fully leverage the reporting capability of the Program, specifically in demonstrating its value for money.

Annexes

[List each and anchor to page section]

Annexes

Annex A: Management response and action plan

Recommendation 1 – Resource utilization and Program focus: The Vice-President of Commercial and Trade Branch should conduct a review of Program priorities, performance results and current resource allocation to determine where DDS Teams could be used to maximize enforcement capacity.

Management response: The Vice-President (VP) of the Commercial and Trade Branch (CTB) agrees with the recommendation to conduct a review of DDS program priorities, performance results and resource allocations to maximize DDS enforcement capacity. By implementing the management action plan items below CTB will: ensure that detector dogs are maximized as a tool for detecting regulated/prohibited goods for which current performance data indicates that limitations may exist (e.g. firearms, fentanyl, precursors); ensure that the Program's focus is aligned with overall Agency and Government of Canada priorities for the detection of prohibited goods that pose the highest risks to Canadians; and review coverage across all regions and modes to produce the best possible results. The CTB will collaborate with relevant stakeholders, including the Human Resources Branch's (HRB) Detector Dog Training Program, the Regions and Health Canada (HC), to evaluate and reassess program priorities and validate the feasibility of desired changes. A DDS resource allocation plan will be developed, to align with the

Detection Tool Strategy vision and to promote strategic placement of resources in areas and/or modes with gaps in DDS coverage.

Management action plan	Completion date	Lead	Support
1. Review the DDS Program's current odour profile against program enforcement results, CBSA priorities, and emerging threats to ensure the Program is focused on the areas of highest risk.	June 2024	CTB	HRB
2. Develop a DDS resource allocation plan to address areas with gaps in coverage ([redacted]); that takes into account the regional and program-specific allocation of DDS resources and the Program's performance results.	March 2024	CTB	Regions
3. Incorporate DDS allocation in the integrated business plans (IBPs)/regional plans, so that regional and program-specific allocations can be assessed/revisited on a yearly basis.	March 2024	CTB	CTB (IPPMD)

Recommendation 2 – Program HQ role as the functional authority: With a view to improve efficiency and accountability, the Vice-President of Commercial and Trade Branch should exercise their functional management role to review regional policies/agreements (including the one-dog approach) and provide direction to all Regions to ensure consistency and efficiency of service delivery.

Management response: The VP of CTB agrees with the recommendation to exercise their role as the DDS Program's functional authority. The CTB, will consult with relevant stakeholders, including HRB, and the Strategic Policy Branch (GBA Plus team), to review existing regional policies/agreements and refine national policies to ensure efficient and effective service delivery. The review will result in a more consistent and equitable approach to staffing Detector Dog Handler (DDH) assignments and promote a work environment that is more inclusive and non-discriminatory. The DDS manual will be updated to refine the roles and responsibilities of the DDS national program authority, in an effort to provide clear policy direction that promotes program effectiveness.

Management action plan	Completion date	Lead	Support
1. Develop a national approach related to DDH assignments that contributes to the stability of the Program and is reflective of regional priorities and of GBA Plus considerations when relevant.	January 2024	CTB	HRB
2. Update the DDS Manual to refine the roles and responsibilities of the DDS national program authority to improve Program accountability and performance.	January 2024	CTB	HRB
3. Take stock of existing DDS regional policies/agreements and assess their impact on, and alignment with, national Program efficiency and service delivery priorities.	January 2024	CTB	Regions

Recommendation 3 – Performance measurement and reporting: The Vice-President of Commercial and Trade Branch should formalize a performance measurement framework (PMF) for the Detector Dog Service Program, including an approach to regularly track progress against indicators and fully report on the expected results and value of the program.

Management response: The VP of the CTB agrees with the recommendation to formalize a performance measurement framework (PMF). The CTB, will consult with relevant stakeholders in the Finance and Corporate Management Branch (FCMB), to develop a PMF that will allow CTB to monitor, measure and report on the effectiveness of the DDS program (achievement of expected outcomes), its efficiency (resource utilization) and that demonstrates the value of the Program to the Agency.

