Attachment 1

2019 Ecosystem Compensation Management Program Summary Report

Prepared by TRCA Ecosystem Compensation Program Review Team

October 2019

Executive Summary

Toronto and Region Conservation Authority (TRCA) formally adopted the Guideline for Determining Ecosystem Compensation in June 2018. Following this, the Ecosystem Compensation Management Framework, which outlines how the workflow and application of compensation funds should be governed internally, was finalized in June 2019. Recommended within the Ecosystem Compensation Management Framework is regular reporting to identify how well TRCA is meeting the goals that have been set out to track performance. This program summary is the first to be produced and discusses how TRCA is doing in relation to these governance goals. Several recommendations have been identified that will help improve the way the Ecosystem Compensation Management Program functions, including improvements to collaborative communications internally and externally, data sharing, restoration implementation, and land acquisitions.

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BACKGROUND

Guideline for Determining Ecosystem Compensation

In June 2018 TRCA Board of Directors approved the adoption of the Guideline for Determining Ecosystem Compensation (RES.#A85/18) (hereafter referred to as the "Guideline"). The purpose of the Guideline is to provide guidance on how to determine the total amount of compensation required to replace lost or altered ecosystems in a consistent and transparent manner, after it has been decided through the planning or environmental assessment process that unavoidable losses will or must take place. The Guideline is written to assist planners, ecologists, landscape architects, landowners, engineers and other practitioners and interested parties in understanding how compensation for ecosystem losses can be implemented. Promoting strategic and effective implementation of compensation restoration, the Guideline attempts to provide a standard and consistent approach, informed by science and decades of experience in the application of natural heritage planning and ecological restoration.

Ecosystem Compensation Management Framework

The Ecosystem Compensation Management Framework (June 2019) (hereafter referred to as the "Framework") outlines the tools and processes needed to ensure an accountable, transparent, consistent, efficient, and adaptive approach to managing TRCA's ecosystem compensation management program. The Framework should be applied to all cases where funds are directed to TRCA, via an approved agreement for implementing feature restoration and conservation land securement. The agreement would typically be an outcome of the municipal planning process, environmental assessment process, municipal tree/forest/natural feature by-laws implementation, Local Planning Appeal Tribunal (formerly the Ontario Municipal Board) agreements and orders, Ministry of the Environment, Conservation and Parks (MECP) Species at Risk (Overall Benefit) Permits, Fisheries and Oceans Canada (DFO) Fish Habitat Compensation, as well as other processes (e.g. National Energy Board decisions).

The Framework uses existing tools and approaches TRCA has developed for effective project and program management. This Framework currently provides direction for those situations where TRCA is receiving funds to implement ecosystem compensation; however, it also recognizes the collaborative nature of the compensation process, the varying roles of the parties involved, and the need for coordination, particularly with TRCA's municipal partners. Although this Framework focuses on TRCA's role in the process, the tools and approaches outlined can also be adapted and used by others for managing compensation decisions and actions.

The Framework also defines two key groups within the Ecosystem Compensation Management Program. The first is the Project Review Team which is established for each file to review and approve proposed land development and infrastructure projects. This team is made up of external partners (where appropriate) as well as TRCA staff from several TRCA divisions including Development Planning and Permits, Infrastructure Planning and Permits, Planning Ecology, Restoration Projects, Engineering Services, Finance, and Property and Risk Management. The second is the Ecosystem Compensation Management Program Review Team which is tasked with evaluating and reporting on the effectiveness of the overall Ecosystem Compensation Management Program approach as well as providing comment on individual projects that are overly complicated or contentious. This team will consist of TRCA staff representing Planning, Planning Ecology, Restoration, Finance and Property and Risk Management.

Ecosystem Compensation Management Program Reporting

Regular reporting will be brought to the TRCA Board of Directors to summarize the status of all ecosystem compensation projects implemented by TRCA within or outside of regulated areas, providing an update on the program (successes and challenges), and outlining recommendations for future program improvements. This regular reporting is proposed to occur on an annual basis. This report is the first iteration of the annual reporting.

RATIONALE

Ecosystem Compensation Management Framework Goals

Below are the set of goals that helped to guide the development of the Framework, which have been adapted from the guiding principles outlined in TRCA's Guideline for Determining Ecosystem Compensation:

1. There is no net loss (and ideally a net gain) to the natural heritage system function due to impacts associated with land use changes or development and infrastructure impacts within the TRCA jurisdiction;
2. TRCA is accountable in the delivery of its compensation program;
3. The compensation process is transparent and traceable;
4. The compensation process is consistent;
5. The compensation process is efficient and timely; and
6. An adaptive approach to management is regularly used to ensure that deficiencies are identified and recommendations for improvement are implemented.

These goals will be used as the basis for reporting on performance measures to describe the effectiveness of the overall Ecosystem Compensation Management Program. The information summarized below presents a picture of the Ecosystem Compensation Management Program at TRCA.

DETAILS

Ecosystem Compensation Management Program Summary

The information contained within this summary report was taken from TRCA's compensation database. The compensation database is a database where the information collected by the Project File Review Team can be represented as forms, figures, and maps. Figure 1, Location of TRCA Compensation Projects, maps the compensation impacts and restoration projects across the jurisdiction. These impacts are identified as either inactive, in negotiations, or various stages of completion from restoration being planned, to currently implementing, has been implemented, being monitored, maintained or whether the impact file has been completed and closed out. The restoration sites (where off site restoration is required) are identified in dark grey and are linked to the impact sites with a red line. The varying distances from impact sites to restoration sites demonstrate that compensation restoration is targeted as close to the impact site as possible, while still considering placement within the municipality and referencing TRCA's Integrated Restoration Prioritization tool for the watershed. Older projects may be farther

from the impact site or cross boundary lines between municipalities or watersheds, as no firm requirements were previously in place.

