

# Dykeland Driving Tour





This driving tour of the Dykelands takes you through many of the small towns and villages of the upper Annapolis Valley. The area is steeped in the history of the native peoples of this region as well as the European settlers, both French/Acadian and English/New England Planters who made this valley their home.

As you travel through the upper valley on this tour you will pass wineries, farm stands, “you pick” farms, restaurants, and some of the most beautiful scenery the valley has to offer. Brief detours will take you to historic homes, local museums, opportunities to fish or swim, and a chance to explore some of the shops in the towns you will pass through.

The tour begins at the Grand Pré National Historic Site. To get there follow the brown and white National Historic Site signs which will guide you to the interpretive center.

#### **STOP ONE**

During your visit to the interpretive center be sure to examine the scale model of an Acadian dyke and aboiteaux. Keep this model in mind as you continue the tour.



Fg1. Dyke/Aboiteaux model at Grand Pré National Historic Site.

Beyond the Grand Pré interpretive center lays the plain that gave the Acadian village and current town its name. This wide expanse of farmland was reclaimed from the Minas Basin through the work of the Acadian people. Through the building of dykes and aboiteaux, they were able to make large areas of land in the Annapolis Valley usable. Keep in mind that many of the places you will visit on this tour would be underwater if it were not for the network of dykes holding back the sea.



Fg2. Farmland at Grand Pré.

The Acadians began building dykes soon after their arrival in Nova Scotia (then known as Acadie). Improving on techniques developed by the residents of the French lowlands (the Poitou, Vendee and Saint Onge Districts) they soon reclaimed the marshes from the sea. However, it took three years for a reclaimed field to become arable as the salt had to wash out of the soil first.

Dyke construction was carried out in the late summer when the tides were at their lowest. The men of the community would then come together to begin the building process. The first step was to create the inner portion of the wall. This was done by digging a narrow trench which, when filled with sods, would help keep the dyke in place. Next, large piles of mud, random pieces of sod, and brush (mainly

## LOCAL HISTORIC SITES OF INTEREST

### **PLANTER'S CAIRN AND DEPORTATION CROSS**

Horton Landing. Obtain map at the Grand Pré Interpretive Center

### **RANDALL HOUSE MUSEUM**

259 Main Street  
Wolfville, NS  
(902) 542-9775

### **PRESCOTT HOUSE MUSEUM**

1633 Starr's Point Road  
Port Williams, NS  
(902) 542-3984

### **KINGS COUNTY MUSEUM**

37 Cornwallis Street  
Kentville, NS  
(902) 678-6237

Bay of Fundy, feed off these worms and shellfish as well as the plant matter. Bird species, such as hawks, sea gulls and the Great Blue Heron, feed off of the worms, shellfish, and fish species that live in the bay. As with all ecosystems, once you remove or alter the base of the food chain, the rest of the chain suffers as a result.

Many 17<sup>th</sup> and 18<sup>th</sup> century accounts comment on the abundance of fish and birds in the Bay of Fundy, the Annapolis Valley, and the Minas Basin. This is probably due to the excellent food source the salt marshes provided. However, as the salt marshes were turned into farm land (a process that intensified in the 19<sup>th</sup> century), the bird and fish species dwindled due to the lack of food at the base level of the food chain.

The following questions are ones that need to be considered: would the land be more ecologically valuable if it returned to the Salt Marsh? Is this even reasonable option? Some facts might help you form your own decision.

If the land were allowed to go back to salt marsh:

- It would take about 30-50 years for the environment to revert to the original state as a salt marsh.
- Fish Stalks could rise instead of staying stagnant.
- There would be a long term benefit for the ecosystem around the Annapolis Valley and Bay of Fundy.
- Fish stalks as well as other wildlife that has been adversely effected from the loss of habitat could regenerate .

If the land remains dyked farmland:

- There would be large areas for many species of birds to roost.
- Valuable habitat for many different species such as ducks, deer, coyotes would be preserved.
- The land remains available for farmers to plant crops which will become increasingly important.

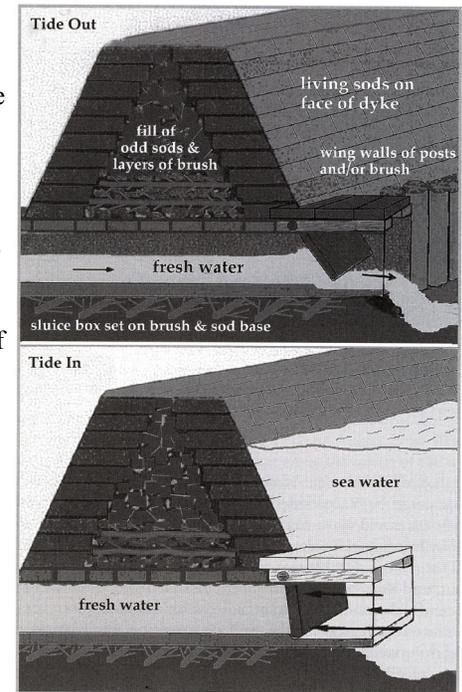
Is the best answer, perhaps, a combination of the two?

spruce bows) were thrown up. These piles formed the core of the wall.

