sand stabilization, and even drift logs can intercept the flow of sand that maintains sand dune ecosystems.

Other culprits of dune disruption are invasive non-native (alien) plants. European beachgrass was deliberately introduced to North America in the early 1900s to stabilize dunes that were threatening to engulf waterfront property and infrastructure. This plant builds up tall and stable foredunes that can cut off the landward movement of sand, while at the same time crowding out native dune grasses. The low, relatively uniform foredune ridges formed by native dune wildryes are disappearing, not only in British Columbia but along the entire Pacific coast from Alaska to Mexico.

Destruction of dunes is also a serious threat. Destabilization is caused by damage to the vegetation and the stabilizing network of underground roots and rhizomes. All-terrain vehicles are common destabilizers, both on Graham Island, though efforts have now been made to reduce their impact on the vegetation. A less obvious but more serious threat is human disturbance. Destabilization of dunes is also a problem in the early 1900s to stabilize dunes that were threatening to engulf waterfront property. If you are a private land owner with damaged or continue to be threatened by on-going development, overuse, and infrastructure. This plant builds up tall and stable foredunes that can cut off the landward movement of sand, while at the same time crowding out native dune grasses. The low, relatively uniform foredune ridges formed by native dune wildryes are disappearing, not only in British Columbia but along the entire Pacific coast from Alaska to Mexico.

Destruction of dunes is also a serious threat. Destabilization is caused by damage to the vegetation and the stabilizing network of underground roots and rhizomes. All-terrain vehicles are common destabilizers, both on Graham Island, though efforts have now been made to reduce their impact on the vegetation. A less obvious but more serious threat is human disturbance. Destabilization of dunes is also a problem in the early 1900s to stabilize dunes that were threatening to engulf waterfront property. If you are a private land owner with damaged or continue to be threatened by on-going development, overuse, and infrastructure. This plant builds up tall and stable foredunes that can cut off the landward movement of sand, while at the same time crowding out native dune grasses. The low, relatively uniform foredune ridges formed by native dune wildryes are disappearing, not only in British Columbia but along the entire Pacific coast from Alaska to Mexico.

Destruction of dunes is also a serious threat. Destabilization is caused by damage to the vegetation and the stabilizing network of underground roots and rhizomes. All-terrain vehicles are common destabilizers, both on Graham Island, though efforts have now been made to reduce their impact on the vegetation. A less obvious but more serious threat is human disturbance. Destabilization of dunes is also a problem in the early 1900s to stabilize dunes that were threatening to engulf waterfront property. If you are a private land owner with damaged or continue to be threatened by on-going development, overuse, and infrastructure. This plant builds up tall and stable foredunes that can cut off the landward movement of sand, while at the same time crowding out native dune grasses. The low, relatively uniform foredune ridges formed by native dune wildryes are disappearing, not only in British Columbia but along the entire Pacific coast from Alaska to Mexico.

Destruction of dunes is also a serious threat. Destabilization is caused by damage to the vegetation and the stabilizing network of underground roots and rhizomes. All-terrain vehicles are common destabilizers, both on Graham Island, though efforts have now been made to reduce their impact on the vegetation. A less obvious but more serious threat is human disturbance. Destabilization of dunes is also a problem in the early 1900s to stabilize dunes that were threatening to engulf waterfront property. If you are a private land owner with damaged or continue to be threatened by on-going development, overuse, and infrastructure. This plant builds up tall and stable foredunes that can cut off the landward movement of sand, while at the same time crowding out native dune grasses. The low, relatively uniform foredune ridges formed by native dune wildryes are disappearing, not only in British Columbia but along the entire Pacific coast from Alaska to Mexico.

Destruction of dunes is also a serious threat. Destabilization is caused by damage to the vegetation and the stabilizing network of underground roots and rhizomes. All-terrain vehicles are common destabilizers, both on Graham Island, though efforts have now been made to reduce their impact on the vegetation. A less obvious but more serious threat is human disturbance. Destabilization of dunes is also a problem in the early 1900s to stabilize dunes that were threatening to engulf waterfront property. If you are a private land owner with damaged or continue to be threatened by on-going development, overuse, and infrastructure. This plant builds up tall and stable foredunes that can cut off the landward movement of sand, while at the same time crowding out native dune grasses. The low, relatively uniform foredune ridges formed by native dune wildryes are disappearing, not only in British Columbia but along the entire Pacific coast from Alaska to Mexico.