Management action plan	Completion date	Lead	Support
1. Develop a PMF, including key performance indicators, to monitor and report on the Program's expected outcomes in the existing logic model, including contributions to the Agency's facilitation and enforcement objectives.	December 2023	CTB	FCMB
2. Incorporate PMF indicators in the annual DDS Performance & Activity Report to identify challenges and opportunities.	March 2024	CTB	N/A

Annex B: Evaluation methodology and limitations

Methodology

The evaluation applied a contribution analysis approach and used multiple lines of evidence, including:

- Interviews: 32 (including chiefs and superintendents from all Regions and covering all modes, plus two District Directors)
- Survey: All active detector dog Handlers were invited to participate (n=77). The response rate of 73% was deemed representative
- Review of financial data: costing and analytical (CAM) data provided by FCMB. Reviewed years 2017 to 2018 to 2020 to 2021
- Review of operational data: postal, commercial and traveller volumes, Handler Activity Report (HAR), and ICES data. Reviewed years 2017 to 2018 to 2020 to 2021
- Case studies: Five case studies covering different types of DDS teams, regions, modes, and seizures (See Annex G for detailed case studies)
- Field visit: the evaluation team visited Ottawa International Airport and observed the FPA DDS team in action[1]
- Document and literature review: review of program documents and literature on threats and similar programs in other countries

General data limitations

Volumes data included combined traveller, commercial, and postal volumes. Volumes could not be disaggregated to protect the confidentiality of postal volume data provided by Canada Post.

ICES data includes traveller and minimal commercial seizures (0.77% of all seizures were listed as commercial seizures). Commercial seizures from other data systems were sought by the evaluation team but were not available for analysis.

ICES requires input by BSOs, which may have resulted in human error while inputting data.

As data was reviewed from 2017 to 2018 to 2021 to 2022, trend analyses are caveated by the impact from the Covid-19 pandemic years (2020- to 021 and 2021 to 2022).

Given the complementary nature of detection technology used by front-line staff, seizures cannot be attributed to DDS teams. Rather, the evaluation explored the contribution made by DDS teams to enforcement and facilitation objectives.

Notes:

[1] Originally, the evaluation team planned to visit the Pacific Region to observe operations in air, land, postal and marine. However, this was not possible due to the summer schedule and the high volume of travellers and cargo following the lift of travel-restrictions.

Annex C: Other program contributions

DDS Program

1. Enforcement[2]
   - Intercept regulated FPA products
     - Protecting Canada's environment and economy
   - Intercept undeclared currency
     - Intercept movement of illicit goods linked to financial transactions and proceeds of crime
   - Elicit non-verbal indications/behaviors
     - Traveller modernization and roving
   - Intercept D&F
     - Public safety (opioid and gun violence crises)
   - Deterrence and spontaneous admission
2. Public relations
   - Public education
   - Recruitment
   - Visibility and branding
3. Facilitation*
   - Primary
   - Secondary
4. Operations
   - Moral boost
   - Mentoring in enforcement
   - Frontline safety
5. Partnerships
   - Local enforcement partners
   - International relationship for training

Notes:

2 Enforcement and facilitation have been discussed in the main report.

Annex D: Details of [redacted] commitments

[redacted]	Initiative timeline	Expected deliverables	Expected delivery date	One-time funding to the CBSA	Ongoing funding to the CBSA	Delivered
Guns & Gangs (2017-2018)	7 years	5 new D&F DDS teams	2024	$16.68 M	$1.22 M	5 new teams were deployed by 2018-2019
Opioid Crisis (2018)	5 years	6 new D&F DDS teams	2023	$1.9 M	0.2 M	6 teams detecting fentanyl were deployed by 2018-2019[1]
African Swine Fever (2019)	5 years	24 new FPA DDS teams	2024	$31.2 M	$5.8 M	On track to deploy 24 new teams by end of 2022-2023 (so far 19 teams have been deployed)

Table note 1: The DDS program had 72 funded teams until 2012. It then reduced to 53 and did not increase until G&G [redacted] in December 2018 (+5) . Then with Opioids (+6) in March 2019. Finally (+19) from ASF so far with 5 more to complete by end of 2022 to 2023.

