

Southeast Alberta Conservation Offset Pilot

Linking Decisions and Assumptions with Generally Accepted Offset Principles

March 2014

Prepared by Kimberly Good and Rachelle Haddock



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INSTITUTE



Prepared for: Southeast Alberta Conservation Offset Pilot Team

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The Southeast Alberta Conservation Pilot was not complete at the time of this report. A detailed final report will be completed under the draft South Saskatchewan Regional Plan in 2015. As such this report does not provide specific details about many of the approaches and decisions as these details are not yet finalized. Information about specific metrics and processes will become available as the details are finalized over the next year.

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1 REPORT PURPOSE

Conservation offsets are a tool used in a variety of jurisdictions around the world¹. These programmes are flexible in that they can be designed to accommodate local circumstances. For example some offset programmes are mandatory, others are voluntary; some require reclamation while others require protection. The choices when discussing how an offset programme might work may seem endless. The good news is there are programmes from which to learn and build on. Offsets programmes from around the world have met with varying levels of success, as a result people have tried to understand and document what works and what doesn't and what can be done to ensure these and future programmes meet their conservation targets in an efficient and effective manner for all involved^{2,3,4}.

The Southeast Alberta Conservation Offset Pilot (SEACOP) team has made significant progress working through many of the concepts and decisions that are required in the design of a conservation offsets programme. This report is not a qualitative review of the SEACOP but rather a summary of the progress to date and an assessment of the preliminary decisions made in the offset pilot against generally accepted principles and best practises for offset programmes⁵.

The objective of this report is to show how the decisions and choices made throughout the pilot align with generally accepted offset principles as described by the Business and Biodiversity Offset Programme (BBOP⁶) and generally accepted offset practices.

2 INTRODUCTION

Alberta's southeast native prairie is a natural asset with important social, economic and ecological benefits to society⁷, including the following:

¹ ICMM IUCN (2012) Independent report on biodiversity offsets. Prepared by The Biodiversity Consultancy. Available at www.icmm.com/biodiversity-offsets

² *Ibid.*

³ Poulton, David, W. (2014) Biodiversity Offsets – A primer for Canada. Sustainable Prosperity. Available at <http://www.sustainableprosperity.ca/article3857>

⁴ <http://bbop.forest-trends.org/pages/guidelines>

⁵ Alberta Conservation Offsets Workshop Report, November 12-13, 2013, Calgary, Alberta, edited by Marian Weber, Alberta Innovates Technology Futures and Sarah O'Brien, Willamette Partnership

⁶ BBOP is a voluntary collaboration made up of more than 75 partners that include individuals, companies, governments, conservation experts and financial institutes from around the world. It operates by seeking consensus among its members on fundamental issues relating to offsets.

- Socially, native prairie holds significant cultural value for First Nations people, descendants of early settlers and present day naturalists.
- Economically, native prairie in this area is the basis of a multi-decade ranching industry.
- Ecologically, it provides habitat and seasonal breeding grounds for many species as well as critical habitat for a number of Canada's species at risk. It also provides carbon sequestration, water and air filtration, and other important ecosystem services.

The native prairie within the Dry Mixedgrass and Moist Mixedgrass Natural Subregions that cover much of this landscape, have been reduced to approximately 40% of their original extent. This is a busy landscape. Upstream petroleum development is widespread with municipal growth pressures concentrated near numerous cities, towns and villages. Other industrial activities include but are not limited to utilities, aggregate mining and wind energy.

A commitment to good stewardship on the remaining prairie is instrumental to ensure that critical wildlife habitat is provided, along with other important ecosystem services. To encourage that commitment, more conservation and stewardship tools are needed to assist private landowners and industry. Current regulations encourage industry to avoid highly sensitive areas and further minimize habitat impacts through management practices but there are still unavoidable impacts. Conservation offsets are compensatory actions that address unavoidable ecological losses arising from development. Offsets can serve as a tool to incent a further commitment to good stewardship and complimentary land use practices.

Increasing land use pressures are not projected to subside in Alberta. The province continues to have one of the fastest growing populations and economy in Canada. Additional and new policy tools are needed to allow intelligent growth and sensible management of resources. The Alberta Land Use Framework and Land Stewardship Act underline that need and direction of improved comprehensive management of populations and economic growth upon resources.

The Southeast Alberta Conservation Offset Pilot (SEACOP) was created to test a **voluntary**, market based approach to address **temporary industrial** impacts on

⁷ SEACOP Interim Report – Fact Sheet

southeastern Alberta native prairie by establishing **term contracts** with private landowners to establish **native perennial species on cultivated land**.

SEACOP is supported in policy by Part 3, Divisions 1 and 5 of the *Alberta Land Stewardship Act* (ALSA). Division 1 states research and development, including pilot projects, of conservation stewardship will be supported and Division 5 enables the application of conservation offsets as a conservation and stewardship tool. Further support is provided by a number of stakeholders requesting new conservation tools and market based instruments. As well the provincial *Wildlife Act* and the federal *Species at Risk Act* (SARA) require the protection of species at risk and their habitat. In particular SARA has provisions for critical habitat protection.

3 SEACOP TEAM

At the request of the Land Use Secretariat, Alberta Agriculture and Rural Development (ARD) initiated SEACOP in mid-2011 and led the formation of a pilot project steering team (pilot team) that first met in January 2012. Pilot team representation included ARD; Alberta Sustainable Resource Development (now Alberta Environment and Sustainable Resource Development (ESRD)), including staff from Land Management and Fish and Wildlife (South Saskatchewan Region), and Range Resource Program; Alberta Innovates Technology Futures (AITF); University of Calgary; Alberta Conservation Association (ACA); and Alberta Biodiversity Monitoring Institute (ABMI). LandWise Inc. was contracted to provide subject matter expertise, reporting and technical support during SEACOP development.

