

Zeitschrift: Mitteilungen der Thurgauischen Naturforschenden Gesellschaft
Herausgeber: Thurgauische Naturforschende Gesellschaft
Band: 43 (1979)

Anhang: Abbildungen und Tabellen

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Die Vergletscherung des Kantons Thurgau während der wichtigsten Phasen der letzten Eiszeit

Erich R. Möller
Abbildungen 2 bis 5, 8 und 11

Abbildung 2: Bildungen des Eisaufbaues während der Frühwürms (Zätopoche) zwischen dem Riss-Würmerglazial und dem Würm-Maximalstand

| Phase | Eisrand | Moräne/Dumfries | Schotter | Entwässerungsrinnen | Schieferkanten | |
|-------------------------|---|---|--|---|--|--|
| IV b IV a | akkretive Vorstoss zum Maximalstand | mehrere isolierte überflutete Wälder | Langwiesen - Feuerthalen - Radlflügel - See; Gosauwil - Burg | Hofstetten - Kolbunn; Oberknonau - Oberwangen | | |
| | Unteres Bibertal | Roatuck / Staffebuck | Gälligen; Göttingen; Schaffhausen | Rheintal | | |
| | Schattlingen | Trülken - Schattlingen | S von Schattlingen | Bestalden - Basadingen | | |
| | Oesingen | E von Oesingen | Oesingen - Schrienerberg | Thurtal | | |
| | Andelfingen | Dägerlen - Adlikon | Hengartertal | | | |
| | Egg | | Egg Anterbach | Eschthal | | |
| | Wien | Vogelberg | | Agthaus/Basel-Lik; Wehöl - Anwil - Dussang - Tüfenthal - Tostal | | |
| | Flawil, Burgau | | | Greenmoos - Unterindal | | |
| | Tannenberg - Niederwil (Höngg - Altsappen) | | Tannenberg (Hrings, Neuheim ZH) | Chellenbach | | |
| | Alpenhering | | Singer Becken | Untersae - Rheintal | Buchberg (Limbellen) | |
| III 2. Warmphase | Frauenfeld - Wigoltingen | Frauenfeld - Wigoltingen | Ittinger Schotter; Strass; Messeried | Thurtal | | |
| | Lauchthal | Wärgi - Mänwil | Mattlingen - Aawangen - Wittwil | Eschthal | | |
| | Niederschaffhausen - Zuzwil (Thalvi - Horgen) | Niederschaffhausen - Zuzwil (Sanstagen) | Zuckenriet | Sorenachtal | | |
| II 1. Warmphase | Alpenhering | | | | SE von Bernhardzell; NW von Buchsberg; (Wildenwil, Buchberg) | |
| | Tägerwil | Konstanz - Wolmatingen | | Untersae - Rheintal | | |
| I 1. Warmphase | Wetzikon - Mönchthal | | Fritschhausen - Reuti; Merten - Fritschen | Thurtal | | |
| | Bischofszell - Niederlenken | Häggenachthal; Wittenbach - Mörtschwil | Buchberg; Hohen - tenen; Schwebeloch - Niederhaffenschwil | | | |
| | (Wädenswil) | | Kaur und Rot - Holzschotter | Zürchersee | | |
| | Alpenhering | | | | Mörschwil | |
| | ib | Oberer Untereisee Becken | Konstanz; städtischer Bodendücken | Rächelau; Alendach - Mönchflingen | Untersae - Rheintal | |
| | Mülheim - Wigoltingen | Wigoltingen - Engewang | | Thurtal | | |
| | Bischofszell | | Sitter - Thurtal | | | |
| | Wägen - Habiswil Aul | | Zürchersee | | | |
| | ia | Konstanz | Konstanzer Horn | Untersae - Rheintal | | |
| | Sulgen | Sulgen - Amrikwil | Thurtal | | | |
| Initiale Vorstossphasen | Wunden - Rapperswil | | (Burg - Fehenschatten) | Zürchersee | | |
| Alpenhering | | | | | | |

Abbildung 3: Gliederung des Hochwürms

| Zeitsphäre / Stadien | Jahre vor heute | |
|---|---|-------------|
| Bodensee / Rheingletscher | Linth / Rheingletscher | |
| Konstanz / Sulgen | Hunden - Rapperswil | 13 250 |
| Innere Staffeln des Thurales / Untereiseebeckens = Bodensee / Emsingen - Wigoltingen / Rächelau - Frauenfeld / Stockhorn - Altkon / Mammern | Innere Staffeln des Zürcherseebeckens: - Bäch - Horgen - Thalwil - Körmpert | |
| Staffeln von Andelfingen | Staffeln von Zürich: | zika 16 000 |
| reaktive Stein am Rhein; - Däwil / Stein am Rhein | - Unteres Zürchersee Becken (Häfelf) - Lindenhof - Altsappen | 96 17 000 |
| - Neugart / Hemishofen - Andelfingen / Epsellen | Schönen | zika 18 000 |
| Staffeln von Rütlingen / Schaffhausen | Staffeln von Kibwangen | 26 000 |

Abbildung 8: Rückschmelzphasen nach dem Stadium von Andelfingen

Massstab 1:200 000

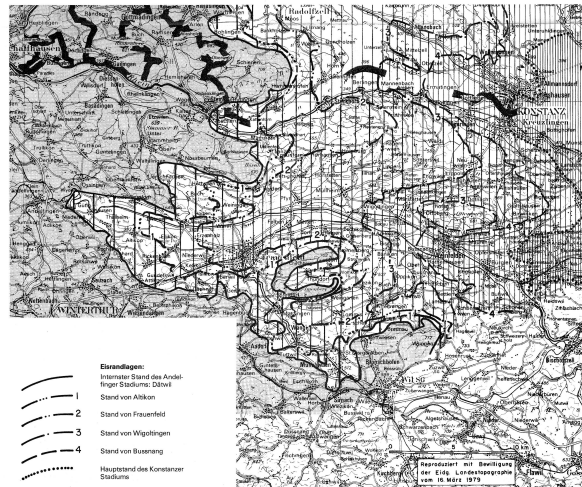


Abbildung 5: Eisrandlagen des Maximalstandes und des beginnenden Rückschmelzprozesses