Annex E: Supplementary information—Detector dog active years

Number of detector dogs by years active before retirement[1]

Years active (range)	Number of dogs
1-3	22
3-5	22
5-7	25
7-9	20
9-11	15

Table note 1: Ranges of active years are rounded to the nearest whole number.

Analysis:

- Average working life of detector dogs is 6 years (median: 6; mode: 8; based on working life, over the last 12 years)
- The expectation is that most detector dogs retire after 8 to 10 years of service; however, analysis did not reflect this (see graph)

Annex F: DDS Program logic model

CBSA strategic outcome: International trade and travel is facilitated across Canada's borders and Canada's population is protected from border-related risks.

Program outcomes
- Ultimate: The DDS Program contributes to the mitigation of threat to the safety and security of Canada from border-related risks, and supports the facilitation of admissible travellers and goods across the border
- Intermediate
    - Legitimate goods cross the border in a timely fashion and are subject to minimal intervention
    - Regulated and prohibited goods are intercepted and processed accordingly
    - Increased public awareness of CBSA detection capacities and cross-border regulations
- Immediate:
    - More effective, efficient and non-intrusive screening of travellers, goods, mail, and conveyances at ports of entry, mail/courier facilities and examination locations
    - Increased public awareness of CBSA detection capacities and cross-border regulations

Outputs
- Management (CTB, HQ)
    - Policies
    - Guidance documents
    - Performance reports
    - Risk and financial assessments
    - Publications
- Delivery (Regions)
    - Recorded searches
    - Handler activity reports
    - Completed training records
    - Publications/ materials distributed to public
- Detector Dog Training Program (CBSA College, HRB)
    - Trained and informed DDS Teams (a dog and a handler) ready to perform their duties
    - Technical guidance materials
    - Training and certification courses and materials

Activities
- Management (CTB, HQ)
    - Develop policy
    - Provide functional guidance
    - Seek opportunities to fund program expansion
    - Strategic allocation of DDS Teams to high-risk POEs and operational streams
    - Conduct performance measurement and reporting
    - Coordinates with key delivery partners
- Delivery (Regions)
    - DDS teams conduct and assist in examinations/searches at POEs and other locations, and engage in ongoing training activities
    - DDS teams attend events, conduct demonstrations, and educate the public
- Detector Dog Training Program (CBSA College, HRB)
    - Procure dogs

- Conduct candidate assessments, technical evaluations, and certifications/ (re)certifications
- Train dogs and handlers
- Provide technical advice/SME

Program mandate

The DDS Program contributes to public safety and the protection of Canada's environment and economy by assisting front-line BSOs in the detection of prohibited and regulated goods.

Assumption

The DDS Program has a complement of trained DDS teams capable of detecting regulated and prohibited goods that have been identified as priority for detection. This capacity is supplied by the DDTP, HRB.

Annex G: Case studies

Case study 1: Handler Heidi Paterson and Detector Dog Ridgeway (Currency DDS Team)
Stream: Travellers
Mode: Air
Date: April 19, 2022
Place: Pearson International Airport, GTA
Seizure value: $42,312
Enforcement action: Level 1 seizure, fine paid by traveller

Case narrative:
1. While searching a Turkish Airways flight, Detector Dog Ridgeway approached a female traveller and immediately indicated towards her purse.
2. As a result, the traveller was referred to secondary for further examination.
3. In secondary, the BSO discovered the traveller had 30,004 USD and 3270 Euros. The traveller admitted to concealing the funds, as she was concerned about withdrawing the funds from her country of origin.
4. BSO educated the woman and fined her $250.
5. It should be noted that this traveller completed a similar traveller itinerary 2 months later (in June 2022). Thanks to the previous interception by the DDS team, and the subsequent education upon the discovery of contraband, the passenger properly declared all currency upon entering Canada this second time.