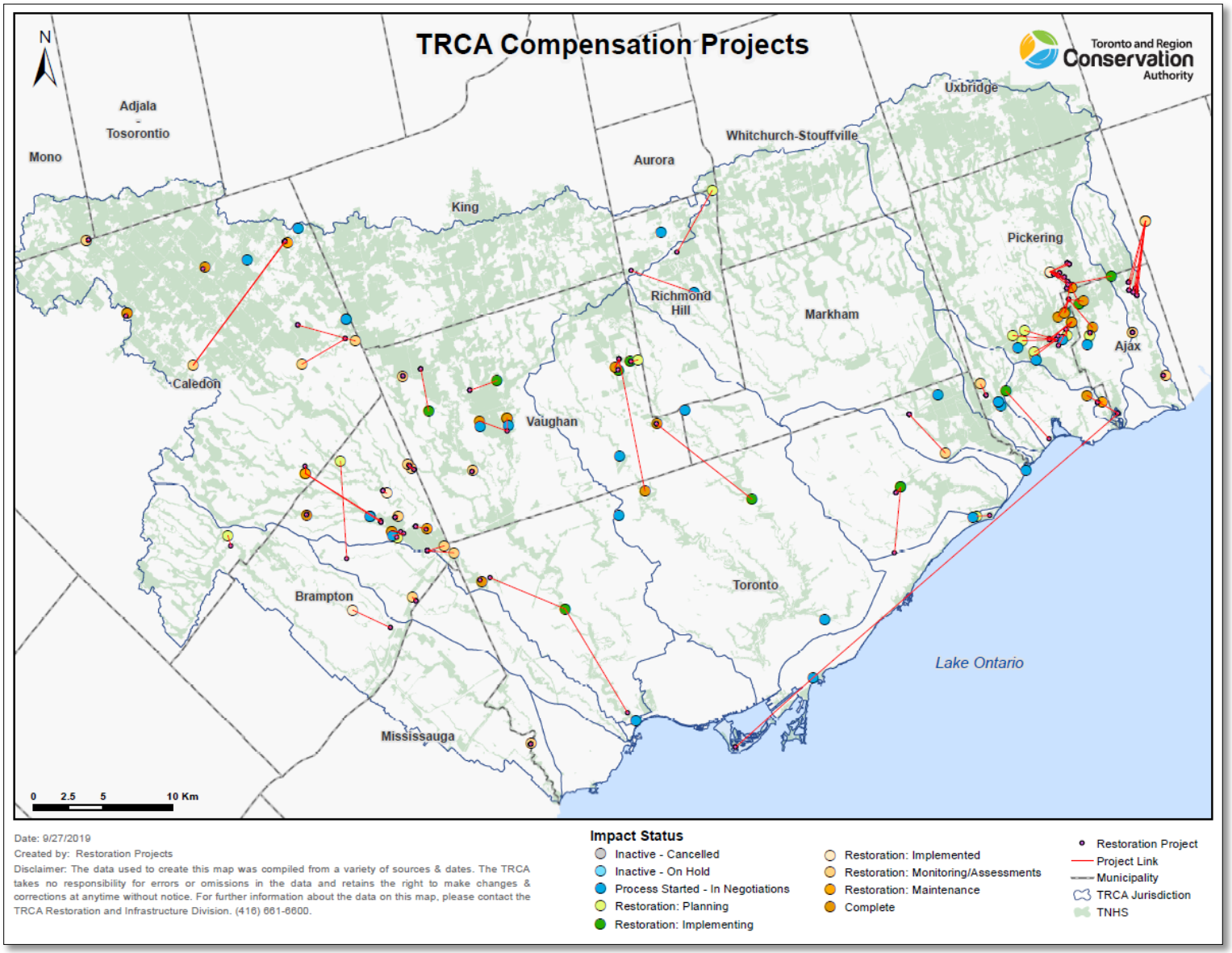

FIGURE 1. LOCATION OF COMPENSATION PROJECTS 2006-2019

Figure 2, Compensation Projects by Current Status, illustrates where the projects are in the process. Note: the colour coding in Figure 1 corresponds with the colour coding in Figure 2. Currently, 42% of the impacts where cash-in-lieu has been received have been implemented (orange colour); 38% are being actively planned and are in an implementation phase (green colour); and the remaining 20% are being negotiated, on hold, or cancelled (blue colour).

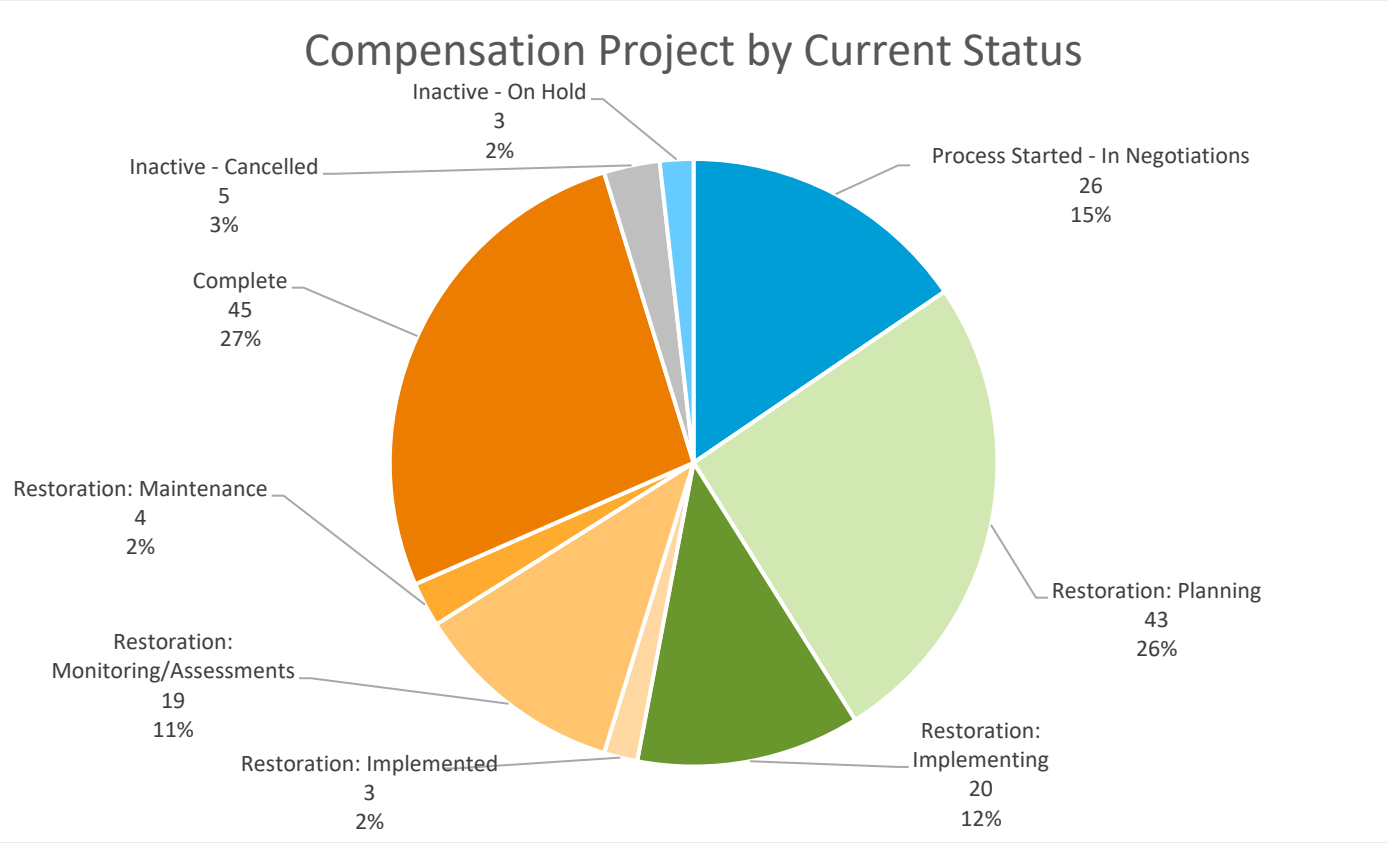

FIGURE 2. COMPENSATION PROJECTS BY CURRENT STATUS (2006-2019)

Figure 3 below shows compensation funds received by TRCA as cash-in-lieu and expenditures made to implement restoration projects. Between 2016-2019 TRCA has received $8,376,000 in compensation funds for natural feature restoration and land acquisitions, of which $5,094,000 is projected to be expended by the end of 2019, while the remaining funds are allocated to be used for future implementation, monitoring, and maintenance.

