
Sunshine Coast
Locally
GROWN
Community Forest
2021 - 2025
Operations Plan

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Preamble

Sunshine Coast Community Forest Ltd. is a corporation whose sole shareholder is the District of Sechelt. SCCF has a Community Forest Agreement K3F with the Ministry of Forests, Lands and Natural Resource Operations and Rural Development which provides the opportunity to manage local timber harvesting for the benefit of the community.

This Community Forest Agreement defines boundaries in three areas around Sechelt, creating an Area Based Tenure. This does not give the Community Forest any ownership rights to the land, but provides the opportunity and obligation to manage the area harvesting a replaceable amount of timber each year. This means that we only harvest what we can grow sustainably. This amount of timber is known as the Community Forest's Allowable Annual Cut.

The Sunshine Coast Community Forest (SCCF) produces the Community Forest Operational Plan (CFOP), which includes guidelines and maps to provide the public with a practical explanation of how the Community Forest will be managed, and where the Allowable Annual Cut will be harvested for the following 5 years. This is done with consideration for a variety of forest values, economic, environmental, and social benefits, and compliance with the laws, policies, and regulations of the federal and provincial governments.

The CFOP is updated annually to consider changes in community priorities, forest conditions, regulations, or harvesting-operations volume. It is more than a document – it is a proactive process for the community to participate in the operational planning of the SCCF. The *shíshálh* Nation participates in the process as part of our Community and the stewards of their swiya in which we operate.

CFOP is a plan to act in parallel with the Ecosystem Management Model (EMM) to be in place at a future date. Components of EMM will be integrated as the harvest plans progresses through stakeholder engagement, inventories are released and stewardship areas are refined.

Ecosystem Management

SCCF is moving in new direction to adopt an ecosystem management approach to our forests. The new management approach is a paradigm shift from primarily an industrial model of maximizing timber extraction and profits to that of understanding our

ecosystems, its living things, including humans, and their interactions within that environment. As stewards of our forests we have a responsibility to ensure that our ecosystems, our forests are resilient to the ever growing concerns of climate change but acting in balance and harmony with our community needs and aspirations. Ecosystem Management is pathway to get us there.

This is a 5-year initiative which Years 1 to 3 is to invest in inventories such as Species at Risk, Deer/Ungulate winter range, cultural studies, watershed analysis, plant community predictive modeling, old forest inventory and analysis and various other studies to help with understanding our community forest ecosystems. Initiate and collaborate with stakeholders, local governments in the plan development. Year 3 and 4 is to pursue a carbon offset strategy to provide sustainable funding and by Year 5 to seek approval from Government and change the management plan goals/objectives and annual allowable cut of the Community Forests.

The characteristics of a successful ecosystem management are:

- Public engagement
- Strong leadership
- Communication among stakeholders
- Incentives for collaboration
- Cross-boundary facilitators
- Clear, measurable goals
- Science-based decisions
- Legislative mandates sometimes needed
- Adaptive management
- Sustainable funding

We intend to incorporate core principles of an Ecosystem Management system.

- Reflects a stage in the continuing evolution of social values and priorities; it is neither a beginning nor an end.
- Place-based and the boundaries of the place must be clearly and formally defined.
- Maintain ecosystems in the appropriate condition to achieve desired social benefits.
- Takes advantage of the ability of ecosystems to respond to a variety of natural and man-made stressors, but all ecosystems have limited ability to accommodate stressors and maintain a desired state
- May or may not result in emphasis on biological diversity.

- Sustainability, if used at all in ecosystem management, should be clearly defined—specifically, the time frame of concern, the benefits and costs of concern, and the relative priority of the benefits and costs.
- Scientific information is important for effective ecosystem management, but is only one element in a decision-making process that is fundamentally one of public and private choice.

Purpose of Operational Plan Guidelines

The purpose of the CFOP is to guide the planning and execution of operations of the SCCF in harmony with the values of the community. At the same time, the CFOP provides the public with a comprehensive means of reviewing the planned operations of the SCCF in clear and understandable language. The CFOP consists of written guidelines and maps, providing information regarding:

- Location of Stewardship Areas of community value and use, resources, resource values, and their locations that are being managed;
- the locations of planned harvesting operations;
- types of harvesting, silviculture, and other activities that will be carried out within the SCCF tenure area;
- types of forest products the SCCF will produce; and
- the development, harvesting, and management of timber and non-timber resources.

It is important for the community to understand that the CFOP guidelines are just that—***guidelines***. While they set the intended general direction for harvesting, site conditions, field discoveries or other findings made by professionals may necessitate changes. In such cases, the rationale will be provided and documented in the Site Plans.

Public Input and Operational Plan Revision

Obtaining Public Input

The permanent Community Forest Agreement was awarded on May 30, 2011, and Community Forest Operational Plan was developed to provide public discussion and input into operational procedures for the management of the SCCF. The CFOP describes the basic scope of forest management activities that may be used within the SCCF, and the intent is to answer operational questions asked by the public. It provides a framework on which to build on the values expressed in the community.

Through the CFOP planning process, SCCF will engage with the public with operational detailed maps showing future block development up to 5 years. The intent is to highlight new planned blocks and roads when they occur on the plan, and to solicit comments for those blocks for a 60 day review. During this proposal stage of CFOP, SCCF will be accepting comments for review and consideration. Other public engagement efforts will include open houses, presentations to community associations, or face-to-face meetings with concerned stakeholders. The open houses are open to the public and are advertised in the local newspapers and on the website so that the public has an opportunity to participate in this process. The public, First Nation and Local Government's role in the CFOP process is to review the document and make suggestions for consideration.

In addition to presenting the CFOP to the public, further outreach efforts will be made to engage with the District of Sechelt, *shíshálh* Nation, SCRD, and the following Community Associations: Sandy Hook, Halfmoon Bay, West Sechelt, Roberts Creek, Tuwanek, Davis Bay/Wilson Creek/Selma Park.

A summary of comments and recommendations will be completed by SCCF Management and brought to the SCCF Board of Directors for review and approval. An approval decision will mean that further field location and planning may proceed. A compendium of public comment and review will be made available on our website. Stakeholders directly affected by operations may be consulted further for feedback as the block passes different gates in the CFOP plan. It is important to note that as the block progresses through the gates, it will be more difficult to change block/road plans.
In subsequent years of the CFOP Plan, these blocks may show the level of progress of cutblock development planning such as:

- Block Proposed
- Block Proposed and Previously Referred
- Block Engineered (Plans complete, assessment complete)
- Block in Cutting Permit (Plan approved by FLNRO)
- Block Harvested

- Block Planted
- Block Free Growing

We believe this CFOP process will be more interactive and current, allowing public participation to help guide our operations into the future.

Revisions to Be Signed by the Professional Forester

Final changes to the CFOP will be signed and sealed by a Registered Professional Forester, co-signed by the SCCF Operations Manager and the Chair of the Board.

shíshálh Nation Relationship

SCCF operations will consider *shíshálh* Nation cultural-heritage management strategies, respecting the *shíshálh* Nation areas of cultural significance. Periodic meetings are held with *shíshálh* Nation representatives to discuss forestry-planning issues, cultural heritage site surveys, Cutting Permit issuance, and other current issues. The *shíshálh* Nation also reviews every block for cultural significance prior to harvesting. This is part of the Community Forest's proactive approach to addressing forest management issues.

