

Lake Baikal basin terrestrial ecosystems

Isabell Raschke
Romel Torcat

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TERRESTRIAL BIODIVERSITY

Geobotany



Ornithology



basis for development of environmental management

PLANT BIODIVERSITY

Method

- Count of different vegetal species
- 15 m² for 10 different sites with different degree of human impact



Slope

- Representative species (124) were identified by Dr. C. Eschenbach.

PLANT BIODIVERSITY

Results - Observations



Populus forest



Wet area

PLANT BIODIVERSITY

Results - Observations

- Rough system for counting
- Dependant on personal accuracy
- No species identification
- No specific site definition for identification
- However...



Slope

Photo: I. Raschke

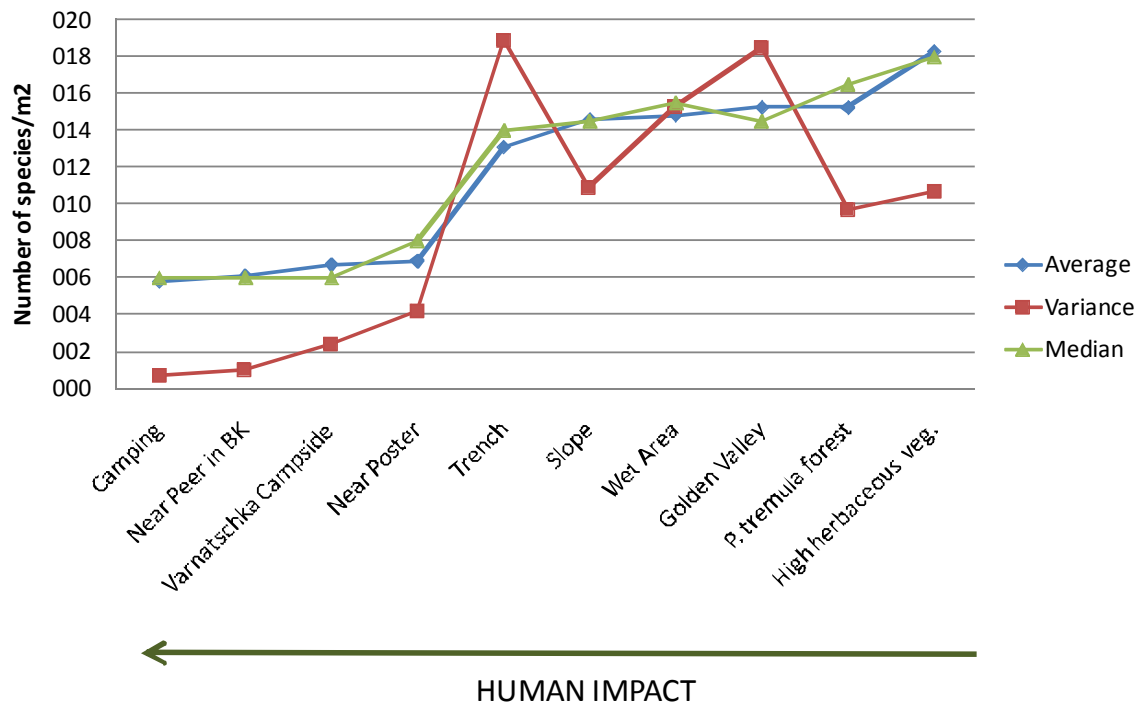
PLANT BIODIVERSITY

Results

Name	Near Peer in		Varnatschka			Trench	Slope	Near Fire Place	Golden Valley	Wet Area	P. tremula forest
	BK	Near Poster	Campside	Camping							
Alex	7	8	5	5	14	22	22	25	14	18	
Alexander			6								
Andre		8	24				5		22		
Carsten					3	17	17	16			
Eugena	7	6	11	6	11	21	13	13	11	12	
Helena	8	9	5		7	11	15	23	13	9	
Isa		1	8		14	12	18	11	16	11	
Laura	6	8	6	7	7	13	18		17	17	
Nasdja	5	7	6						10		
Olga	5	7	7						16		
Romel	5	8	7		15	16	16	11	23	22	
Rosh	6	5	7	5	19	17	22	12	7	17	
Sasha	5	2	6						8	16	
Sveta	6	8	6		15	11	6	17	18	19	
Trang	6	7	8		14	16	19	19	18		
Wilhelm	7	8	6	6	21	12	23	7	15	12	

PLANT BIODIVERSITY

Results



BIRDWATCHING



BIRDWATCHING

Method

- 3 Excursions to Bolshiye Koty river valley, Cape Sobolev, water-terrestrial ecotones and two brothers hill
- Sighting and identification of bird species
- Discussion on behavioural characteristics of the identified species
- Creation of the final species list