As work on the dyke core progressed other men would cut the brick shaped pieces of sod which made up the dyke face. They used special narrow spades to cut the sods out of the ground. These sods were then stacked on carts or hand barrows and transported to the construction site. The sods were stacked so that they would bind together. The outer layer of sods was cut so that one end still had grass growing on it. This made the wall much more resilient to the tides and helped keep the dyke from washing out.

Perhaps the most sophisticated step of this process was the building and installation of the sluice and aboiteaux (aboiteaux sometimes refers to the entire dyke and other times just the portion that surrounds the sluice or the sluice itself). Carved out of giant logs, these acted as pipes to drain the water out of the marshland, while at the same time, they ensured that no new water came in. This was achieved by a one-way valve that allowed water to only travel out and not in. In combination, these components blocked the tides while draining the water out of the marshland.

Exit the Interpretive Center's parking lot and turn RIGHT. Follow the street back to the main road. At the intersection turn RIGHT again. Stay on this road and proceed through the town of Wolfville.



As you drive through the town of Wolfville you are still in what the Acadians would have considered Grand Pré. Today, Wolfville is protected by two dykes (the Wikewire Dyke which runs from Wolfville to Grand Pré and the Bishop-Beckwith Dyke which runs to Port Williams) as it has been for over 200 years. However, Wolfville is also a prime example of what happens when dykes fail.

In April of 1977, a very large storm hit the Minas Basin. Its arrival coincided with a rising tide and the spring run off of the winter's snow. The storm's tidal surge alone was 30 feet. Water rolled over the dykes flooding most of the farmland and lower Wolfville. Nine houses and one business were flooded and numerous other buildings experienced minor flooding in their basements. The Wikewire Dyke, also known as the "indestructible" dyke, needed to be re-built. Wolfville also suffered in 1869 during the Saxby Storm which breached the Bishop-Beckwith Dyke.

After driving through Wolfville you will enter the village of Greenwich. At the traffic lights just past the Irving Station turn RIGHT. Follow this road down towards the river. Turn off into the car park on the right hand side of the road just before the bridge over the Cornwallis River.

### **STOP TWO**

Stopping at the bridge in Port Williams affords you the opportunity to actually step on to a dyke. The Bishop-Beckwith dyke runs from Port Williams to Wolfville and can be walked in its entirety. You can also see the ongoing struggle to maintain the existing dykes and keep rising sea levels from breaching them. Rock fill has been used to harden the riverside dyke banks and bulldozers have been employed to build up the height of the existing dykes. You can see that in many places the farmland is six feet or more below sea level.

This stop concludes the driving tour of the local dyke-lands. To return to Wolfville continue on the Aboiteaux Road until it makes a "T" intersection in the hamlet of Habitant. Turn LEFT and follow the road through the town of Canning to Route 358. Take Route 358 back to Port Williams, proceed over the bridge and back to the traffic light in Greenwich. Turn LEFT to head back into Wolfville.

### **ENVIRONMENTAL CONCERNS**

It is important to consider the effects dykes have had on the local landscape. As previously stated, the farmland that is now protected by the dykes was once salt marsh. These marshes were formed when vegetation and sediment was deposited by the incoming tides. Several types of semi-aquatic grasses thrive in this environment and the salt marshes of Nova Scotia tend to be some of the most productive ecosystems in the world.

The marshes are divided into two and occasionally three sections. These are the lower, middle (dependent on size of the marsh and variety of flora and fauna), and upper marsh. The majority of the marshes in, and around, the Annapolis Valley have only two divisions, lower and upper. The biggest distinction is the division of flora. The lower sections are home to cord grass, algae on rocks, sea weed, and rock weed. The upper sections are prime growing areas for marsh hay, sea-lavender, arrow grass and many other species of grass species that thrive in areas with minimal water coverage.

Since the 1600s, 60% of the salt marshes have been replaced with farm due to the construction of the dykes and the draining of the land. This has had both a positive and negative effect on different species. It was not until the late 20<sup>th</sup> century that the actual ecological value of the marshes was known or understood. These marshes were, and are, hugely important to the ecological health of the area surrounding the Bay of Fundy and the bay itself.

The decomposing plant matter on the marshes is a very important food source for countless animals. Worms and shellfish that thrive in the mud flats feed off of the decomposed layers of plant material. Fish species, living in the

