

**Sensitive Ecosystems Inventory: Sunshine Coast and Adjacent Islands**  
**Mature Forests of Savary Island, British Columbia**

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## **Introduction**

Mature Forest ecosystems (MF) are similar to Old Forests in plant species composition but have not developed to the level of structural complexity although they may include a component of very old trees (veteran trees). The tree canopy usually includes at least two layers with trees often greater than 80 years old in the dominant canopy, occasionally with a surviving veteran tree overtopping this layer. The understory includes a mix of shrubs, herbs and mosses. They are mapped when they occur as larger patches as conservation biology recognizes that larger forest patches generally support more species than smaller forest patches by retaining landscape connectivity and habitat for species that require larger home ranges.

## **Importance of Mature Forest Ecosystems**

Mature forests provide many ecosystem services, wildlife habitat and connectivity to other ecosystems as well as social and economic values.

*At Risk:* The forested ecosystems on Savary Island are among some of the most threatened in the province. At least one forest type that has developed on the ancient dunes that form the core of the island is known only from this location. International work has determined that the ecosystems found on Savary Island occur only in the region of the Georgia Depression with only minor occurrence south to the San Juan Islands. The extent of natural old growth forests in this region is so limited, that mature forests represent the only viable option for increasing the area of old forests. In time these recruitment sites will develop old forests characteristics, providing increased biodiversity of plants, animals, lichens, fungi, insects and the other species which rely on them for food, shelter and breeding habitat.

*Ecosystem Services:* Mature Forests maintain air, water and soil quality and influence climate. They use up carbon dioxide, manufacture oxygen, and add organic material to soils. Their root systems hold soil in place, reducing soil erosion, increasing soil productivity and filtering water that passes through the soils. They also increase soil development and structure that is beneficial to the growth of other plant species in the forest.

*Wildlife Habitat:* Mature Forests provide habitat for many species and provide connectivity between ecosystems. When these stands include older or veteran trees and structural features such as standing dead trees (snags) and large fallen dead trees (coarse woody debris), many more species will have suitable habitat. Small mammals such as voles, shrews, bats and red squirrels and cavity nesting birds such as pileated woodpeckers and other small birds such as brown creepers and red-breasted nuthatches all require these remnants of older forest stands. Connectivity between different ecosystems such as riparian or sand dune

vegetation is important for movement of animals to locate other areas of shelter and food sources.

*Economic values:* Mature Forests provide a broad range of non-timber forest products such as mushrooms, wild berries, medicinal products and floral material such as salal and boxwood. Sustainably harvested, these products are available as long as the forests continue to exist.

*Green space:* Mature Forests form the primary network of green space on the island. They contribute to the aesthetic values that are of such importance to the island residents and visitors. Maintaining this forest matrix retains not only the aesthetic values of the island but also the economic value of individual properties.

## **Management Recommendations**

Mature Forests are recognized as 'other important ecosystems'. They are not as rare, nor are they as ecologically sensitive as the other mapped ecosystems. Emphasis is less on protection and more on recommending careful management by landowners, local and senior governments and others, in order to increase or maintain biodiversity values discussed above. It is important to retain as much of the forested network as possible, keeping in mind that restoration and/or maintenance of these ecosystems include re-establishing the ecological structures and functions that were historically present. Where possible, retain intact Mature Forest as recruitment for future older forest.

### **Avoid Direct and Indirect Impacts:**

- *Discourage development* within or adjacent to mature forest ecosystems.
- *Manage access* to minimise vehicular impact; where trails can be safely established see Develop Carefully below.
- *Prevent disturbance of nesting or breeding areas* such as cavities in large trees, large broken top trees, etc.
- *Control invasive alien species* by managing access to prevent spread of invasive seeds and treating existing invasive alien species

### **Develop Carefully:**

- *Have a qualified professional* conduct an ecological inventory.
- *Design and implement land development activities* (including trails and recreation access) *to minimise impacts* to the mature forest ecosystem:
  - Protect large, old trees and understory vegetation.
  - Locate the development away from existing large, old trees.

- Where linear corridors cannot be avoided, design them to be as narrow as possible and configure them to allow wildlife crossing.
- Restore native vegetation where it has been disturbed. Seed in or plant natives from nurseries or plant natives that have been rescued from other development sites. Make sure any native plant material is weed-free.
- *Design trails carefully.* Ensure that trails do not affect the root systems of trees and will not create soil erosion problems. Trails should be designed to discourage vehicular traffic (ATV's), horses, and mountain bikes. Fences may be necessary in some places to prevent access. Trails should be closely monitored for noxious and invasive weeds and should be closed if they are present until the weeds have been treated and are under control.
- *Protect endangered, threatened, or vulnerable species or ecological communities.*
  - Avoid disturbance in places where rare plants are growing.
  - Maintain habitat structures such as large old trees and snags.
  - Cut danger trees to a level where they are safe rather than removing the whole tree.
- *Prevent disturbance of nesting and breeding areas.* Avoid development activities during May – August.
- *Protect nesting and denning sites that were identified in the ecological inventory.* Such features include dens, raptor nest or perch trees, owl roosts, woodpecker cavities, bat roosts, and other features.

Polygon#	SEI Class	SiteSer1	Ecol Comm1	Rank/List	SiteSer2	Ecol Comm2	Rank/List
5388	OF/MF	DS/01	Douglas-fir / dull Oregon-grape	S1/Red	DS/01	Douglas-fir / dull Oregon-grape	S1/Red
5405	MF	RF/06	grand fir /three-leaved foamflower	S1/Red			
5408	MF	DS/01	Douglas-fir / dull Oregon-grape	S1/Red			
5418	MF	RK/05	western red-cedar - Douglas-fir / Oregon beaked-moss	S1/Red			
5420	MF	DS/01	Douglas-fir / dull Oregon-grape	S1/Red			
5425	MF	DS/01	Douglas-fir / dull Oregon-grape	S1/Red			
5431	MF	RK/05	western red-cedar - Douglas-fir / Oregon beaked-moss	S1/Red	LR/00	western hemlock - shore pine / Racomitrium	S1/Red - proposed
5433	MF	RK/05	western red-cedar - Douglas-fir / Oregon beaked-moss	S1/Red	DS/01	Douglas-fir / dull Oregon-grape	S1/Red
5443	MF	RK/05	western red-cedar - Douglas-fir / Oregon beaked-moss	S1/Red			
5455	MF	DS/01	Douglas-fir / dull Oregon-grape	S1/Red			
5457	OF/MF	RF/06	grand fir /three-leaved foamflower	S1/Red	RF/06	grand fir /three-leaved foamflower	S1/Red
5458	MF	DS/01	Douglas-fir / dull Oregon-grape	S1/Red			
5463	WN:sp/MF	RP/13	western red-cedar / Indian-plum	S1/Red	RK/05	western red-cedar - Douglas-fir / Oregon beaked-moss	S1/Red
5528	MF	DS/01	Douglas-fir / dull Oregon-grape	S1/Red	DA/02	Douglas-fir - shore pine - arbutus	S2/Red