The following learning objectives were identified for the pilot in the 2012 Interim Report:

1. Develop an approach to quantify the offset requirements for industrial developments.
2. Develop an approach to target voluntary offsets on private agricultural land parcels with the best potential to improve landscape level native wildlife habitat.
3. Determine agricultural landowner willingness to provide verifiable offsets through third party contracts, including costs and barriers to participation.
4. Determine the roles and costs for a qualified third-party to facilitate agricultural landowner project development and associated conservation offset obligations (including planning, validation, contracting, verification, and monitoring).

Appendix A shows a detailed list of pilot team actions and deliverables.

The pilot team gathered existing information and requested stakeholder input on project scope and proposed protocols for conservation offsetting including: identification and prioritization of target agricultural offset sites; seeding of cultivated land to native perennial species; contract structure and length; ecological equivalency determination; and monitoring and verification requirements.

To achieve the objectives, the pilot team has been engaged with agriculture and industry stakeholders since the initial stages of the project in 2011. Stakeholders were invited to workshops where information about the pilot was shared and valuable feedback gathered. Feedback received from all stakeholders was continuously incorporated into the pilot planning and development.

4 THE SOUTHEAST CONSERVATION OFFSET PILOT

In the initial SEACOP planning stages, the intent was to focus on voluntary offsets on privately owned agricultural lands for new industrial development activity within the areas designated as critical habitat for sage grouse recovery in southeast Alberta. ARD met with various stakeholders to gauge interest in the pilot as well as knowledge levels about offsets. Experts and stakeholders were convened to talk about the project, test initial ideas about drivers for voluntary offsets and gather feedback. Initial discussions about the potential design options for the offset pilot occurred with Alberta Biodiversity Monitoring Institute (ABMI), Alberta Conservation Association (ACA), Alberta Sustainable Resource Development (SRD), Alberta Innovates Technology Futures (AITF), Dr. C. Gates, University of Calgary, southeast Alberta petroleum industry members, and landowners.

4.1 CONSERVATION OUTCOME

Following a thorough literature review and consultation, the initial pilot direction for a species specific offset (i.e., sage grouse) was modified in favour of a broader habitat focused offset – this was quickly reinforced by pilot team members and subsequent stakeholder feedback. One of the main reasons for this, is there may be several factors beyond the control of industry or landowners (e.g., climate) that impact a specific species outcome. As well, a focus on the broader habitat which supports many species would help to avoid conflicts caused by favouring one species over another (e.g., creating habitat for one species that results in damage to another). Developers and landowners can contribute to land management actions that create or maintain habitat for a broad range of native species, including sage grouse, and avoid unintended consequences.

4.2 INDUSTRY

During the initial outreach stage of the pilot, there was a sage grouse recovery group that included scientists, industry and landowners. The existence of this group influenced the initial approaches of the pilot team. The pilot team presented the concept to this group and identified that engaging with industry relatively early in the process was important to understand the potential of the offset pilot program. All understood that without a buyer, moving forward would be very difficult. Initially 'industry' was identified as the oil and gas industry but discussions amongst the pilot team and with stakeholders led to also including utilities, wind, and aggregate extraction industries (to date all but aggregate extraction representatives have been engaged).

Trying to demonstrate and develop a voluntary offset pilot and potential program creates challenges as there is no clear driver of scarcity. With no clear buyer demand, industry indicated three requirements to support them in their decision to participate. Working with industry, the pilot team drafted an *industry business case*⁸ to help all stakeholders understand why industry would participate in this voluntary pilot. Also created was a *policy background*⁹ to set the context for the potential application of offsets in Alberta. Industry indicated that to participate they would require *written assurance* of credit for early adoption in the voluntary offset pilot program.

4.3 OFFSET PILOT AREA

Originally, with sage grouse as the conservation focus, the offset pilot area was a 42 township sage grouse recovery area delineated by the sage grouse recovery team. The SEACOP offset pilot area was expanded to include the area within the South Saskatchewan Regional Plan (SSRP) lying east of the western boundary of the Dry Mixedgrass Natural Subregion (Appendix B). This was done 1) because sage grouse alone was no longer the conservation target and as such the expanded area represents habitat important for multiple species of interest and 2) to provide the best possibility for a market to operate. In order for a market to work there must be enough buyers and sellers. Expanding the area increases the number of potential industry projects as well as the number of potential landowners interested in seeding native perennial species. The area eligible for agricultural offsets is a sub-zone in the larger offset pilot area (Appendix B).

⁸ Southeast Alberta Conservation Offset Pilot – Business Case Brief

⁹ Southeast Alberta Conservation Offset Pilot – Building the Tool Box

4.4 OFFSET PROVISION BY AGRICULTURAL LANDOWNERS

The initial discussions about what would qualify as an agricultural offset included the options to 1) protect existing privately owned native prairie, 2) seed native perennial species on cultivated privately owned land or 3) both.

A number of concerns about the protection of existing privately owned native prairie resulting in offsets were identified; each related to the potential conservation benefit. For example, it was concluded that existing native prairie habitat in the offset pilot area is generally well stewarded and as yet, not under significant pressure for conversion. It was also determined that with only 40% of the Dry Mixedgrass and Moist Mixedgrass Natural Subregions remaining in the area, just securing existing native prairie would not address the overall loss of habitat, as the status quo on existing lands is not meeting habitat needs for wildlife and specifically those currently at risk.

The pilot team recognized that while there are challenges with assuring additional conservation benefit of existing native prairie stewardship, it can qualify as additional and agreed that this should be considered for inclusion as another type of offset to be provided in the future. This would require work towards how to identify and measure the additionality of stewardship of existing native prairie. Also discussed was utilizing a like for like approach in this context but which also factors in a landscape context to address proximity to other high value conservation lands.

The establishment of native perennials on privately owned cultivated land was selected as the conservation target for the pilot and therefore the management change that would result in offset provision. Establishing native perennials on previously cultivated lands will create additional potential habitat on this highly fragmented landscape. As well, scientific literature reviewed by the pilot team supports the beneficial value provided by seeded native perennials as wildlife habitat.

