Appendix 1. List of species recorded of Wadi Degla Protected Area. The Life form is abbreviated as follows: Ph: Phanerophytes, NPh: Nanophanerophytes Ch: Chamaephytes, Hm: Hemicryptophytes, Ge–He: Geophytes–helophytes, Th: Therophytes and Pa: parasites. Economic uses are abbreviated as follows: Gr: grazing; Me: medicinal; Ar: Aromatic source; Hf: human food; Fu: fuel wood; Ta: Tanning; Ti: timber; Or: Ornamental; Han: used in making handicrafts; De: Detergent; Ot: others Goods such as rope making, thatching and shelter materials. Environmental importance is coded as follows: Ot: others Services such as provision of pollen to bees and bioremediation potential. Floristic regions are abbreviated as follows: COSM= Cosmopolitan; NEO= Neotropical, PAN= Pantropical, PAL= Palaeotropical , SA- SI= Saharo-Sindian; SA–AR: Saharo–Arabian ; SU–ZA: Sudano–Zambezian; IR-TR= Irano-Turanian; ER-SR= Euro-Siberian; ME= Mediterranean, Cult. and Nat. = Cultivated and Naturalized; Near End= Near Endemic, Type of Threats are abbreviated as follows: OC: Over-collecting and over-cutting, HL: Habitat loss, BO: Browsing and over grazing, CA: Clearance for agriculture, MQ: Mining and quarrying, DT: Disturbance by cars or trampling, UT: Urbanization and tourism, SW: Solid wastes and CE: Cimatic changes and environmental conditions.

Scientific name	Family	Life form	Economic value (Goods)	Ecological importance	Floristic region	Threats
Ephedra alata **Decne.**	Ephedraceae	Ph	Me	Sand accumulation , shaders , windbreaks and esthetic concerns	ME+SA-SI	OC, HL, CE, UT and SW
Ephedra aphylla **Forssk.**		Ph	Me	Sand accumulation , shaders , windbreaks and esthetic concerns	SA-SI	OC, HL, CE, UT and SW
Forsskaolea tenacissima. **L.**	Urticaceae	H	Me	Sand accumulation and windbreaks	SA-SI + SU–ZA	OC, HL,CA,MQ,DT, UT , BO, SW and CE
Urtica urens **L.**		Th	Me	Sand accumulation	ME + ER-SR + IR-TR	OC,HL,MQ, BO, SW and CE
Persicaria senegalensis **(Meisn.) Soják.**	Polygonaceae	G-He	Gr	Ruderal weed and water invader	ME + PAL	OC, HL,BO, CA, SW and CE
Rumex dentatus **L.**		Th	Gr + Me + Hf	Segetal weed	ME+ IR-TR+ ER-SR	OC, HL,BOand SW
Rumex pictus **Forssk.**		Th	Me + Hf+ Gr+ Ot	Segetal weed, Sand accumulation , water storage, refuge and others Services	ME + IR–TR + ER-SR	OC, HL,CA,MQ,DT, UT , BO , SW and CE
Rumex vesicarius **L.**		Th	Me + Hf +Gr+ Ot	Segetal weed, Sand accumulation and water storage	ME+SA-SI+ SU–ZA	OC, HL,DT, UT, SW and CE
Mesembryanthemum forsskaolii Hochst. ex Boiss.	Aizoaceae	Th	-	Water storage, salinity tolerant and others Services	SA-SI+ SU–ZA	OC, HL, MQ, DT and SW
Mesembryanthemum nodiflorum. **L.**		Th	Hf	Water storage, salinity tolerant and others Services	ME + ER-SR + SA-SI	OC, HL, DT,UT and SW
Portulaca oleracea **L.**	Portulacaceae	Th	Gr + Me + Hf	Segetal weed	COSM	OC,HL,MQ,DT, BO, SW and CE.
Arenaria serpyllifolia **L.**	Caryophyllaceae	Th	Me	esthetic concerns	ME + SA-SI	OC,HL, DT, SW, UT and CE.