Massstab 1:200 000

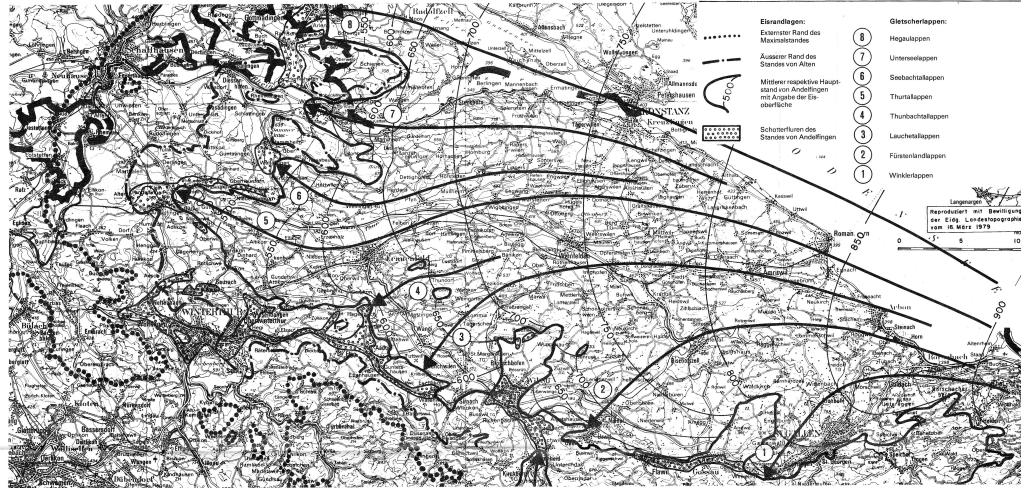


Abbildung 4: Dissenhofensee

Massstab 1:100 000

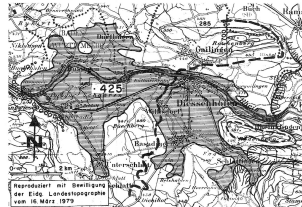


Abbildung 11: Seenlandschaft und Eisrandlagen während des Stadiums von Konstanz

Massstab 1:200 000

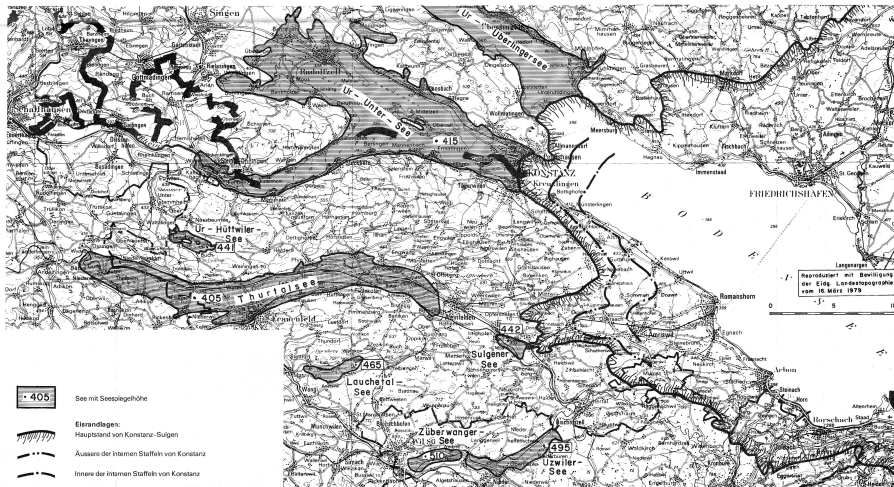


TABELLE 7 GEBUESCH- UND WALDGESELLSCHAFTEN IN ODER AM RAND VON QUELLSUEMPFFEN

| Nummer | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Aufnahmefläche | m ² | 70 | 40 | 50 | 100 | 100 | 250 | 50 | 200 | 70 | 30 |
| Höhe über Meer | m | 475 | 610 | 500 | 490 | 490 | 480 | 485 | 465 | 740 | 685 |
| Exposition | | E | NW | N | - | E | E | E | E | NW | |
| Neigungswinkel | ° | 15 | 15 | 15 | - | 3 | 10 | 10 | 3 | 20 | 25 |
| Deckungsgrad | Y | 20 | 60 | 40 | 50 | 80 | 90 | 50 | 65 | 75 | |
| Deckungsgrad | Y | 60 | 5 | 2 | 15 | 10 | 2 | 40 | 10 | 30 | 80 |
| Deckungsgrad | Y | 60 | 70 | 20 | 80 | 25 | 40 | 75 | 15 | + | 20 |
| Deckungsgrad | Y | 5 | 10 | 15 | 10 | + | + | 20 | - | + | 70 |
| Maximale Höhe | Y | 10 | 12 | 9 | 15 | 14 | 20 | 18 | 20 | 12 | |
| Maximale Höhe | Y | 4 | 2.5 | 3 | 5 | 5 | 2.5 | 4 | 5 | 5 | 4 |
| Maximale Höhe | Y | 200 | 100 | 100 | 100 | 100 | 80 | 80 | 80 | 20 | 30 |
| Artenzahl | | 33 | 30 | 28 | 38 | 26 | 35 | 33 | 31 | 22 | 26 |

| | | | | | | | | | | | |
|---------------------|-----|---|---|---|---|---|-----|-----|---|---|---|
| Y Alnus glutinosa | (1) | 3 | 3 | 4 | 4 | 3 | (+) | (+) | | | |
| Fraxinus excelsior | | | | | 1 | 3 | 3 | 4 | 4 | 3 | |
| Populus tremula | | | | | | | 2 | 1 | | 2 | |
| Prunus padus | | | | | + | 1 | 3 | | | | |
| Acer pseudoplatanus | | | | | | | | | 2 | 1 | |
| Quercus robur | | | | | | | | | 1 | 2 | |
| Fagus sylvatica | | | | | | | | | + | 2 | 2 |
| Picea excelsa | (1) | | | | | | | | + | 2 | |
| Betula pendula | (2) | | | | | | | | | | |

| | | | | | | | | | | | |
|--------------------|-----|---|---|---|---|---|---|---|---|---|---|
| V Salix nigricans | | 3 | 3 | | 1 | | | | | | |
| Frangula alnus | | 2 | + | + | | | | | | | |
| Prunus padus | | | | | 2 | 2 | 1 | + | 2 | | |
| Corylus avellana | | | | | + | 1 | 3 | 3 | 2 | 3 | |
| Viburnum opulus | | | | | | | | 2 | | 2 | |
| Fraxinus excelsior | | | | | + | | | | + | 1 | 1 |
| Fagus sylvatica | | | | | | | | | 1 | 1 | + |
| Lonicera xylosteum | | | | | + | | | | | 1 | 1 |
| Viburnum lantana | | | | | | | | | + | 2 | |
| Picea excelsa | | 2 | | | | | | | | 2 | 2 |
| Ligustrum vulgare | | + | + | | | | | | | 1 | 3 |
| Berberis vulgaris | (+) | | | | | | | | | | 3 |
| Rhamnus cathartica | | | | | | | | | | | + |

| | | | | | | | | | | | |
|----------------------|--|---|---|---|---|---|---|---|---|---|---|
| Y Fraxinus excelsior | | + | 3 | + | 1 | + | 3 | 1 | 2 | 1 | |
| Acer pseudoplatanus | | | | + | + | | + | 1 | 1 | | + |
| Prunus padus | | | | | 1 | 1 | 1 | 1 | 1 | | |
| Viburnum opulus | | | + | | 1 | 2 | 1 | 2 | 2 | + | + |
| Ligustrum vulgare | | | | + | | + | + | + | + | + | 2 |
| Hedera helix | | | | | | + | + | 2 | 2 | | |
| Solanum dulcamara | | 1 | | | 1 | | | | | | |
| Betula pendula | | 1 | | | | | | | | | |
| Viburnum lantana | | + | | | | | | | | | + |
| Berberis vulgaris | | | | | | | | | | | 1 |

| | | | | | | | | | | | |
|--------------------------|--|---|---|---|-----|---|---|---|---|---|---|
| Molinia coerulea | | 3 | 1 | 1 | | | | | | | + |
| Mentha aquatica | | 1 | 2 | 1 | + | | | | | | |
| Crepis paludosa | | + | 2 | | | | | | | | + |
| Lysimachia vulgaris | | 2 | 2 | 1 | 2 | | | | | | + |
| Cirsium palustre | | | | + | + | | | | | | |
| Eupatorium cannabinum | | 1 | + | 1 | 1 | | | | | | + |
| Galium mollugo | | 2 | + | | + | | | | | | |
| Symphytum officinale | | | | + | + | | | | | | |
| Acrocladium cuspidatum | | + | 2 | 2 | 1 | | | | | | |
| Mnium affine /seligeri | | | 2 | + | + | | | | | | |
| Fissidens adiantoides | | + | + | + | + | | | | | | |
| Ctenidium molluscum | | 2 | | + | | | | | | | |
| Phragmites communis | | 3 | | | 1 | + | + | | | | |
| Carex acutiformis | | | 2 | 2 | 3 | + | | 1 | | + | |
| Equisetum maximum | | + | 1 | 2 | + | + | 4 | | | + | |
| Caltha palustris | | | | + | (+) | 1 | | 1 | | | |
| Filipendula ulmaria | | + | 2 | + | 2 | + | 1 | + | | | |
| Angelica silvatica | | | + | + | 1 | 1 | 1 | | | | + |
| Anemone nemorosa | | | + | + | 1 | 2 | 1 | | | | + |
| Circaea lutetiana | | + | | | 1 | + | + | 1 | + | | |
| Primula elatior | | + | | | + | + | + | 2 | + | | |
| Paris quadrifolia | | + | + | | + | 1 | 1 | 1 | + | | + |
| Brachypodium pinnatum | | 1 | | | + | + | | | | + | 2 |
| Pulmonaria officinalis | | | | | + | + | 1 | + | | | |
| Eurhynchium striatum | | | + | + | 2 | | + | 2 | | + | |
| Mnium undulatum | | 1 | | + | | | | 1 | | | |
| Carex silvatica | | | | | | 2 | + | 2 | 2 | | |
| Polygonatum multiflorum | | | | | | + | + | 1 | | | + |
| Stachys silvatica | | | | | | | 1 | 2 | 1 | | |
| Viola silvestris | | | | | | | + | + | + | | |
| Deschampsia cespitosa | | | | | | | | 1 | 1 | | |
| Scleropodium purum | | | | | | | | | | + | 2 |
| Hylocomium splendens | | | | | | | | | | | 3 |
| Rhydiadelphus triquetrus | | | | | | | | | | | 3 |
| Aquilegia vulgaris | | | | | | | | | | | + |
| Lotus corniculatus | | | | | | | | | | | + |