Management of Resources

Community Stewardship Areas

Along with EMM, to protect and plan for future non timber opportunities, the Community Forest recognizes many community values within our forest management areas. Through previous stakeholder engagement initiatives, we have provided planning areas that shows the community of areas being managed specifically for alternative uses, values, and concern mitigation. Stewardship Areas for management consideration are: Long-term deferral areas are areas which require buffers or management of a value requires timber to be retained for a rotation or more. Examples as follows:

- Old growth and Old growth recruitment
- Unstable terrain/steep slope
- Environment
- Species/plant communities at risk; fragile or rare ecosystems (i.e., marbled murrelet, northern goshawk)
- Water licence intake protection
- Riparian reserves
- High cultural/archeological significance areas
- Alternative harvest management areas are areas where community values require special harvest strategies/techniques to help mitigate concerns:
- Recreation
- Wildfire interface management areas

- Community watershed management
- Community interface areas
- Short-term deferral areas – where deferring timber is required to meet a desired management objective
- Mushroom gathering
- Long-term or Extended rotation strategies
- Visual Quality Objectives (i.e. two pass harvest entries)

Water

Water resources within the SCCF include lakes, wetlands, and streams. They provide many values:

- Domestic water supply under provincial water licenses
- Aquatic ecosystems supporting biodiversity
- Aesthetics, scenery, and community setting
- Recreation uses such as swimming, fishing, and boating
- Salmon and resident fish-bearing streams

The CFOP covers only indirect water-management activities—those designed to maintain water quality and aquatic ecosystems by minimizing the impact of other resource uses. The Community Forest considers water to be one of the highest-value resources in the tenure area and will consider various options above and beyond provincial regulations to preserve water quality including:

- leave trees alongside S6 streams, which are small, non-fish bearing streams not in a community watershed where leaving trees is generally not required,
- leave wider riparian areas than required to maintain stream bank integrity,
- incorporate retention areas adjacent to stream channels to provide greater protection to water quality.

Every consideration is given to protecting waterways where safety and operational requirements allow.

Community Watersheds

There are three Community Watersheds that overlap with the Sunshine Coast Community Forest chart area:

- Milne Creek (includes Trout Lake)
- Chapman Creek
- Gray Creek

The SCCF Board of Directors has decided that no harvesting will take place within the Chapman Creek Community Watershed for the 25-year term of the SCCF (effective 2011). This decision has been made to address the following concerns:

- The Chapman Creek watershed was heavily harvested in the past and needs to hydrologically recover

- Past harvesting and road construction resulted in some slope instability resulting in landslides. Many roads and slopes may be still unstable and new operations could exacerbate these problems. Detailed hydrological studies have been completed (Horel et al) and recommendations have been accepted by the board. More studies are likely to be done to provide better information about the Chapman Creek Community Watershed before any operations will be considered.

Forestry operations will be planned within the Gray Creek and Milne Creek Community Watersheds. These plans will be referred to local governments, shíshálh Nation and the public having an opportunity for input into those plans.

The need for, and sizes of, riparian reserve and management zones will be determined in the field by professionals as stated in the SCCF Forest Stewardship Plan (FSP). The size of riparian reserves on streams is specified in Forest Planning and Practices Regulation (FPPR), sections 47, 48, and 49. However, depending on site conditions, these reserves may be larger, as determined by a qualified professional who will consider the following:

(i) the need to buffer the aquatic ecosystem of the stream, wetland, or lake from the potential introduction of materials that are deleterious to water quality or fish habitat;

(ii) the need to conserve the riparian habitat for biodiversity and wildlife habitat management purposes;

(iii) the need to protect the integrity of the reserve zone by buffering with retention in the management zone;

(iv) the effect of trees and understory vegetation on water quality or fish habitat;

(v) the need to maintain stream bank and stream channel integrity;

(vi) the relative importance and sensitivity of different riparian classes of streams, wetlands, and lakes;

(vii) the type, timing, or intensity of forest practices that are to be carried out;

(viii) worker safety; and

(ix) other factors determined by the professional in the Site Plan.

Biodiversity

Biodiversity management by the SCCF takes into consideration the Landscape Level and extends beyond the SCCF tenure area to include Old Growth Management Areas (OGMAs) and seral stage (forest-stand age) distribution. OGMAs and Wildlife Tree Retention Areas (WTRA) retention are implemented within the SCCF tenure area thereby providing additional biodiversity and future old-growth recruitment. The following measures will further maintain biodiversity within harvested areas:

- Large snags will be retained within wildlife tree patches where operational safety allows, as they provide valuable habitat for many animal species
- Under-represented tree species, such as Sitka spruce and western yew, will be retained within wildlife tree patches.
- Natural rhododendron patches will be retained.
- Veteran trees will be retained wherever it is operationally feasible.
- Only native tree species will be used for reforestation of timber crops.
- Incorporate irregular boundaries in the cutblock design to improve the interaction of terrestrial species and ecosystems between the non-harvest versus harvest portion of the block.
- Employ a Retention Silviculture System with more than 50% forest influence as dispersed or groups of retained trees in the cutblock.
- Meet the Coarse Woody Debris targets as stated in our FSP.

Variable Retention[1]

As a foundational management direction, in the next 5 years, 80% of SCCF blocks will be non-clearcut using Variable Retention principles (Silviculture Systems-pg. 21). Variable Retention will be the primary system as long as it's safe, can achieve the biodiversity targets for the site and we can grow the right tree species for the site. There will be blocks that may need to be clearcut to achieve other targets such as managing for forest insect and disease, but these blocks will be the exceptions instead of the norm. Areas other than OGMAs may be designated for retention to maintain specific high-biodiversity values.

Legacy Tree and Special Tree Protection

The Pacific temperate rainforests ecoregion of North America is one of the richest and most diverse temperate forest ecoregions on earth. These coastal rainforests contain enormous trees, referred to as “legacy trees”, which are a result of the area’s favourable growing conditions, including mild year-round temperatures and heavy rainfall. Legacy

[1] Variable Retention, Wikipedia, 2021/03/25 https://en.wikipedia.org/wiki/Variable_retention

trees are exceptionally large and old, and a unique feature of British Columbia's coastal forests.

Our Community Forest recognizes that legacy trees have important cultural, aesthetic and ecological value. These trees play an important role in habitat conservation by bridging old-growth characteristics into second growth stands. In addition, large trees are increasingly supporting the growing ecotourism economy as valuable destinations in and of themselves. In that context, SCCF's aim is to keep all legacy trees throughout our Community Forest and our protocols for doing so are outlined in our Best Management Practices for Legacy and Special Tree Protection.

Invasive Species

Noting the extensive range and diversity of invasive plants in our Community Forest, SCCF is focusing on eliminating the potential for invasive plants by grass seeding disturbed soils. Legally the SCCF is required to manage for invasive plants as identified in the Forest and Range Practices Act (FRPA) Invasive Plant Regulation. Through the removal of potential seed bed via grass seeding we can eliminate the introduction and/or spread all invasive plants that could threaten Sensitive Sites. Our comprehensive Best Management Practices for Invasive Plants identifies our strategy in detail.

Identified Wildlife Management

The only species listed in the Ministry of Environment's Identified Wildlife Management Strategy that exists within the SCCF tenure area is the Marbled Murrelet. There is potential for Northern Goshawk in the area, but there have been no recorded observations to date.

Marbled Murrelet nesting habitat has been identified and mapped within the SCCF and approved by the Ministry of Forests, Lands and Natural Resource Operations and Rural Development. The Order specifying the legal set aside of potential Marbled Murrelet has been met outside the Community Forest, and there is no requirement to set more area aside within the Community Forest. However, current areas shown as potential Marbled Murrelet habitat in the Community Forest will remain standing.