Dianthus judaicus **Boiss.**		Ch	Or	-	ME +IR-TR	HL, DT, SWand CE
Gymnocarpos decandrus **Forssk.**		Ch	Gr+ Fu +Me	Sand accumulation , shaders , wind breaks, water storage and refuge	SA – AR	OC, HL,CA,MQ,DT, UT , BO, SW and CE

Scientific name	Family	Life form	Economic value (Goods)	Ecological importance	Floristic region	Threats
Gypsophila capillaris (Forssk.) C. Chr. Capillaris		H	Me	-	IR-TR+SA-SI	OC, HL, MQ,DT, UT , SW and CE
*Minuartia picta (*Sibth. & Sm.) Bornm. var *picta.*		Th	Me	-	Near End.	HL, DT, UT , SW and CE
Silene nocturna L.		Th	Gr	Segetal weed	ME	SW and HL
Spergula fallax (Lowe) E. H. L. Krause.		Th	Gr	salinity tolerant	ME+IR-TR+SA-SI	OC, HL,CA,MQ,DT, UT , SW and CE
Spergularia diandra (Guss.) Boiss.		Th	Gr	salinity tolerant and water storage	ME+IR-TR+SA-SI	SW and HL
Telephium sphaerospermum Boiss.		Th	Me	-	SA-SI	OC, DT, UT , SW and CE
Casuarina equisetifolia L.	casuarinaceae	Ph	Me +Or	windbreaks, Sand accumulation and salinity tolerant	Cult. & Nat	HL, MQ and SW
Agathophora alopecuroides (Delile) Fenzl ex Bunge var. *alopecuroides*	Chenopodiaceae	Ch	Gr	-	SA-SI	OC, HL, MQ,DT, UT, SW and CE
Anabasis articulate (Forssk.) Moq.		Ch	Gr + Fu+ Me+ Ot	Sand accumulation , shaders , wind breaks, refuge and Sand controller	IR-TR+SA-SI	OC, HL,MQ,DT, UT , BO, SW and CE
Anabasis setifera Moq.		Ch	Me	-	SA-SI	OC, HL,CA,MQ,DT, UT , SW and CE
Arthrocnemum macrostachyum (Moric.) K. Koch.		Ch	Gr + Fu +Me+ Ot	Sand accumulation , shaders , wind breaks, refuge, salinity tolerant, weed controller and bank retainer	ME+ SA-SI	OC, HL, MQ,DT, UT , SW and CE
Atriplex nummularia Lindl.		Ph	Gr	Sand accumulation , shaders , wind breaks and refuge	PAL	OC, HL,CA,MQ, UT , SW and CE
Atriplex portulacoides L.		Ch	Gr	Sand controller and Sand accumulation	COSM	OC, HL, MQ,DT, UT , SW and CE
Atriplex leucoclada Boiss. Var. *inamoena* (Aellen) Zohary.		Ch	Hf + Me	Sand accumulation , shaders and wind breaks	SA-AR + IR-TR	OC, HL, MQ, UT , SW and CE
Bassia indica (Wight) A. J. Scott.		Th	Gr+Me	Ruderal weed, Sand accumulation and shaders	IR-TR+SU-ZA	OC, HL, MQ,DT, UT , and SW
Bassia muricata (L.) Asch.		Th	Gr+Me	Ruderal weed, Sand accumulation and shaders	IR-TR+SA-SI	OC, HL, MQ,DT, UT , SW and CE
Chenopodium murale L.		Th	Gr + Hf + Me + Ot	Segetal weed Sand accumulation and	COSM	OC, HL, MQ, UT , BO and SW
Chenopodium album L.		Th	Me + Hf	Segetal weed	COSM	OC, HL, MQ, UT , BO and SW

Scientific name	Family	Life form	Economic value (Goods)	Ecological importance	Floristic region	Threats
Chenopodium ambrosioides **L.**		**Ch**	**Gr**	**Ruderal weed, bank retainer and weed controller**	**COSM**	OC, HL, MQ, UT , BO and SW
Haloxylon salicornicum **(Moq.) Bunge ex Boiss.**		**Ch**	**Gr + Me + Ot**	**Sand controller and soil fertility**	**SA-SI**	OC, HL, DT, UT , BO, SW and CE
Salsola schweinfurthii **Solms.**		**Ch**	**Me**	**water storage**	**SA- SI**	OC, HL, DT, UT , SW and CE