Contributions to the CBSA and Canada

Facilitation: Currency DDS teams can screen 250-300 travellers in less than 30 minutes.

[redacted]

Non-intrusive selective referrals: Detector dogs [redacted].

Following the money: Undeclared currency could be proceeds of a crime or helping to fund criminal or terrorist organizations. Finding and seizing concealed funds contributes to the enforcement mandate of the CBSA and keeps Canada safe.

Integrity of other programs: There are several reasons a passenger may conceal currency. They may want to continue collecting government assistance without declaring their assets or income. Finding and seizing concealed currency upholds the integrity of other Government of Canada programs.

Educating the public: Travellers usually carry funds on their person rather than luggage, giving currency DDS teams the opportunity to get close to travellers and to educate them on the importance of declaring currency.

Mentoring the front-line: By dealing with the referrals of the DDS team and using the handler experience, the BSOs learn about currency finds and seizures.

What would have happened if the team was not there that day?

> Unless the Currency DDS Team was sent to search the plane based on suspicion of this specific traveller, it would have taken multiple BSOs several hours to screen the entire flight to identify and refer this specific traveller to secondary.
> The traveller may have walked out the door with undeclared currency and potentially continued not declaring during future travel.

Case study 2: Handler Kyle Hardy and Detector Dog Piper (Firearm DDS team)
Stream: Travellers
Mode: Land
Date: October 21, 2021
Place: Ambassador Bridge, SOR
Enforcement action: Seizure of 2 firearms and 256 g of cannabis, traveller arrested and sentenced to 1 year in jail

Case narrative:
1. Two travellers in a vehicle from the US claimed to have made a wrong turn and ended up at the Ambassador Bridge POE.
2. As the BSO began questioning the travellers, the driver mentioned the car was in "valet mode," and therefore the glovebox and trunk could not be opened. Kyle and Piper were called.
3. Piper indicated on one of the travellers, the trunk, the centre console, and the glovebox. BSOs then used a fiberscope to continue searching, and eventually were able to open the compartments within the vehicle.
4. Once opened, BSOs discovered one handgun with the serial numbered filed off, a second handgun that was determined to be stolen, and 256 g of marijuana.
5. Local police were notified, and the driver was later sentenced to 1 year in jail.

Contributions to the CBSA and Canada

Keeping guns and drugs off the street: By indicating on contraband and providing grounds for detention, the DDS team helped keep guns and drugs off the streets, especially important with the rise of gun violence in Canada.

[redacted]. It would have taken several hours and 4-5 BSOs to tow the vehicle to X-ray it.

Deterrence factor: The presence of a DDS team acts as a deterrent to travellers who might break the law, leading to spontaneous admission in some cases.

Boosting the morale and experience of BSOs: Once a detector dog indicates on a vehicle, officers are motivated to search until the contraband is found. The indication from a DDS team gives BSOs the confidence that their suspicion on the presence of contraband was correct. Due to their experience and specialization, detector dog handlers can help mentor less experienced BSOs on what to look for while examining a traveller or a vehicle.

Dogs are highly specialized: Detector dogs are the only detection tool always used by the same individual. Other tools may not be properly maintained, and are only as capable as the user. DDS teams are a highly specialized and selective tool.

One seizure can lead to more: BSOs are more likely to request DDS team assistance when they are already on site, as they have confidence and trust in their expertise.

What would have happened if the team was not there that day?
- The travellers could have simply been directed back to the US. Thus, we could have unknowingly put the lives of US bound travellers, and our peers at USCBP at risk while encountering these travellers.

