

## STOP 1

The majority of the forests on the Mission Municipal Forest consist of second growth trees. Most of the original forests were either harvested or burned in the early 1900's. The forest that you are standing in is approximately 90 years old and is a coastal temperate rainforest. Some of the larger Douglas-fir trees are 130 years old and about 45 meters high. Douglas-firs were named after the north-west explorer-botanist David Douglas. Douglas-firs have very thick bark which allows them to survive some forest fires. Notice the old large stumps that are scattered throughout this area; they remain from the original forest.

## STOP 2

The large cedar tree full of holes is a "wildlife tree". The forest must be managed to protect these trees which are a very important part of the life cycle of the forest. Valuable wildlife habitat is provided by standing trees at various stages of decay. More than 90 animal species including insects, birds, amphibians, reptiles and mammals depend on dead or dying trees in our forests. Some of their uses include nesting, feeding, communicating with other animals, roosting, shelter and over-wintering. As you walk through the forest, see how many wildlife trees you can spot and also look and listen for woodpeckers using these trees.

## STOP 3

The wildlife trees in front of you are part of an experiment. Natural wildlife trees are a hazard to forest workers and need to be cut. An excavator was used to "plant" these trees at a cost of about \$30 each. They are now being used as you can see by the numerous holes. Please help us by reporting any wildlife use you see. Other ways to manage wildlife trees include: leaving them in reserve patches, cutting the tops off live trees, or planting them.

This opening was logged in 1993/94. The reason logging is completed this way is because we want to regenerate Douglas-fir and Cedar (species that were in the original forest). Douglas-fir will not grow in the shade - so small openings like this provide the light and moisture the seedlings need to grow.

## STOP 4

From the last stop you hiked along an old road that was built approximately 50 years ago and used to skid the timber on the lower part of this opening. The dips along this skid road are called cross ditches and are placed on most logging roads and trails to help drain water which minimizes soil erosion and protects the road surface. The edges of the road have been grass seeded to further minimize erosion.

## STOP 5

Notice the cedar stumps in front of you. The large cedar stumps were logged in the early 1900's; the smaller stump to the right was from the recent logging. The notches in the larger stumps are called springboard holes. Tree fallers placed boards in these holes and stood on them to fall the tree. The older stumps were cut high because mills at that time could not handle the large diameter flared bottoms. More wood is utilized today as compared to the original logging. Before leaving this stop look for the young trees growing near the stumps. This is the start of the third forest. The growing period until the next harvest for this site is about 70 years. Western red cedars were extremely useful trees to the First Nations of the Fraser Valley. They were used for shelter, clothing, tools, and transportation.

## STOP 6

Congratulations you have made it to the top of the trail! Please use care and keep away from the rock bluffs.

This recently logged area (1993/94) was harvested using a skyline yarding system which lifts the logs off the ground minimizing soil disturbance. Logging debris (limbs and tree tops) left on the ground provides habitat for small mammals and acts as natural compost by slowly decaying and returning important nutrients to the soil.

- Total area harvested = 7.9 hectares
- Harvesting volume = 6,260 m<sup>3</sup> (about 185 truckloads)
- Planted in 1994/95.
- Total seedlings planted = 8,300
- (Douglas fir = 6,130, Western Red Cedar = 2,170)

You are standing on the remnants of a geologic past dating back a million years. This volcanic neck of igneous rock from an extinct volcano has been exposed by the weight, pressure and advancement of the continental ice sheet which covered North America. This rock type is very angular compared to the rounded surfaces that exist with stream erosion processes.

Some of the spectacular views from left to right include:

- Red Mountain (part of the Municipal forest)
- Vancouver Island and the Gulf Islands (on a clear day)
- Hayward Lake and the Ruskin area
- Iron Mountain (part of the Municipal forest), the small light green patches represent forested sites logged in 1986 and planted in 1987.

## STOP 7

You'll notice there is a lot of natural wind damage in this 50 year old second growth stand. The shallow soils, exposed rock and the presence of Hemlock Dwarf Mistletoe disease have made the trees more susceptible to wind damage. Mistletoe disease is common in coastal forests. Look up to see the clustering in the branches of the hemlock trees. Dwarf mistletoes are parasitic flowering plants that grown on stems and branches of living conifers. They depend on their hosts for support, water and nutrition. The treatment for mistletoe is to remove the infected trees and plant more resistant species like Douglas fir and Cedar.