Salsola cyclophylla **Baker.**		**Ch**	**Me+Gr**	**Sand accumulation**	**ME +SA- SI**	OC, HL, DT, UT , SW and CE
Sarcocornia fruticosa **(L.) A. J. Scott.**		**Ch**	**Gr + Me + Fu**	**Sand accumulation ,wind breaks, salinity tolerant and water storage**	**ME + ER-SR**	OC, HL, DT, UT , SW and CE
Suaeda vermiculata **Forssk. ex. J. F.Gmel.**		**Ch**	**Gr**	**Bank retainer and salinity tolerant,**	**SA-SI**	OC, HL, DT, UT , SW and CE
Suaeda palaestina **Eig & Zohary.**		**Ch**	**Gr**	**salinity tolerant and Bank retainer**	**SA-SI**	SW and HL
Suaeda vera **Forssk. ex. J .F. Gmel.**		**Ch**	**Gr+ Me+ Ot**	**Bank retainer, Sand accumulation ,wind breaks, salinity tolerant and water storage**	**ME+ SA-AR.**	OC, HL,CA,MQ,DT, UT , SW and CE
Traganum nudatum **Delile.**		**Ch**	**Gr**	**salinity tolerant**	**SA-SI**	OC, HL,CA,MQ,DT, UT , SW and CE
Amaranthus graecizans **L. subsp.** ***graecizans***	**Amaranthaceae**	**Ch**	**Me + Hf**	**Segetal weed**	**COSM**	OC, HL, MQ,DT, UT , BO, SW and CE
Fumaria densiflora **DC.**	**Fumariaceae**	**Th**	**Gr**	**Segetal weed**	**ME+ER –SR +IR – TR**	OC, HL, MQ,DT, UT , BO, SW and CE
Capparis spinosa L. var. aegyptia.	**Capparaceae**	**Ch**	**Hf+ Fu+ Me+ Ot**	**Sand accumulation , shaders , esthetic concerns and refuge**	**ME +IR-TR**	OC, HL, MQ,DT, UT , SW and CE
Diplotaxis acris **(Forssk.) Boiss.**		**Th**	**Hf + Gr**	-	**SA-SI**	OC, HL, MQ,DT, UT , SW and CE
Diplotaxis harra **(Forssk.) Boiss. Subsp. harra.**		**Ch**	**Hf + Gr**	-	**ME+ SA-SI**	OC, HL, MQ,DT, UT , SW and CE
		Ch	**Gr**	**Sand accumulation**	**SA-SI + SU–ZA**	
Farsetia aegyptia **Turra subsp.** ***aegyptia*****.**	**Cruciferae**	**Th**	**Hf +Me +De**	**esthetic concerns**	**ME+SA-SI**	OC, HL, MQ,DT, UT , SW and CE
Luffa aegyptiaca **Mill.**		**Th**	**Gr**	-	**SA-SI**	SW and HL
Pseuderucaria clavata **(Boiss. & Reut.) O. E. Schulz subsp.** ***clavata***		**Th**	**Gr + Hf**	**Segetal weed**	**PAL**	OC, HL, MQ,DT, UT , SW and CE

Scientific name	Family	Life form	Economic value (Goods)	Ecological importance	Floristic region	Threats
***Sisymbrium irio* L.**		**Th**	**Gr**	-	**ME+ SA-SI**	OC, HL,CA,MQ,DT, UT , BO, SW and CE
***Ricotia lunaria* (L.) DC.**		**Ch**	**Gr + Me + Hf + Fu**	**Sand controller, Sand accumulation, shaders , windbreaks and refuge**	**SA-SI**	SW and HL
***Zilla spinosa* (L.) Prantl subsp. *biparmata* (O. E. Schulz) Maire & Weiller.**	**Fabaceae**	**Ph**	**Gr +Me + Fu + Ti + Ot**	**Ruderal weed, bank retainer, Sand accumulation, soil fertility and windbreaks.**	**SA –AR**	OC, HL, MQ,DT, UT , BO, SW and CE
***Acacia nilotica* (L.) Wild ex. Del.**		**N-Ph**	**Gr +Me + Fu+ Ot**	**soil fertility, shaders , Sand accumulation and windbreaks**	**SA-SI+ SU–ZA**	OC, HL, MQ, UT , BO, SW and CE
***Acacia tortilis* (Forssk.) Hayne.**		**Ch**	**Gr + Hf +Me + Fu**	**Sand accumulation , shaders , wind breaks, refuge, soil fertility and esthetic concerns**	**IR-TR+SA-SI**	OC, HL, MQ, UT and SW CE
***Astragalus spinosus* (Forssk.) Muschl.