Icelandic Institute of Natural History
Keys to Icelandic Habitat Types

II. Intertidal habitats

NÁTTÚRUFRÆÐISTOFNUN ÍSLANDS
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Icelandic Institute of Natural History, June 2019
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LIST OF HABITAT TYPE CLASSES AND HABITAT TYPES

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Frequently occurring combinations or mosaics of individual habitat types, which may be inter-dependent.

FX Habitat complexes

- Water volume, wholly or partially separated from the sea by sand banks or shingle, or, less frequently, by rocks. → FX.1 Saline coastal lagoons/brackish coastal lagoons. Biotopes are defined by salinity, tidal movements, substrate and geography.
    - High surface salinity, often small and shallow. → FX.11 Saline coastal lagoons
    - Expanses of shallow water varying in salinity, often with inflow of fresh water . → FX.12 Brackish coastal lagoons
- Topography of the shore allows seawater to be retained within depressions in the substrata. → FX.2 Communities of littoral rockpools/communities of rockpools in the supralittoral zone
- Downstream part of a river valley, subject to tide and currents. → FX.3 Estuaries

The area usually lacking vegetation, substrate ranges from shingles to mud. Biotopes differ in substrate homogeneity, from uniform substrate to mixed substrata.

F2 Littoral sediment

- Relatively impoverished, substrata usually homogenous, stones occasionally present on the surface. → F2.1 Littoral sand and muddy sand
  - Barren, mobile sands, limited range of species. → L2.11 Barren or amphipod-dominated mobile sand shores
- Sediments shores in vicinity of estuaries, varying amount of pebbles, cobbles, gravel and coarse sand. → L2.2 Estuarine coarse sediment shores
  - Mussel, *Mytilus edulis,* and dulse, *Palmaria palmata,* are dominant epifauna, barnacles often numerous → F2.21 *Mytilus* and *Palmaria* estuaries shore
- Usually fine particulate sediment that forms extensive mudflats can have some mixture of coarse and fine substrata. Biotopes are defined by dominant/prominent species. → F2.3 Littoral muds
  - Often extensive flats that are characterized by the lugworm, *Arenicola marina,* and rich of other in fauna species. → F2.31 *Macoma baltica* and *Arenicola marina* in muddy sand shores
  - Biotope characterized by mussel, *Mytulis edulis,* growing in clusters . → F2.32 Polychaete/bivalve-dominated muddy sand shores
  - Fine particulate sediment, salinity often low, infauna dominated by ragworms, *Hediste diversicolor*. → F2.33 *Hediste diversicolor* in littoral mud
  - Fine particulate sediment, yellow-green algae, *Vaucheria* spp. prominent on the surface over the summer time. → F2.34 *Tubificoides benedii* and other oligochaetes in littoral mud
  - Fine particulate sediment, variable salinity, eelgrass, *Zostera angustifolia,* prominent on the surface. → F2.35 Seagrass beds on littoral sediment
- Mixed sediments ranging from muds with gravel and sand components to mixed sediments with pebbles, gravels, sands and mud. Fine sediment covers over 60% of the biotope and algae covers 30–40%. → L2.4 Littoral mixed sediment
- Biotope characterized by dense layer of fossilized peat, often covered by thin layer of mud. Algal mat can be predominant over summer time. → L2.5 *Ceramium* sp. and piddocks on eulittoral fossilised peat

None of above

INTRODUCTION

The aim with this key is to make identification of Icelandic terrestrial habitat types easier in the field. It should be useful for mapping of habitat types and for those interested in learning more about the different types. In 2016, the Icelandic Institute of Natural History finished a description and mapping of terrestrial, freshwater and coastal habitat types in Iceland. The work is based on the European EUNIS habitat classification system, which has been widely adopted and is used in most European countries.