Weitere Arten

- Aufn. 1: Y Lonicera xylosteum 1, Tamus communis 1, Rubus fruticosus +, Sorbus aucuparia +, Festuca rubra +, Potentilla erecta +
- Aufn. 2: Y Alnus glutinosa +, Y Alnus glutinosa +, Picea excelsa +, Frangula alnus +, Lonicera xylosteum + Equisetum arvense +, Equisetum palustre +
- Aufn. 3: Y Alnus glutinosa +, Agrostis stolonifera +, Carex davalliana +, Allium ursinum +, Lythrum salicaria +, Potentilla erecta +, Equisetum arvense +
- Aufn. 4: Y Sambucus nigra +, Y Rubus caesius +, Humulus lupulus +, Maianthemum bifolium +, Covallaria majalis 2, Convolvulus sepium 1, Sanicula europaea +, Galium odoratum +
- Aufn. 5: Y Rhamnus cathartica 1, Y Corylus avellana +, Populus tremula 1, Convolvulus sepium +, Equisetum arvense +
- Aufn. 6: Y Evonymus europaeus +, Rubus idaeus +, Populus tremula 1, Y Arum maculatum 1, Listera ovata +, Galium odoratum +, Equisetum palustre +
- Aufn. 7: Y Evonymus europaeus +, Y Rubus caesius 2, Frangula alnus +, Crataegus monogyna +, Brachypodium silvaticum +, Carex remota 2, Phyteuma spicatum +, Lysimachia nemorum 1, Catharina undulata +, Galium odoratum 1, Rosa spec. +
- Aufn. 8: Y Carpinus betulus 1, Y Carpinus betulus 1, Prunus spinosa +, Crataegus monogyna +, Y Corylus avellana +, Frangula alnus +, Rosa spec. +, Crataegus oxyacantha +, Rubus fruticosus +, Brachypodium silvaticum +, Melica nutans +, Carex alba +, Geum urbanum +
- Aufn. 9: Y Prunus avium 1, Salix caprea 1, Y Crataegus monogyna 1, Populus tremula 2, Y Corylus avellana 1, Picea excelsa +, Lonicera xylosteum 1, Carex flacca 1
- Aufn. 10: Y Picea excelsa 1, Schoenus ferrugineus +, Listera ovata +, Dicranum scoparium +

TABELLE 4 HOCHSTAUDENBESTAENDE

| | | | | | | | | | | | | | | | | | | | |
|---------------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Nummer | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| Aufnahmefläche | m ² | 25 | 25 | 25 | 25 | 50 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 10 | 25 | 25 | 25 | 25 | 25 |
| Höhe über Meer | m | 600 | 650 | 480 | 480 | 480 | 485 | 485 | 645 | 450 | 600 | 590 | 630 | 670 | 540 | 590 | 590 | 485 | 480 |
| Exposition | | NW | SE | E | E | E | E | E | W | N | SW | NE | W | N | NE | N | NW | E | E |
| Neigungswinkel | ° | 15 | 15 | 15 | 15 | 12 | 5 | 5 | 15 | 8 | 12 | 10 | 5 | 5 | 15 | 15 | 8 | 10 | 5 |
| Deckungsgrad | ‰ | 60 | 95 | 7 | 80 | 60 | 95 | 90 | 100 | 95 | 90 | 80 | 100 | 80 | 30 | 95 | 70 | 70 | 100 |
| Deckungsgrad | ‰ | 70 | 90 | 5 | + | + | | | | 60 | + | 5 | + | 75 | 50 | 60 | 10 | 10 | + |
| Mittlere Höhe | cm | 30 | 20 | 30 | 60 | 70 | 100 | 80 | 50 | 50 | 30 | 30 | 80 | 30 | 30 | 30 | 20 | 30 | 70 |
| Maximale Höhe | cm | 90 | 80 | 80 | 180 | 150 | 180 | 250 | 160 | 90 | 80 | 180 | 180 | 90 | 100 | 80 | 120 | 100 | 100 |
| Schnitt: ja (+), nein (-) | | - | + | - | - | - | - | - | - | - | - | - | - | - | - | - | + | - | - |
| Artenzahl | | 25 | 31 | 28 | 17 | 19 | 13 | 21 | 8 | 22 | 23 | 33 | 22 | 44 | 39 | 48 | 37 | 23 | 21 |

| | | | | | | | | | | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hochstauden | | | | | | | | | | | | | | | | | | | |
| <i>Fillipendula ulmaria</i> | 1 | 2 | 1 | + | + | 5 | + | + | 2 | 2 | 2 | 1 | 2 | + | 3 | 2 | 2 | 4 | |
| <i>Cirsium oleraceum</i> | 1 | + | + | + | + | + | + | 3 | 3 | 1 | 2 | 3 | 2 | 1 | 1 | | | | |
| <i>Lysimachia vulgaris</i> | 2 | 1 | 2 | 2 | 2 | 1 | 2 | + | + | 2 | 1 | 1 | 1 | 3 | 2 | + | 2 | + | |
| <i>Angelica silvestris</i> | + | + | + | + | + | + | | | | 1 | | | | 1 | 1 | + | | 1 | |
| <i>Lythrum salicaria</i> | | | | 1 | | + | 1 | | | 1 | 1 | | | | | | | + | + |

| | | | | | | | | | | | | | | | | | | | |
|-------------------------------|---|---|---|---|--|--|--|--|--|---|---|---|--|---|---|--|---|---|--|
| Quellsumpfarfen | | | | | | | | | | | | | | | | | | | |
| <i>Carex davalliana</i> | 1 | 1 | 1 | + | | | | | | + | | | | 1 | + | | 1 | | |
| <i>Chrysohypnum stellatum</i> | + | 3 | + | + | | | | | | + | + | + | | | 1 | | + | + | |
| <i>Gentiana asclepiadea</i> | | | | | | | | | | | | | | + | + | | + | | |

| | | | | | | | | | | | | | | | | | | | |
|----------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Trennarten - (gruppen) | | | | | | | | | | | | | | | | | | | |
| <i>Juncus subnodulosus</i> | | 3 | 2 | 3 | + | | | | | + | | | | | | | | | |
| <i>Carex acutiformis</i> | | 1 | 3 | 1 | 2 | 2 | 5 | 2 | 4 | 3 | 1 | 2 | 3 | 1 | 1 | 3 | 2 | | |
| <i>Phragmites communis</i> | | | 3 | 3 | 2 | 5 | | | | | | | | | | | | | |
| <i>Scirpus silvaticus</i> | | | | | | | | | | | | | | 5 | 1 | + | + | 2 | 1 |
| <i>Juncus inflexus</i> | | | | | | | | | | | | | | + | + | | | | + |