Figure 3 demonstrates that funds submitted to TRCA as cash-in-lieu and restoration expenditures are generally increasing over time. This does not necessarily indicate that approval authorities are permitting more feature removals with compensation, but rather that the true cost of restoration and land acquisition is now more fully accounted for. Through the preparation of this graph it was noticeable that the program changes drafted in 2018 and approved in 2019 within the Ecosystem Compensation Management Framework are streamlining the financial process, whereby funds received are being directed into a main compensation holding account prior to being allocated to project accounts. This has helped to expedite compensation, centralize cash-in-lieu funds, and simplify tracking. The graph also demonstrates the unpredictable nature of compensation funding, as cash-in-lieu is

substantially higher in some years than others. It is important to note that this graph represents compensation agreements executed prior to the Guideline being formally adopted and therefore conclusions cannot be drawn about how the Guideline adoption has affected compensation at TRCA.

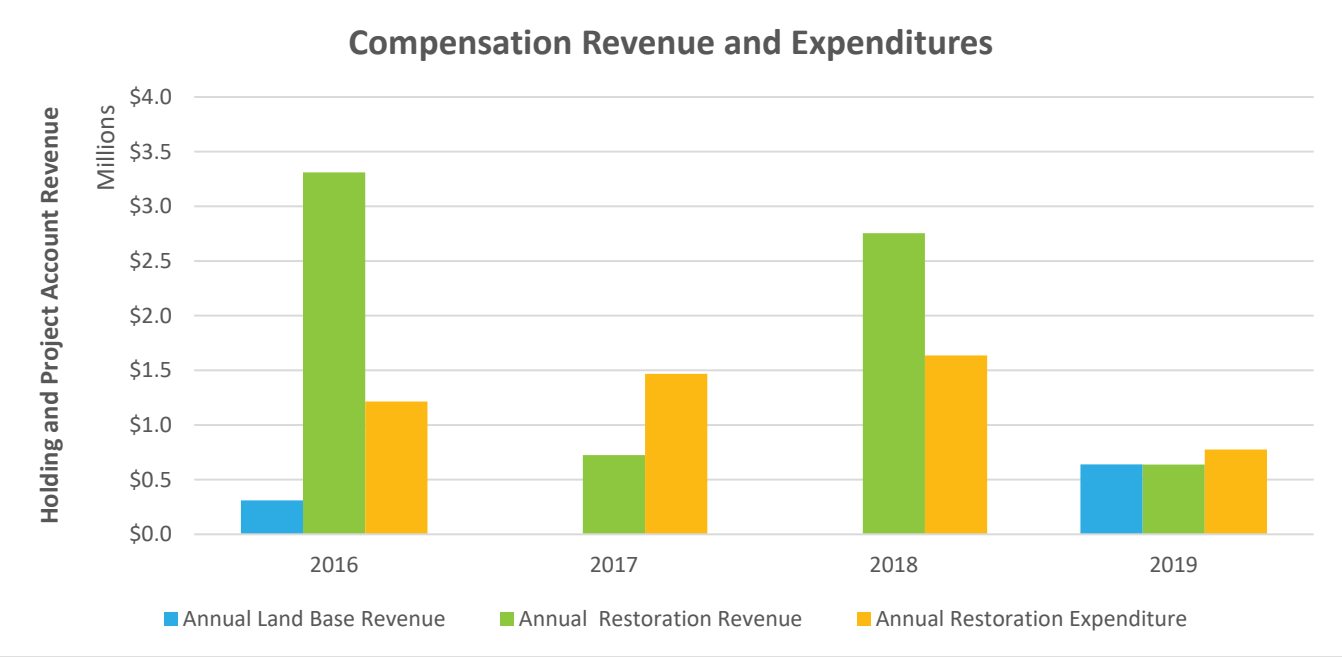

FIGURE 3. COMPENSATION REVENUE AND EXPENDITURES (2016-2018)

The revenue and expense figures presented in the table above differ from TRCA's audited financial statements at fiscal year-end as the figures presented represent a subset of the available compensation funds.

Goal 1: No Net Loss

The goal of no net loss is fundamental to TRCA's principles of ecosystem compensation, where outcomes aim to fully replace the same level of lost ecosystem structure and function in proximity to where the loss occurs and, where possible, achieve an overall gain. Unavoidable losses and their required compensation amounts are identified through the plan review process. If TRCA receives funds as cash-in-lieu, deliverables are tracked and reported on through standard project management practices. The Guideline is used to determine the amount of ecosystem compensation that is required. This is based on certain science-based assumptions such as: basal area being a good proxy for forest stand biomass and function; restored areas are fully successful given 5 years of post-monitoring and maintenance; and with planting ratios applied, a 10 year old restoration site will be able to provide the same biomass back to the natural heritage system and will eventually mature into a fully functioning forest. As this is the first report and we do not have enough monitoring data to confirm these assumptions. As such, this report will define no net loss as TRCA's ability to restore the required compensation areas with the cash-in-lieu funds received. With this definition of no net loss, the compensation required and the corresponding restoration should be equal. Required compensation areas were compared to restoration project areas (past, present, and future implementation) to assess how close the Guideline and the Framework are to achieving no net loss.

It is important to note that this summary does not include situations where losses occur to the natural heritage system and there is no mechanism for compensation within the planning process. To that point it is also important to note that all losses are not being considered in this summary and are greater than presented here. Also not included in this assessment are compensation situations where restoration is implemented by other agencies (i.e. through a municipal by-law or landowner implemented on-site compensation). Therefore, actual compensation restoration area statistics are underrepresented across TRCA's jurisdiction as well. This report also does not try to look at older compensation records that were being tracked prior to the creation of the compensation database as the same level of information is not readily available. Regardless, there is enough information within the new database records (2017-2019) to assess overall performance on whether TRCA restoration can restore enough area to compensation for the losses where compensation is applied and make recommendations for future actions.

Prior to tracking compensation through the database, impacts and losses were tracked through individual files, which made it time consuming to produce accurate summaries of impacts. However, implemented compensation restoration projects were being tracked in a project deliverables database created in 2012, making it easy to summarize implemented/implementable projects. In summary, for cash-in-lieu funds received from 2012-2016, TRCA implemented or is implementing approximately 75 hectares of natural feature restoration to compensate for development impacts/losses to the natural heritage system within that date range. Since the development of the compensation database, natural feature losses can now be more easily measured against compensation restoration.

