





Figure S1. Comparison between the observation maps for 2017 and the simulation maps for 2037 under different scenarios.

Table S1. The details of the selected reserves in this study.

Site	Year	Aear (ha)	Level
Qinglangang	1981.09	2948	Provincial
Dongfang	2006.05	1429	Provincial
Dongzhaigang	1980.04	3337	National
Huachangwan	1995.12	150	Local
Maniaogang	1992.04	696	Local
Xinyinggang	1986.12	350	Local
Xinyingwan	1992.04	115	Local

Table S2. The conversion sequence under different scenarios.

Scenario	Class	TS	AP	WT	CL	WL	BL	MF	OF	SLM	BDL
NGS	TS	1	1	1	1	1	1	1	1	1	1
	AP	1	1	1	1	1	1	1	1	1	1
	WT	1	1	1	1	1	1	1	1	1	1
	CL	1	1	1	1	1	1	1	1	1	1
	WL	1	1	1	1	1	1	1	1	1	1
	BL	1	1	1	1	1	1	1	1	0	1
	MF	1	1	1	1	1	1	1	1	1	1
	OF	1	1	1	1	1	1	1	1	1	1
	SLM	1	1	1	1	1	0	1	1	1	1
	BDL	0	1	0	1	1	1	0	1	0	1
EDS	TS	1	1	1	1	1	1	1	1	1	1
	AP	0	1	0	1	0	0	0	0	0	1
	WT	1	1	1	1	1	1	1	1	1	1
	CL	1	1	1	1	1	1	1	1	1	1
	WL	1	1	1	1	1	1	1	1	1	1
	BL	1	1	1	1	1	1	1	1	0	1
	MF	1	1	1	1	1	1	1	1	1	1
	OF	1	1	1	1	1	1	1	1	1	1
	SLM	1	1	1	1	1	0	1	1	1	1
	BDL	0	1	0	1	0	0	0	0	0	1
MPS	TS	1	1	1	1	1	1	1	1	1	1
	AP	1	1	1	1	1	1	1	1	1	1
	WT	1	1	1	1	1	1	1	1	1	1
	CL	1	1	1	1	1	1	1	1	1	1
	WL	1	1	1	1	1	1	1	1	1	1
	BL	1	1	1	1	1	1	1	1	0	1
	MF	1	0	1	0	1	1	1	1	1	0
	OF	1	1	1	1	1	1	1	1	1	1
	SLM	1	1	1	1	1	0	1	1	1	1
	BDL	0	1	0	1	1	1	0	1	0	1

Table S3. The conversion elasticity under different scenarios.

Scenario	TS	AP	WT	CL	WL	BL	MF	OF	SLM	BDL
NGS	0.35	0.6	0.9	0.45	0.35	0.35	0.8	0.45	0.35	0.9
EDS	0.35	0.9	0.9	0.45	0.35	0.35	0.35	0.45	0.35	0.9
MPS	0.35	0.35	0.9	0.45	0.35	0.35	0.9	0.45	0.35	0.35

Table S4. The annual area changes under different scenarios (pixel/y).

Site	Scenario	TS	AP	WT	CL	WL	BL	MF	OF	SLM	BDL
Huiwen	NGS	0	-130	70	-40	50	-5	10	-310	5	350
	EDS	0	350	-80	40	-25	-2	-280	-500	-3	500
	MPS	0	-260	150	-80	75	-15	80	-210	10	250
Dongfang	NGS	-18	-70	3	-54	0	10	27	27	10	65
	EDS	-18	60	-20	-26	0	6	-27	-50	-5	80
	MPS	-18	-90	46	-100	0	6	68	29	20	39
Dongzhiagang	NGS	1	68	4	-42	-110	-1	-75	-133	-13	301
	EDS	1	215	4	105	-124	-1	-153	-500	-27	480
	MPS	1	-185	24	-191	-50	-1	141	46	15	200
Guannan	NGS	0	86	-9	-26	0	0	-30	-50	9	20
	EDS	0	160	-50	50	0	0	-53	-162	-5	60
	MPS	0	34	9	-50	0	0	17	-35	15	10
Huachangwan	NGS	5	98	-63	14	5	10	34	-194	-12	103
	EDS	5	133	-60	158	-20	-2	-80	-284	-20	170
	MPS	5	-90	102	-72	20	10	90	-147	12	70
Maniao	NGS	-1	-77	15	-190	5	14	20	55	11	148
	EDS	-1	95	-30	100	-60	20	-35	-280	-5	196
	MPS	1	-100	20	-270	10	-3	40	201	22	79
Puqian	NGS	-1	5	-22	-66	27	0	-7	-43	17	90
	EDS	-1	90	-17	-19	-10	0	-60	-73	-20	110
	MPS	0	-100	52	-112	40	0	31	10	34	45
Xinying	NGS	36	-8	-39	-211	-15	20	24	40	10	143
	EDS	-10	100	-50	-168	-30	20	-85	30	-2	195
	MPS	20	-40	19	-236	0	20	42	50	20	105
Xinyingwan	NGS	-6	70	-72	80	-53	1	99	-350	8	223
	EDS	-6	200	-100	194	-75	1	-98	-408	-8	300
	MPS	-6	-148	120	-17	-36	1	150	-226	12	150