Industrial impacts to native prairie as part of accessing subsurface rights are within the scope of this pilot and are impacts for which industry could choose to purchase offsets. The funds generated from the purchase of offsets by industry are intended to incent a change in agricultural practice that facilitates the provision of offsets by private landowners. Landowners own the surface rights to the land and those rights are protected under legislation. Using an incentive based programme may encourage private landowners to voluntarily make a practise change for which they would be compensated. The compensation levels would be based on a landowner-submitted bid that would

include opportunity costs for making that practice change for the contract period. Many landowner management decisions provide public benefits for no compensation.

Some landowners expressed concern that the direct and opportunity costs of seeding cultivated acres to native perennial species may prove cost prohibitive and encourage industry to purchase land as a way to achieve offsets rather than buy offsets from landowners. Having another party interested in land purchase could also result in higher land prices. Some landowners also expressed concern about offsets reducing the amount of industrial development and negatively influencing the benefits of industry to their communities (e.g., taxes, sponsorship and population).

A concern about some landowners removing existing native prairie while participating in the pilot resulted in a clause being included in the offset pilot contract requiring the landowner maintain any native prairie owned by the landowner over the length of the agreement. There will be no specific compensation provided to landowners for this but it is assumed the landowner will factor the maintenance of native prairie into their bid price for participation in the pilot. The pilot team knows this may limit some participants but is willing to accept that limitation while gathering information through the pilot.

As part of developing a voluntary conservation offset pilot, questions about how to address the lag time between seeding and establishment with respect to offset needs were discussed. The pilot team made the decision to utilize funding from ESRD to secure a parcel of land to be held by ACA in order to test the protocols and methodology and have a parcel of land that has met the pilot criteria, banked and available for future offset purchase.

4.5 MITIGATION HIERARCHY

Mitigation hierarchy refers to a series of steps designed to reduce impact to the environment. The first step is for industry to avoid sensitive and important areas, the second is to reduce the impact through mitigation, and the third is to offset those impacts that cannot be avoided or mitigated.

There is not a specific requirement to utilize the Mitigation Hierarchy in Alberta. As part of provincial and federal approval and permitting processes and good business practices, avoidance and mitigation are often undertaken. The pilot team supported by the stakeholders were specific in describing the need to implement the mitigation hierarchy – this was to ensure all involved, that industry considered avoidance and onsite mitigation

in their planning and actions and would not just purchase offsets. It was also important to industry that their efforts of on-site mitigation were noted and recognized.

4.6 EQUIVALENCY

Two options about where offsets could occur relative to the industrial impact were discussed, 1) impacts and offsets occur in close proximity to each other or 2) impacts occurring elsewhere in the province could be offset in the pilot area. Through stakeholder consultation, industry and landowners identified their preference for offsetting to occur close to the area of impact; this is consistent with international experience¹⁰. The decision to keep offsets within the same natural region as the impact is also supported in literature describing nearby sites as more likely to have similarities in species, habitat and function.

While the pilot team along with the stakeholders agreed to have the offsets and impacts within the same area, they determined impacts would not be required to be offset with the exact same land type and size. The concept of same type and size is often referred to as like for like. In a like for like approach, if 100 acres of Type X habitat is impacted then it should be offset with 100 acres of Type X habitat. The pilot team considered two like for like (or similar) approaches, that of ABMI¹¹ and ACA¹² that they determined would be useful in areas where the conservation target is existing privately held native prairie. As this is a highly fragmented landscape, the pilot team felt that not all land parcels were equal, even within the same plant community classification. Proximity to key habitat and other criteria as identified as part of the development of the Offset Suitability Index (OSI) for privately held lands would help to enhance potential benefits of the offset. For example, if 80 acres of Type X is being impacted but a landowner with 70 acres of Type Y land is interested in providing offsets for an extended period of time and this Type Y parcel provides an important link to a wildlife corridor making it a conservation priority, the Type Y may be ranked higher than others less proximal to key habitats and be the selected offset.

¹⁰ ICMM IUCN (2012) Independent report on biodiversity offsets. Prepared by The Biodiversity Consultancy. Available at www.icmm.com/biodiversity-offsets p. 20 and 47

¹¹ 'ABMI and Offset Ratios' and 'Offset Metrics and Rules' presentations by ABMI on January 10 and February 27, 2012

¹² Conservation Offsets: A Working Framework for Alberta, August 2011, Developed by Chad D. Croft, B.Sc., R.P.F., P.Biol., Todd Zimmerling, M.Sc., PhD., P.Biol., Karl Zimmer, B.Sc., Alberta Conservation Association.

4.7 METRICS

To determine development site impacts the pilot team started with the Grassland Vegetation Inventory (GVI)¹³ and created protocols to understand potential habitat impacts and restoration limitations related to landscape, soil type, degradation potential, and key plant indicator species. In addition, the pilot team utilized the Multispecies Conservation Value (MCV)¹⁴ to identify areas of value for multiple species with the intent to minimize development impacts to multiple species. These factors are combined to form the basis of calculating the offset requirement for the purposes of testing within this pilot project.

4.8 OFFSET DETERMINATION AND PROVISION PROCESS

In an effort to create an offset suitability ranking for agricultural parcels, the pilot team, engaged Dr. Cormack Gates to lead a workshop and process using subject matter experts, a wide range of data sets (i.e., provincial wildlife data, GVI data, AGRASID data, Land Use Intensity data from ABMI, Parks data) and research results (e.g., wildlife corridors, proximity scores) to develop an “Offset Suitability Index” (OSI). The OSI helps rank and prioritize sites submitted by landowners for provision of offsets based on multiple ranked criteria. The OSI provides a clear, transparent, scientifically based and logically defensible tool based on multiple ranked criteria to help quantify agricultural offset value in a landscape context.