BIRDWATCHING

Results

Classification	Order/Family	Scientific Name	Common Name
Birds of Prey	Ardeidae	<i>Ardea cinerea</i>	Gray Heron
	Accipiteridae	<i>Pernis ptilorhynchus</i>	Oriental Honey Buzzard
		<i>Buteo buteo</i>	Common Buzzard
		<i>Milvus migrans</i>	Black Kite
		<i>Accipiter gentilis</i>	Goose Hawk
		<i>Accipiter nisus</i>	Eurasian Sparrow Hawk
	Falconidae	<i>Falco subdue</i>	Hobby
		<i>Falco peregrinos</i>	Peregrine Falcon
		<i>Falco tinnunculus</i>	Common Kestrel
	O. Anseriformes	<i>Mergus serrator</i>	Red Breasted Merganser
	O. Charadriiformes	<i>Tringa nebularia</i>	Greenshank
		<i>Tringa glareola</i>	Wood Sandpiper
		<i>Tringa ochropus</i>	Green Sandpiper
		<i>Charadrius dubius</i>	Lesser Ringed plover
<i>Calidris tenminckii</i>		Temmick's Stint	
<i>Calidris subminuta</i>		Long Toed Stint	
<i>Calidris minuta</i>		Little Stint	
<i>Calidris ruficollis</i>		Red Necked Stint	
<i>Gallinago gallinago</i>		Common Snipe	
<i>Gallinago megala</i>		Swimshoe's Snipe	
<i>Gallinago stenura</i>		Pin Tailed Snipe	
<i>Scolopax rusticola</i>		Eurasian Woodcock	
Gulls		<i>Larus (cachinnans) mongolicus</i>	Mongolian Gull
	<i>Larus canus</i>	Common Gull	
	O. Strigiformes	<i>Strix uralensis</i>	Ural Owl
	O. Cuculiformes	<i>Cuculus canorus</i>	Common Cuckoo
	O. Piciformes	<i>Dendrocopos major</i>	Great Spotted Woodpecker
<i>Dryocopus martius</i>		Black Woodpecker	
	<i>Jynx torquilla</i>	Wryneck Woodpecker	

BIRDWATCHING

Results

Classification	Order/Family	Scientific Name	Common Name
	Upupiformes	<i>Upupa epops</i>	Eurasian Hoopoe
	Apodiformes	<i>Hirundapus caudaputus</i>	Needletail
	Paceriformes	<i>Lullula arborea</i>	Skylark
Pacerins		<i>Hirundo (tveterea) rustica</i>	Barn Swallow
		<i>Anthus richardi</i>	Richard's Pipit
		<i>Anthus trivialis</i>	Tree Pipit
		<i>Anthus hodgsoni</i>	Olivebacked
		<i>Motacilla flava</i>	Yellow Wagtail
		<i>Motacilla citrivola</i>	Citrine Wagtail
		<i>Motacilla cinerea</i>	Gray Wagtail
		<i>Motacilla alba</i>	White Wagtail
		<i>Lanius stratus</i>	Brown Tailed Shrike
Corvids		<i>Nucifraga caryocatactes</i>	Eurasian Nutcracker
		<i>Corvus carone</i>	Carrion Crow
		<i>Corvus corax</i>	Raven
			Lanceolated
Warblers		<i>Locustella lanceolata</i>	Grasshopperwarbler
		<i>Phragmaticola aedon</i>	Thickbillet Warbler
		<i>Phyloscopus trochylodes</i>	Greenish Warbler
		<i>Phyloscopus inornatus</i>	Yellowbrowed Warbler
		<i>Ficedula parva</i>	Redbreasted Flycatcher
		<i>Phoenicurus auroreus</i>	Daurian Redstart
		<i>Aegithalos caudatus</i>	Wagtailed Tit
		<i>Parus montanus</i>	Willow Tit
		<i>Parus ater</i>	Coal Tit
		<i>Parus major</i>	Great Tit
		<i>Sitta europaea</i>	Eurasian Nuthatch
		<i>Passer domesticus</i>	House Sparrow
		<i>Carpodacus erythrinus</i>	Scarlet Roseinch
		<i>Emberiza leucocephala</i>	Pine Bunting