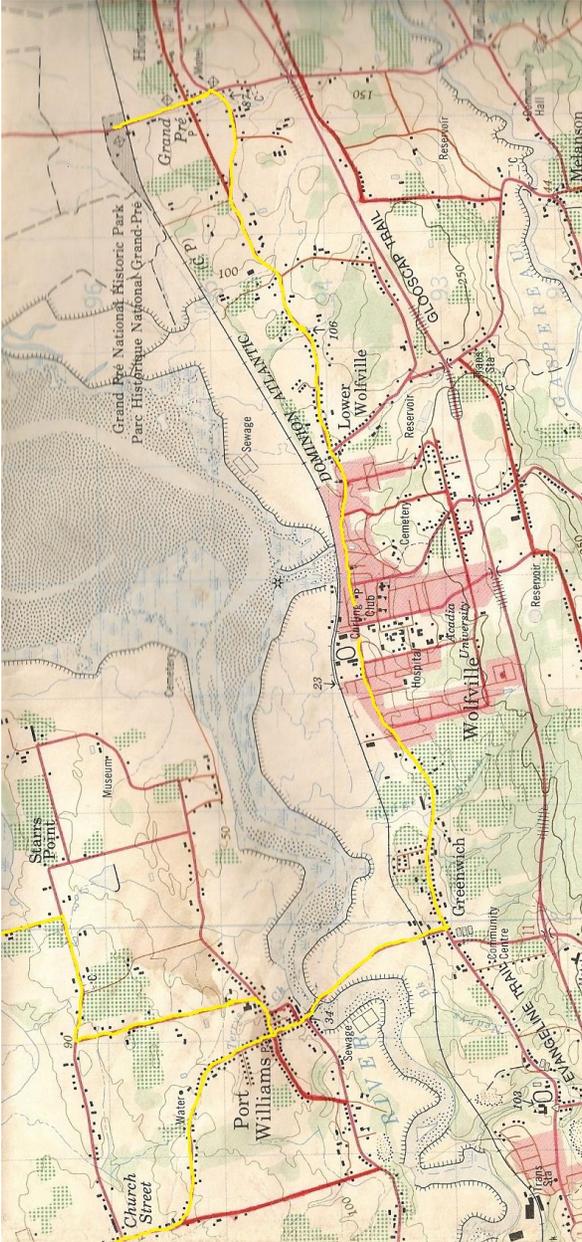
Standing on the new aboiteaux (constructed in 1944-1945) it is still possible to see the remains of the old aboiteaux. At low tide the spruce branches that were used as fill in the construction of the dyke can be clearly seen.



Fg6. Spruce Bows in the old Canning Aboiteaux.



Fg7. The modern sluice at the Canning Aboiteaux.



Map 1. Grand Pré to Wellington Dyke

Map 2. Wellington Dyke to Canning.



As you leave the Wellington Dyke and head towards Canning the road sweeps down towards the marsh on the seaward side of the Canning Aboiteaux. This is what the majority of the Annapolis Valley would have looked like prior to the building of the dykes.



Fig5. Marshland near Canning.

#### STOP FOUR

The Canning (or Habitant) Aboiteaux was yet another of the structures built in the first half of the 19<sup>th</sup> century. Throughout 1943 and 1944 the aboiteaux fell into greater disrepair. The local farmers had made minor repairs but they could not devote the time and resources to making the need large scale repairs. In the summer of 1944, the sluice collapsed and the road that ran over the dyke was closed. In September of that year, a large hurricane bore down on the Annapolis Valley. It causing flooding in unprotected areas and damaged many of the dykes. This further weakened the already damaged Canning Aboiteaux. A few days later, the high tide ripped through the aboiteaux, sweeping away the main bridge as well as flooding hundreds of acres of farm land, the town of Canning, and threatened to washout the railway bridge. The farm land would be returned to a marsh until repairs could be made and a new aboiteaux could be constructed and put in place.

### STOP THREE

As you drive out of Port Williams you crest one of the three ridges that mark the northern end of the Annapolis Valley. These ridges were used to ease the process of building the dykes. The Acadians built their dykes further down the valley where the marshland between the ridges narrowed which made constructing aboiteaux easier with the limited manpower available to them.

As the population increased in the valley after 1760 so too did the need for farmland. The New England Planters and their descendants continued to maintain the Acadian dykes but also began to build their own. It was the Planters who would reclaim the greatest amount of land of the Minas Basin.

By the early 19<sup>th</sup> century the residents of the Annapolis Valley were building large dykes right at the northern end of the Cornwallis and Canard Rivers as well as Habitant Creek. It was during this time that the Wellington Dyke was constructed.

Construction of the Wellington Dyke began in 1816. It is the last of the many aboiteaux built on the Canard River and it is one of the first large hand built dykes in the valley. 300 men and 500 oxen were involved with its construction which took seven years. The techniques employed by the builders varied little from the method employed by the Acadians. However, the sluices were now built from large pieces of timber rather than hollowed-out logs. This original wooden aboiteaux was replaced by a modern concrete and steel structure in 1975.

Continue on the Wellington Dyke road until it intersects with Canard Street. Turn RIGHT onto Canard Street and follow it to Saxon Street. Turn LEFT onto Saxon Street and follow it to a road marked Canning Aboiteaux.



Fig3. Rock fill on the Bishop-Beckwith Dyke, Port Williams.



Fig4. Bishop-Beckwith Farmland, Port Williams.

Exit the car park turning right and crossing the bridge into the town of Port Williams. Continue on this street until making a RIGHT turn on to High Street. Follow High Street past the “Pick Your Own” farm to Collins Street, turn LEFT onto Collins Street and follow it to Church Street. Turn RIGHT onto Church Street and until you come to a road marked Wellington Dyke. Turn LEFT on to this road. Stop at the large blue sign near the aboiteaux.