Elk and Deer Management

Large numbers of elk and deer (ungulate) populate the forest in, and surrounding, the SCCF. Habitat areas such as sites of high deer use for winter browse and warming (south-aspect open forest) have been identified and mapped. Continuous forestry operations will open up forest canopies to allow more natural browsing within these forest stands. Stand harvesting and rehabilitation (spacing and thinning) will provide a mosaic of browse areas across the landscape to be used by these and other animals.

Deer and elk populations do not require intensive management in this area. The low elevation sites with mild winter climates and extensive areas of browse supply their needs well.

Elk and deer impact forestry plantations and add a significant cost to silviculture. They spend much of their time in plantation areas because of the increased availability of food in the newly formed shrub and herbaceous layers that grow following harvesting. Unfortunately, deer and elk often eat the new seedlings and damage young trees as they rub the velvet off their antlers. Mesh enclosures or cones are often required to protect the seedlings.

Sensitive Ecosystem Inventory

A Sensitive Ecosystem Inventory (SEI) was completed by the Ministry of Environment for the lower biogeoclimatic zones of the Sunshine Coast—areas considered to be rich in biodiversity. It is not a listing of recommended protected areas, but an acknowledgement that specific biodiversity values exist in these areas. The SEI areas are identified primarily by using air photo interpretation with ground surveys for accuracy.

This SEI information is used to help establish riparian and other retention areas, as well as to plan ecosystem-appropriate forest management operations. Consideration of the SEI will be documented within the Site Plan, specifically, within the Forest and Range Practices Act (FRPA) Checklist.

More information regarding the SEI can be found at:
https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/ecosystems/search-ecosystem-info

Timber

Timber harvesting is the main financial opportunity and obligation for the SCCF.

The Community Forest's Allowable Annual Cut is determined to be 20,000 cubic metres (m3) per year. SCCF Board policy and direction to management is to fulfil the AAC terms of the tenure in order to:

- maintain an economic contribution from the forest to the local Sunshine Coast and provincial economies;
- provide sustainable local employment;
- continue to rehabilitate unproductive or low-productivity, unmanaged, and diseased stands naturally regenerated from past logging.

The AAC will be harvested using a range of retention-harvesting methods suited to the area's ecosystems. Timber harvesting will be planned and conducted to produce a variety of forest products, some of which are key to local Sunshine Coast value-added customers. Marketing of timber products will be determined prior to annual harvesting to ensure that the best value and use of the timber is achieved.

Timber products that support the local forest products manufacturing industry will be given the highest sales priority. Considerations will vary depending on the specific customer and forest product, and may include harvesting of timber and production of logs that:

- are of specific species, size, and grade;
- require sensitive harvesting techniques to preserve their appearance and grade;
- are of manageable volumes for customers; and
- suit the manufacturing schedule of local value-added industry.

The timber from the SCCF will be sold at market prices or better. Requests from local customers for specific forest products will be given priority. This will include special harvesting plans and timing to accommodate these requests.

Salvage opportunities will be managed on an individual basis, and salvage proposals will be developed in conjunction with annual harvesting plans.

Soils

Maintaining soil integrity is vital to managing future forest resources. All harvesting and other forestry activities will be planned in such a way as to minimize soil disturbance.

Measures to maintain soil integrity include:

- deactivation and reforestation of non-permanent road systems or those that are no longer required;
- grass-seeding of exposed mineral soil;
- minimizing new road construction by incorporating old roads into the block designs;
- surveying for soil compaction following harvesting as needed;
- avoiding broadcast burning of slash, leaving organic debris on site for decomposition.

Karst

Karsts are a natural geological feature that have been identified in the Community Forest. The SCCF will manage those sites according to Provincial policy. Planning will consider significant karst features with the objective of protecting them.

Forest Recreation, Trails, and Sites

The SCCF areas include a wide spectrum of outdoor recreational opportunities. Our community greatly values forest-based recreation, which is also a tourist attraction for some visitors to the Sunshine Coast. The extensive network of trails in the Sechelt area is a particularly valuable resource. They are mostly used for hiking, mountain biking, horses, motorcycles, and ATV's; access for harvesting of non-timber resources; and cross-country skiing. Harvesting of timber on or near trails may occur and the management of those trails may include:

- moving the trail,
- inclusion in retention of buffer zones,
- redesigning the block,
- restoring the trail following harvesting,
- minimizing damage by fall-away-yard-away, or
- variations of post-harvest retention density.

The management of trails will occur on a site-specific basis rather than by one broad policy applied to all situations.

The appropriate management of recreational resources is a goal of the SCCF. A recreational resource is a landscape feature with the potential to be used for a specific recreational activity. This potential must be recognized and options for continued future use considered in forest management planning.

The SCCF will continue to develop an inventory of recreation values and implement specific planning over time. This inventory lists natural and historical features for any recreational use within the SCCF tenure area; it will be used to ensure that areas of high recreation value are recognized and managed so as not to decrease their value. To date, the SCCF has mapped known trails in and around the SCCF tenure area. Some trails have been GPS mapped by the public and we greatly appreciate this information. This trail inventory will record types of usage, specific recreational or ecological importance, and other information regarding appropriate management techniques for the trail area.

Sechelt Heritage Forest/Hidden Groves

The Sunshine Coast Forest District has a Co-operative Management Agreement with the District of Sechelt for maintaining the Sechelt Heritage Forest recreation site (FRPA

Section 56), and the SCCF is not involved in the management. Objectives for the Sechelt Coast Heritage Interpretive Forest Site, set by the District Manager, Ministry of Forests, Sunshine Coast Forest District, recreation project 16660-6206—locally known as the Sechelt Heritage Forest—are as follows:

> *The objectives are to manage the Sechelt Coast Heritage Interpretive Forest Site, for a road access, non-motorized recreation experience. Opportunities for forest education, interpretive walking, and exploring activities will be available. Natural and social history of the Sandy Hook area shall be provided through the educational and interpretive component of the management of the site.*

The Sechelt Heritage Forest is also designated as an OGMA and is excluded from timber harvesting as described in the Chapman Landscape Unit Plan.

Hidden Groves

Included within REC 16660-6206 is Hidden Groves which has been designated a high-value recreational area on the urban interface. It is managed by the Sechelt Groves Society in cooperation with the Recreation Sites and Trails BC and SCCF. It consists of approximately 60 ha of forest along the east side of Sechelt Inlet Road, across from the Sandy Hook Road intersection. Many excellent trails have been built to enable people of varying abilities to view a wide range of old- and second-growth forest ecosystems. Work continues on these trails in order to improve access and to lead to additional natural and managed forest features. The Hidden Groves website can be viewed at: www.hiddengroves.ca

Non-Timber Forest Products

The SCCF contains valuable vegetation that may have the potential to be commercially harvested in the future for products such as:

- decorative foliage,
- edible mushrooms and other fungi,
- natural oils,
- medicinal ingredients,
- food, and
- branch furniture components.

The *shíshálh* Nation harvests many non-timber resources for traditional uses as food and for producing baskets, tools, and other art and craftwork.

The harvesting of non-timber forest products (NTFP's), such as those listed above, is unregulated within the province at this time. It has been found difficult to license, plan,

enforce, and monitor in BC because there are no provincial policies in place. There are no SCCF operational or management plans for these resources at the present time, except to identify and map any exceptional resource areas. In the event that there are commercially viable proposals, management strategies would be added to the Forest Management Plan.

The *shíshálh* Nation has the opportunity to provide input through the Forestry Protocol Agreement and through our various meetings during the year.