Table 1, Natural Feature Restoration Across TRCA Jurisdiction By Type, compares the area required for compensation to the area to be restored for projects where TRCA received cash-in-lieu funds between 2017-2019. The table shows the area by type of natural feature broken down by (1) area required to be restored as applied through the Guideline (including treed ecosystem ratios); (2) natural features restored to date with compensation funds; (3) natural features to be restored with compensation funds; and (4) the total restoration to be realized once all restoration projects are completed.

TABLE 1. NATURAL FEATURE RESTORATION ACROSS TRCA JURISDICTION BY TYPE (2017-2019)

	Forest (ha)	Wetland (ha)	Riparian (ha)	Meadow (ha)	Total (ha)
(1) Restoration required	15.8	6.1	0.7	12.3	**34.8**
(2) Actual Restoration Completed	3.1	1.7	2.9	0.0	**7.7**
(3) Future Restoration to be Completed ($ in Acct)	17.7	3.7	0.3	12.6	**34.3**
(4) Total Restoration Secured ((2) Completed + (3) Future)	20.8	5.5	3.2	12.6	**42.1**
Restoration Balance((4) Total Restoration – (1) Required)	**5.1**	**-0.6**	**2.5**	**0.3**	**7.2**

The results show that for this subset of losses where compensation was applied, that there is an overall net gain (7.2 ha); however, there is a small net loss identified for wetland habitat (-0.6 ha). Functionally, if TRCA Restoration Projects group does not have enough funding to undertake what has been requested or required, funds to implement projects will be used in the most efficient way possible to maximize deliverables towards a no net loss scenario. In such cases, reaching no net loss may be possible by leveraging additional funds and/or reducing project elements such as site preparations, planting numbers, or habitat features. Conversely, if efficiencies in project implementation lead to surplus funds, these will be reinvested toward further restoration or project enhancements as directed by the Framework. Efficiencies with restoration implementation is likely why there is an overall net gain.

In addition to natural feature compensation the Guideline also addresses replacing lost land base. Table 2 looks specifically at land base compensation where land base losses were tracked within the last few years. In the last 3 years, TRCA has seen a 3.9 ha increase in land provided for the natural heritage system, which is due to the proposed purchase of one parcel in 2019. This parcel is outside the municipality where the impact occurred, however the municipality and TRCA agree that this is an appropriate use of funds and is consistent with the Guideline, the Framework, and TRCA internal Integrated Restoration Prioritization tool. Compensation funds were effectively leveraged with regional funds to make a purchase adjacent to an existing Conservation Area.

TABLE 2. LAND BASE LOSSES VS. GAINS ACROSS THE TRCA JURISDICTION (2017-2019)

	Totals (ha)
(1) Actual Losses (from Natural Heritage System)	**31.6**
(2) Lands proposed for purchase	**35.5**
(3) Land base acquisition (~$800,000 in Acct)	**+ ha**
(4) Total Land (added to Natural Heritage System) ((2) Proposed + (3) Future purchases)	**35.5 +**
Land Balance ((4) Total Land Acquisition – (1) Loss)	**3.9**

It should be recognized that the losses from various impacts between 2017-2019 where land base compensation was not provided were able to be compensated for with this one purchase because the parcel was outside the urban centres where land is less expensive. The losses that were realized in this time period were from across the jurisdiction but mainly from within urban areas, meaning that the distribution of natural heritage features, although balanced, is moving away from the local community which will experience the impact of the loss. That being the case, there are many benefits to preserving and restoring the natural heritage system outside urban areas, as these areas often provide downstream services such as water quality improvements, flood attenuation, and regional greenspace. However, as directed in the Guideline, land base should initially be sought as close to the impact site as possible, since there are fewer natural features within urban areas. Although land is expensive, even small additions to the natural heritage system in urban areas can provide health and well-being services to local urban communities.

Note that, as stated in the Guideline, regional and municipal infrastructure projects do not necessarily require land base compensation, although the Guideline does aim to track losses and work with municipalities to identify opportunities to provide land base back to the natural heritage system through TRCA's Greenlands Acquisition and municipal land securement programs.

Goal 2: Accountability

Assessing the level of accountability through the administration of the Ecosystem Compensation Management Program is an important measure of governance for two reasons. First, compensation is often tied to agreements where specific outcomes are required. In this regard, it is important that an agency's implementation of compensation is transparent, consistent, and timely. Second, in situations where the proponent is not implementing the compensation themselves, there is typically a cash-in-lieu payment made to another agency to implement the required work. In cases where funds are given to TRCA as cash-in-lieu, it is important to demonstrate financial accountability to ensure that the funds were used as intended.

The establishment of the Framework in 2019 demonstrates improved accountability. New financial accounts have been set up and a formal workflow has been outlined in the Framework which sets out clear expectations of how compensation funds will be executed.

The Framework was implemented to guide and track the movement of funds for compensation, improve interdepartmental communications, and report externally on project outcomes. As outlined in the Framework, reporting on individual files is provided by the Project File Review Team and regular program reports are prepared by the Ecosystem Compensation Management Program Review Team. The program reporting helps guide the future development of compensation practices and decisions tracked through the compensation database. Reports can be prepared for:

- Development planning decisions for compensation
    - Compensation database openly tracks development planning and restoration decisions, communication, and workflow within the Project File Review Team.
    - Compensation project briefs outlining the compensation requirements and rationale for restoration or land acquisition site selection are agreed to by the Project File Review Team prior to project implementation.
- Financial accountability
    - Ecosystem Compensation Management Program financial summaries report on cash-in-lieu funds received to TRCA, funds used for implementation of projects, and funds remaining in holding accounts for future projects.
    - The compensation database clearly links impact sites to restoration projects, allocates funds and identifies timelines for completion.
- Specific compensation project outcomes
    - The compensation database tracks implementation outcomes and deliverables and measures this against what is required for compensation.
    - Post-construction projects are monitored and reported on to track performance, identify maintenance recommendations, and inform future restoration project design.

Goal 3: Transparency

Compensation for lost natural features is executed at municipal, provincial and federal levels through various by-laws, policies, and regulations. TRCA's role in compensation can be as a regulator, advisor, or compensation project implementer; therefore, transparency throughout the compensation process is important to achieving fairness and compliance within the execution of a Ecosystem Compensation Management Program. Through the Guideline and Framework, mechanisms have been developed to demonstrate transparency which include:

- A clear description of how TRCA determines and executes compensation requirements which is outlined in the Guideline and the Framework;

- Compensation project briefs which outline the compensation requirements, the decisions made for site selection and provide details on implementation;
- Project completion reports that summarize project implementation deliverables;
- Post-construction monitoring reporting 1, 3, and 5 years after completion;
- Financial tracking and statistics reporting; and
- Regular reporting to TRCA Board of Directors on the overall Ecosystem Compensation Management Program.