The process to determine offsets starts with industry calculating their offset requirement based on predetermined protocols. A third party¹⁵ then sets up an Expression of Interest (EOI) that landowners would respond to, the third party would also carry out desktop exercises and site visits to determine the parcels of land that are eligible. The eligible landowners are invited to participate in a reverse auction, bidding to provide the offset. It is expected that landowner parcel bids will range depending on individual farm

¹³ The Grassland Vegetation Inventory (GVI) is Alberta's vegetation inventory for the Grassland Natural Region of the province. GVI can be generalized as a landscape and land use inventory with emphasis being placed on native characteristics. The inventory separates the landscape into ‘Site Types’ which can be thought of as different habitat types or land uses.

<http://www.albertapcf.org/native-prairie-inventories/gvi>

¹⁴ Multispecies Conservation Value (MCV) represents an empirical and qualitative assessment of grassland habitats in Southern Alberta to support the life processes of multiple species. These values are derived from habitat suitability models developed for a number of prairie species and are ultimately based upon the habitats necessary for a given species to successfully complete one or more life processes.

¹⁵ Alberta Conservation Association has been identified as this fulfilling this third party role.

opportunity costs and willingness to participate in an offset contract agreement. Land parcel bids would then be prioritized based on cost per offset unit, OSI value and contract length to fulfill industry offset unit requirements. The available offset units from any particular land parcel would increase with longer contracts and higher OSI values.

Industry would provide payment to the third party for the offset – this would include seed and seeding costs, landowner bid, and third party monitoring and management costs. The third party contracts with the landowner, carries out the seeding and conducts long term project monitoring and management. Management would involve determining when the parcel could be used for grazing. That determination would be made following, a successful establishment assessment and range health assessment. As with most offset programmes and similar to the Alberta Carbon Market there will also be third party verifiers involved to audit the outcomes.

4.9 CONTRACTS

A contract template has been drafted in consultation with ACA and landowners that provides flexibility on when payments to landowners occur. The options allow landowners to choose from three timeframes on which payments can be received. The contract requires ACA to do the seeding and weed control associated with the establishment of native perennial species as well as on site monitoring of seed establishment and range health assessments. The contract also obliges ACA and the landowner to consult each other regarding management activities as stipulated in the contract.

5 EVALUATION OF PROGRESS TO DATE

A Conservation Offsets Workshop (unrelated to SEACOP) was held in Calgary on November 12 and 13, 2013 to foster further dialogue about the application of offsets in Alberta. The workshop was hosted by AITF and supported by World Resources Institute and Forest Trends.

Presenters from the United States and Australia shared internationally accepted principles and best international practices for conservation offset programmes including those assembled by the Business and Biodiversity Offsets Programme (BBOP). Examples of best international practices were provided by programmes the presenters have worked on or with. The presenters identified lessons learned, what has worked and what hasn't, keys to success and phases of programme creation and operation. Not unexpectedly, there were consistencies throughout each of the programmes and their experiences.

5.1 GENERALLY ACCEPTED PRINCIPLES

Conservation offsets are compensatory actions that address unavoidable ecological losses arising from industrial impacts. Conservation offsets are a final step in the Mitigation Hierarchy and are only to occur after avoidance and mitigation measures have been undertaken.

Conservation Offsets have been tested and implemented in various places around the globe. As a relatively new tool there has been a lot of testing, learning and adapting of offset pilots and programmes. BBOP, led by Forest Trends and the Wildlife Conservation Society initiated a collaborative partnership to share learnings and create standards.

Since 2004 BBOP has worked to create a standard for biodiversity offsets supported by principles and criteria that all its members agree to support. This has been an evolving process. The intention of these standards and principles is to serve as a guide for those considering the design and potential implementation of conservation offsets, in particular for programmes aiming for no net loss of biodiversity and to assist auditors and assessors of offset programmes. The advisory group of BBOP unanimously support these principles and hope other companies, governments and society will too.

The BBOP principles are as follows:

1. **Adherence to the mitigation hierarchy** – Offsets are a commitment to compensate for significant residual adverse impacts to biodiversity identified after appropriate avoidance, minimization and on site rehabilitation has occurred.
2. **Limits to what can be offset** – There are situations where residual impacts cannot be fully compensated for by offsets because of the irreplaceability or vulnerability of what is being impacted.
3. **Landscape context** – Offsets should be designed and implemented to ensure the expected, measurable conservation outcomes are achieved taking into account the available information on the full range of biological, social and cultural values of biodiversity and supporting an ecosystem approach.
4. **No net loss** – Offsets should be designed to achieve in situ, measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a gain of biodiversity.
5. **Additional conservation outcome** – Offsets should achieve outcomes above and beyond the results that would have happened if the offset had not taken place. Should avoid displacing harmful activities to other locations.

6. **Stakeholder participation** – In areas where the project is taking place and areas where the offset is occurring stakeholders should be a part of the decision making about the offsets including their evaluation, selection, design, and implementation and monitoring.
7. **Equity** – Stakeholders should share the rights and responsibilities, risks and rewards, associated with a project and offset in a fair and balanced way, respecting legal and customary arrangements.
8. **Long-term outcomes** – Offset design and implementation should be based on an adaptive management approach, incorporating monitoring and evaluation with the objective of securing outcomes that last at least as long as the project’s impacts and preferably in perpetuity.
9. **Transparency** – The design, implementation and communication of the results to the public should happen in a transparent and timely manner.
10. **Science and traditional knowledge** – Design and implementation should be a documented process informed by sound science, including consideration of traditional knowledge.

5.2 GENERALLY ACCEPTED PRACTICES SUPPORTING THE PRINCIPLES

This section provides a summary of practices that lead to successful offset programmes. The information was summarized from the presentations made at the November 2013 Alberta Conservation Offsets Workshop. All of whom have extensive experience designing, implementing, operating and/or working with offset programmes.