**		**Ph**	**Me + Or**	**shaders**	**SA-SI+SU–ZA**	OC, HL, UT , SW and CE
***Delonix regia* (Bojer) Rafinesque.**		**Th**	**Gr + Me**	**Segetal weed and Sand accumulation**	**ME+ IR-TR+ ER-SR**	HL, MQ, UT and SW
***Melilotus indicus* (L.) All.**		**Nph**	**Gr + Fu + Me+ Ot**	**Sand accumulation, shaders , wind break, refuge and soil fertility**	**SA-SI**	OC, HL, MQ,DT, UT , BO, SW and CE
***Retama raetam* (Forssk.) Webb& Berthel. Subsp. *raetam*.**		**N. Ph**	**Gr + Me + Fu + Ti +Or + Ot**	**Ruderal weed , windbreaks, shading and others Services**	**SU–ZA**	OC, HL, UT , SW and CE
***Sesbania sesban* (L.) Merr.**		**Th**	**Gr**	-	**ME**	OC, HL, MQ,DT, UT , SW and CE
***Trigonella maritima* Poir.**		**Th**	**Gr+ Me +Ot**	**Sand accumulation and windbreaks**	**IR-TR+SA-SI**	OC, HL ,MQ,DT, UT , BO, SW and CE
***Trigonella stellata* Forssk.**	**Geraniaceae**	**Th**	**Gr +Me**	-	**ME+ER –SR +IR – TR**	OC, HL, MQ,DT, UT , BO, SW and CE
***Erodium neuradifolium* Delile ex Godr.**	**Moraceae**	**Ph**	**Or +Me**	**Windbreaks and shaders**	**Cult. & Nat**	OC, HL, MQ,DT, UT , SW and CE
***Ficus Benjamina* Linn.**	**Myrtaceae**	**Ph**	**Me +Ti + Or**	**Windbreaks and shaders**	**IR-TR**	HL, MQ and SW

Scientific name	Family	Life form	Economic value (Goods)	Ecological importance	Floristic region	Threats
***Eucalyptus camaldulensis* . Dehnh.**	**Menispermaceae**	**Ph**	**Gr+ Hf +Me**	**-**	**SA-SI**	HL, MQ and SW
***Cocculus pendulus* (J. R. & G. Forst.) Diels.**	**Nitrariaceae**	**N Ph**	**Me +Gr+ Fu+ Ot**	**others Services**	**SA-SI**	OC, HL, UT and SW
***Nitraria retusa (Forssk.)* Asch.**	**Peganaceae**	**H**	**Me+Ot**	**Sand accumulation , windbreaks, water storage and esthetic concerns**	**ME + ER-SR + SA-SI+ IR-TR**	HL,UT, MQ and SW
***Peganum harmala* L.**	**Resedaceae**	**Nph**	**Me**	**windbreaks and Sand accumulation**	**SA-SI**	OC, HL, DT, UT , SW and CE
***Ochradenus baccatus* Delile.**	**Zygophyllaceae**	**H**	**Me+ Fu+Gr**	**Sand accumulation**	**SA-SI**	OC, HL, MQ , UT , BO, SW and CE
Fagonia arabica L. var. arabica		**H**	**Me**	**Sand accumulation**	**SA-SI+IR-TR**	OC, HL, DT, UT , SW and CE
***Fagonia bruguieri* DC. var haplotricha Hadidi.**		**H**	**Me**	**Sand accumulation**	**SA-SI**	**OC, HL, MQ,DT, UT , BO, SW and CE**
***Fagonia glutinosa* Delile. var *grandiflora*.**		**Ch**	**Me**	**Sand accumulation**	**SA-SI**	OC, HL,DT, UT , SW and CE
***Fagonia indica* Burm.f. var *indica* .**		**Ch**	**Me**	**Sand accumulation**	**SA- AR+ SA-SI**	OC, HL,DT, UT,SW and CE
Fagonia mollis* Delile. var *mollis.		**Th**	**-**	**Sand accumulation**	**SA-SI**	OC, HL,DT, UT , SW and CE