| | | | | | | | | | | | | | | | | | | | |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Begleiter | | | | | | | | | | | | | | | | | | | |
| <i>Equisetum maximum</i> | | | | + | | + | + | | 3 | | | | | + | 3 | 2 | + | 2 | 2 |
| <i>Crepis paludosa</i> | 1 | 2 | 2 | + | | | | | 3 | + | + | + | 1 | 1 | 1 | 1 | 1 | 1 | + |
| <i>Valeriana dioeca</i> | 1 | 1 | | | | | | + | 1 | + | + | | | 2 | 1 | | | | + |
| <i>Caltha palustris</i> | + | | + | | | + | | | 2 | | | | | 2 | 1 | 1 | + | | |
| <i>Primula elatior</i> | | 1 | + | | | | | | | 2 | + | 1 | + | 1 | 1 | + | | + | |
| <i>Carex panicea</i> | 2 | 3 | + | | | | | | 1 | | | | | + | + | | | | |
| <i>Potentilla erecta</i> | + | 1 | + | | | | | | 2 | | | | 1 | + | + | + | | | + |
| <i>Mnium affine /seligeri</i> | + | + | 1 | + | | + | | | 2 | | | | + | + | 2 | + | 2 | + | |
| <i>Anemone nemorosa</i> | | 1 | | | | | | + | + | + | 2 | | | + | + | 1 | 1 | | |
| <i>Colchicum autumnale</i> | | | | | + | | + | | | + | 2 | + | 1 | + | 2 | 2 | + | + | |
| <i>Trollius europaeus</i> | | | | | | | | | | | | | | 1 | + | 1 | | | |
| <i>Mentha aquatica</i> | 2 | 1 | + | 2 | | + | 1 | | | 1 | | | | | | | | 1 | |
| <i>Cirsium palustre</i> | | 1 | + | + | + | | + | | | 1 | + | | | + | | | | | |
| <i>Eupatorium cannabinum</i> | + | | | + | + | | 1 | | | | | | | | | | | | |
| <i>Galium mollugo</i> | | + | | | | | | | | | 1 | + | + | | | | | | |
| <i>Molinia coerulea</i> | 1 | 2 | 3 | 2 | 2 | + | + | + | 1 | | | 1 | 2 | 2 | | 2 | 2 | 1 | |
| <i>Acrocladium cuspidatum</i> | 4 | 3 | 2 | + | + | + | + | | 4 | + | + | | | 1 | 3 | 3 | 2 | 2 | + |
| <i>Lophocolea bidentata</i> | 1 | | | | | | | | | + | 1 | + | | | 2 | 1 | | | |
| <i>Convolvulus sepium</i> | | | | + | | 1 | + | | | | | | | | | | | | + |
| <i>Ranunculus nemorosus</i> | + | + | + | | | | | | | | + | | | + | | + | | | |
| <i>Carex flacca</i> | + | 2 | + | | | | | | | + | | | | | | | | | + |
| <i>Agrostis alba</i> | | | | | | | | | + | | + | | | | + | + | | | |
| <i>Aquilegia vulgaris</i> | | | + | | | | | | | | | | | + | + | | | | |
| <i>Orchis latifolia</i> | | | | | | | | | | | | | | + | + | + | | | |
| <i>Equisetum arvense</i> | + | | | | | | | | + | | | | | | | | | | |
| <i>Poa pratensis</i> | | + | | | | | | | | | | | | | + | 1 | + | | 1 |
| <i>Typhoides arundinacea</i> | | + | | | | | + | | | | | | | | | | | | + |
| <i>Scleropodium purum</i> | + | | | + | | | | | | | | | | | + | | | | |
| <i>Climacium dendroides</i> | + | | | | | | | | | | | + | 4 | | | 1 | | | |
| <i>Myosotis scorpioides</i> | + | | | | | | | | | | | | | | | | | | |
| <i>Carex elata</i> | + | + | | 1 | | | | | | + | | | | | | 2 | + | | |
| <i>Orchis incarnata</i> | + | | | | | | | | | | | + | | | | | | | + |
| <i>Ctenidium molluscum</i> | 1 | | | + | | | | | | | + | | | 1 | 1 | + | | | |
| <i>Plasidens adiantoides</i> | + | | + | | | | | | | | | | | + | + | + | | | |
| <i>Cardamine pratensis</i> | + | | | | | | | | | | + | | | + | + | | | | |
| <i>Epipactis palustris</i> | | + | | | | | | | | | | | | + | + | + | 1 | | |
| <i>Galium uliginosum</i> | | | | + | | | | | | | | 2 | + | + | | | | | |
| <i>Thuidium tamariscinum</i> | | | | | + | | | | | | | | + | 2 | | + | 1 | | |
| <i>Rhizidialphus triquetr.</i> | | | | | | + | | | | | | | | | + | 2 | + | + | |
| <i>Ajuga reptans</i> | | | | | | | | | | | + | | | | | | | | |
| <i>Listera ovata</i> | | | | | | | | | | | | + | | | | 1 | + | | |
| <i>Orchis maculata</i> | | | | | | | | | | | | + | + | | | | | | + |
| <i>Geum rivale</i> | | | | | | | | | | | | + | | | | 1 | | | |
| <i>Festuca arundinacea</i> | | | | | | | | | | | | | | | + | + | + | | |
| <i>Fraxinus excelsior</i> | + | | 1 | | | + | | + | + | | | | | | + | + | + | | + |
| <i>Acer pseudoplatanus</i> | | | + | | | + | | | | | | | 1 | | | | | | + |
| <i>Salix nigricans</i> | + | | | | | | 1 | | | | | | | | | | | | |
| <i>Frangula alnus</i> | | | | + | | | 1 | | | | | | | | | | | | + |
| <i>Alnus glutinosa</i> | | | | + | | | 1 | | | | | | | | | | | | |
| <i>Viburnum opulus</i> | | | | | | | + | | + | | | | | | | | | | + |

| | | | | | | | | | | | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Weitere Arten: | | | | | | | | | | | | | | | | | | | |
| Aufn. 2: | <i>Carex lepidocarpa</i> 1, <i>Drepanocladus revolvens</i> 2 | | | | | | | | | | | | | | | | | | |
| Aufn. 3: | <i>Eurhynchium swartzii</i> + | | | | | | | | | | | | | | | | | | |
| Aufn. 5: | <i>Phascum curvicolle</i> +, <i>Eurhynchium swartzii</i> +, <i>Circaea lutetiana</i> 1, <i>Viola silvatica</i> + | | | | | | | | | | | | | | | | | | |
| Aufn. 6: | <i>Valeriana officinalis</i> + | | | | | | | | | | | | | | | | | | |
| Aufn. 9: | <i>Mnium undulatum</i> +, <i>Galium palustre</i> + | | | | | | | | | | | | | | | | | | |
| Aufn. 10: | <i>Poa trivialis</i> +, <i>Mentha longifolia</i> 1 | | | | | | | | | | | | | | | | | | |
| Aufn. 11: | <i>Alopecurus pratensis</i> 1, <i>Calamagrostis epigeios</i> +, <i>Brachythecium pinnatum</i> +, <i>Veronica anagallis aquatica</i> +, <i>Phyteuma spicatum</i> +, <i>Heracleum sphondylium</i> +, <i>Urtica dioeca</i> +, <i>Cirsium arvense</i> 1, <i>Epilobium obscurum</i> +, <i>Prunus avium</i> + | | | | | | | | | | | | | | | | | | |
| Aufn. 12: | <i>Mnium undulatum</i> +, <i>Sonchus asper</i> + | | | | | | | | | | | | | | | | | | |
| Aufn. 13: | <i>Holcus lanatus</i> +, <i>Festuca rubra</i> 1, <i>Briza media</i> +, <i>Carex paniculata</i> +, <i>Carex pallascens</i> +, <i>Luzula campestris</i> +, <i>Lathyrus pratensis</i> +, <i>Linum catharticum</i> +, <i>Vicia cracca</i> +, <i>Lotus corniculatus</i> +, <i>Euphorbia cyparissias</i> +, <i>Viola canina</i> + | | | | | | | | | | | | | | | | | | |
| Aufn. 14: | <i>Cirriphyllum piliferum</i> +, <i>Lathyrus pratensis</i> +, <i>Equisetum limosum</i> 1 | | | | | | | | | | | | | | | | | | |
| Aufn. 15: | <i>Festuca rubra</i> +, <i>Deschampsia caespitosa</i> +, <i>Poa trivialis</i> +, <i>Eriophorum angustifolium</i> +, <i>Polygonatum multiflorum</i> +, <i>Paris quadrifolia</i> +, <i>Plagiochila asplenoides</i> 1, <i>Hylocomium splendens</i> +, <i>Mnium undulatum</i> +, <i>Camptothecium nitens</i> +, <i>Lysimachia nemorum</i> +, <i>Geranium robertianum</i> 1, <i>Phyteuma spicatum</i> + | | | | | | | | | | | | | | | | | | |
| Aufn. 16: | <i>Melica nutans</i> +, <i>Picea excelsa</i> +, <i>Phyteuma spicatum</i> + | | | | | | | | | | | | | | | | | | |
| Aufn. 17: | <i>Solanum dulcamara</i> 1, <i>Evonymus europaeus</i> +, <i>Eurhynchium swartzii</i> +, <i>Eurhynchium striatum</i> + | | | | | | | | | | | | | | | | | | |
| Aufn. 18: | <i>Agropyron repens</i> 1, <i>Brachypodium pinnatum</i> +, <i>Carex hirta</i> 1 | | | | | | | | | | | | | | | | | | |