- **Programmes adapt over time** to accommodate lessons learned.
- **Clear demand** for the offsets is essential. This may be in the form of strict and clear laws and regulations requiring that industrial developers acquire offsets OR in the form of having a business or funder interested in purchasing offsets. One presenter was firm that voluntary programmes cannot achieve large conservation outcomes.
- **Adherence to the mitigation hierarchy** is essential. This ensures avoidance, reduction and mitigation are the first efforts made and that offsets are only used for unavoidable impacts.
- **Clear, uniform principles and standards, guidance and certainty around processes** are essential; in particular, around the process to determine a need for and acquisition of offsets. This is to help all participants in the programme know exactly what they need to do and how long it will take. One presenter talked about

the importance of strong standards that provide enough flexibility for local requirements to be met alongside the standards.

- **Scientifically valid, well understood, simple metrics that can be certified, validated and verified in a clear, relatively efficient process** is essential. One presenter identified, based on his experience, that biodiversity offset metrics work best when they are habitat based rather than species based. The same speaker also said that no-net loss is a hard standard to achieve for species conservation goals (more appropriate for wetland/stream impacts) and that habitat preservation or enhancement plus management is more appropriate when species conservation is the goal.
- Ensure there is **long-term/sustainable funding** available. Offsets are long-term by nature and having endowment funds in place to monitor the offset through time is required.
- **Multi-year strategy** that is based on good baseline data and landscape level planning requires committed **funding** at the start.
- **Performance standards** that are auditable and third party verifiable are essential.

5.3 PHASES OF BUILDING AND OPERATING A PROGRAMME

The Willamette Partnership created a diagram representing the phases of building and operating a programme.

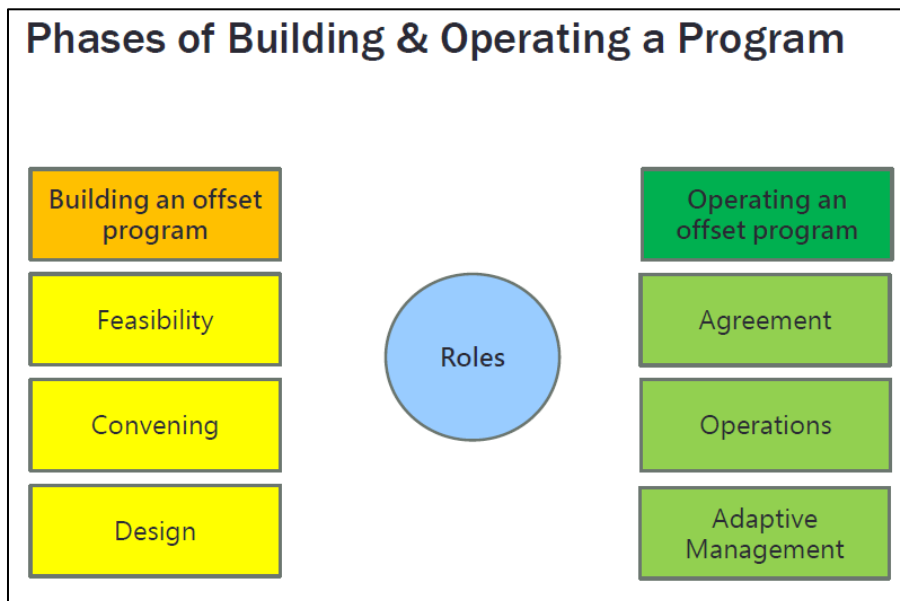


Figure 1: Slide from Willamette Partnership

The SEACOP is in the building phases.

6 SEACOP KEY DECISIONS AND ASSUMPTIONS AND BBOP

Table 1 illustrates the alignment of SEACOP and BBOP principles. If the pilot team addressed the BBOP principle directly and what the pilot team decided aligned with the principle it is indicated with 'YES'. If the pilot team did not or could not address the BBOP principle it is indicated with 'NO'. If the team addressed the principle but the pilot does not or marginally aligns with the BBOP principle it is indicated with 'YES/NO'.

BBOP Principles	SEACOP
Adherence to Mitigation Hierarchy	YES
Limits to what can be offset	NO
Landscape context	YES
No Net Loss	NO
Additional Conservation Outcome	YES
Stakeholder Participation	YES
Equity	YES/NO
Long-term outcomes	YES/NO
Transparency	YES
Science and Traditional Knowledge	YES

As is described earlier in this report, while there is not a policy based, formal requirement for industry to follow the *mitigation hierarchy*, it happens for the most part through approval and permitting processes and a company's business practices. Participation in the voluntary offset pilot programme would require the company to have implemented the initial steps of the hierarchy as part of participating in the offset programme.

There is no explicit policy direction that would *limit what can be offset* as a part of this voluntary offset pilot. Approval and permitting processes may limit location of some industrial development but that cannot be directed by the pilot. The recommendation or creation of such policy would rest with the appropriate government body and not with this pilot team.

The SEACOP has a strong *landscape context* focus. The conservation benefit to the native prairie landscape of the Dry Mixedgrass and Moist Mixedgrass Natural Subregions was well considered in the expansion of the original conservation target of the pilot beyond

that of a single species. The landscape context of the pilot is also well supported through the creation of the processes around establishing the Offset Suitability Index.

No net loss is not supported in Alberta land use policy and therefore was not a concept prevalent in the pilot. While Alberta has policy¹⁶ supporting the use of offsets and has an active carbon offset market, there is no policy in support of “no net loss” of biodiversity to support that specific approach for this pilot. This results in some challenges when aligning the SEACOP pilot with the principles. However, the Offset Suitability Index uses the best available data and research to try and create a conservation benefit based on multiple criteria and landscape context as compared to the impact created by the industrial impact.