Personal Harvest of Food and Craft Supplies

As with commercial vegetation harvesting, personal gathering and use of food and craft supplies products is not currently managed, and there are no plans to manage these items at this time. The public can go out and harvest any non-timber forest products wherever they desire.

Aesthetics

The forest surrounding Sechelt provides a beautiful setting for the community as both a scenic backdrop and at the forest-stand level. Timber harvesting has a temporary potential to change the viewscape of the SCCF wherever visible from Sechelt. The result of harvesting could be either unattractive colour changes (such as a solid brown colour) or too angular a shape. These views are short-lived, as the vegetation comes back quickly as the seedlings get taller. Within five years, the view again takes on a green colour.

Visual Quality Objectives (VQOs) have been set by the FLNRORD for the SCCF area. These VQOs are, however, general in nature, and more detailed assessments of the visual effects of harvesting may be required on a block-by-block basis.

Harvesting operations are planned to minimize their visual impact, not by attempting to make harvesting invisible, but by utilizing landscape design techniques to blend in the harvesting pattern with the natural forest landscape mosaic. This is accomplished by utilizing tree retention, following irregular-shaped natural features for harvest boundaries, and by minimizing the size of road right-of-ways. Potentially visible blocks planned in highly visible areas will have visual impact assessment images produced to assist in their visual landscape design.

Wildfire Management

This risk of a wildfire from a harvesting operation is low. Additionally, if a fire were to start, the risk of spreading into the community is also low because of the fire protection services found at the Sechelt Airport and the availability of fire fighting aircraft locally, on the Island and Abbotsford. Planning of the harvesting blocks, and the management of

slash will be to reduce fire risk. This includes stacking of wood pieces for public firewood cutting, which reduces the number of slash piles and the amount of burning required.

Timber Management

The Timber Resource

Age Class Distribution

The vast majority of the SCCF tenure area is second-growth forest of either post-logging or post-fire origin. Harvesting began in the Sunshine Coast about a century ago and has been almost continuous ever since. Some old-growth forest remains in higher elevations as stands that were not chosen for harvesting due to their quality and the economics of the stands. Very few patches of old growth remain in the lower elevations of the SCCF, and those that do have been set aside as Old Growth Management Areas (OGMAs) or as SCCF conservation areas.

Harvesting rates increased during the 1930s through the 1950s, and then again in late 1980 until the present. Subsequent to this harvesting history, the SCCF has a somewhat irregular age class distribution that impacts our cut rate today. The current Allowable Annual Cut rate of 20,000m3/year is sustainable and below the actual growth rate of our Community Forest. As the large area harvested in the 1960s and beyond becomes mature, a higher AAC may be supported.

Old Growth

Figures in this section are approximate, based on 1990 inventory data.

In the Sunshine Coast Community Forest, the amount of old-growth forest over 250 years old is 2,450 hectares. None of these areas will be harvested. In the 1880s, the most accessible timber was harvested first, and harvesting progressed through the old growth upwards on the slopes. Consequently, the majority of the current old forest is in higher elevations, adjacent to and in the Tetrahedron Park.

Most small patches of lower-elevation old growth are protected in OGMAs. Additional patches have been discovered during our field work and by community members, and these have been recorded and will not be harvested because of their importance for biodiversity. These forested areas will continue to age, with some younger stands earmarked to eventually becoming old growth as well, increasing the amount of old growth in the Community Forest over time.

Old Growth Panel Recommendations

In 2019, the Government of British Columbia appointed a panel to conduct an Old Growth Strategic Review by engaging the public and providing direction on an approach to Old Growth management that is driven by British Columbians' perspectives and values. They held over 200 meetings in 36 communities and considered input from over 18,000 individuals. The resulting report calls for a paradigm shift in the management of Old Growth forests.

We support the Old Growth Strategic Review Panel's report. We are proactively planning our current and future operations with respect and consideration to the panel's recommendations in anticipation of government regulations and policies outlining the specific requirements. One way we have done this is by completing a vegetation analysis of the Coastal Western Hemlock zone identified by the panel as having a deficit of Old Growth, and set aside candidate areas to recruit into Old Growth so that in the future our Community Forest will have these highly valued and ecologically important old forests.

Unmanaged Second-Growth Stands

Many stands were harvested in the past and were left to regenerate naturally and now comprise a large proportion of today's mature forest. Unfortunately, the quality of these forests is questionable due to their unmanaged state. Some have regenerated very well into stands of healthy mature Douglas-fir-dominated stands of good value. Other stands were left and grew into low value stands of mostly poor hemlock. These stands may contain varying amounts of the following attributes:

- old surviving cedars damaged by the original logging that continued to grow in very poor form and partially decayed due to old scarring or infestation of powder worm;
- old-growth hemlock of the previous understory infected with hemlock mistletoe and/or rot from scars;
- Douglas fir trees that have grown leaning away from competing deciduous and other coniferous trees, resulting in irregular sweeping form;
- stands of irregular spacing resulting in many small, marginally merchantable stems and a high volume of waste, and some large trees with very large branches and knots as a result of growing in wide open areas;
- species occupying sites to which they are not well-suited. This is common of western hemlock in drier, low-elevation stands and Douglas fir in higher, wetter, colder areas of high snowpack.

The presence of these stand attributes lowers the value of the overall forest and also reduces the number of management options available.

Managed Second-Growth Stands

Starting in the mid-1960s, planting became the normal reforestation method and stands were managed to varying degrees of intensity, including spacing, fertilization and, in the 1990s, some pruning. Some of these planted stands are now maturing and are uniform in appearance, as they are well-spaced and close in size; the canopy is even and high. The stands that were spaced in the 1970s and 1980s are even more uniform. These stands will be very profitable for the Community Forest, as they will yield a high proportion of merchantable volume, easy to harvest, and require very little manufacturing and sorting.

Species Distribution

The lower-elevation areas of the SCCF are almost entirely coniferous stands, consisting mostly of Douglas fir, western red cedar, and western hemlock with smaller amounts of western white pine, lodge pole pine, Sitka spruce, red alder, and big leaf maple. Further up, in the Gray, Chapman, and Angus Burnett areas, other coniferous species occur, including amabilis fir, Pacific silver fir, yellow cedar and mountain hemlock. Other species, such as Pacific yew and bitter cherry, exist in these areas but are not considered to be part of the timber inventory. The species breakdown within the timber-harvesting land base of the SCCF tenure area is as follows:

Species	% Occurrence
Western and mountain hemlock	35
Douglas –fir	30
Western red cedar	15
Amabilis and silver fir (commonly referred to as balsam)	15
Yellow cedar, or cypress	5

Lower-elevation stands are generally most well suited for reforestation with Douglas fir and red cedar, which are the predominant species planted. Some sites where root rot is present may be stocked with western white pine or red cedar. Western hemlock invariably regenerates naturally and makes up a small component of a managed stand. Higher-elevation sites will most likely be planted with red cedar, yellow cedar, and amabilis fir, while mountain hemlock will naturally seed itself and be accepted.

Silvicultural Systems

Silvicultural systems are systematic treatments of a particular forest site undertaken to grow specific species and forest products, and to produce specific forest attributes. A silvicultural system is not only a type of harvesting system; it also includes the subsequent strategy to grow the next stand of trees through to rotation or to meet stand-

attribute objectives. As legally required, the SCCF will be reforesting harvested sites with species suitable to the area's biogeoclimatic subzone and site series, and as per regulations respecting stocking standards. Local contractors are used whenever possible for harvesting and planting. Planting is completed as soon as possible after harvesting to prevent invasive plants from establishing. Suitable silvicultural systems will be applied for the natural disturbance type of site in order to regenerate a forest with a higher degree of natural attributes.