TABELLE 1

VEGETATION DER QUELLFLUREN

| Nummer | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|----------------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Aufnahmefläche | m ² | 0.5 | 1.5 | 0.5 | 1 | 1.5 | 0.5 | 4 | 5 | 5 | 0.5 | 10 | 1 | 1 | 6 | 6 | 10 | 3 | 1 | 10 | 1 | 10 | 10 | 15 | 8 |
| Höhe über Meer | m | 720 | 725 | 450 | 680 | 450 | 450 | 480 | 430 | 640 | 680 | 720 | 460 | 430 | 430 | 380 | 370 | 530 | 680 | 370 | 550 | 480 | 370 | 490 | 680 |
| Exposition | | N | N | NE | SW | NE | NE | NW | NW | E | S | N | E | N | N | N | E | SW | N | NW | W | N | NW | SE | |
| Neigungswinkel | ° | 85 | 75 | 10 | 5 | 20 | 20 | 35 | 2 | 30 | 5 | 40 | 40 | 10 | 80 | 20 | 30 | 7 | 5 | 25 | 15 | 20 | 20 | 5 | 25 |
| Deckungsgrad \checkmark | % | | | | | | | | | | | | | | | | | | | | | | | | |
| Deckungsgrad \ddagger | % | | | | | | | | | | | | | | | | | | | | | | | | |
| Deckungsgrad Ψ | % | 85 | 80 | 80 | 70 | 50 | 90 | 75 | 100 | 95 | 100 | 95 | 70 | 100 | 100 | 95 | 90 | 80 | 95 | 60 | 80 | 5 | 100 | 100 | 90 |
| Maximale Höhe \checkmark | cm | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximale Höhe \ddagger | cm | | | | | | | | | | | | | | | | | | | | | | | | |
| Artenzahl | | 7 | 8 | 8 | 9 | 13 | 18 | 19 | 27 | 9 | 8 | 15 | 4 | 8 | 8 | 15 | 11 | 14 | 17 | 22 | 18 | 19 | 18 | 18 | 21 |

F R N

Kennzeichnende Moosarten

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <i>Eucladium verticillatum</i> | 5 5 1 | 5 | 4 | 2 | 3 | 3 | 5 | 1 | | | | | | | | | | | | | | | | | |
| <i>Cratoneurum commutatum</i> | 5 5 2 | | | | | | | 3 | 3 | 5 | 5 | 3 | 4 | 3 | 4 | 5 | 5 | 5 | 3 | 3 | 2 | 2 | 5 | 4 | 5 |
| Kalkzeigende Moose | 5 5 1,3 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Pellia calycina</i> | 5 5 1 | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | |
| <i>Catoneurum com. falcatum</i> | 5 5 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Philonotis calcarea</i> | 5 5 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| Vorwiegend basenzeigende Moose | 5 4 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Bryum pseudotriquetrum</i> | 5 4 2 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| <i>Chrysohypnum stellatum</i> | 5 4 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Drepanocladus intermedius</i> | 5 4 2 | | | | | | | | | | | | | | | | | | | | | | | | |

Trennarten

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <i>Leiocolea mülleri</i> | 2 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Scytonema mirabile</i> | 5 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Sesleria coerulea</i> | 2 | | | | | | | | | | | | | | | | | | | | | | | | |

Basen-/Magerkeitszeiger

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|--------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <i>Pinguicula vulgaris</i> | 4w 4 2 | + | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Tofieldia calyculata</i> | 4w 4 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Primula farinosa</i> | 4w 4 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Schoenus nigricans</i> | 4w 4 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Bellidiastrum michelii</i> | 3w 4 2 | | | | | | | | | | | | | | | | | | | | | | | | |

Waldpflanzen

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <i>Deschampsia caespitosa</i> | 4w 3 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Brachypodium silvaticum</i> | 4 3 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Primula elatior</i> | 3 3 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Geranium robertianum</i> | 3 3 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Lanium galeobdolon</i> | 3 3 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Equisetum arvense</i> | 3w 3 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Mnium undulatum</i> | 4 3 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Hedera helix</i> | 3 3 3 | | | | | | | | | | | | | | | | | | | | | | | | |

Begleiter

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <i>Molinia coerulea</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Agrostis stolonifera</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Fissidens adiantoides</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Eupatorium cannabinum</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Carex flacca</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Phragmites communis</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Crepis paludosa</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Equisetum maximum</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Carex acutiformis</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Caltha palustris</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Mnium affine /seligeri</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Brachythecium rivulare</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Acrocladium cuspidatum</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| \checkmark <i>Acer pseudoplatanus</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Fraxinus excelsior</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Sambucus nigra</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Lonicera xylosteum</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| \ddagger <i>Acer pseudoplatanus</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Fraxinus excelsior</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Picea excelsa</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Ligustrum vulgare</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| \checkmark <i>Acer pseudoplatanus</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Fraxinus excelsior</i> | | | | | | | | | | | | | | | | | | | | | | | | | |

 \checkmark Strauchschicht \ddagger Krautschicht Ψ Moosschicht

K Keimling

Weitere Arten. Vitalität meist o

- Aufn. 1: *Sorbus aucuparia* +
 Aufn. 2: *Plagiochila asplenioides* +
 Aufn. 6: *Ctenidium molluscum* +, *Cratoneurum filicinum* +, *Parnassia palustris* +, *Linum catharticum* +, *Fragaria vesca* +, *Rhamnus cathartica* +
 Aufn. 7: *Parnassia palustris* +, *Ctenidium molluscum* +, *Molinia litoralis* +
 Aufn. 8: *Calamagrostis varia* +, *Carex davalliana* +, *Juncus subnodulosus* +, *Potentilla erecta* +, *Equisetum palustre* +, *Pinus silvestris* +
 Aufn. 11: *Eurhynchium striatum* +, *Calamagrostis varia* +
 Aufn. 13: *Asplenium viride* +, *Circaea lutetiana* +
 Aufn. 15: *Frangula alnus* +, *Solanum dulcamara* +
 Aufn. 17: *Carex silvatica* +, *Equisetum hiemale* +, *Angelica silvatica* +
 Aufn. 18: *Rhytidadelphus triquetrum* +, *Sorbus aucuparia* +
 Aufn. 19: *Filipendula ulmaria* +, *Phyllitis scolopendrium* +
 Aufn. 20: *Fragaria vesca* +, *Festuca gigantea* +, *Veronica beccabunga* +, *Mnium cuspidatum* +, *Marchantia polymorpha* +
 Aufn. 21: *Carex pendula* 1, *Viola silvatica* Gr. +, *Anemone nemorosa* +, *Fagus silvatica* +
 Aufn. 22: *Quercus spec.* +
 Aufn. 23: *Cornus sanguinea* +
 Aufn. 24: *Trollius europaeus* +, *Oxalis acetosella* +, *Rubus fruticosus* +, *Viburnum opulus* +