## STOP 8

Here is an intensively managed young forest. The management activities on this site include planting, spacing and pruning. Spacing involves removing the smaller, unhealthy trees in a young forest to provide more water, nutrients and sunlight for the remaining trees. Pruning involves removing the lower branches on trees to produce knot-free wood which increases the value of the trees.

This site is a good example of "BIODIVERSITY" within a managed forest. BIO refers to all living things, and DIVERSITY refers to variety.

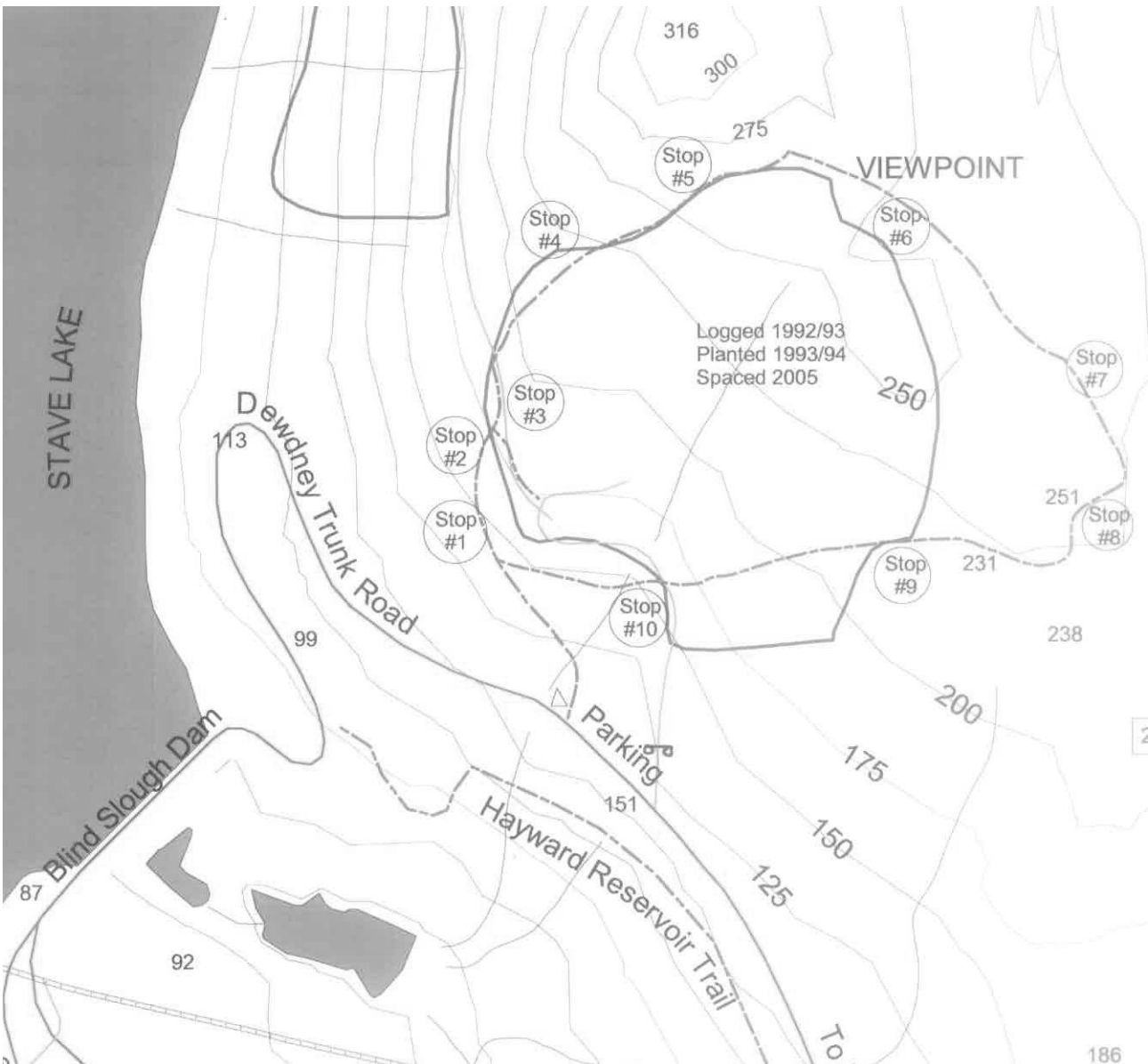
Therefore biodiversity refers to the variety of all living things that make up a forest (such as trees, plants, animals, insects and even you). Managing the forest for biodiversity can be accomplished by logging smaller openings, planting a variety of tree species, and protecting fish and wildlife resources. On this site look for signs of animal use such as game trails and droppings. Compare the large diversity of plants growing here with the stops you have been to and to the ones ahead. Many animals rely on diverse young forests for foraging for lush plants and the variety of berries.