Additional conservation outcome was an early goal of the pilot. The original concept to emphasize sage grouse conservation was revised to consider the multiple species at risk in this area. This decision was influenced by the amount of highly fragmented native prairie habitat and the risk that this presents to the species that rely on this area. Expanding or creating additional acres of current habitat became the primary conservation objective. Related to this is the conservation of already intact native prairie – while the pilot does not directly reward that conservation it recognizes it could be a future possibility to provide offsets and recognizes there are other programs available today to support that conservation.

Stakeholder participation was considered a priority in the development and design of the pilot. To date there have been multiple meetings with landowner and industry stakeholders. Their feedback has been incorporated into the evolving iterations of the pilot. Once a first round of bidding occurs the pilot team plans to bring all stakeholders together to review lessons learned, what worked and what didn't in order to make improvements to the next round.

Equity is a principle the pilot team and stakeholders discussed a fair amount. Concern was expressed that the oil and gas industry is not the only group to impact native prairie through new development, as a result other industries were invited to the table. Still recognized are other development pressures not being addressed by this pilot (e.g., residential development). Concerns about the potential failure of seed establishment or a situation where the landowner cannot or does not maintain the offset were also discussed. These concerns have been addressed in the contact between the third party

¹⁶ Southeast Alberta Conservation Offset Pilot – Building the Tool Box

and the landowner so the risk is not held by industry. While there was a fair amount of attention paid to being fair and equitable, there are a number of unknowns as the pilot moves forward and this is an area that will likely receive more attention as experience is gained about the types of impacts being offset and how the offsets are serving the conservation objectives.

Long term outcomes or permanence is an important consideration for offsets. SEACOP was initially designed to address temporary industrial impacts, although the inclusion of some types of development is arguably more permanent (e.g., wind energy). Temporary in this sense means the development impacts can at some point in the relatively near future be reclaimed to current conditions as much as is possible and are required to be reclaimed under the current reclamation criteria, therefore the offset requirement would lapse at some point in the future. Landowner feedback also showed that they were most interested in term contracts, not perpetual ones at this stage. There has not been a determination of the length of development impacts but landowners were most interested in contracts 20 years or less. Some landowners identified that extending the agreement may be possible depending on the circumstances at the time their contract was ending. This may fit the idea of long-term outcomes if the length of the contracts aligns with the development impacts.

Another concern with respect to long term outcomes is that the lands under contract may revert to cultivation following the completion of the contract. There are implications to the wildlife utilizing the area as many species have high fidelity to sites once they are habituated to them and it cannot be assumed those species would be able to move. Species at risk tend not to be plastic in their habitat use so the potential consequences to the desired outcome of increased habitat for wildlife including species at risk may not be met. To address this it was suggested a mechanism to allow for the re-sale of the offset and extension of the contract be developed. Such as ability of industry to utilize or sell the remaining portion of the contract should their reclamation obligations have been met prior to the end of the offset contract was discussed. Challenges arose around how to quantify the remaining accrued benefit. As this is a pilot, decisions around ensuring long-term outcomes is expected to evolve as experience is gained.

As part of the offset pilot stakeholder consultation, it was identified that ensuring a quality offset for the entire period of the contract was key to all parties. A related challenge identified is that sub-surface rights holders have the ability to access those sub-surface resources on all private lands; potentially even if the land has provided offsets to another

development impact. There is no clear direction as to how that may be addressed as the economic benefits of industrial activity are considerable. This decision rests beyond the purview of the pilot team but in light of enabling offsets in Alberta this issue needs to be addressed.

Transparency has been an important consideration. As a pilot that would be voluntarily adopted, transparency is required so people are fully aware of the project goals, objectives and processes and are willing to participate. As such the pilot team interacted with stakeholder groups throughout the process by sharing and testing decisions, outputs and protocols, and requesting feedback. The guiding principles around metric and protocol development was it be impartial, neutral and fact-based.

The pilot team dedicated a significant amount of time and energy to understanding what scientific data, research results and processes exist for the Dry Mixedgrass and Moist Mixedgrass Natural Subregions. This *science knowledge* has been well built into the processes to determine the offset requirements from industry impacts and offsets provided by seeded acres. Traditional or community knowledge seems to have been integrated through the stakeholder processes but further assessment of this could be done.

7 CONCLUSION

When considering SEACOP with respect to generally accepted practices and principles, the pilot has addressed most of the ten BBOP principles. The principles that the pilot has not wholly or only partially addressed were the result of no government policy or direction on the topic or they are areas that are likely to adapt or change as experience is gained.

By comparison with generally accepted practices and principles, there are some challenges with which the pilot team has had to contend. Offset policy in the province is still under development so the pilot team did not have the advantage of this direction, processes and rules. Without this policy direction, voluntary offset programmes may suffer from insufficient buyers in the market, which does not allow a market to evolve. Lack of policy direction can also result in confusion with how the acquisition of an offset credit through a voluntary programme interacts with industrial approvals given current and/or future regulations.

While a lack of policy direction can cause difficulty in pilot design, the process of creating the pilot can help to identify many of the gaps and challenges that can arise in program

design. These learnings can be incorporated into the policy to help support future applications of conservation offset programming. To bring the pilot to a fully functioning conservation offset programme these challenges and policy gaps would have to be addressed.

As the pilot continues, other aspects arising from the application and development of this pilot and the subsequent direction of policy currently under development will be uncovered and provide learning opportunities. The pilot team will be providing a final report on the pilot in 2015 as identified under the current draft South Saskatchewan Regional Plan.