Note that this reporting only covers projects implemented by TRCA. In the future, this type of reporting could be applied to projects implemented by other agencies. Since the execution of both the Guideline and the Framework, these mechanisms have improved transparency within the Ecosystem Compensation Management Program.

Goal 4: Consistency

The Guideline stresses the need to ensure consistency throughout the compensation process. This applies to determining compensation requirements for lost natural features; calculating the cost of compensation lands and implementing restoration projects, as well as ensuring that restoration projects are held to a high standard. Mechanisms within the Framework facilitate consistency by providing:

- Improved line of communication between Project File Team members by clearly defining team member roles and workflows throughout the life of a compensation project;
- Specific detailed process for compensating for unavoidable losses are clearly understood so they can be easily repeated file by file;
- A centralized database that all TRCA staff can use to calculate compensation requirements and implementation costs as well as track and report on project status;
- Restoration project typicals for different cover types (wetland, forest, meadow, etc.) that detail specific required components to ensure the design and implementation is held to a high standard whether completed by TRCA or external proponents and consultants; and
- Reporting templates (e.g. the compensation project brief, and the compensation database) that require the same information for each compensation file.

The expected outcomes of these tools are to enable as much consistency between development review files and restoration projects as possible. As the Guideline was approved and implemented in 2018, determining its impact on consistency is limited and will become more apparent in the future. Currently, metrics can be pulled from the compensation database which are primarily from compensation files executed prior to adopting the Guideline.

Table 3 looks at cash-in-lieu funds received by TRCA compared with funds requested. This table shows that, over the last three years, TRCA planners successfully negotiated full cost recovery for restoration projects 95% of the time. Discrepancies are due to costs outlined in the Framework not being requested in addition to the required restoration amount.

TABLE 3. FUNDS RECEIVED AND CONSISTENCY WITH TRCA GUIDELINE

Funding (2017-2019)	Consistency %
Equal to Requested	95%
Less than Requested	5%
Total	100%

Prior to the Guideline less emphasis was placed on keeping restoration within a municipality or watershed where the impact occurred. This is highlighted in Figures 4 and 6. Whereas after the Guideline was approved, adherence to this principle has been better achieved (Figures 5 and 7). In cases where restoration site selection rationale suggests that it should be outside the municipality or watershed, this is a decision made and agreed upon by the Project File Review Team.

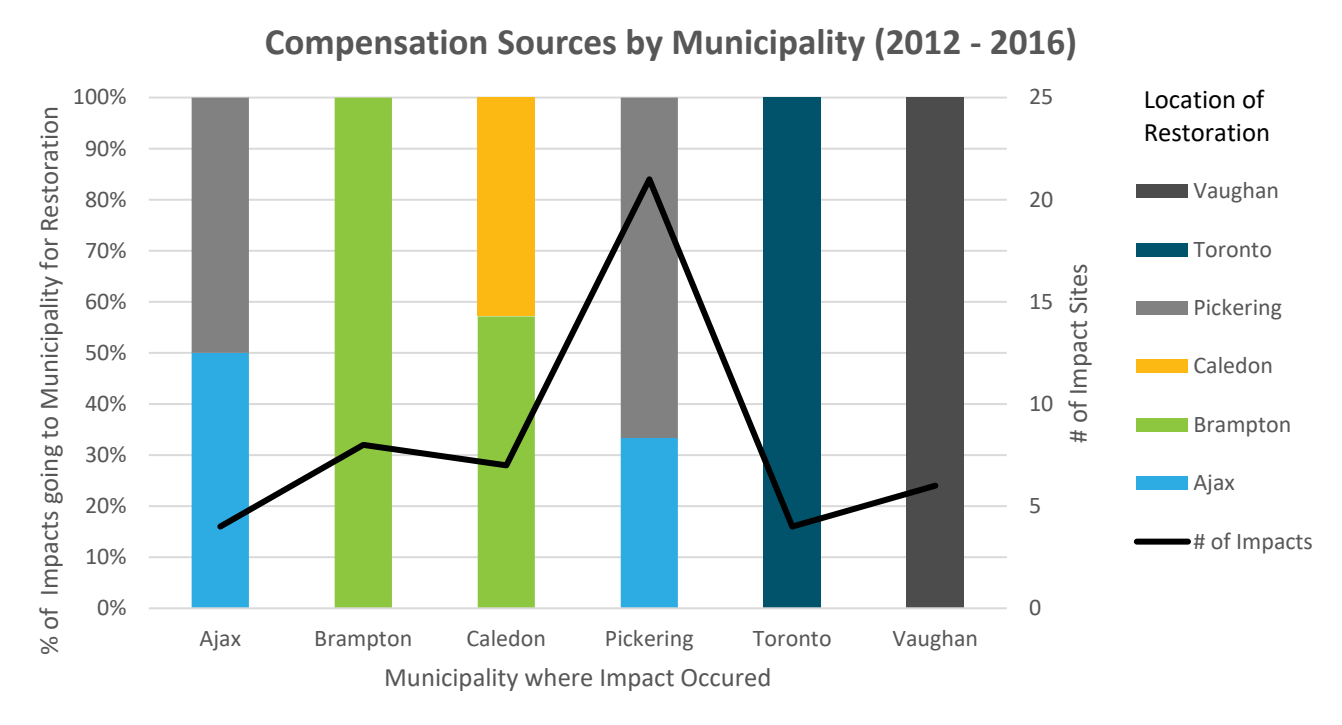

FIGURE 4. COMPARISON OF COMPENSATION FUNDING SOURCE AND EXPENDITURE BY MUNICIPALITY (2012-2016)