***Fagonia paulayana* Wagner & Vierh.**		**Ch**	**-**	**Sand accumulation**	**SA-SI**	OC, HL,DT, UT , SW and CE
***Fagonia taeckholmiana* Hadidi .**		**Ch**	**Gr+ Me+ Ot**	**Sand controller, Sand accumulation, windbreaks, water storage and salinity tolerant**	**ME+SA-SI+IR-TR**	OC, HL,DT, UT , SW and CE
***Zygophyllum album* L.**		**Ch**	**Me+ Gr**	**Sand accumulation**	**SA-SI**	OC, HL,DT, UT , BO, SW and CE
***Zygophyllum coccineum* L.**		**Ch**	**Me**	**Sand accumulation**	**SA- SI**	OC, HL,CA,MQ,DT, UT , SW and CE

Scientific name	Family	Life form	Economic value (Goods)	Ecological importance	Floristic region	Threats
***Zygophyllum decumbens* Delile.**		**Th**	**Me**	**water storage and Sand accumulation**	**SA-SI**	OC, HL, UT , SW and CE
***Zygophyllum simplex* L.**	**Tribulaceae**	**Th**	**Me+Gr+ Ot**	**Sand accumulation**	**Pan**	OC, HL,CA,MQ,DT, UT , SW and CE
***Tribulus terrestris* L. var. *orientalis* (Kerner) G. Beck.**	**Euphorbiaceae**	**Ph**	**Me + Hf + Fu + Ot**	**Windbreaks and Sand accumulation**	**SU – ZA**	OC, HL, MQ,UT , SW and CE
***Ricinus communis* L.**		**Th**	**-**	**Segetal weed and poisonous plant**	**SA – AR**	OC, HL, MQ, UT , BO, SW and CE
***Euphorbia indica* Lam.Encycl.**	**Euphorbiaceae**	**Th**	**ME**	**Poisonous plant**	**SA – AR**	OC, HL, MQ,UT , SW and CE
***Euphorbia retusa* Forssk.**	**Malvaceae**	**Th**	**Gr + Me + Hf**	**Segetal weed and Sand accumulation**	**ME+IR-TR**	SW
***Malva parviflora* L.**	**Rutaceae**	**H**	**Me+ Fu+ Ar+ Hf + Ot**	**sand accumulation, windbreaks and esthetic concerns**	**SA-SI**	OC, HL, MQ,DT, UT , SW and CE
***Haplophyllum tuberculatum* (Forssk.) Juss.**	**Cistaceae**	**Ch**	**Gr+ Me+ Fu**	**Sand accumulation , esthetic concerns and windbreaks**	**SA-SI**	OC, HL, MQ,UT , SW and CE
***Helianthemum kahiricum* Delile.**	**Tamaricaceae**	**Ch**	**Me**	**Sand accumulation, windbreaks and water storage**	**SA-AR+IR–TR**	OC, HL, MQ,UT , SW and CE
Reaumuria hirtella* Jaub.& Spach var. *hirtella		**Nph**	**Me + Fu + Ti+ Ot**	**Ruderal weed and windbreaks**	**SA-SI+ SU–ZA**	OC, HL, MQ,DT, UT , SW and CE
***Tamarix aphylla* (L.) H. Karst.**		**Nph**	**Gr + Me + Fu + Ti+ OT**	**Ruderal weed, shaders , Sand accumulation, windbreaks , water storage and refuge**	**SA-SI**	SW and HL
***Tamarix nilotica* (Ehrenb.) Bunge**	**Apiaceae**	**Th**	**Gr + Me + Hf + Fu + Ar+ Ot**	**Sand accumulation and esthetic concerns**	**ME+IR-TR + SA-AR**	OC, HL, MQ,UT, DT SW and CE
Bupleurum semicompositum		**Th**	**Me + Hf**	**esthetic concerns**	**ME+IR-TR**	OC, HL, MQ,, UT , SW and CE

Scientific name	Family	Life form	Economic value (Goods)	Ecological importance	Floristic region	Threats
***Coriandrium sativum* L.**		**Ch**	**Gr + Me + Hf + Fu+ Ar+ Ot**	**Sand accumulation , windbreaks, refuge, Water storage and esthetic concerns**	**SA-SI**	OC, HL, MQ,DT, UT , BO, SW and CE
***Deverra tortuosa* (Desf.) DC.**		**Ch**	**Gr**	**poisonous plant**	**SA-SI**	OC, HL, UT , SW and CE
***Deverra triradiata* Hochst. ex Boiss.**	**Primulaceae**	**Th**	**Me**	**Segetal weed**	**COSM**	OC, HL, UT , SW and CE
***Anagalis arvensis* L.**	**Plumbaginaceae**	**H**	**Gr+ Me**	-	**SA-SI**	SW
Limonium pruinosum* (L.) Choz. Var. *pruinosum	**Asclepiadaceae**	**Ph**	**Me**	**esthetic concerns**	**SA-SI + SU–ZA**	OC, HL, UT , SW and CE
