1 Riparian

Forests in flood plains of streams and rivers, characterised by episodic to frequent, temporally varying floods, in part streams on sites depending on groundwater fluctuation.

1.1 Stitchwort-Black Alder-Forest

This type of riparian forest is characteristic of banks and flood plains of fast running, cool streams. The formative factors are periodic floods (in spring during snowmelt and after torrential rain) with sedimentation (nutrient input) at least from the banks. Outside of the flood season the topsoil is relative dry and lose. As this forest community, with dominating black alder, occurs along the banks of streams and small rivers it is widespread in low mountain ranges. It occurs laminary on perculated slopes at higher reaches. Normally black alders grow diredtly at the mean water level.

Mettma, Rural district Waldshut; May 2006

Site characteristics:

Altitude:	submontane to montane
Soil reaction:	moderately to slightly acidic, base-rich (mostly carbonate-poor)
Nutrient value:	eutrophic to hypertrophic
Moist balance:	periodically moist to periodically wet (seep), periodically flooded in spring
Substrate, soil type:	coarse to fine grained substrate, humus-rich, sandy as well as loamy flood plain soils

Predominate tree species:	**Further tree species:**	**Shrubs :**	**Herbs:**
Black Alder	Ash (richer sites) Sycamore Maple (montane level)	Elderberry Common Hazel Water-Elder	Stitchwort Stinging Nettle

Plant sociology:

Class: Querco-fagetea

Order: Fagetalia sylvaticae

Alliance: Alno-Ulmion

Association : Stellario nemorum-Alnetum glutinosae Lohmeyer 1957

Bordering communities water-side:

At the toe of banks, and on sandy or gravel-rich islands petasites-floors and reed canary grass reed beds can colonise, due to the lack of shadowing effect from the missing (willow-) shrub strip.

Bordering communities landward:

Above the mean water level of wide valley floors in submontane areas there is a moist to damp stitchwort-oak-hornbeam forest. In montane ares in narrow v-shaped valleys a maple-ash forest or a zonal forest (mainly beech forest types) is present

Degree of endangerment:

after RIECKEN et al. 1994 troughout Germany: endangered (level 3)

0 extinct	2 endangered
1 critically endangered	3 vulnerable

1.2 Black Alder-Ash Forest

Example: Remote Sedge-Alder-Ash Forest

This riparian community is mainly a small strip along streams and rivulets in water-dynamic broken terrain areas and valley basins or on spring slopes. Especially on the upper reaches and in basins of streams of downs and mountain ranges with high precipitation conditions, cool summers and mild winters. This type of forest is interwoven with the surrounding zonal forest, generally beech- and beech-mixed forests. The sites are mainly affected by surface leakage and therefore oxygen-rich water

Kahler Bach; Rural district Ortenau, north-western of Mooskopf; September 2006

Site characteristics:

Altitude:	submontane to montane (200 m to 760 m AMSL)
Soil reaction:	moderately to slightly acidic, base-rich (mostly carbonate-poor)
Nutrient value:	mesotrophic to eutrophic
Moist balance:	dynamic groundwater near to surface; short-term flooded sites, never waterlogged
Substrate, soil type:	coarse to fine grained substrate; wet gleys with moist to wet humus layer, which is quickly decomposed due to a very good oxygen supply

Predominate tree species:	**Further tree species:**	**Shrubs:**	**Herbs:**
Ash Black Alder	(Sycamore Maple , Scots Elm)		Remote Sedge Enchanter's Nightshade Pendulous Sedge Yellow Pimpernel

Plant sociology:

Class: Querce-Fagetea	Alliance: Alno-Ulmion
Order: Fagetalia sylvaticae	Association: Carici-remotae Fraxinetum Koch 26 ex Faber 36

Bordering communities water-side:	**Bordering communities landward:**
Spring meadows	Depending on the altitute zonal beech, beech-silver fir, and beech-oak forest communities.

Degree of endangerment:

after RIECKEN et al. 1994 troughout Germany: vulnerable (level 3)

0 extinct	2 endangered
1 critically endangered	3 vulnerable

1.3 Grey Alder Riparian

Grey alder riparian forests replace the stitchwood-black alder-forest in winter-cold and base-rich, montane to oreal areas of the low mountain ranges. They only form a narrow flood plain, are very site-specific and therefore rare. These forests are mainly of vegetative origin caused by coppicing. Grey alder tolerates, in comparison to black alder, cold winters and dry summer sites (floods can be absent for several years).

Krunkelbach, Rural district Waldshut, south-eastern Feldberg-area; July 2007

Site characteristics:

Altitude:	submontane to oreal (300 m to 1200 m AMSL)
Soil reaction:	slightly acidic to alkaline, very base-rich (mostly carbonate-rich)
Nutrient value:	lime-oligotrophic
Moist balance:	periodically moist to periodically wet, flooded every few years
Substrate, soil type:	pure to slightly loamy fine-sand above gravel, humus-pure to humus-rich flood-plain raw soils

Predominate tree species:	**Further tree species:**	**Shrubs:**	**Herbs:**
Grey alder	Ash	Common Dogwood	Aconite-leaved Buttercup
	Birdcherry	Water-Elder	Hairy Chervil
	(Sycamore Maple)	Dewberry	
		Elderberry	
		Hazel	

Plant sociology:

Class: Querce-Fagetea

Order: Fagetalia sylvaticae

Alliance: Alno-Ulmion

Association: Alnetum incanae Lüdi 1921

Bordering communities water-side:	**Bordering communities landward:**
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Degree of endangerment:

after RIECKEN et al. 1994 troughout Germany: endangered (level 2)

0 extinct
1 critically endangered
2 endangered
3 vulnerable