The lower areas of the SCCF are within the Coastal Western Hemlock very dry maritime (CWHxm1) and the Coastal Western Hemlock dry maritime (CWHdm) biogeoclimatic units. These areas are very well suited for the growth of Douglas fir, cedar, alder, and big leaf maple. In order to fully utilize the productive capacity of the majority of these sites, growing the species listed above using even-aged management is favoured. This does not mean widespread clear-cutting, but even-aged management systems following natural disturbance patterns that have been studied in the past. The main strategy is to provide near full-light exposure to the new crop when it is established.

Not all harvesting is intended to regenerate a new even-aged crop. Some partial harvesting may leave trees to continue growing to produce specialty forest products. Some stands within the SCCF are fully stocked and their added increment between now and a final harvest would be minimal. This provides an opportunity to utilize the growing potential of these fully stocked stands that are far past maximum increment. They can be partially harvested now and they will grow back some of the harvested volume in time for a final harvest. The volume removed on the partial cuts will grow back in volume on the remaining trees, in higher value, until final harvest.

Variable Retention

Variable retention is a general term used to describe harvesting that retains a variable amount of the previous stand across the harvested area or areas.

It's a relatively new silvicultural system that retains forest structural elements for at least one rotation in order to preserve environmental values associated with structurally complex forests.
Some examples for environmental values are forest cover connectivity, soil stabilization, microclimate under retained trees, habitats associated with live or dead trees and species diversity due to habitat preservation, and wildlife corridor preservation. Variable retention also aids in emulation of natural disturbances by leaving behind some residual structure from previous stand which is typical for stand replacing disturbances.
Traditional silviculture systems such as clearcut, patch cut, shelterwood, etc. are focused on maximizing timber production and future regeneration of the trees. Variable retention on the other hand is focused on what is retained.

Variable retention minimizes the impact of logging operation by leaving biological legacies such as coarse woody debris (nurse logs and snags). Either few trees or many trees can be retained under the variable retention system, and trees can be retained in patches (aggregated retention) or left uniformly throughout a stand (dispersed retention); hence the name "variable retention." It is a technique for retaining trees as key structural elements of a harvested stand for at least until next harvest rotation in an effort to maintain species, habitat diversity and forest-related processes.

There are four key mechanisms through which variable retention is presumed to maintain biodiversity:

- By providing a constant supply of structural features that are at high risk to being lost due to modern forestry practices and that are known to be important to habitat availability, such as large trees, very young trees, snags, and coarse woody debris
- By providing adequate refuge for sensitive species that will colonize the surrounding managed forest environment as it develops suitable conditions
- By establishing habitat patches, Patch dynamics, that can serve as stepping stones for the dispersal of newly produced offspring, seeds, and spores
- By increasing the structural diversity of managed stands

Where we are able to apply this concept, the result is a stand with older attributes. The SCCF will apply variable retention techniques on all suitable harvesting blocks according to the characteristics of the stand, biological features, safety, economics, and terrain. Harvested areas within variable retention areas will regenerate even-aged stands and the increased light levels on the ground will allow vigorous growth of the newly reforested areas.
Trees are left within a variable retention system to meet a number of objectives:

- Large veteran trees are kept for biodiversity reasons.
- Large older trees with scarring or evidence of wildlife use may be left as wildlife trees, individually or in patches.
- Unusually shaped trees that are interesting for recreational viewing or ornamental use may be preserved.
- An even distribution of large high-quality trees may be retained to continue growing for an additional rotation to provide large, high-quality logs for value-added industry.
- Small understory cedars may be left after harvesting to continue growing to become crop trees in the next rotation; retained for commercial thinning time or for First Nations use.

- Selected trees may also be preserved as riparian buffers or as part of visual-quality strategies.
- Where possible, small cedars are left along S6 and ephemeral creeks to enhance the riparian ecosystem.

When selecting trees for retention, it is necessary to evaluate their potential to withstand wind. In all retention systems, loss of retained trees from blowdown is to be expected. Areas other than OGMAs may be designated for retention to maintain specific high-biodiversity values.

Clear-Cutting and Even-Aged Management

Clear-cutting, defined as the removal of all trees within a prescribed area, will be used only in small patches, as part of a mosaic resembling natural disturbance patterns and will constitute part of the variable-retention silvicultural system. Ecologically, this is an appropriate silvicultural system for most parts of the SCCF timber harvesting land base. Conifer crop trees of Douglas fir and cedar require high levels of light to grow productively.

Selective Logging

Selective logging is a general term used to describe any harvesting that selects some trees and retains others.

Salvage

Salvage of blow down or other dead and down timber will be managed on a site-specific basis.

Standing snags are not to be cut down in salvage operations unless there is a specific safety hazard covered by WorkSafe BC or only with the approval of the Operations Manager.

Single-Tree Selection or Intermediate Cutting

Single-tree selection and Intermediate Cutting is the harvesting of specific individual or groups of trees within a stand and removing them, leaving the majority of the stand intact. Openings are a limited in size up to 0.25ha and up to 50% of the stand basal area. This system may be used in certain types of stands of varying age classes within the SCCF and may not be appropriate for all stands and species. Ecosystem dynamics over the long term must be fully considered whenever using any silvicultural system in meeting the obligations and requirements of provincial legislation.

Extended Rotation Management

In order to produce high-value products that will have the most potential to support local value-added industry, trees must be grown in a manner that will provide the appropriate fibre for these opportunities. Short-rotation forestry, producing a maximum amount of fibre per hectare, yields lower-value sawlogs suitable for highly mechanized mills producing commodity products, engineered panel fibre, and pulp; short rotation may not be supportive of specialty and value-added products.

To support the local production of specialty forest products and value-added opportunities on the Sunshine Coast, future trees may be grown under an extended rotation management regime to produce large, higher-quality logs that produce higher-value products. Such higher-quality products include:

- cedar and fir house logs;
- large-construction/timber-frame timbers;
- "free of heart centre" (FOHC) timber-framing beams;
- clear lumber for siding, fencing, and fascia;
- poles and pilings;
- high-grade veneer peeling logs;
- large sawlogs for specialty-cut sawmills;
- hardwood sawlogs removed at intermediate harvest;
- lumber for doors and moulding material.

Along with the production of these products comes a smaller proportion of lower-value pulpwood and waste.

Extended Rotation management is not biodiversity enhancement or producing old growth habitat as SCCF is managing for those values in other ways (Wildlife Tree Retention Areas, Riparian Reserves, Old growth veteran trees and dispersed wildlife trees); nor, can it be practiced everywhere with the CFA. Sites must predominantly Douglas-Fir leading, on a good site (SI_{50} of 35m or greater), is a candidate harvest area, and has timber between ages 60-80 years of age. Logs produced from the final cut of an Extended Rotation trees will be between 120 years and 160 years of age.

As an area-based tenure (ABT)—unlike a volume-based tenure with an undefined area—the SCCF can only log inside our own defined area. In other words, we harvest what we grow, meaning that we are sustainable.

Volume maximization forestry provides the best return on investment based solely on log sales. The inclusion of community values, local economy spin-off effects, niche

marketing, and community use of profits, however, changes the calculations in the justification for undertaking this approach.

Extended rotation management can be applied at the lower level CWHxm1 and CWHdm biogeoclimatic subzones. The generally lower productivity of higher-elevation sites, along with the lower relative values of higher-elevation species, does not offer the same opportunities.