Case study 3: Handler Gwen Pease and Detector Dog Kodiak (FPA DDS team)
Stream: Travellers
Mode: Air
Date: December 28, 2021 to January 3, 2022
Place: Calgary International Airport, PRA

A week in the life of an FPA DDS team:
At the Calgary Airport, the two FPA teams aim to screen 100% of all international overseas flights. During the week of December 28, 2021 to January 3, 2022, the DDS team issued 3 enforcement actions concerning three separate cases:
1. Kodiak indicated on a bag on the carousel. The traveller had declared admissible food in primary and therefore was not referred to secondary. The traveller had a verbal warning on their file from the handler for bringing inadmissible food previously. Upon examination of the bags, the handler noticed bone structure of hands and paws belonging to the inadmissible invasive grass-cutter rats. The traveller was issued an AAAMP.
2. Kodiak indicated on a delayed bag. The handler made the connection to another bag with the same name tag in secondary. Both bags were examined revealing an array of various regulated meat and food products, including primate body parts. A DNA test preformed by Environment Canada revealed meat of Western Red Colobus Monkey and Sooty Mangabey Monkey. Amongst the monkey was domestic cow, frog, tuna, and red river hog (a species that could carry the ASF virus). The traveller was issued an AAAMP.

3. Kodiak indicated on a bag on the carousel. The traveller insisted there was no meat. Upon examination, 5 bags of meat and 4.5 kg of plant materials including bark, roots and soil were found. The traveller was released with an AAAMP warning as their children were showing symptoms of Covid-19 and needed to go for testing immediately per the Covid-19 protocol.

Contributions to the CBSA and Canada

Protecting Canada's environment and biodiversity: Soil and plant materials are internationally recognized as a high-risk pathway for introducing pests and animal pathogens. By interdicting them, the DDS team protected Canada's biodiversity from potentially invasive species and pests.

Protecting farming and agriculture industries: FPA DDS team prevent the introduction of foreign species that can result in disastrous impacts on the farming and agriculture industries. The African Swine Fever could cost billions in losses to the pork industry in Canada.

Combating wildlife trafficking: By indicating on meat of endangered animals such as primates, the DDS team contributes to Canada's stand against wildlife poaching and trafficking.

[redacted]: Nearly all travellers carry some sort of an FPA product in their luggage. X-raying and examining all bags on a flight requires extensive time and resources. FPA DDS teams only indicate on bags with FPA products that may require intercepting. DDS teams are an efficient, selective and non-intrusive detection tool. Additionally, a detector dog does not stop once they indicate on one bag, but continues to screen the rest of the travellers and their baggage. This autonomy is not replicated by any other detection tool.

Educating and deterring the travelling public: Not all inadmissible FPA products result in an AAAMP, but they may result in raising the awareness of travellers to the importance of declaring accurately. Seeing the detector dog searching may be a strong deterrent factor as well.

Mentoring the front line: FPA DDHs are generally considered subject- matter experts in examining bags for FPA products, and issuing a subsequent AAAMP, if and when warranted. These skills may be taught by the handlers to their front-line colleagues.

What would have happened if the team was not there that day?

Since examining 100% of travellers' luggage is very inefficient without the use of a DDS team, there is a high likelihood that the luggage of the travellers in question may never have been examined. Plant and animal products carrying invasive pests or pathogens could have entered Canada and caused significant damage.

Case study 4: Handler Tracey Skelton and Detector Dog Kaya (Drug & Firearm DDS team)
Stream: Commercial
Mode: Marine
Date: December 21, 2021

Place: Tsawwassen Container Examination Facility, Pacific
Seizure value: $18 million
Enforcement action: Level 1 seizure, fine paid by traveller

Case narrative:
1. DDH Tracey was called in to the container examination facility after arriving home from a shift.
2. Kaya performed a search on the offloaded part of the container and indicated on one box and showed interest in two other boxes. Due to the strong chemical smell the container emitted, the handler did not send the detector dog into the container. After offloading more boxes and dispersing them on the floor, the detector dog gave positive indications on the two additional boxes.
3. Ion swabs were performed and showed negative results. However, due to the detector dog indication, samples were sent to the lab.
4. The boxes were concealed and undeclared, and the shipment was listed as household goods.
5. The lab later confirmed that the powders were fentanyl precursors.

Contributions to the CBSA and Canada

Safety of Canadians: 86% of all opioid-related deaths in 2021 involved fentanyl. Finding and seizing illegal and highly toxic substances such as fentanyl is a direct contribution to the safety and health of Canadians.