***Calotropis procera* (Aiton) W.T. Aiton.**		**H**	**Me**	**Ruderal weed and esthetic concerns**	**ME+IR-TR**	OC, HL, MQ, UT , SW and CE
***Cynanchum acutum* L. Subsp. *acutum*.**	**Convolvulaceae**	**H**	**Or**	-	**PAL**	OC, HL,CA,MQ,DT, UT , BO, SW and CE
***Ipomoea cairica* (L.) Sweet.**	**Boraginaceae**	**Th**	**Me**	-	**SA-SI + IR-TR**	OC, HL, UT , BO, SW and CE
***Anchusa hispida* Forssk.**		**Ch**	**Gr + Me**	**Sand accumulation**	**IR-TR**	OC, HL, DT, UT , SW and CE
***Heliotropium arbainense* Fresen.**		**Ch**	**Gr + Me**	-	**SA-SI+ SU–ZA**	OC, HL,DT, UT , SW and CE
Heliotropium bacciferum* Forssk.subsp. *bacciferum		**Ch**	**Gr+ Me+Fu**	**Sand accumulation , windbreaks and esthetic concerns**	**SA-SI**	OC, HL, DT, UT , SW and CE
***Moltkiopsis ciliata* (Forssk.) I. M. Johnst.**		**H**	**Me**	**Sand accumulation**	**SA-SI+ SU–ZA**	OC, HL, UT , SW and CE
Trichodesma africanum (L.) R.Br.	**Lamiaceae**	**Ch**	**Me**	-	**ME+ ER-SR**	OC, HL, UT , BO, SW and CE
***Satureja cuneifolia* Ten.**		**H**	**Me +Hf**	**Sand accumulation**	**SA-SI**	OC, HL, MQ,DT, UT , SW and CE

Scientific name	Family	Life form	Economic value (Goods)	Ecological importance	Floristic region	Threats
***Stachys aegyptiaca* Pers.**	**Solanaceae**	**Ch**	**Me+ Ar+ Ot**	**Poisonous plant , Sand accumulation, wind breaks, water storage,**	**SA-SI**	SW and HL
***Hyoscyamus muticus* L.**		**Nph**	**Hf + Ti +Gr + Me+ Fu**	**Sand accumulation, windbreaks, water storage, refuge and shading**	**SA-SI+ SU–ZA**	OC, HL, MQ,DT, UT , SW and CE
***Lycium shawii* Roem. & Schult.**		**Th**	**Me+ Hf**	-	**COSM**	OC, HL, UT , BO, SW and CE
***Solanum lycopersicum* L.**		**Th**	**Me + Hf**	-	**COSM**	OC, HL, MQ,DT, UT , SW and CE
***Solanum melongena* L.**		**Th**	**Me + Hf**	**Segetal weed , poisonousplant and Sand accumulation**	**COSM**	SW and HL
***Solanum nigrum* L.**		**Ch**	**Me**	**Ruderal weed and poisonous**	**ME + IR-TR**	OC, HL, MQ,DT, UT , SW and CE
***Withania somnifera* (L.) Dunal in DC.**	**Scrophulariaceae**	**Ch**	**Gr + Me + Fu**	**windbreaks and esthetic concerns**	**ME+SA-SI**	OC, HL, UT , BO and SW
Kickxia aegyptiaca* (L.) Nábelek subsp. *aegyptiaca	**Orobanchaceae**	**P**	-	**Segetal weed and parasite**	**ME + SA-SI + IR-TR**	OC, HL, DT, UT , SW and CE
***Orobanche crenata* Forssk.**		**P**	-	**Segetal weed and parasite**	**ME + NEO**	OC, HL,CA,MQ,DT, UT , SW and CE
***Orobanche minor* Sm. var. *pubescens* (d' Urv.) Meikle.**	**Plantaginaceae**	**Th**	**Gr+ Me+ Ot**	**Sand accumulation**	**ME + SA-SI + IR-TR**	OC, HL,CA,MQ,DT, UT , SW and CE
***Plantago ovata* Forssk.**	**Astraceae**	**Ch**	**Me**	**Sand accumulation**	**IR-TR+SA-SI**	OC, HL, UT , SW and CE
***Achillea fragrantissima* (Forssk.) Sch. Bip.**		**H**	**Gr+Me+ Ar+Fu**	**Sand accumulation, shading and esthetic concerns**	**SA-AR**	OC, HL, UT , SW and CE
***Achillea santolina* L .**		**Th**	**Me + Hf**	**esthetic concerns**	**PAN**	OC, HL, UT , SW and CE
Bidens pilosa L.		**H**	**Me+ Hf + Gr**	**Ruderal weed, Sand accumulation and shading**	**ME+ SA-SI + IR-TR**	OC, HL, MQ, UT , BO, SW and CE