Current Age-Class Distribution Challenges for Extended-Rotation

The present age-class distribution of the SCCF timber profile may make the wide scale implementation of extended rotation difficult for the first two decades. The new timber inventory, described below, will provide information needed to plan extended rotation to the greatest possible extent, yet still achieve SCCF objectives.

Extended Rotation Management Harvesting Strategies

There are two main approaches to the extended rotation strategy being applied in the Community Forest now: (i) increase in rotation age and (ii) stand-level tree retention.

The Community Forest is currently cutting an AAC that is significantly below the productivity or Mean Annual Increment (MAI) of the tenure. The result is that the overall volume of timber on the tenure is increasing, and the average age and size of timber is increasing. This provides the option for future SCCF managers to choose an AAC that retains a higher average stand age or to increase the cut and harvest more volume. This decision will be required about 20 to 30 years from now. An overall increase in rotation age results in a higher percentage of forest in later seral stage, providing related biodiversity benefits, as well as aesthetic and recreational opportunities.

Stand-Level Tree Retention

Stand-level tree retention, as the name indicates, is the retention of some of the trees in a harvested stand, allowing them to continue growing. The strategy is to gain high value increments as the retained trees form large logs that can be used for a wider range of products supporting the local specialty and value-added industry. Not all stands are suitable for this approach, and the following points must be considered prior to implementing stand-level extended rotation:

- Is the overall stand value high enough to be able to afford harvesting without harvesting the potential extended rotation trees? Many stands, such as unmanaged second growth, would not qualify.

- Are the trees wind-firm or are they susceptible to blowdown? Attempts to retain cedar understory trees to be an extended rotation crop of house logs may not be successful in all situations.

- Is the site good enough to allow the trees to grow to be large, high-grade logs in one more rotation? Some poor-to-medium sites will not grow large enough trees to make stand-level retention worthwhile. Small peeler logs may be more profitable on such sites.

- The density of retained trees must not be too great or the light levels may not be sufficient for the regenerating new trees. Research trials have shown negative effects of overstory shading on Douglas fir. The crowns of the retained trees may double in size in 10 years (as did those in the Roberts Creek BC Timber Sales demo block), so what may look sparse at the time of harvest will fill in significantly.

- Is the volume needed now? The standing timber inventory supports the 20,000 m3/year AAC. Leaving trees behind in every stand may require more hectares be harvested.

Blowdown Management

When utilizing partial harvesting systems, it is inevitable that some retained trees will blow down. This must be considered during the planning of harvesting and stand-management prescriptions. Some retained trees selected may become veterans or veteran recruits while others displaying good form have the potential for and potential for higher value if left to grow larger.

Retention prescriptions should expect blowdown and leave additional trees to ensure that the retention target is maintained. Blowdown should be utilized whenever possible. This can be facilitated by leaving the majority of trees close to roads and on easily accessed terrain, with lower-density retention areas further in the block and on difficult terrain. In the case where additional trees are left and none are lost to wind, a small-scale harvest opportunity may exist.

Riparian areas and wetland area soils are particularly susceptible to blowdown. Retention of canopy in riparian areas is often a requirement or part of a biodiversity management strategy. Planning of harvesting should avoid blowdown causing large upturned root systems to expose soils within the stream channel, which leads to siltation, erosion and potentially degrade the aquatic ecosystem. Riparian reserve and management zones will

be designed to minimize blowdown; however, it is likely that some may occur. Where possible, retention areas can incorporate riparian zones for increased protection.
When blowdown in riparian areas occurs, the fallen trees will provide value as coarse woody debris in the riparian area for both aquatic habitat and for terrestrial habitat for species such as amphibians; salvaging may also occur.

Canopy pruning treatments help to avoid blowdown in susceptible areas and will be undertaken where feasible.
Small trees, such as cedar, are frequently left throughout blocks to grow into future crop trees. It is common for these trees to blow down because they were previously sheltered by the canopy.

Timber Inventory

One of the greatest long-term challenges for the SCCF is to develop an accurate timber inventory system for the SCCF. Standard Timber Supply Analysis (TSA)-level inventory information is not sufficient for the specific products and value maximization opportunities of the Community Forest. The TSA-level inventory provides a solid foundation on which to build a more accurate analysis. Local knowledge and resource management zonation must then be included to accurately define the timber-harvesting land base and subsequent AAC.

Typically, inventory describes species distribution, age, height, stocking volumes, and other such basic information. It is developed in order to produce a TSA-wide determination of the AAC, and is never expected to be accurate at the stand level. Acceptable stand level data errors for this type of inventory can be as high as +- 50%, because these errors even out over a large area. This is not adequate for the specific needs and objectives of the Community Forest.

The SCCF needs a timber inventory that it can use to plan all aspects of forest-based resource management and, for timber, one that will provide information for addressing the following timber supply and operations management considerations:

- What is the sustainable rate of cut for the tenure?
- What is the rate of cut for the individual compartment areas of the tenure?
- What timber products can be harvested from which stands and when?
- What annual harvest of specific timber products can be expected.
- How much area will be harvested?
- How much road building is needed each year?
- How much road must be maintained by year?
- What silvicultural activities are scheduled—by year, by area?

- Where are non-timber values located and how do they affect planning our operations?
- What poor stand conditions exist and how can they be addressed?

The SCCF inventory must be based on very specific information on each stand. The inventory information must include:

- a stand-based tally, estimating the volume of individual products that will be available and their expected harvest year;
- a schedule of required silviculture treatments to produce the desired products from each stand;
- access requirements;
- the harvesting system required for the products being grown;
- site productivity estimates;
- non-timber values to be managed at the site level; and
- very accurate timber mapping using high quality ortho, satellite, or Lidar images in conjunction with Geographic Information System (GIS) mapping. Timber polygons must be mapped based on operational constraints as well as traditional forest typing.

This type of inventory will record the resources and values within the tenure area, the management values of the community, and the products the SCCF has potential to produce. It will also be used to facilitate the development of a stand-merchandising management regime. It is important to ensure that past silviculture investments are properly mapped and tracked and that treated stands are managed appropriately.

Inventory Work to Date

Current SCCF staff began working on inventory data prior to the issuance of the probationary SCCF tenure. Initial work used the latest Ministry of Forests, Lands, Natural Resource Operations and Rural Development TSA forest inventory and applied local knowledge to better estimate the THLB and productivity. Since that time, the following tasks have been completed:

- Accurate inventory polygons have been developed for the entire SCCF tenure area. The polygons are forest and operationally based and mapped with GIS using ortho-images.
- A product and operational activity-based inventory database has been developed for the GIS application.
- Twenty years of timber have been identified and mapped, with detailed product information gathered for each stand.

- The 20 to 40 year timber supply has been identified and mapped based on a combination of local knowledge of stands and existing inventory information of stand age and past treatments.
- Silvicultural plans have been added to the inventory database

VRI Inventory

A new Vegetation Resource Inventory (VRI) for the SCCF tenure was done in 2010/2011 and the AAC of the SCCF will be compared to the new information and will be revised accordingly.

Access Management

The existing SCCF road network is a permanent asset, reducing long-term costs and environmental impacts.

Roads built within the SCCF for timber harvesting will provide access for timber and non-timber resource uses. Each proposed road development must consider the influences it may have on the other values in the development area.

Access management will be an ongoing consideration and the protection of water quality and access structures is a requirement under FRPA. Planning this protection will include the following:

- Main haul roads will generally be left open after harvesting use, although they may be seasonally deactivated.
- Cross ditches will remain passable only to high-clearance 4x4 vehicles.
- Culverts may be removed and replaced by rock fill “Squamish” culverts.
- Roads may be closed during harvesting operations for the security or fire hazard conditions.
- Roads may be closed if garbage dumping or vandalism becomes a problem.
- Temporary roads may be de-built into trails and planted.
- Road use for non-timber resource access will be considered.
- Roads will also be retained for fire suppression access.
- Recreational access in high use areas will be considered in the planning process.