## STOP 9

Here you'll notice some wind-throw or blow-down along the edge of the opening as a result of the adjacent logging. When the trees were logged the remaining trees along the boundary become more exposed to wind. In this area the edges of the opening could have been "feathered" to create a more wind-firm boundary. This is done by thinning trees along the edge which creates openings to allow wind to move through the forest with less resistance. After a few years of being exposed to winds, the remaining trees develop a broader root system which helps support them in the future.

## STOP 10

This section of trail goes through a mix of evergreen (coniferous) and deciduous trees. Look up at the two cedar trees and notice their unique growth patterns. What could have caused this? The original tops probably broke off in a wind storm and the abnormal growth of the new tops has resulted in this example of nature's art. The forest floor is covered with sword fern which indicates a very moist and nutrient rich site and a very productive growing site for trees. As you continue to walk, notice on your right the sword ferns also growing on the side of the rock bluff. The ferns are able to grow in this type of environment because water drains over the rock face.



LEGEND		TRAIL FACTS	
Trail Route		Length of Loop Trail	1,680 meters
Logging Boundary		Average Grade	12% (Range 5-25%)
Contours		Elevation Gain	150 Meters
Gate		Hiking Time	Approx. 1 Hour
Powerline		Trail Width	50-150 centimeters
Interpretation Stops		Hiking Difficulty	Moderate with some steep sections.

## How to Get Here

### From Mission

From the junction of Highway 7 (Lougheed) and Highway 11 (Abbotsford), head north on Cedar Street. Turn downhill and to the left onto Dewdney Trunk Road. Drive for 1.5 kilometers and turn right to stay on Dewdney Trunk Road. Drive for approximately 8 kilometers, and watch for the parking lot about 1 km west of the municipal landfill.

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**For your safety please keep to the marked trails!**

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### About the Municipal Forest

The current area of the Mission Municipal Forest is 10,515 hectares (ha), approximately 1,200 ha of Municipal land and 9,300 ha of Crown land. The current sustainable Annual Allowable Cut (AAC) is 45,000 cubic meters (m<sup>3</sup>) which is equivalent to 1,300 logging truckloads of logs. Each year the following activities take place:

- \*Planting ~65,000 seedlings
- \*Spacing 50 ha
- \*Pruning 20 ha
- \*Brushing and Weeding 30 ha

Intensive forest management helps to establish healthy young forests. Over the last 50 years over 1,000,000 m<sup>3</sup> have been harvested and 3,000,000 trees have been planted.

**If you spot a  
Forest Fire or Smoke call  
911**



**For Further Information Call**  
District of Mission – Forestry Department  
604.820.3762

## DISTRICT OF MISSION

### Stave Dam Forest Interpretation Trail

Welcome to the Stave Dam Forest Interpretation Trail located in the Mission Municipal Forest. Since 1958, the District of Mission has been involved in managing a Tree Farm Licence (TFL No. 26). A TFL is a tenure granted by the provincial government for the management of various forest resources. There are many benefits of the Municipal Forest including local control of the forest resource, community stability through local employment and revenue from the forest operation.

Recreation is another one of the many benefits of a community forestry operation. The Stave Dam Forest Interpretation trail is a self-guided trail with 10 numbered stops that refer to the descriptions in this trail pamphlet. This hike will show you some of the forest management activities on the Mission Municipal Forest. Please read the following trail description and refer to the map on the back of this pamphlet before proceeding:

**Trail cautions:** There are rock bluffs on the top of the ridge - wasps nest could be in the vegetation, and there may be bears and cougars in the general area. Please keep to the trail at all times and do not shortcut on the trail. Shortcutting causes erosion and damages the surrounding vegetation.