TABELLE 6 HEILZIEF - TRESPENRASEN

| | | | | | | | | | | | | | |
|---------------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Nunmer | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Aufnahmefläche | m ² | 25 | 25 | 25 | 25 | 20 | 25 | 15 | 20 | 20 | 25 | 25 | 25 |
| Höhe über Meer | m | 580 | 490 | 630 | 630 | 625 | 615 | 570 | 565 | 610 | 580 | 640 | 580 |
| Exposition | | S | S | SE | SE | SE | E | S | S | SE | SE | NW | N |
| Neigungswinkel | ° | 10 | 10 | 2 | 2 | 5 | 20 | 20 | - | 35 | 30 | 20 | |
| Deckungsgrad | % | 85 | 95 | 100 | 95 | 100 | 100 | 100 | 100 | 95 | 95 | 100 | 90 |
| Deckungsgrad | % | 20 | 50 | 80 | 1 | 20 | + | 1 | 5 | 20 | 10 | + | |
| Mittlere Höhe | cm | 20 | 35 | 15 | 20 | 40 | 35 | 60 | 50 | 60 | 30 | 50 | 40 |
| Maximale Höhe | cm | 140 | 60 | 70 | 70 | 120 | 130 | 150 | 120 | 190 | 100 | 140 | 120 |
| Schnitt: ja (+), nein (-) | | + | + | - | - | - | - | - | - | - | - | - | - |
| Artenszahl | | 66 | 70 | 53 | 63 | 59 | 52 | 44 | 48 | 58 | 50 | 34 | 28 |

| | | | |
|--|---|-----|---|
| | F | R | N |
| | 2 | 3,5 | 2 |

| | | | |
|----------------------------|---|-----|---|
| Kennzeichnende Artengruppe | 2 | 3,5 | 2 |
| Helianthemum nummularium | 1 | 4 | 2 |
| Daucus carota | 2 | 4 | 2 |
| Bronus erectus | 2 | 4 | 2 |
| Salvia pratensis | 2 | 4 | 2 |

| | | | |
|----------------------|---|---|---|
| Sanguisorba minor | 2 | 4 | 2 |
| Carex verna | 2 | 3 | 2 |
| Knautia arvensis | 2 | 3 | 2 |
| Origanum vulgare | 3 | 3 | 2 |
| Thymus serpyllum | 2 | 3 | 2 |
| Hippocrepis comosa | 2 | 4 | 2 |
| Prunella grandiflora | 2 | 4 | 2 |
| Satureja vulgaris | 2 | 3 | 2 |
| Pimpinella saxifraga | 2 | 3 | 2 |
| Koeleria cristata | 2 | 3 | 2 |
| Galium verum | 2 | 4 | 2 |
| Polygala chamaebuxus | 2 | 4 | 2 |
| Silium silaus | 3 | 4 | 2 |
| Stachys officinalis | 3 | 3 | 3 |

| | | | |
|----------------------|----|---|---|
| Wechsellotckenzeiger | 2w | 4 | 2 |
| Peucedanum cervaria | 2w | 4 | 2 |
| Anthericum ranosum | 2w | 4 | 2 |

| | | | |
|--------------------------|------|-----|-----|
| Wechselfeuchtezeiger | 3,2w | 3,7 | 2,5 |
| Molinia littoralis | 3w | 4 | 3 |
| Equisetum arvense | 3w | 3 | 3 |
| Equisetum maximum | 4w | 4 | 3 |
| Carex flacca | 3w | 4 | 3 |
| Rhinanthus angustifolius | 3w | 4 | 2 |
| Succisa pratensis | 3w | 3 | 2 |
| Gentiana asclepiadea | 3w | 4 | 3 |
| Serratula tinctoria | 3w | 4 | 2 |
| Gynadenia conopsea | 3w | 4 | 2 |
| Calamagrostis varia | 3w | 4 | 2 |
| Carex panicea | 4w | 3 | 2 |
| Festuca arundinacea | 4w | 4 | 4 |

| | | | |
|----------------------|---|---|---|
| Säurezeiger | 3 | 2 | 2 |
| Pteris aquilina | 3 | 2 | 2 |
| Hylocomium splendens | 3 | 2 | 2 |

Begleiter

| | | | | | | | | | | | | |
|--------------------------|---|-----|---|---|---|---|---|---|---|---|---|-------|
| Carex montana | 1 | 1 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 1 | + |
| Plantago media | + | + | 2 | + | + | + | + | 1 | 1 | 1 | 1 | + |
| Viola hirta | + | + | + | + | + | + | + | 1 | 1 | 1 | 1 | + |
| Euphthalmum salicifolium | 1 | + | + | + | + | + | + | + | + | + | + | + |
| Achillea millefolium | 1 | + | + | + | + | + | + | + | + | + | + | + |
| Campanula rotundifolia | + | + | + | + | + | + | + | + | + | + | + | + |
| Polygala vulgaris | + | + | + | + | + | + | + | + | + | + | + | + |
| Poa angustifolia | + | + | + | + | + | + | + | + | + | + | + | + |
| Euphorbia cyparissias | + | + | 1 | + | + | + | 1 | 1 | + | + | + | + |
| Briza media | 1 | 1 | 2 | 2 | 1 | 1 | 1 | + | + | 1 | + | + |
| Trifolium montanum | + | + | 2 | 2 | 1 | 1 | + | + | + | + | + | + |
| Festuca ovina | + | + | 1 | + | + | + | + | 1 | + | + | + | + |
| Ocnis spinosa | + | + | 1 | + | + | + | + | 1 | + | + | + | + |
| Scabiosa columbaria | + | + | 1 | + | + | + | + | 1 | + | + | + | + |
| Brachypodium pinnatum | 1 | 1 | 1 | 1 | 1 | + | 2 | 2 | 2 | 1 | 5 | 5 |
| Trifolium medium | + | + | 2 | 2 | 1 | 1 | + | + | + | + | + | + |
| Plantago lanceolata | + | + | 1 | 2 | + | + | + | + | + | + | 1 | + |
| Aquilegia vulgaris | + | + | 1 | 1 | 2 | + | + | + | + | + | 1 | 1 |
| Lotus corniculatus | 1 | 1 | 1 | 1 | + | + | + | + | + | + | 2 | + |
| Chrysanthemum leucanth. | + | + | 1 | + | + | + | + | + | + | + | + | + |
| Centaurea jacea | 1 | 1 | 1 | + | + | + | + | + | + | 1 | + | + |
| Trifolium pratense | + | + | 1 | + | + | + | + | + | + | + | + | + |
| Holcus lanatus | + | + | 1 | + | + | + | + | + | + | + | + | + |
| Anthoxanthum odoratum | 1 | 1 | 1 | + | + | + | + | + | + | + | + | + |
| Vicia cracca | + | + | + | 1 | + | + | + | + | + | + | + | + |
| Colchicum autumnale | + | + | 1 | + | + | + | + | + | + | + | 1 | 1 |
| Leontodon hispidus | + | + | 1 | 1 | + | + | + | + | + | + | 1 | + |
| Lathyrus pratensis | + | + | + | + | 1 | 1 | + | + | + | + | + | (*) 1 |
| Prunella vulgaris | + | + | 1 | + | + | + | + | + | + | + | + | + |
| Ranunculus nemorosus | + | + | 2 | 2 | + | 1 | + | + | + | + | 2 | + |
| Potentilla erecta | + | + | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | + | + |
| Dactylis glomerata | 1 | 1 | 1 | + | + | + | + | + | + | + | + | + |
| Galium mollugo | + | + | 1 | + | + | + | + | + | + | + | + | 1 |
| Listera ovata | + | (+) | + | + | + | + | + | + | + | + | + | + |
| Linum catharticum | + | + | 1 | + | + | + | + | + | + | + | + | + |
| Festuca rubra | 1 | + | + | + | + | + | + | + | + | + | + | + |
| Epipactis palustris | + | + | + | + | + | + | + | + | + | + | + | + |
| Agrostis stolonifera | + | + | + | + | + | + | + | + | + | + | + | 1 |
| Hypericum perforatum | + | + | + | + | + | + | + | + | + | + | + | + |
| Primula veris | + | + | 1 | + | + | + | + | + | + | + | + | + |
| Trisetum flavescens | 1 | + | + | + | + | + | + | + | + | + | + | 1 |
| Medicago lupulina | + | + | + | + | + | + | + | + | + | + | + | + |
| Pimpinella major | + | + | + | + | + | + | + | + | + | + | + | 1 |
| Rhizidadelphus triquetr. | 1 | 2 | 2 | 1 | + | + | + | + | + | 2 | 1 | + |
| Scleropodium purum | 1 | 1 | + | 1 | 2 | + | + | + | + | 1 | + | + |
| Ctenidium molluscum | + | + | 3 | + | + | + | + | + | + | 1 | + | 2 |
| Thuidium delic./philib. | 2 | 2 | + | + | + | + | + | + | + | + | + | + |
| Mnium affine /seligeri | + | + | 1 | + | + | + | + | + | + | + | + | 1 |
| Fissidens adiantoides | + | + | + | + | 1 | + | + | + | + | + | + | + |
| Acrocladium cuspidatum | + | + | + | + | + | + | + | + | + | + | + | 1 |
| Brachythecium rutabulum | + | + | + | + | + | + | + | + | + | + | + | + |