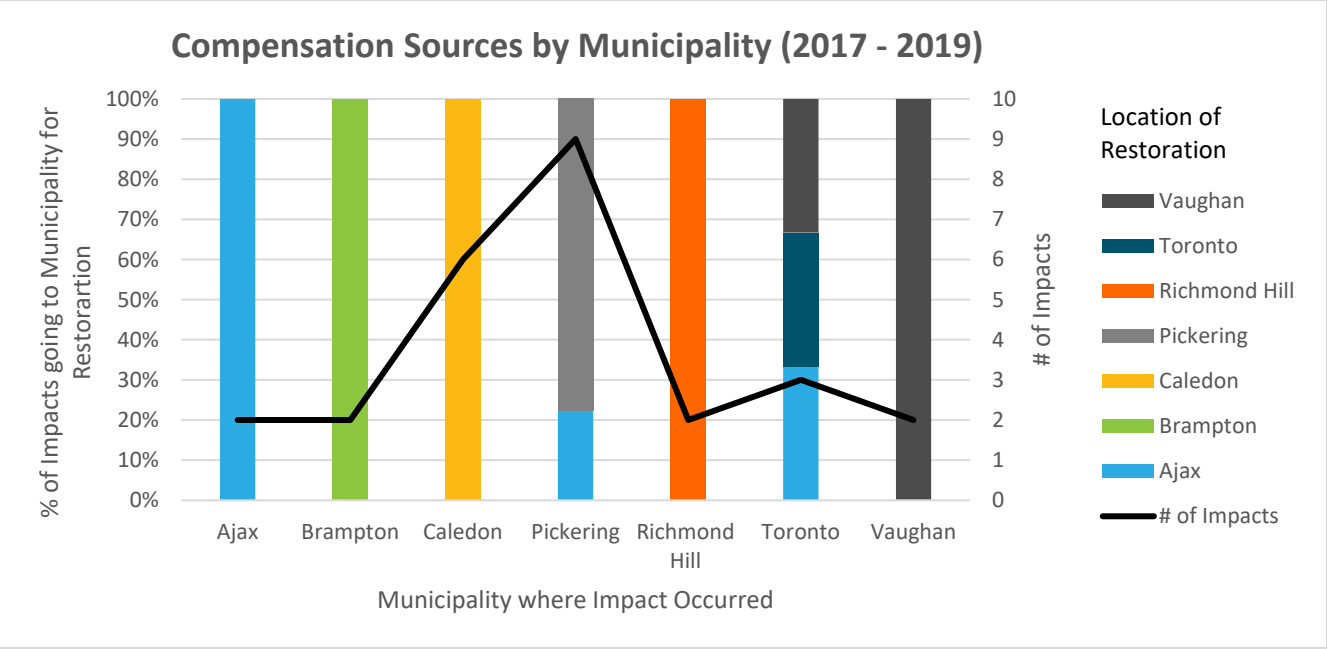

FIGURE 5. COMPARISON OF COMPENSATION FUNDING SOURCES AND EXPENDITURES BY MUNICIPALITY (2017-2019)

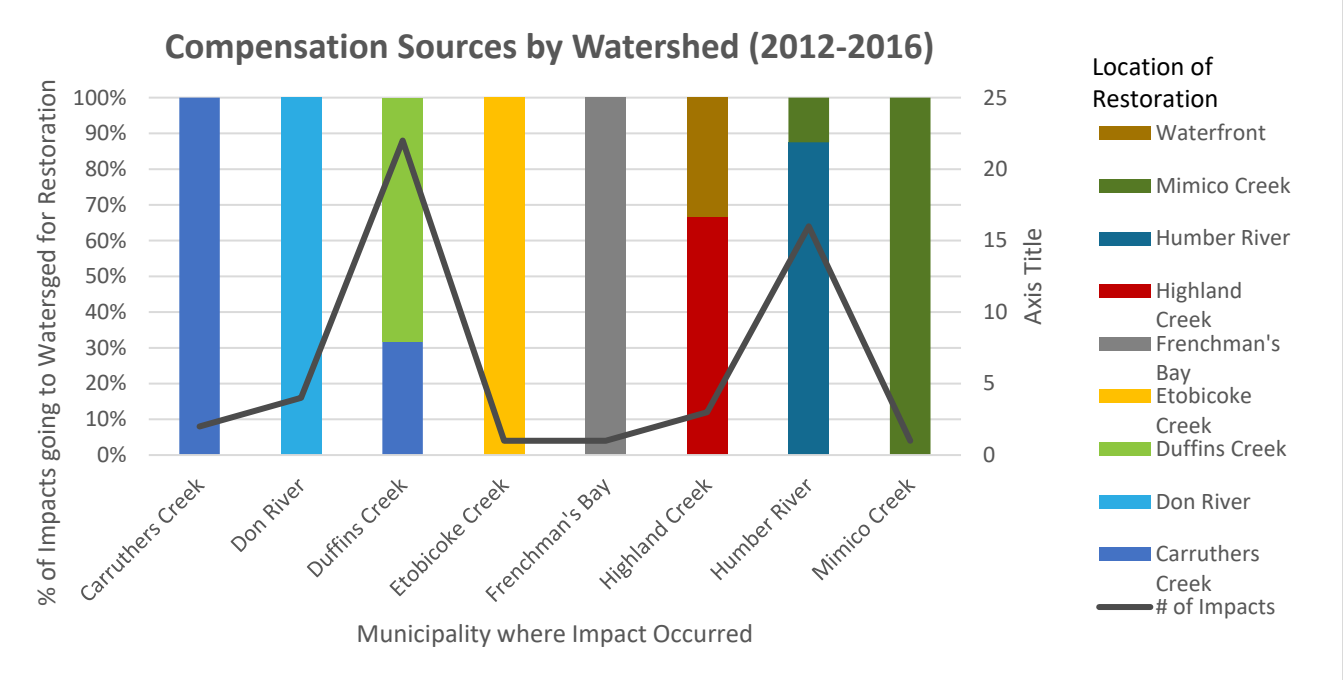

FIGURE 6. COMPARISON OF COMPENSATION FUNDING SOURCES AND EXPENDITURES BY (2012-2019)