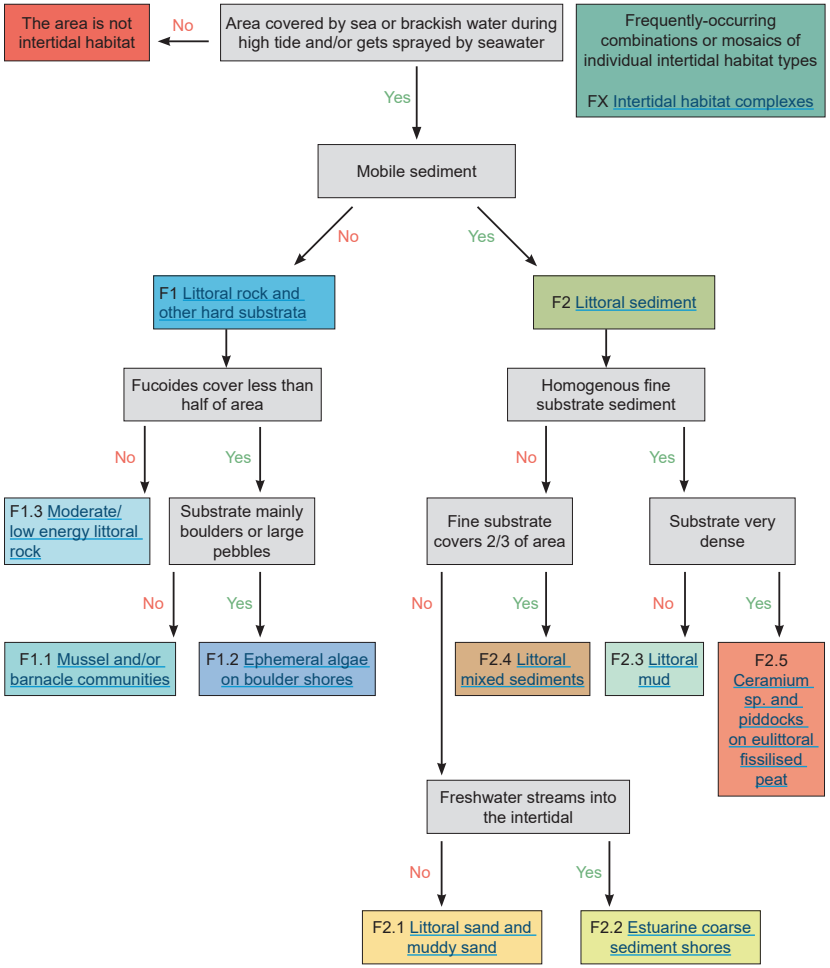
In the publication "Vistgerðir á Íslandi"[1] (Habitat Types of Iceland) factsheets for the different habitat types can be found. The factsheets can also be accessed on the institute´s web site. 24 hierarchical habitat types are listed in the publication and they are grouped into levels, starting with a division into sediment and rocky shores.

The first step in the identification of a habitat type is to go through the intertidal habitats diagram at page 6. Please note that the habitat complexes are not in the diagram since they can have a combination or mosaic of different intertidal habitat types. Further description of the intertidal habitat complexes are on page 9. The diagram leads you down the hierarchical classification to level 3, levels 4 and 5 are described in text in this key. The name of each habitat type has a link to a factsheet, which can be accessed by using a laptop or smartphone in the field.

We hope that the key will be found useful. It will be revised if necessary so we are greatful for all remarks and comments that you might have after using it. They can be sent by email to ni@ni.is.

1 Gunnhildur I. Georgsdóttir, Karl Gunnarsson, Sigríður Kristinsdóttir and Guðmundur Guðmundsson 2016. Vistgerðir í fjöru. In Jón Gunnar Ottósson, Anna Sveinsdóttir og María Harðardóttir, editors. *Vistgerðir á Íslandi,* p. 214–279. Fjölrit Náttúrufræðistofnunar nr. 54. Garðabær: Náttúrufræðistofnun Íslands.

INTERTIDAL HABITATS DIAGRAM



INTERTIDAL HABITATS CLASSIFICATION

Substrate is mainly bedrock, boulders and cobbles.

F1 Littoral rock and other hard substrata

- Exposed littoral, bedrock dominated by barnacles, other animals and plants sparse. → F1.1 Mussel and/or barnacle communities
- Exposed littoral, boulders and large pebbles. Algae can be present but covers less than 1/3 of the surface. → L1.2 Ephemeral algae on boulder shores
- Large fucoids are dominant and cover over 50% of surface. Biotopes are defined by dominant fucoid species. → L1.3 Moderate or low energy littoral rock
  - Knotted wrack, *Ascophyllum nodosum,* has over 30% coverage. → L1.31 Fucoids on sheltered marine shores
  - Bladder wrack, *Fucus vesiculosus,* has over 30% coverage. → L1.32 Barnacles and fucoids on moderately exposed shores
  - Rockweed, *Fucus distichus,* has over 30% coverage. → L1.33 *Fucus distichus* on moderate/high energy littoral rock
  - Toothed wrack, *Fucus serratus,* has over 30% coverage. → L1.34 Fucoids on sheltered marine shores
  - Fucoids have 50–70% coverage, mixed substrata with pebbles and cobbles overlying muddy sand and gravel. → L1.35 Fucoids on sheltered marine shores/ fucoids in variable salinity
    - » Knotted wrack, *Ascophyllum nodosum,* is dominant → F1.35.1 *Ascophyllum nodosum* on full salinity mid eulittoral mixed substrata
    - » Bladder wrack, *Fucus vesiculosus,* is dominant → F1.35.2 *Fucus vesiculous* on variable salinity mid eulittoral boulders and stable mixed substrata

None of above