Weitere Arten

- Aufn. 1: Avena pubescens +, Bellis perennis +, Chrysopyllum chrysophyllum 2, Clematis vitalba +, Chrysanthemum corymbosum 1, Cardamine pratensis +, Euphrasia rostkoviana +, Agrimonia eupatoria +, Acer pseudoplatanus +, Prunus spinosa +, Centaurea scabiosa 1, Geranium sanguineum +, Ranunculus bulbosus +
- Aufn. 2: Phragmites communis 1°, Arrhenaterum elatius +, Carex tomentosa 1, Allium vineale +, Heraclium sphondylium +, Ajuga reptans 1, Picris hieracioides +, Hylocomium brevirostre +, Mnium undulatum +, Rhytidadelphus rugosus +, Carex ornithopoda +
- Aufn. 3: Picris hieracioides +, Carex ornithopoda +, Galium pumilum 1, Melittis melissophyllum 1, Viola silvatica +, Pleurozium schreberi 4, Dicranum scoparium +, Tamus communis +, Acer pseudoplatanus +, Juniperus communis +, Anthyllis vulneraria +, Phyteuma orbiculare +
- Aufn. 4: Lysimachia vulgaris +, Tofieldia calyculata +, Polygala anarella +, Rhytidadelphus rugosus 1, Galium pumilum +, Schoenus nigricans +, Inula salicina 1, Cladonia furcata +
- Aufn. 5: Bellidistrum michelii +, Arrhenaterum elatius +, Entodon orthocarpus +, Crepis paludosa 1°, Knautia silvatica 1, Vincetoxicum officinale +
- Aufn. 6: Molinia caerulea 1, Dicranum scoparium +, Mnium cuspidatum +, Fraxinus excelsior +
- Aufn. 7: Selinum carvifolium +, Hypericum montanum +, Prunus spinosa +, Phragmites communis 1°
- Aufn. 8: Agrimonia eupatoria +, Hypericum montanum +, Pulicaria dysenterica +, Cirsium palustre +
- Aufn. 9: Carex hostiana +, Lysimachia vulgaris +, Tofieldia calyculata +, Euphrasia rostkoviana 1, Cirsium oleraceum +, Acer pseudoplatanus +, Fraxinus excelsior +, Pinus silvestris +
- Aufn. 10: Molinia caerulea +, Cirsium oleraceum 1°, Juncus inflexus 1, Epipactis palustris +, Paris quadrifolia +, Polygonatum multiflorum +, Anemone nemorosa +, Angelica silvestris 1, Filipendula ulmaria +, Hypericum hirsutum +, Equisetum palustre +, Lophocolea bidentata 2, Mnium undulatum +, Fraxinus excelsior 1
- Aufn. 11: Angelica silvestris +, Lophocolea bidentata +, Mnium undulatum +, Phyteuma spicatum +, Acer pseudoplatanus +, Fraxinus excelsior +
- Aufn. 12: Cardamine pratensis 1