BIRDWATCHING



Cuculus canorus



Larus (cachinnans) mongolicus

BIRDWATCHING



Phoenicurus aurorucus



Pernis ptilorhynchus



Calidris minuta

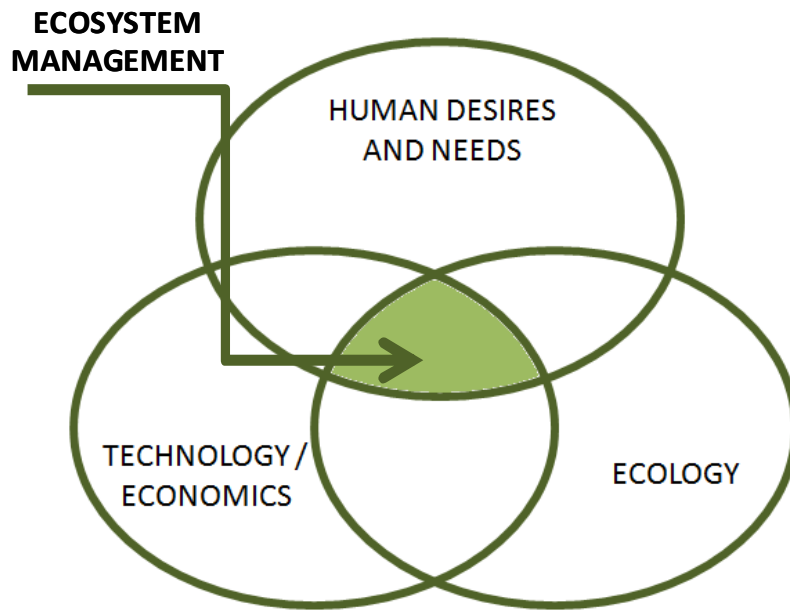
Photos: I. V. Fefelov

BIRDWATCHING

Results

	Total	Breeding in Baikal	Related to Water	Wintering
Number of species	58	52	19	15
Share		90%	33%	26%
Total number (literature)	374	241		94
Share (literature)		64%		25%

ECOSYSTEM MANAGEMENT CONCEPTUAL FRAMEWORK



MANAGEMENT PROPOSALS SOCIETY

Education:

- Explanatory paths, schools, universities, guided tours, media, community involvement, training and contribution.

Visitor infrastructure:

- Bilingual signs, assignment of areas for public use (paths, fire places, camping spots), safety measures.



MANAGEMENT PROPOSALS

ECONOMY

Eco-tourism:

- Incentive for ornithological adepts
- Use of uniqueness in the region and UNESCO label to advertise the region.
- Job opportunities for trained society, waste management and building of touristic infrastructure.

Restrictions for economy development (mining, forest products, pharmaceuticals, fishing).

MANAGEMENT PROPOSALS

ECONOMY

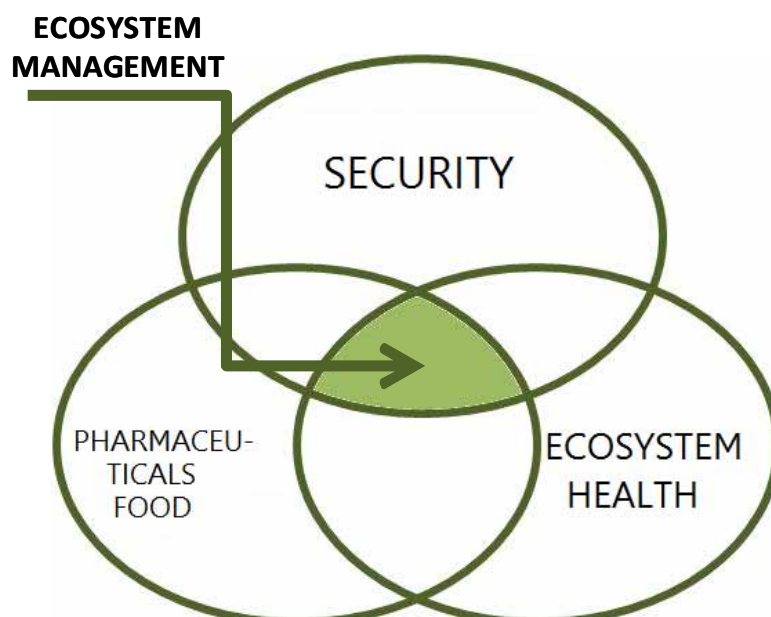


MANAGEMENT PROPOSALS ENVIRONMENT

Environmental Protection:

- Better enforcement of existing administrative procedures.
- Integrative monitoring of environmental components (terrestrial, aquatic, aerial).
- Continuity of plans and measures.

ECOSYSTEM MANAGEMENT Tangible and Intangible Resources





THANKS FOR YOUR ATTENTION!

CLIMATE CHANGE SCENARIO

**If conditions change beyond the tolerances of species,
then they may respond by:**

1. shifting the timing of life-cycle events (e.g., blooming, migrating),
2. shifting range boundaries (e.g., moving poleward) or the density of individuals within their ranges,
3. changing morphology (e.g., body or egg size), reproduction or genetics,
4. local or general extinction.