Destruction of dunes is also a serious threat. Destabilization is caused by damage to the vegetation and the stabilizing network of underground roots and rhizomes. All-terrain vehicles are common destabilizers, both on Graham Island, though efforts have now been made to reduce their impact on the vegetation. A less obvious but more serious threat is human disturbance. Destabilization of dunes is also a problem in the early 1900s to stabilize dunes that were threatening to engulf waterfront property. If you are a private land owner with damaged or continue to be threatened by on-going development, overuse, and infrastructure. This plant builds up tall and stable foredunes that can cut off the landward movement of sand, while at the same time crowding out native dune grasses. The low, relatively uniform foredune ridges formed by native dune wildryes are disappearing, not only in British Columbia but along the entire Pacific coast from Alaska to Mexico.
What are Coastal Sand Dune Ecosystems?

Coastal sand dunes are built up by the wind, and they are dominated by dune sand, which is silted out by the ocean and the wind, and they are sparse vegetative ecosystems that are exposed to the extremes. Both the front and our boundary of sand dune ecosystems is the sea. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

is dominated by two sand-binding species, northern whorled (a flower that is a native, red-flowered species), and another species, the delicate ribwort. These dunes are accompanied by species of early spring wildflowers such as blue-eyed Mary, blue-eyed grass, and meadow rue. The flowers are all lovely, and they bring beauty to the sand dune environment.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.

The sea is so flat and calm, and it is impossible to go out from the bar height. However, when the wind is strong, it can create waves, and these waves can create a direct path for the sand to be transported inland. This is why the sea is so flat and calm, and it is impossible to go out from the bar height.
What are Coastal Sand Dune Ecosystems?

Sand dunes are one of the most dynamic ecosystems on Earth. They occur where wind and water interact, such as at the edge of the ocean. The wind moves the sand, and the water washes it back, so the sand moves back and forth. This movement is called transgression. As the wind moves the sand, it leaves behind a beautiful, white sand beach. The sand dunes change constantly as the wind and water interact. They are a beautiful sight to behold, but they are also very fragile. Sand dunes are often called "living fossils" because they are constantly changing and adapting to their environment. They are also called "living fossils" because they are constantly changing and adapting to their environment. They are also called "living fossils" because they are constantly changing and adapting to their environment. They are also called "living fossils" because they are constantly changing and adapting to their environment. They are also called "living fossils" because they are constantly changing and adapting to their environment. They are also called "living fossils" because they are constantly changing and adapting to their environment. They are also called "living fossils" because they are constantly changing and adapting to their environment.
What are Coastal Sand Dune Ecosystems?

Coastal sand dunes are found within 100 m of the ocean—widely distributed along the British Columbia coast, as well as at risk in British Columbia. The northwestern stretch of the coast is characterized by sand dunes and beaches. These ecosystems are the most recent sediment source emerging from the ocean, as the sea level has risen. The migration of sand dunes is part of the natural process that occurs as the sea level rises. The presence of sand dunes along the coast indicates that these ecosystems are in a state of constant change, with the migration of sand dunes and the formation of new dunes occurring over time. The balance of these forces—erosion, deposition, and ocean currents—determines the shape and size of coastal sand dunes. Sand dunes are dynamic systems, with the migration of sand dunes contributing to the ever-changing coastal landscape. The migration of sand dunes is influenced by ocean currents, coastal wind patterns, and the movement of sand grains. The migration of sand dunes is a natural process that occurs as the sea level rises and the ocean retreats from the coast. The migration of sand dunes is a complex process that involves the interaction of various factors, including ocean currents, coastal wind patterns, and the movement of sand grains. The migration of sand dunes is a natural process that occurs as the sea level rises and the ocean retreats from the coast. The migration of sand dunes is a complex process that involves the interaction of various factors, including ocean currents, coastal wind patterns, and the movement of sand grains. The migration of sand dunes is a natural process that occurs as the sea level rises and the ocean retreats from the coast. The migration of sand dunes is a complex process that involves the interaction of various factors, including ocean currents, coastal wind patterns, and the movement of sand grains. The migration of sand dunes is a natural process that occurs as the sea level rises and the ocean retreats from the coast. The migration of sand dunes is a complex process that involves the interaction of various factors, including ocean currents, coastal wind patterns, and the movement of sand grains. The migration of sand dunes is a natural process that occurs as the sea level rises and the ocean retreats from the coast. The migration of sand dunes is a complex process that involves the interaction of various factors, including ocean currents, coastal wind patterns, and the movement of sand grains. The migration of sand dunes is a natural process that occurs as the sea level rises and the ocean retreats from the coast. The migration of sand dunes is a complex process that involves the interaction of various factors, including ocean currents, coastal wind patterns, and the movement of sand grains. The migration of sand dunes is a natural process that occurs as the sea level rises and the ocean retreats from the coast. The migration of sand dunes is a complex process that involves the interaction of various factors, including ocean currents, coastal wind patterns, and the movement of sand grains.
sand stabilization, and even drift logs can intercept the flow of sand that maintains sand dune ecosystems. Other culprits of dune disruption are invasive non-native (alien) plants. European beach-grass was deliberately introduced to North America in the early 1900s to stabilize dunes that were threatening to engulf waterfront properties and infrastructure. The plant builds up tall and stable foredunes that cut off the landward movement of sand, while at the same time crowding out native dune grasses. The low, relatively unstable foredune ridges formed by native dune wildrye are now being made to reduce windward movement of sand that maintains sand dune ecosystems in British Columbia, and are representative of nearby sand dune vegetation types. Wherever possible dunes should be protected to ensure their future survival, including preservation of nearby sand sources such as eroding cliffs. Invasive alien plants. European beach-grass is one of the invasive alien species that will damage dune vegetation and respect fenced-off areas that may be protecting the sand dune ecosystems. The dynamic nature of dune ecosystems makes protecting them a challenge. Dune ecology is based on a fine balance between sand stabilization and sand movement. Because long-term changes in sea level, weather, and currents will continue to change dune ecosystems as they have in the past, the goal of dune stewardship is not to preserve dunes exactly as they are now, but to maintain the natural processes and native species that form these irreplaceable ecosystems.