The roads in the Community Forest are publicly owned and managed by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development. Some are still the responsibility of the previous licensees and some are private. Road use agreements must be signed with private road owners prior to the SCCF using the roads for timber hauling.

While the responsibility of a road may lie with another company or the Ministry, the SCCF will provide information regarding required maintenance for safety and environmental protection at any time. Such information can be directed to the Ministry of Forests, Lands, Natural Resource Operations and Rural Development through the SCCF.

Forestry Road Right of Ways

The right of ways for logging roads will be as narrow as they can practically be for safe operation. Clearing width will depend on the following factors:

- Worker safety
- The type of operation being undertaken
- Location of ballast pits, landings, turnouts, and rock quarries
- Size of the equipment being used
- Soil conditions and materials available
- Slope
- Visual sensitivity
- Tree lengths being handled
- Visibility for traffic

Silvicultural Treatments

Silvicultural treatments are intensive stand-tending activities aimed at directing the growth of a stand to develop the desired size for a product or value. The following silvicultural treatments or practices may be undertaken within the SCCF tenure area:

Spacing

Spacing is the reduction of the number of trees growing on a site to provide final crop trees adequate space to grow as desired. These stands are typically up to twenty years of age. Very often more trees regenerate on a site than the site can support to maturity. If left unmanaged, the trees compete for light, nutrients, and water, leaving all trees smaller and suppressed. Spacing accelerates the hydrological recovery of stands and leaves individual trees with adequate nutrients, moisture, and sunlight for healthy growth.

During spacing, trees are manually cut down with a chainsaw and left on-site to decompose back into the soil. Thick spacing slash will be cleared off high use trails. Trees are chosen as crop trees according to a stand-tending prescription that lists the priority of species for crop trees. Trees of smaller size, close spacing, and poor physical form are thinned out. Thinning reduces inter-tree competition for light, nutrients, and moisture, and concentrates the productivity of the site on the growth of a smaller number of trees, producing larger, higher-quality timber.

Fertilization

Fertilization is used to increase the productivity of a site when the lack of nutrients is the limiting factor in the good growth of a stand. Nitrogen, in the form of aerially applied urea prills (round pellets resembling tapioca) is the most common forestry fertilization used on the BC Coast. Fertilization can be effectively used to increase the rate of growth on a site to reduce the time that a stand may be ready for harvesting.

SCCF is considering a biosolids soil augmentation pilot project in collaboration with a compost product from a local business. The idea is conceptual at present, with implementation of a potential project to occur in 2022/23. Projects such as this requires consultation with the public, local governments and the shíshálh Nation through separate permitting process.

Fertilization will not be undertaken within the Gray and Chapman Creek Community Watersheds.

Brushing

Brushing is the removal of non-crop tree vegetation that is hindering the growth of the crop trees on a site. Brushing is usually undertaken using a chainsaw, circular brush saw, or Sandvik (similar to a machete). Herbicides will not be used for brushing within the SCCF unless a serious forest health incident compels that use.

Stand Rehabilitation

Stand rehabilitation is the treatment of a stand of trees that has not developed to the desired values that the site is capable of producing. Many such stands exist within the SCCF tenure area from natural reforestation that resulted in mistletoe-infected hemlock and small damaged cedar stands. Many of these stands are now stagnated due to disease, are of poor form and very low commercial value, and are not contributing to the productivity of the tenure.

Stand rehabilitation involves removing diseased trees, undesirable species, or trees of poor form. This can be done individually or by clearing the site entirely and then planting to the appropriate stand species. If the trees are large enough, harvesting may produce some commercial value, although not enough to offset the costs of the treatment. Such sites can be planned to be treated at the same time as economically viable harvesting of adjacent stands.

Commercial Thinning

Commercial thinning is the selective harvesting of trees within a thirty to fifty year old stand to provide better growing conditions for the remaining trees to develop desired

stand attributes. Typically, trees are removed to provide optimum spacing for the remaining trees by removing stems of smaller dimensions, poorly formed trees, undesired species, closely spaced trees, and trees that have grown to the size of such products as cedar house logs and utility poles.

Pesticide Use

Pesticides will not be used for silvicultural purposes within the SCCF. Pesticides will only be considered as an option for treatment of forest health issues (insects or disease).

Site Preparation

Site preparation is used to prepare an area for planting that may have soil compaction from machines or deep accumulations of slash that cannot be planted. Most site preparation will be undertaken with an excavator, piling brush and scooping up soil to loosen it. This is most often completed as the final phase of harvesting.

Slash Burning

Broadcast burning of harvested areas will not be undertaken unless required because of heavy slash loading that may result in a high fire hazard. Plantable spots for regeneration will be produced by machine or at time of planting.

Slash piles will be burnt for fire hazard reduction purposes and to ensure plantability to achieve stocking standards. Some piles may be left to decompose naturally within blocks if they are not considered to be a fire risk. SCCF are seeking ways to reduce slash burning to reduce smoke emissions such as mulching and integrating debris when rehabilitating road or grinding debris using mechanical means (if feasible).

Ungulate Browse Protection

The SCCF tenure area hosts a large population of deer and elk, both of which find coniferous seedlings to be delicious. In order to prevent ungulate browsing, two popular methods are used locally: protective plastic panel-board cone or mesh tubing covers, or the application of “Plantskydd”-type repellents. The plastic covers are effective, but they are expensive and unsightly, and produce large amounts of plastic waste. Plantskydd repellent is a pork-blood-derived product that is sprayed onto the conifer foliage. It smells of blood, theoretically alarming the ungulates that predators may be dining in the area, and keeping them away from the plantation. It may be used on all seedlings or it may be effective if only used on the periphery of a plantation where browsing is concentrated.

Long-Range Planning

Adaptive Management

Under an Ecosystem Management Model, adaptive management ensures that the SCCF is managed in a manner consistent with the community's values. It is an integral part of forest management activities, and is undertaken by:

- Conducting post-harvesting field tours to assess how the harvesting plan met the intentions of the planners in consideration of public input.
- Developing an understanding of how pre-harvesting plans affect operations and actual post harvesting site conditions and appearances to inform future planning.
- Assessing effectiveness of windthrow management techniques. Whenever trees are retained within a block they are susceptible to windthrow. Sites where retained trees have blown over will be studied to improve retention strategies in the future.
- Keeping in touch with changing values. All values, both social and economic, change over time. Constant public involvement and solicitation of public input is essential to ensure that forest resource management meets current and expected future needs.

Firewood Availability

Firewood is an important resource for many coast residents, and access to firewood within the SCCF area is provided by piling firewood-suitable pieces of wood at roadside separated from other slash to allow people easy access to it. Personal use firewood permits are made available to the public following harvesting and some silvicultural treatments.

Making firewood available helps to prevent illegal firewood cutting. Illegal falling is rising dramatically in recent years. This is costly on many fronts, as the falling is conducted in an unsafe manner, freshly cut trees are being marketed as seasoned firewood leaving our community out of pocket for firewood they can't safely burn, and a tree worth $4,000 to our local economy is reduced to about $600 worth of firewood for one individual.

The Sunshine Coast Community Forest will support commercial firewood suppliers with wood supply to improve the legal firewood supply and maximize the use of the timber we harvest.