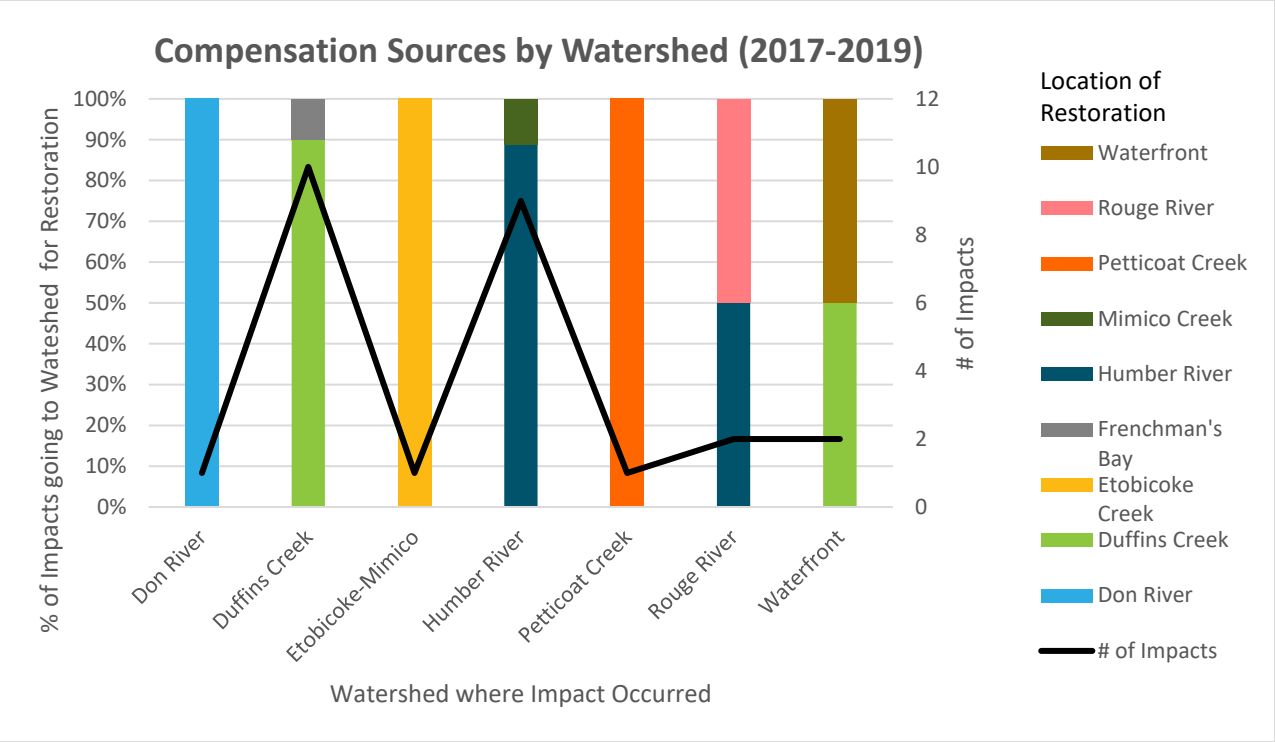

FIGURE 7. COMPARISON OF COMPENSATION FUNDING SOURCES AND EXPENDITURES BY WATERSHED (2017-2019)

Table 4 below provides statistics on the proximity of restoration compensation sites to losses across the jurisdiction. The average distance between an impact and restoration site between 2006-2019 was 2.6 km. The maximum distance of 29 km is from a Toronto impact along the waterfront where restoration occurred elsewhere along the waterfront. Comparing these numbers against future reporting will help to assess TRCA's ability to find restoration compensation sites in proximity to impacted areas.

TABLE 4. RESTORATION PROJECT DISTANCE FROM COMPENSATION IMPACT

Restoration Project Distance (km) from Compensation Impact		
Municipality	**Average**	**Maximum**
Ajax	1.24	3.04
Brampton	1.12	7.04
Caledon	3.26	11.06
Mississauga	0.05	0.05
Pickering	1.57	4.63
Richmond Hill	5.44	5.73
Toronto	7.23	29.00
Vaughan	0.86	3.05
Whitby	5.07	5.38
Overall	**2.61**	**29.00**

Goal 5: Efficiency and Timeliness

The Guideline specifically identifies that restoration should be achieved in a timely manner. This is important in order to minimize the time lag between the lost ecosystem functions and the ones that are provided by the restoration implementation. Under the Framework, data for all restoration projects can be retrieved to assess the time from when the impact occurred (funds received) to when the restoration project was started (Table 5), implemented (Table 6), and completed after post-construction monitoring and maintenance (Table 7).

TABLE 5. TIME INTERVAL BETWEEN RECEIVING FUNDS AND STARTING RESTORATION PROJECT

Time Lag to Start of Restoration Project Planning/Implementation			
Lag Time (Years)	**# of Projects**	**% of Projects**	
0	45	43%	
1	27	26%	75%
2	7	7%	
3-10	26	25%	
Total	**105**	**100%**	

TABLE 6. TIME INTERVAL BETWEEN RECEIVING FUNDS AND RESTORATION PROJECT BEING IMPLEMENTED

Time Lag to Restoration Project Being Fully Implemented			
Lag Time (Years)	**# of Projects**	**% of Projects**	
0	10	12%	
1	24	28%	
2	8	9%	75%
3	11	13%	
4	11	13%	
5-10	21	25%	
Total	**85**	**100%**	

TABLE 7. TIME INTERVAL BETWEEN RECEIVING FUNDS AND COMPENSATION PROJECT FILE COMPLETION

Time Lag to Restoration Project Complete including Monitoring and Maintenance (Funds Fully Spent)			
Lag Time (Years)	**# of Projects**	**% of Projects**	
0	5	6%	
1	12	14%	
2	5	6%	
3	7	8%	
4	8	9%	75%
5	7	8%	
6	9	11%	
7	7	8%	
8	4	5%	
9-14	21	25%	
Total	**85**	**100%**	

Goal 6: Adaptability

Undertaking an adaptive management strategy for compensation is important on a project by project basis as well as a program basis. On a project basis, this is important particularly in urban systems where there are multiple issues which can add uncertainty and threaten the viability and longevity of a restoration project (e.g. invasive species, urban storm runoff, etc.). Post-monitoring is essential to understand the trajectory of a restoration project and to adapt maintenance to ensure that the ecosystem functions are maximized. On the program basis, being adaptive is important as there are often multiple stakeholders working toward complex solutions where no two projects are alike. As such, it can be a challenge to have a consistent one solution approach to compensation.

Adaptation within the Ecosystem Compensation Management Program relates to understanding gaps, deficiencies, or inconsistencies in how compensation decisions are executed and making changes to ensure regulatory requirements are adhered to in the best possible manner. Adoption of the Guideline and the implementation of the Framework are positive steps toward adaptive management where previously no formal process existed. Mechanisms within the Guideline and the Framework that relate to adaptation include:

- Yearly summary reporting of the Ecosystem Compensation Management Program using metrics to assess performance and provide recommendations for adaptation where necessary;
- Improved lines of communication within the Framework to ensure decisions are reviewed and commented on by all parties involved; and
- Post-construction monitoring and maintenance to maximize project performance to minimize lag time between ecosystem functions lost through natural feature removal and those recovered through restoration.

DISCUSSION AND RECOMMENDATIONS

Based on the information presented above, the following sections outline key points with future recommendations for the Ecosystem Compensation Management Program.

Goal 1: No Net Loss

Currently, compensation implementation specific to TRCA projects only is achieving an overall no net loss of natural feature area. In fact, there is a marginal overall net gain. As stated in the Details section above, situations where losses occur that do not result in compensation are not reflected in this assessment. Further, on-site restoration and compensation implemented by other agencies are not included in this assessment. The results in this summary relate only to compensation projects where TRCA has received cash-in-lieu funding as identified through the Guideline and implemented through the Framework. Although this does not reflect the complete picture of compensation, it does provide an understanding around TRCA best practices (i.e. is TRCA effectively implementing enough off-site compensation projects to match the required losses where compensation is applied?).

The net gain identified in the results was achieved through implementing funds remaining through realized project efficiencies. In other words, funds remaining once deliverables were met were used to provide value added (i.e. more natural features) restoration to existing projects. To address the loss of 0.6 ha in wetland habitat, TRCA should continue to look for opportunities where compensation funds can be leveraged with new funds in order to meet the required deliverables.