Scientific name	Family	Life form	Economic value (Goods)	Ecological importance	Floristic region	Threats
***Centaurea calcitrapa* L.**		**Th**	**Or +Hf +Me +Ot**	**Sand accumulation and windbreaks**	**ME+SA-SI**	OC, HL, MQ,DT, UT , SW and CE
***Chrysanthemum coronarium* L.**		**H**	**Me +Gr + Fu+ Hf**	**Sand accumulation , windbreask, water storage and refuge**	**ME+SA-SI**	OC, HL , BO and SW
***Echinops spinosus* L.**		**Th**	**Me**	-	**PAN**	OC, HL, UT , SW and CE
***Eclipta prostrata* (L.) L.**		**Th**	**Goods**	**Services**	**IR–TR**	OC, HL, UT , SW and CE
***Garhadiolus angulosus* Jaub. & Spach.**		**Ch**	-	-	**SA-SI**	OC, HL, SW and CE
***Helianthus debilis* Nutt.**		**Th**	**Or**	-	**SA-SI**	SW and HL
***Ifloga spicata* (Forssk.) Sch. Bip .**		**Ch**	**Gr + Me + Ot**	**esthetic concerns and Sand accumulation**	**SA-SI**	OC, HL, DT, UT , SW and CE
***Iphiona mucronata* (Forssk.) Asch.& Schweinf.**		**Th**	**Me**	-	**ME+IR-TR+ER-SR**	OC, HL, UT , SW and CE
***Lactuca serriola* L.**		**Th**	**Gr + Me+ Ot**	**Ruderal weed and Sand accumulation**	**SA – AR**	HL, MQ, UT , BO, SW and CE
***Launaea massauensis* (Fresen.) Sch. Bip. ex Kuntze.**		**Th**	-	-	**SA-AR+ SA-SI**	OC, HL, MQ,DT, UT , SW and CE
***Phagnalon barbeyanum* Asch.& Schweinf.**		**Nph**	**Gr +Me**	**Sand accumulation and esthetic concerns**	**SA-SI + SU–ZA**	OC, HL, DT, UT , SW and CE
***Pluchea dioscoridis* (L.) DC.**		**Th**	**Me + Ot**	**Ruderal weed**	**COSM**	OC, HL, MQ, UT, BO, SW and CE
***Pseudognaphalium luteo- album* (L.) Hilliard & B. L. Burtt.**		**Ch**	**Me**	**Segetal weed**	**SA-SI**	OC, HL, UT and SW
***Pulicaria undulata* (L.) C. A. Mey.**		**Th**	**Me**	**others uses**	**ME+IR-TR**	OC, HL, DT, UT , SW and CE

Scientific name	Family	Life form	Economic value (Goods)	Ecological importance	Floristic region	Threats
***Reichardia tingitiata* (L.) Roth.**		**Th**	**Gr+ Me+Or**	**Sand accumulation, esthetic concerns, soil fertility and others Services**	**ME+IR-TR+SA-SI**	OC, HL,CA,MQ,DT, UT , BO, SW and CE
***Senecio glaucus* L. subsp. *coronopifolius* (Maire) C. Alexand.**		**Th**	**Hf**	**Segetal weed**	**COSM**	OC, HL,CA,MQ,DT, UT , BO, SW and CE
***Sonchus oleraceus* L.**		**Th**	**Gr + Hf**	**Segetal weed**	**ME+IR-TR**	OC, HL,CA,MQ,DT, UT , BO, SW and CE
***Urospermum picroides* (L.) F. W. Schmidt**		**Th**	**Gr + Hf**	**Segetal weed**	**SA-SI**	OC, HL, UT , BO, SW and CE
***Volutaria lippii* (L.) Cass. ex Maire.**	**Alliaceae**	**G- He**	**Hf + Me**	**Sand accumulation**	**ME +SA – AR**	OC, HL, MQ, UT , SW and CE
***Allium cepa* L.**	**Arecaceae**	**Ph**	**Gr + Me + Hf + Fu + Ti + Han +Or + Ta+ Ot**	**esthetic concerns and shaders**	**SA-AR+ SU–ZA**	OC, HL,MQ, UT , SW and CE
***Phoenix dactylifera* L.