8 APPENDIX A – Overview of SEACOP Pilot Team Actions and Deliverables

Pilot team engagement

- 8 in-person formal pilot team meetings beginning in January 2012
- Regular conference calls
- Various pilot team committee work toward deliverables (e.g., industry metrics, ag offset conversion protocol, ag offset suitability index development, landowner bid and contracting approach) beginning in March 2012

Stakeholder engagement:

Industry engagement (oil and gas, utilities and wind energy)

Pilot awareness workshop – July 2012

Development site metric workshops – August, November 2012 and June 2013

Follow up conference calls

Landowner engagement

Pilot scoping meetings – August 2011 and February 2012

Market approach workshop – December 2012

Pilot information and feedback meeting – October 2013

Other stakeholder engagement

Prairie Conservation Forum – June 2012

Alberta Agri-Environmental Partnership – June 2012

Alberta Soil Science Workshop – February 2012 and February 2013

Prairie Conservation & Endangered Species Conference – February 2013

Endangered Species Conservation Committee – February 2014

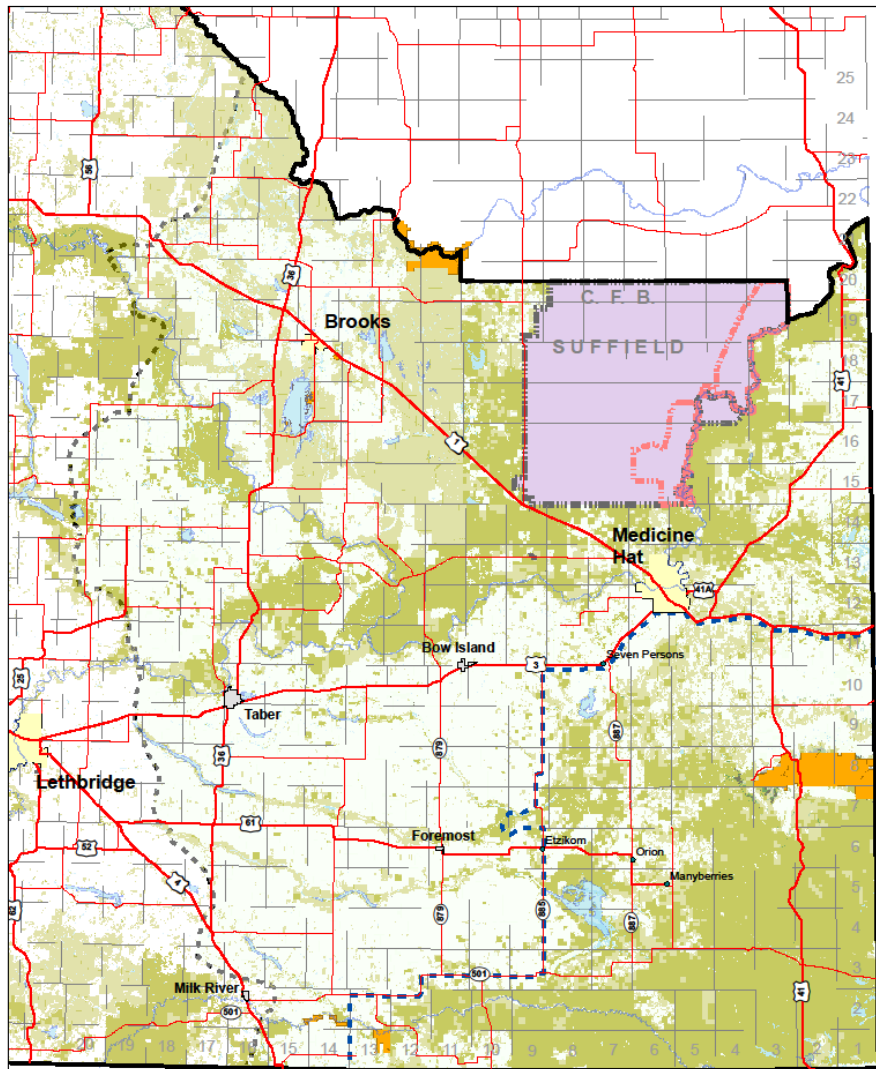
Society for Range Management Conference, hosted an International Forum: Conservation and Stewardship Tools in Action: A Canadian and US perspective on Lessons Learned and Challenges to Overcome – February 2014

Key SEACOP pilot team deliverables:

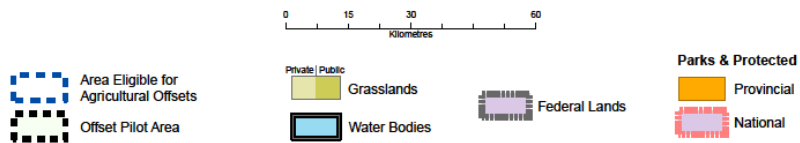
- Offset Factors in the Dry Mixedgrass and Mixedgrass Natural Subregions – August 2012 and February 2014 (McNeil and France)
- Industry documents to support pilot offset participation:
 - Business Case for SEACOP Participation – October 2012
 - Policy Context for SEACOP – October 2012
- SEACOP Offset Suitability Index – August 2013
- Landowner Expression of Interest process and Contract Agreement drafts – October 2013

- Field evaluation for SEACOP Offset Suitability Index – March 2014
- Annual cropland conversion offset protocol draft – March 2014

9 APPENDIX B – Offset Pilot Area



South East Alberta Conservation Offset Pilot



Base map data supplied by Spatial Data Warehouse Ltd.
 Landcover supplied by Agriculture and Agri-Food Canada, 2008.
 Map produced by Resource Information Unit, Prairie Area, January 2013.