Safety of BSOs: Other detection tools are not always available and, as seen in this case with the ion scans, sometimes they are imperfect. Without the presence of the DDS team, the safety of the BSOs could have been compromised as exposure to fentanyl can be fatal.

Reputation of Canada: With the increase in illegal drug exports from Canada, including fentanyl, the interception of the precursors shipment contributed to preventing more fentanyl from being produced and distributed. [3]

Reliability and efficiency: Other detection technologies are not always available. [redacted]. The LSI requires 3-4 BSOs with specialized training to operate it.

One-of-a-kind detection tool: Other detection technologies, such as X-ray machines, require BSO expertise in order to detect contraband - although powders are visible on an X-ray, the X-ray cannot detect what type of powder it is, whether it is a narcotic or an admissible product.

Mentoring the front line: In this case, BSOs were able to learn firsthand how to use different detection technologies, what smells to avoid, what and where to look for suspicious goods, and the reliability of the different detection tools, such as the Ion Scan.

What would have happened if the team was not there that day?
- The seizure may have not occurred due to the negative results of the ion scans.
- The containers and packages could have been opened and could have posed a danger to BSOs.

Notes:

3 Though the contribution to maintaining Canadian integrity and reputation is valid, it is important to note that [redacted], nor are there expected outcomes related to this activity.

**Case study 5: Handlers Jonathan Tjan and Darrin Azzano and Detector Dogs Perce and Pepsi
(D&F and FPA DDS teams)**
Stream: Commercial
Mode: Postal
Location: International Mail Processing Centre, GTA

FPA DDS teams
- Jonathan Tjan and his detector dog Perce work together to find inadmissible food, plant, and animal products at the mail centre
- Mail from high-risk countries is placed in a room in rows, and the FPA detector dogs can quickly search through a large quantity of boxes within a few minutes
- They are also available to assist BSOs when they see something on an X-ray that looks suspicious, and train less experienced BSOs on what contraband looks like under the X-ray
- On an average day, each FPA team will search 600-800 parcels and often get a minimum of 5 positive indications

D&F DDS teams
- Darrin Azzano and detector dog, Pepsi, search for drugs and firearms at the mail centre
- Pepsi is able to search thousands of parcels for drugs and firearms (imports or exports) within 15-20 minutes. When any contraband is found, BSOs are called in to assist with the seizure
- Darrin has built relationships with staff at the shipping warehouses, and plans his day around their import schedules
- On any given day, Darrin and Pepsi will find 12 to 55 parcels containing contraband

Contributions to the CBSA and Canada

Protecting the front line: BSO safety is a priority for the Agency. Detector dogs are able to indicate on packages without opening them, and potentially exposing BSOs to harmful chemicals or drugs.

Facilitation: Detector dogs can search thousands of packages in a matter of minutes (depending on the type of team), ensuring that legitimate imports and exports enter/leave Canada without delay.

You can't fool the detector dogs: As detector dogs are trained on odours, they are not easily tricked by evolving methods of concealment. Other detection tools may not have the ability to keep up with new concealment
methods.

Integrity and reputation of Canada

Searching exports and seizing contraband not only disrupts criminal organizations, but maintains the integrity and reputation of the CBSA and of Canada. [4]

Information is shared across the Agency
DDS handlers receive calls from other handlers and BSOs across the Agency, asking if they've noticed trends. Handlers are able to share information on what they see, helping BSOs make seizures across the country.

What would happen without DDS teams in postal mode?

Without the presence of DDS teams at mail centres, exports could leave without being
    searched. When illegal products coming from Canada are discovered by the Customs service of a foreign country, Canada is seen as a "source" for contraband.
    The ability to screen imports could be limited to items that are x-rayed. Contraband is often concealed in a manner that may not appear on X-rays, potentially leading to dangerous goods flowing into the country.

Notes:

[4] Though the contribution to maintaining Canadian integrity and reputation is valid, it is important to note that [redacted], nor are there expected outcomes related to this activity.