TABELLE 5 ENZIAN-PFEIFENGRASWIESE

| Nummer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---------------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Auflandfläche | m ² | 25 | 15 | 25 | 20 | 15 | 10 | 4 | 25 | 20 | 10 | 35 | 25 | 25 | 25 | 25 | 25 | 20 | 25 | 20 | 25 | 25 |
| NbH über Meer | m | 500 | 490 | 470 | 560 | 580 | 680 | 500 | 625 | 780 | 670 | 740 | 645 | 560 | 510 | 620 | 710 | 480 | 585 | 465 | 480 | 470 |
| Exposition | | W | S | N | SW | W | W | E | SW | SW | N | N | NE | W | W | E | N | E | NE | N | E | NE |
| Neigungssteilheit | ° | 20 | 10 | 12 | 5 | 10 | 10 | 18 | 20 | 15 | 25 | 18 | 8 | 10 | 10 | 10 | 18 | 8 | 25 | 25 | 20 | 3 |
| Deckungsgrad | % | 95 | 95 | 80 | 100 | 100 | 95 | 75 | 95 | 90 | 95 | 100 | 90 | 95 | 100 | 85 | 95 | 85 | 100 | 90 | 80 | 100 |
| Deckungsgrad | % | 80 | 1 | 50 | 5 | 60 | 50 | 50 | 30 | 10 | 40 | 80 | 95 | 40 | 10 | 90 | 80 | 100 | 50 | 25 | 20 | 10 |
| Relative NbH | cm | 20 | 15 | 20 | 30 | 30 | 20 | 15 | 20 | 20 | 15 | 20 | 15 | 20 | 15 | 20 | 15 | 20 | 25 | 30 | 25 | 40 |
| Maximale NbH | cm | 90 | 70 | 80 | 100 | 100 | 90 | 50 | 70 | 200 | 70 | 60 | 8 | 70 | 70 | 50 | 90 | 150 | 70 | 100 | 150 | 100 |
| Schnitt: ja (+), nein (-) | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Artenzahl | | 57 | 59 | 34 | 58 | 62 | 53 | 60 | 49 | 41 | 64 | 48 | 51 | 44 | 54 | 50 | 37 | 37 | 48 | 45 | 33 | 43 |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.6.3.3.2.1 | 1 | 3 | 2 |
| Molinia caerulea | + | + | + |
| Carex panicea | + | + | + |
| Epigaeia palustris | + | + | + |
| Epilobium palustre | + | + | + |
| Succisa pratensis | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.6.3.3.3 | 1 | 3 | 2 |
| Phlox subulata | + | + | + |
| Cirsium alboscapulare | + | + | + |
| Angelica silvestris | + | + | + |
| Trollius europaeus | + | + | + |
| Valeriana dioeca | + | + | + |
| Lysimachia vulgaris | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.3.3.3 | 1 | 3 | 2 |
| Centaurea jacea | + | + | + |
| Fumaria vulgaris | + | + | + |
| Leontodon hispidus | + | + | + |
| Pectus rubra | + | + | + |
| Vicia cracca | + | + | + |
| Lathyrus pratensis | + | + | + |
| Stempe officinalis | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.3.3.3 | 1 | 3 | 2 |
| Colchicum autumnale | + | + | + |
| Plantago lanceolata | + | + | + |
| Lotus corniculatus | + | + | + |
| Aquilegia vulgaris | + | + | + |
| Galium mollugo | + | + | + |
| Chrysanthemum leucanth. | + | + | + |
| Dactylis glomerata | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 2.3.7.2.2 | 1 | 3 | 2 |
| Carex montana | + | + | + |
| Hippocrepis emosa | + | + | + |
| Plantago media | + | + | + |
| Viola hirta | + | + | + |
| Scabiosa columbaria | + | + | + |
| Avena pubescens | + | + | + |
| Plagiolista major | + | + | + |
| Thymus serpyllum | + | + | + |
| Poa angustifolia | + | + | + |
| Bromus erectus | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 4.3.3.9.2 | 1 | 3 | 2 |
| Carex diwalliana | + | + | + |
| Carex hircynica | + | + | + |
| Stempe latifolium | + | + | + |
| Parnassia palustris | + | + | + |
| Juncus artic./alp. | + | + | + |
| Trifolium calyculata | + | + | + |
| Chrysosplenium stellatum | + | + | + |
| Trigonotis litoralis | + | + | + |
| Arctostaphylos uva-ursi | + | + | + |
| Schoenus nigricans | + | + | + |
| Schoenus ferropus | + | + | + |
| Juncus subnodulosus | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.3.3.3 | 1 | 3 | 2 |
| Galium verum | + | + | + |
| Pectus amniacum | + | + | + |
| Anemone nemorosa | + | + | + |
| Agrostis stolonifera | + | + | + |
| Lotus uliginosus | + | + | + |
| Juncus inflexus | + | + | + |
| Phlox subulata | + | + | + |
| Galba palustris | + | + | + |
| Rhynchospora trig. | + | + | + |
| Rhynchospora squar. | + | + | + |
| Ctenidium molluscum | + | + | + |
| Pisidium dilatatum | + | + | + |
| Thuidium pallidum | + | + | + |
| Scelopodium parum | + | + | + |
| Thuidium tamariscinum | + | + | + |
| Claustium dendroideum | + | + | + |
| Mnium affine /seligeri | + | + | + |
| Lophocolea bidentata | + | + | + |
| Campylopus mitans | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.2 | 1 | 3 | 2 |
| Bromus erectus | + | + | + |
| Briza media | + | + | + |
| Carex flacca | + | + | + |
| Gymnadenis conopsea | + | + | + |
| Potentilla erecta | + | + | + |
| Linum catharticum | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.2 | 1 | 3 | 2 |
| Polygala anarella | + | + | + |
| Brachypodium pinnatum | + | + | + |
| Galium aparine | + | + | + |
| Helianthus annuus | + | + | + |
| Orchis traustelneri | + | + | + |
| Listera ovata | + | + | + |
| Ajuga reptans | + | + | + |
| Zosteria cristata | + | + | + |
| Trifolium pratense | + | + | + |
| Stempe officinalis | + | + | + |
| Bellidistemon michelii | + | + | + |
| Prunella farinosa | + | + | + |
| Cirsium palustre | + | + | + |
| Epilobium maximum | + | + | + |
| Epilobium serotinum | + | + | + |
| Pectus ovata | + | + | + |
| Cirsium tuberosum | + | + | + |
| Carex ornithopoda | + | + | + |
| Orchis aciculata | + | + | + |
| Anthoxanthum odoratum | + | + | + |
| Scirpus silvestris | + | + | + |
| Carex scutiformis | + | + | + |
| Rhinanthus minor | + | + | + |
| Prinulus veris | + | + | + |
| Hypericum perforatum | + | + | + |
| Galium verum | + | + | + |
| Pectus amniacum | + | + | + |
| Anemone nemorosa | + | + | + |
| Agrostis stolonifera | + | + | + |
| Lotus uliginosus | + | + | + |
| Juncus inflexus | + | + | + |
| Phlox subulata | + | + | + |
| Galba palustris | + | + | + |
| Rhynchospora trig. | + | + | + |
| Rhynchospora squar. | + | + | + |
| Ctenidium molluscum | + | + | + |
| Pisidium dilatatum | + | + | + |
| Thuidium pallidum | + | + | + |
| Scelopodium parum | + | + | + |
| Thuidium tamariscinum | + | + | + |
| Claustium dendroideum | + | + | + |
| Mnium affine /seligeri | + | + | + |
| Lophocolea bidentata | + | + | + |
| Campylopus mitans | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.2 | 1 | 3 | 2 |
| Acer pseudoplatanus | + | + | + |
| Fraxinus excelsior | + | + | + |
| Quercus petraea | + | + | + |
| Quercus robur | + | + | + |
| Picea excelsa | + | + | + |
| Salix nigricans | + | + | + |
| Fraxinus alnus | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.2 | 1 | 3 | 2 |
| Galium boreale | + | + | + |
| Rhynchospora trig. | + | + | + |
| Rhynchospora squar. | + | + | + |
| Ctenidium molluscum | + | + | + |
| Pisidium dilatatum | + | + | + |
| Thuidium pallidum | + | + | + |
| Scelopodium parum | + | + | + |
| Thuidium tamariscinum | + | + | + |
| Claustium dendroideum | + | + | + |
| Mnium affine /seligeri | + | + | + |
| Lophocolea bidentata | + | + | + |
| Campylopus mitans | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.2 | 1 | 3 | 2 |
| Galium boreale | + | + | + |
| Rhynchospora trig. | + | + | + |
| Rhynchospora squar. | + | + | + |
| Ctenidium molluscum | + | + | + |
| Pisidium dilatatum | + | + | + |
| Thuidium pallidum | + | + | + |
| Scelopodium parum | + | + | + |
| Thuidium tamariscinum | + | + | + |
| Claustium dendroideum | + | + | + |
| Mnium affine /seligeri | + | + | + |
| Lophocolea bidentata | + | + | + |
| Campylopus mitans | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.2 | 1 | 3 | 2 |
| Galium boreale | + | + | + |
| Rhynchospora trig. | + | + | + |
| Rhynchospora squar. | + | + | + |
| Ctenidium molluscum | + | + | + |
| Pisidium dilatatum | + | + | + |
| Thuidium pallidum | + | + | + |
| Scelopodium parum | + | + | + |
| Thuidium tamariscinum | + | + | + |
| Claustium dendroideum | + | + | + |
| Mnium affine /seligeri | + | + | + |
| Lophocolea bidentata | + | + | + |
| Campylopus mitans | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.2 | 1 | 3 | 2 |
| Galium boreale | + | + | + |
| Rhynchospora trig. | + | + | + |
| Rhynchospora squar. | + | + | + |
| Ctenidium molluscum | + | + | + |
| Pisidium dilatatum | + | + | + |
| Thuidium pallidum | + | + | + |
| Scelopodium parum | + | + | + |
| Thuidium tamariscinum | + | + | + |
| Claustium dendroideum | + | + | + |
| Mnium affine /seligeri | + | + | + |
| Lophocolea bidentata | + | + | + |
| Campylopus mitans | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.2 | 1 | 3 | 2 |
| Galium boreale | + | + | + |
| Rhynchospora trig. | + | + | + |
| Rhynchospora squar. | + | + | + |
| Ctenidium molluscum | + | + | + |
| Pisidium dilatatum | + | + | + |
| Thuidium pallidum | + | + | + |
| Scelopodium parum | + | + | + |
| Thuidium tamariscinum | + | + | + |
| Claustium dendroideum | + | + | + |
| Mnium affine /seligeri | + | + | + |
| Lophocolea bidentata | + | + | + |
| Campylopus mitans | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.2 | 1 | 3 | 2 |
| Galium boreale | + | + | + |
| Rhynchospora trig. | + | + | + |
| Rhynchospora squar. | + | + | + |
| Ctenidium molluscum | + | + | + |
| Pisidium dilatatum | + | + | + |
| Thuidium pallidum | + | + | + |
| Scelopodium parum | + | + | + |
| Thuidium tamariscinum | + | + | + |
| Claustium dendroideum | + | + | + |
| Mnium affine /seligeri | + | + | + |
| Lophocolea bidentata | + | + | + |
| Campylopus mitans | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.2 | 1 | 3 | 2 |
| Galium boreale | + | + | + |
| Rhynchospora trig. | + | + | + |
| Rhynchospora squar. | + | + | + |
| Ctenidium molluscum | + | + | + |
| Pisidium dilatatum | + | + | + |
| Thuidium pallidum | + | + | + |
| Scelopodium parum | + | + | + |
| Thuidium tamariscinum | + | + | + |
| Claustium dendroideum | + | + | + |
| Mnium affine /seligeri | + | + | + |
| Lophocolea bidentata | + | + | + |
| Campylopus mitans | + | + | + |

| Kennzeichnende Artengruppe | F | K | N |
|----------------------------|---|---|---|
| 3.2 | 1 | 3 | 2 |
| Galium boreale | + | + | + |
| Rhynchospora trig. | + | + | + |
| Rhynchospora squar. | + | + | + |
| Ctenidium molluscum | + | + | + |
| Pisidium dilatatum | + | + | + |
| Thuidium pallidum | + | + | + |
| Scelopodium parum | + | + | + |
| Thuidium tamariscinum | + | + | + |
| Claustium dendroideum | + | + | + |