How can we protect them?

As a diverse national, provincial, and local parks currently provide some protection of sand dune ecosystems throughout British Columbia. However, there are ecosystems, primarily along the southeast coast of Vancouver Island and in the Gulf Islands, that are not protected. Although these dune sites occupy a small area, they make up a significant proportion of the sand dune ecosystems in British Columbia and are representative of unique dune vegetation types. Wherever possible dunes should be protected to ensure their future survival, including preservation of nearby sand sources such as eroding cliffs. Dune ecosystems have many feet that walk on our dunes. One stroll through a coastal sand dune ecosystem is enough to see the impact of path erosion. A fine balance between sand stabilization and sand movement is required to protect the sand dune ecosystems. If you are a private land owner with concerns about dune erosion or protective measures, contact your local conservation group. A more thorough discussion of dune stewardship and the management of sand dune ecosystems is contained in the Sand Dune Ecosystems of the Pacific Northwest, a guidebook edited by John Boerner and published by the Natural Resources Council of British Columbia.

For more information on species and ecosystems at risk, contact: BC Conservation Data Centre Ministry of Environment PO Box 9338, Stn. Prov. Govt., Victoria, British Columbia V8W 9M2 http://www.env.gov.bc.ca/cdc.

Coastal Sand Dune Ecosystems in British Columbia
Most coastal dune ecosystems occupy only a few hectares each.
sand stabilization, and even drift logs can interrupt the flow of sand that maintains sand dune ecosystems.

Other culprits of dune destabilization are invasive non-native (alien) plants. European beach grasses, for example, form vast colonies on coastal dunes. All-terrain vehicles are still being used on the dunes of Vancouver Island and on Graham Island. Nearly all sand dune ecosystems in these areas are disappearing, not only in British Columbia, but along the entire Pacific coast from Alaska to Mexico.

Destabilization of dunes is also a serious threat. Destabilization is caused by damage to the vegetation and the stabilizing network of underground roots and rhizomes. All-terrain vehicles are being driven on the dunes of Vancouver Island and on Graham Island. Nearly all sand dune ecosystems in these areas are disappearing, not only in British Columbia, but along the entire Pacific coast from Alaska to Mexico.

The dynamic nature of dune ecosystems makes protecting them a challenge. Dune ecology is based on a fine balance between sand stabilization and sand movement. Because long-term changes in sea level, weather, and infrastructure will change dune ecosystems as they have in the past, the goal of dune stewardship is not to preserve dunes exactly as they are now, but to maintain the natural processes and native species that form these irreplaceable ecosystems.

If you are a private land owner with dunes on your property, avoid activities that will damage dune vegetation or impede the flow of sand. In particular, locate roads and buildings outside the dune zone to avoid creating artificial barriers to sand flow. The dynamic nature of dune ecosystems makes protecting them a challenge. Dune ecology is based on a fine balance between sand stabilization and sand movement. Because long-term changes in sea level, weather, and infrastructure will change dune ecosystems as they have in the past, the goal of dune stewardship is not to preserve dunes exactly as they are now, but to maintain the natural processes and native species that form these irreplaceable ecosystems.