Alberta
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10 APPENDIX C – Supporting Documents

- SEACOP Team documents (undated)
 - Pilot team and stakeholder meeting notes
 - SEACOP Interim Report – Fact Sheet
 - Southeast Alberta Conservation Offset Pilot; A collaborative approach to the development of Conservation and Stewardship Tools. K. Raven, R. Dunn and T. Goddard, M. Weber, T. Zimmerling, B. Downey, P. Jones, S. Petry, B. Adams, M. Alexander, D. Britton, R. McNeil
 - Cost-effective Conservation Planning for Species at Risk in Saskatchewan’s Milk River Watershed, Alicia Entem, Vic Adamowicz and Peter Boxall, Department of Resource Economics and Environmental Sociology, University of Alberta
 - Tools for and Learning's from the DMG Natural Subregion, presentation by Kevin France P.Ag, Provincial Rangeland Specialist – Grasslands, Sustainable Resource Development
 - Restoring Native Grassland in Southeastern Alberta: Implications for Wildlife, presentation by Brad Downey, Multisar
 - Southeast Alberta Conservation Offset Pilot – Building the Tool Box
 - Southeast Alberta Conservation Offset Pilot – Business Case Brief
- SEACOP Team documents (Presentations and reports to and by the pilot team)
 - Proposed approach to aggregate agricultural conservation offsets – August 2011
 - Conservation Offsets: A Working Framework for Alberta, August 2011, Developed by Chad D. Croft, B.Sc., R.P.F., P.Biol, Todd Zimmerling, M.Sc., PhD., P.Biol, Karl Zimmer, B.Sc., Alberta Conservation Association. Report and presentation.
 - Conservation and Recovery of Sage Grouse in Alberta: An Initiative of the Northern Sagebrush Steppe Partnership, D. Eslinger, Presented to the Offset Pilot Technical Expert Workshop, January 10, 2012, Lethbridge, Alberta
 - Feb 2012_Draft Ecological Site Approach “straw dog”
 - Conservation Offsets in Southern Alberta – Advice on Implementation, Based on Alberta’s Carbon Offset Market-based Instrument. Submitted to Rob Dunn and Karen Raven, Alberta Agriculture and Rural Development by Karen Haugen-Kozyra, M.Sc., P.Ag. KHK Consulting Ltd. Senior Partner, The Prasino Group February 2012

- ABMI and Offset Ratios, presentation by Jim Schieck, ABMI, January 10, 2012
- Scope and Objectives for Offset Pilots in Alberta, Summary of Recommendations from AITF Offset Report, Marian Weber, Alberta Innovates Technology Futures, January 10, 2012
- Offset metrics and rules, presentation by ABMI, February 27, 2012
- SEACOP, Visio-Offset Payment Diagram, July 2012, draft approach
- Market Mechanisms for Conservation Offset Procurement, presentation by Marian Weber, AITF, May 16, 2012, AARD Southern Alberta Offsets Planning Meeting, Lethbridge, AB
- Offset Factors in the Dry Mixedgrass and Mixedgrass Natural Subregions, Ron McNeil and Kevin France, Prepared for Agriculture and Rural Development & the Offset Pilot Workgroup, February 2014 Revised Draft
- SEACOP Team documents (Some key references used by the pilot team- full list available upon request)
 - Lessons Learned in Alberta's Carbon Market, Karen Haugen-Koyzra, March 2009, Climate Change Central
 - Investigating farmers' preferences for the design of agri-environment schemes: a choice experiment approach Eric Ruto and Guy Garrod, Journal of Environmental Planning and Management. Vol. 52, No. 5, July 2009, 631–647
 - Ecosystem Credit Accounting Pilot General Crediting Protocol: Willamette Basin Version 1.1 September 23, 2009, Willamette Partnership
 - Science, economics and the design of agricultural conservation programmes in the US, Madhu Khanna and Amy W. Ando, Journal of Environmental Planning and Management Vol. 52, No. 5, July 2009, 575–592
 - Scoping Study of Assurance Standards to Verify Agricultural Greenhouse Gas Offset Projects, KPMG – Advisory 3 May 13, 2011
 - Experimental Economic Evaluation of Offset Design Options: A Summary of Results and Policy Recommendations, October 2011, Prepared for the Alberta Land Use Secretariat by Marian Weber, Ph.D. Alberta Innovates Technology Futures with contributions by Dan Farr, Ph.D. Alberta Biodiversity Monitoring Institute; Grant Hauer, Ph.D. EarthEcon; Veronika

Nemes, Ph.D. Frozen Oasis Research; Orsolya Perger, MSc. University of Alberta

- Other Supporting Documents for this report
 - Poulton, David, W. 2014. Biodiversity Offsets – A primer for Canada. Sustainable Prosperity. Available at <http://www.sustainableprosperity.ca/article3857>,
 - ICMM IUCN. 2012. Independent report on biodiversity offsets. Prepared by The Biodiversity Consultancy. Available at www.icmm.com/biodiversity-offsets
 - Business and Biodiversity Offsets Programme (BBOP). 2013. *To No Net Loss and Beyond: An Overview of the Business and Biodiversity Offsets Programmes* (BBOP). Available at www.forest-trends.org/biodiversityoffsetprogram/guidelines/Overview_II.pdf
- Alberta Conservation Offsets Workshop, November 12-13, 2013
 - Alberta Conservation Offsets Workshop Report, November 12-13, 2013, Calgary, Alberta, edited by Marian Weber, Alberta Innovates Technology Futures and Sarah O'Brien, Willamette Partnership
 - Biodiversity offsetting in Victoria, presented by Michael Crowe, at Alberta Conservation Offsets, November 12-13, 2013, Calgary, Alberta
 - Biodiversity Offset Key Concepts and Principles, presented by Patrick Maguire, Forest Trends at Alberta Conservation Offsets, November 12-13, 2013, Calgary, Alberta
 - Biodiversity offsets: what works & what doesn't? Current international best practice as a guide to good outcomes for Alberta, presented by Patrick Maguire, Forest Trends, at Alberta Conservation Offsets, November 12-13, 2013, Calgary, Alberta
 - Building a Watershed-Based Approach to Aquatic Mitigation in Oregon, presented by Willamette Partnership, Alberta Conservation Offsets, at November 12-13, 2013, Calgary, Alberta
 - Building Offset Programs in the Alberta context, presented by Bobbi Cochran and Todd Gartner at Alberta Conservation Offsets, November 12-13, 2013, Calgary, Alberta
 - Wetland and Conservation Banking in the US: An Illustration of Biodiversity Offsets Driven By Regulation, presented by George Kelly, Environmental Banc & Exchange, LLC, at Alberta Conservation Offsets, November 12-13, 2013, Calgary, Alberta