Community Interface Wildfire Planning

Our CFOP discusses Wildfire Management considerations on P 9, 18, 31, 33. We are notably stepping up our efforts to divert material from slash piles for firewood, reducing fire risk and burning requirements. The Community Forest harvest operations follow the

procedures within the Wildfire Act and Regulations and incorporate recommended procedures designed to reduce the risk of wildfires.

Beyond our Operating Plan, we hosted the Urban Interface Fire Prevention event in 2019 where we invited our community to a presentation and discussion with experts of fire ecology and interface fire behaviour, and we hosted a private planning session with our expert speakers and local fire departments and emergency planning staff. We also started in 2019 an Earth Day initiative of giving away drought tolerant native Fire Smart plants – in 2019 and 2020 we acquired 442 plants for this, and approximately 80% were given out to our community, with the leftovers being planted by some of our volunteer directors undertaking invasive species removal projects with other community groups. We also funded a Structural Protection Unit for the Sechelt Fire Department in 2019, including training for all Sunshine Coast fire departments.

Community Wildfire Planning requires a larger strategy than one tenure holder which is why we have hosted and engaged in public conversations around it. We note with interest that the SCRD has developed a Community Wildfire Protection Plan along with 43 prioritized recommendations, some of which appear to provide some high level direction as to the involvement the Community Forest may have in mitigating wildfire risk to our community.

TABLE 1 **SCCF Operating Plan #2021-2025 Summary (Block List)** **Date 2021-12-16**

Block ID	Operating Plan #	Previously Info-Shared under OP #	Planned Harvest Date	Block Status	Location	Mapsheet (1:20,000 Grid)	5 Yr. Plan Op Area (1:20,000 Grid)	LU	Biogeoclimatic Zone	Age Class	Species Composition (%)	Area Gross (Ha)	Estimated Area Net (Ha)	Estimated Volume (m3)	Planned Assess	Plan Assess	Plan Assess	Plan Assess	Plan Assess	Plan Assess	Plan Assess	Plan Assess	Harvest Method	Silviculture System
															Watershed	Gully	VIA	AIA	Terrain	Riparian	Hab	Other		
HM50	2021	2018	2021	Engineered	Trout Lake	92G.051	**Halfmoon Bay**	Sechelt	CWHxm	5	F60C20H10	19.8	10.0	7,500	X	---------	X	X	X	X	X	---------	GB	Retention
AN27	2021	---------	2022	Proposed	Angus Creek	92G.052	**Angus/Burnett**	Chapman	CWHdm	4	C100	16.2	16.2	3,200	---------	---------	X	X	X	X	X	---------	GB	Intermediate Cut
EW24	2021	---------	2022	Proposed	Chapman Creek	92G.042	**East Wilson**	Chapman	CWHdm	6	F70H30	11.7	11.7	9,300	---------	---------	X	X	X	X	X	---------	GB	Clearcut
HM70	2021	2019	2022	Engineered	Trout Lake	92G.051	**Halfmoon Bay**	Sechelt	CWHxm	5	F60H30C10	8.7	8.7	5,200	---------	---------	X	X	X	X	X	---------	GB	Retention
HM70A	2021	---------	2022	Proposed	Trout Lake	92G.051	**Halfmoon Bay**	Sechelt	CWHxm	4	F40H40C20	9.2	9.2	6,000	---------	---------	X	X	X	X	X	---------	GB	Retention
AN03	2021	---------	2023	Proposed	East Gray Creek	92G.052	**Angus/Burnett**	Chapman	CWHdm	3	F60C20H10	9.1	6.0	5,200	---------	---------	X	X	X	X	X	---------	GB	Retention
AN12A	2021	2018	2023	Proposed	Burnett Creek	92G.052	**Angus/Burnett**	Chapman	CWHdm	5	F60C20H10	25.2	25.2	17,840	---------	---------	X	X	X	X	X	---------	GB/CA	Retention
AN14	2021	2018	2023	Engineered	Gray Creek	92G.052	**Angus/Burnett**	Chapman	CWHxm	4/8	F60C20H10	5.0	5.0	3,000	---------	---------	X	X	X	X	X	---------	GB	Retention
AN20	2021	2018	2023	Engineered	Gray Creek	92G.052	**Angus/Burnett**	Chapman	CWHdm	4	F60C20H10	8.6	5.9	3,200	---------	---------	X	X	X	X	X	---------	GB	Retention
AN15B	2021	---------	2023	Proposed	East Gray Creek	92G.052	**Angus/Burnett**	Chapman	CWHdm	3	F60C20H10	12.0	6.9	5,000	---------	---------	X	X	X	X	X	---------	GB	Retention
AN3A	2021	---------	2023	Proposed	Angus Creek	92G.052	**Angus/Burnett**	Chapman	CWHdm	3	H40F30C30	16.2	14.4	7,000	---------	---------	X	X	X	X	X	---------	GB	Retention
EW16	2021	2014	2024	Engineered	Chapman Creek	92G.042	**East Wilson**	Chapman	CWHdm	5	F60H20C20	13.0	12.0	8,400	---------	---------	X	X	X	X	X	---------	GB	Retention
AN5A	2021	---------	2024	Proposed	Angus Creek	92G.052	**Angus/Burnett**	Chapman	CWHdm	3	F50H10C40	9.1	9.1	6,500	---------	---------	X	X	X	X	X	---------	GB/CA	Retention
EW18A	2021	---------	2024	Proposed	East Wilson Creek	92G.042	**East Wilson**	Chapman	CWHdm	8	F60H30C10	12.3	12.3	10,000	---------	---------	X	X	X	X	X	---------	GB	Retention
EW18B	2021	---------	2024	Proposed	East Wilson Creek	92G.042	**East Wilson**	Chapman	CWHdm	8	F40H30C20	5.0	5.0	4,000	---------	---------	X	X	X	X	X	---------	GB	Retention
EW19	2021	---------	2025	Proposed	East Wilson Creek	92G.042	**East Wilson**	Chapman	CWHdm	8	F40H30C20	17.3	17.3	15,000	---------	---------	X	X	X	X	X	---------	GB	Retention
HM64	2021	2019	2025	Proposed	Wakefield Creek	92G.051	**Halfmoon Bay**	Sechelt	CWHdm	5	H40F30C30	16.6	16.6	11,000	---------	---------	X	X	X	X	X	---------	GB	Retention
HM66-1A	2021	2019	2025	Proposed	Wakefield Creek	92G.051	**Halfmoon Bay**	Sechelt	CWHdm	5	H40F30C30	16.3	16.3	13,000	---------	---------	X	X	X	X	X	---------	GB	Retention
												231.3	**207.8**	**140,340**										

Assessment Definitions:

AIA: Archaeological Impact Assessment
CA: Cable harvest system
GB: Ground base harvest system
HAB: Habitat Survey by a qualified professional
HE: Helicopter Harvest System
HS: Helicopter Select
TSFA (THA): Terrain Field Assessment, also known as Terrain Hazard Assessment.
VIA: Visual Impact Assessment
WATER: A Hydrologic Assessment when working within community watershed (FSP Result & Strategy)

Block Status:

Proposed	Review and Comments
Engineered	Assessment completed
Cutting Permit	Cutting Permit acquired

Note: The gross area of the cutblocks are shown on the maps and tables. The gross area includes Wildlife Tree Retention Areas (WTRAs), riparian reserves, and other buffers or reserves that may be required depending on the site. As such, the total area shown on the map may not be fully harvested. Site specific comments or concerns of potential impacts to your interests can help SCCF relate your comments to our operations so we are better abled to assess them and where appropriate manage for these values in our final plans.