Review and assessment of compensation for lost land base also shows a marginal net gain. This was possible because lands proposed for purchase are outside of the urban area (where land costs are lower). Although it is recognized that protecting natural areas within urban areas are vitally important, if cash-in-lieu funds are not sufficiently provided for acquisition, then discussions with municipalities to achieve no net loss for land base, should consider farther distances from impact during site selection. Further, expanding existing and new partnerships with municipal acquisition programs where TRCA compensation funds for acquisition can be leveraged may also help increase land acquisition outcomes overall.

Goal 2: Accountability

Improved tracking and reporting through the compensation database have enabled improved accountability through more robust data summaries and improved lines of communication. The data show that funds TRCA received from compensation have grown significantly over the years (Figure 3). This is also true of the funds spent to implement restoration projects. When comparing received funds with expenditures, the data show that despite TRCA's ability to implement more and more projects over the years, further increases in available resources (staff, materials, equipment, contractors) are needed to keep up with greater cash-in-lieu funds being received. This will ensure that restoration projects are implemented in a timely manner and that we are accountable to minimize the lag time between feature loss and restoration implementation.

Goal 3: Transparency

Opportunities to demonstrate transparency within the Ecosystem Compensation Management Program have significantly improved with the adoption of the Guideline and the implementation of the Framework. As the program develops, it will be important to determine if these mechanisms continue to demonstrate open and transparent lines of communication externally and internally. For example, are we responding quickly enough to requests for information? Are we providing enough information to inform agencies and proponents on compensation requirements? Is there a clear understanding from proponents and agencies about what TRCA is doing with cash-in-lieu funds received? These questions will continue to be assessed in future summary reports.

Goal 4: Consistency

As indicated in Figures 4-7, there was less concern with the location of the restoration project before the Guideline was adopted. Project locations were not prioritized based on keeping the funds within the same municipality. Now funds are directed primarily within the municipality first and within the watershed second. Lastly, there is the option to move the funds outside of the municipality or watershed if agreeable to the Project File Review Team (including the municipality). In some cases, for larger or more complicated projects, it may be necessary to obtain direction from the Ecosystem Compensation Management Program Review Team.

Since the adoption of the Guideline and the Framework, consistency of data input has increased significantly allowing for more useful information to be retrieved from the compensation database. Additionally, a more consistent approach to roles, responsibilities, and workflow has improved interdepartmental communication and overall understanding of policies and procedures related to compensation practices.

Goal 5: Efficiency and Timeliness

The assessment of efficiencies and timeliness indicate that most projects are implementing within 2 years; are implemented within 4 years; and are completed within 8 years (following 5 years of monitoring and maintenance). Although these are relatively good numbers, there is room for improvement. Of note is the 4 year gap between receipt of funds and project implementation. The Ecosystem Compensation Management Program Review Team assessed timing considerations and developed the following targets:

- From receipt of cash-in-lieu funds to initiating project implementation to be within 1 year;
- From receipt of cash-in-lieu funds to project implementation to be within 2 years; and
- From receipt of cash-in-lieu funds to project completion to be within 7 years.

These targets will be used in subsequent summary reports to measure ongoing performance and to highlight recommendations for future adaptation strategies. One recommendation for future action is to seek ways to increase the availability of resources needed to implement more compensation projects each year. These resources include staff, machinery, equipment, and contractors. It is important to note that some projects have been stalled due to delays in securing restoration project permitting and partner agreements. Sometimes this is beyond the control of the project manager; however, new efficiencies may be found through streamlining the process and improved communication with regulatory agencies and stakeholders, such as yearly restoration project screening meetings with regulatory bodies.

Goal 6: Adaptability

The implementation of compensation is complicated and can vary from file to file, so it can be a challenge to achieve a consistent approach with the proponent and/or regulatory agency. The Ecosystem Compensation Management Program needs to be adaptable to account for the complexities of each file and to ensure that the overall Ecosystem Compensation Management Program can adapt when significant changes are required. These instances may include but are not limited to the following:

- New scientific understanding as it applies to ecosystem function and the impacts of natural feature losses;
- Identifying specific deficiencies in the Ecosystem Compensation Management Program and taking actions for improvement;
- Collaboration and data sharing with other regulatory agencies that inform process change needs;
- Feedback from proponents that can inform process and communication improvements; and
- Monitoring results which identify a need to change restoration practices.

All the above factors have been critical to the development of the Guideline and the Framework, and there has already been significant adaptation in the past few years to improve the Ecosystem Compensation Management Program. TRCA will continue to assess performance, share information, acquire stakeholder feedback, and use updated science to adapt and minimize program deficiencies. Future adaptations will be outlined, assessed, and reported on in subsequent compensation summary reporting.

NEXT STEPS

The items outlined below will direct the focus for program improvements over the course of 2020.

No Net Loss: In order to make sure that the restoration required to compensate for losses are held to a high standard, the restoration costs for typical habitat types will be updated to include increases to construction costs, as well as recommended adaptive changes to design and implementation practices based on monitoring results and scientific research. A longer-term review of the Ecosystem Compensation Program will be needed to assess effectiveness of the no net loss principles as described in the Guideline.

Accountability: Staff will continue to improve the compensation database to ensure it captures information required for file review and reporting. It is important that the information is easily accessible to both the Project File and Ecosystem Compensation Management Program Review Teams, as the annual Ecosystem Compensation Management Program summary report will depend on accurate outputs from the compensation database.

Transparency: This will be improved in 2020 as old information on losses and restoration are uploaded into the database. This will allow for more fulsome reporting on compensation projects throughout a longer time period.

Consistency: The Ecosystem Compensation Management Program Review Team will continue to meet and discuss items that require clarity so that TRCA staff are implementing compensation in the same way. Discussions will be held with other levels of government, including our municipal partners and other conservation authorities, to help ensure that compensation across southern Ontario is undertaken in a consistent manner while recognizing regional differences in development patterns and landscapes.

Efficiency and Timeliness: With both the Guideline and the Framework in place, and with program reporting underway, it is necessary to ensure that restoration keeps pace with losses on the landscape by reducing the administration time lag associated with establishing new natural features and allowing them to mature. Increasing resources within TRCA's Restoration Projects group will aid in increasing efficiencies and reducing timelines where possible, outside of external permit and approval delays such as those required to implement restoration projects and help to reduce the funds currently being held for restoration.

Adaptability: The Ecosystem Compensation Management Program will continue to be refined to meet the Framework goals and objectives. There are three main areas that will be investigated and addressed. First, the concept developed in the Guidelines of applying basal area as a simple proxy for natural feature functions. Second, improvements to tracking land base compensation that does not result in cash-in-lieu to more accurately represent losses to the natural heritage system. Land base losses tracking improvements will be sought for losses as a result of Environmental Assessments, regional and municipal projects as well as on-site compensation so that losses can be tracked more effectively and compared to local Greenland acquisition and securement strategies. Finally, property and asset management costs for lands dedicated to TRCA as part of a compensation project will be explored to ensure that TRCA is able to sustainably maintain those lands.

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