**	**Cyperaceae**	**G-He**	**Gr + Ot**	**Ruderal weed and water invader**	**PAL+ NEO**	OC, HL, UT and SW
***Cyperus alopecuroides* Rottb.**		**G-He**	**Hf +Gr+Fu**	**Sand accumulation , windbreaks and shaders**	**ME**	OC, HL, UT , BO and SW
***Ammophila arenaria* (L.) Link.**		**Th**	**Gr**	**Segetal weed**	**PAL**	OC, HL, UT , SW and CE
***Avena fatua* L.**	**Poaceae**	**Th**	-	**Segetal weed**	**PAL**	OC, HL, DT, UT , SW and CE
***Brachiaria mutica* (Forssk.) Stapf.**		**Th**	-	-	**ME+IR-TR+ ER-SR**	OC, HL, UT , SW and CE
***Briza maxim*a L.**		**Th**	**Gr +Me**	-	**ME+ SA-SI + IR-TR**	HL, SW and CE
***Bromus fasciculatus* C. Presl. var. *alexandrinus* Thell.**		**Th**	**Gr**	-	**ME+IR-TR+ ER-SR**	OC, HL, MQ, UT , SW and CE

Scientific name	Family	Life form	Economic value (Goods)	Ecological importance	Floristic region	Threats
***Bromus scoparius* L. var. *psilostachys* Halácsy.**		**Th**	-	**Ruderal weed**	**ME+SA-AR**	OC, HL, MQ, UT , SW and CE
***Cenchrus pennisetiformis* Hochst. & Steud**		**G-He**	**Gr + Me + Hf**	**Segetal weed , bank, retainer, shaders, refuge and sand accumulation**	**COSM**	OC, HL, MQ, UT , SW and CE
***Cynodon dactylon* (L.) Pers.**		**Th**	**Me**	**Ruderal weed**	**PAL+ME**	OC, HL, MQ, UT , SW and CE
***Dactyloctenium aegyptium* (L.) Willd.**		**G-He**	**Gr**	**Ruderal weed and bank retainer**	**SA-SI**	OC, HL, BO, SW and CE
***Desmostachya bipinnata* (L.) Stapf.**		**G-He**	**Gr**	**Water invader**	**PAL**	OC, HL , UT , BO, SW and CE
***Diplachine fusca* (L.) P. Beauv. ex Roem &Schult.**		**Bisexual**	**Goods**	**Services**	**April – August**	OC, HL,MQ, UT , BO, SW and CE
***Imperata cylindrica* (L.) Rauschel.**		**H**	**Gr + Me + Ot**	**Ruderal weed, soil fertility, bank retainers ,sand accumulation and weed controller**	**SA-SI**	OC, HL, BO, SW and CE
***Lolium multiflorum* Lam.**		**H**	**Gr**	**Segetal weed**	**SA-AR**	OC, HL,CA,MQ,DT, UT , BO, SW and CE
***Panicum turgidum* Forssk.**		**Th**	**Gr + Me+ Hf + Ot**	**Sand controller and Sand accumulation**	**PAL**	HL,BO, SW and CE
***Pennisetum divisum* (Forssk. ex J. F. Gmel.) Henrard.**		**G-He**	**Gr + Ot**	**soil fertility**	**COSM**	OC, HL, ,DT, UT , BO, SW and CE
***Phalaris minor* Retz.**		**Th**	**Gr**	**Segetal weed and Sand accumulation**	**COSM**	OC, HL, MQ ,BO, SW and CE
Phragmites australis (Cav.) Trin. ex Steud. subsp. australis		**Th**	**Gr + Me + Hf + Fu + Ot**	**Ruderal weed, water invader and water purificator**	**ME +IR-TR + SA-AR**	OC, HL,CA,MQ,DT, UT , BO, SW and CE
***Polypogon monspeliensis* (L.) Desf.**		**Th**	**Gr**	**Segetal weed and esthetic concerns**	**SA-SI + IR-TR**	OC, HL, BO and SW

Scientific name	Family	Life form	Economic value (Goods)	Ecological importance	Floristic region	Threats
***Schismus barbatus* (L.) Thell.**		**Th**	**Gr + Me +Hf + Fu + Ti + Ot**	**Segetal weed**	**ME**	OC, HL, BO and SW