

Overall Evaluation

Ferrara / ER-site · Italy · Project: Nymphe

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OVERALL ASSESSMENT

Remediation recommended

Based on the latest sampling date: 10.2.2026 (After Remediation)

PHASE-BY-PHASE VERDICTS

Domain	Before Remediation	During Remediation										After Remediation	Trend
	4.4.2023	19.12.2024	14.1.2025	20.2.2025	8.4.2025	6.5.2025	5.6.2025	8.7.2025	7.8.2025	30.10.2025	4.12.2025	10.2.2026	
Ecotoxicology	E Daphnids	D Algae	D A. fischeri 15	E A. fischeri 15	E A. fischeri 15	D Algae	D Algae	D Algae	D Algae	E Lettuce aquatic	E Daphnids	E Lettuce aquatic	Stable
Chemistry	High 2 high - 0 risk - 1 ok	High 2 high - 0 risk - 1 ok	High 2 high - 0 risk - 0 ok	High 2 high - 0 risk - 1 ok	High 2 high - 0 risk - 1 ok	High 2 high - 0 risk - 0 ok	High 2 high - 0 risk - 0 ok	High 2 high - 0 risk - 0 ok	High 2 high - 0 risk - 1 ok	High 2 high - 0 risk - 1 ok	High 2 high - 0 risk - 1 ok	-	Stable
Supportive methods provisional													Improving
Shannon index	-	6.64	-	-	6.37	6.46	6.44	6.16	5.97	7.67	-	7.12	
Simpson index	-	0.98	-	-	0.98	0.98	0.98	0.98	0.97	0.99	-	0.99	
Respiration	-	Non-conf	-	-	-	-	-	-	Non-conf	Conf	-	Conf	
Nitrification	Non-conf	-	-	-	-	-	-	-	-	Non-conf	-	Non-conf	

Each column is one sampling date; a cell shows the worst result recorded across that date's samples. A phase with no samples for the selected method shows as "—". Supportive methods are shown for reference and do not move the overall stance.

SUPPORTIVE METHODS

SAMPLE	TYPE	METHOD (PHASE)	DIVERSITY — SHANNON (H')	DIVERSITY — SIMPSON (1-D)	NITRIFICATION	RESPIRATION	CONFORMITY
VZ1	Water	Before Remediation	— expected: Low	— expected: Low	8.3% Within ±20% Conforming		Conforming
VZ2	Water	Before Remediation	— expected: Low	— expected: Low	58.1% Exceeds ±20% — significant effect on the nitrifying community Nonconforming		Nonconforming
VZ3	Water	Before Remediation	— expected: Low	— expected: Low	56.4% Exceeds ±20% — significant effect on the nitrifying community Nonconforming		Nonconforming
First Starting baseline	Water	During Remediation	6.6396 expected: Moderate or gradually increasing	0.9794 expected: Low to moderate		QR 0.51 QR above 0.5 — verify the aerobic heterotrophic bacteria (AHB) count Nonconforming	Nonconforming
T2	Water	During Remediation	6.3737 expected: Moderate or gradually increasing	0.9811 expected: Low to moderate			—
T3	Water	During Remediation	6.4578 expected: Moderate or gradually increasing	0.9778 expected: Low to moderate			—
T4	Water	During Remediation	6.4365 expected: Moderate or gradually increasing	0.9782 expected: Low to moderate			—
T5	Water	During Remediation	6.1551 expected: Moderate or gradually increasing	0.9791 expected: Low to moderate			—
T6	Water	During Remediation	5.9665 expected: Moderate or gradually increasing	0.9706 expected: Low to moderate		QR 0.64 QR above 0.5 — verify the aerobic heterotrophic bacteria (AHB) count Nonconforming	Nonconforming
NYM1 10	Water	During Remediation	7.6719 expected: Moderate or gradually increasing	0.9865 expected: Low to moderate	25.3% Exceeds ±20% — significant effect on the nitrifying community Nonconforming	QR 0.1 Acceptable — QR ≤ 0.5 Conforming	Nonconforming
NYM1 369 days	Water	After Remediation	7.1242 expected: High	0.9871 expected: High	47.8% Exceeds ±20% — significant effect on the nitrifying community Nonconforming	QR 0.03 Acceptable — QR ≤ 0.5 Conforming	Nonconforming

Biodiversity trend: Biodiversity rising across phases. Diversity (Shannon / Simpson) is read as a trend across phases (rising = recovery) and compared with the expected level per phase; respiration and nitrification are evaluated against their thresholds.

VISUAL OVERALL ASSESSMENT

Ecotoxicology

	Before Remediation			During Remediation								After Remediation
	4.4.2023 WATER	19.12.2024 WATER	14.1.2025 WATER	20.2.2025 WATER	8.4.2025 WATER	6.5.2025 WATER	5.6.2025 WATER	8.7.2025 WATER	7.8.2025 WATER	30.10.2025 WATER	4.12.2025 WATER	10.2.2026 WATER
A. fischeri 15	C	C	D	E	E	C	C	C	C	D	D	D
A. fischeri 30	C	C	C	E	E	C	C	C	C	D	D	D
Algae	D	D	D	D	D	D	D	D	D	D	D	D
Daphnids	E	D	D	D	E	D	D	D	D	D	E	D
Lettuce aquatic	D	C	C	C	C	C	C	C	C	E	D	E
Worst (per date)	E	D	D	E	E	D	D	D	D	E	E	E

Result: Stable across phases

Chemistry

	Before Remediation				During Remediation								After Remediation
	4.4.2023 WATER	19.12.2024 WATER	14.1.2025 WATER	20.2.2025 WATER	8.4.2025 WATER	6.5.2025 WATER	5.6.2025 WATER	8.7.2025 WATER	7.8.2025 WATER	30.10.2025 WATER	4.12.2025 WATER	10.2.2026 WATER	
Heavy Metals	High	High	High	High	High	High	High	High	High	High	High	-	
Industrial Chemical	High	High	High	High	High	High	High	High	High	High	High	-	
Others	None	None	—	None	None	—	—	None	None	None	None	-	
Worst (per date)	High	High	High	High	High	High	High	High	High	High	High	-	

Result: **Stable across phases**

Supportive methods

	Before Remediation				During Remediation								After Remediation
	4.4.2023 WATER	19.12.2024 WATER	14.1.2025 WATER	20.2.2025 WATER	8.4.2025 WATER	6.5.2025 WATER	5.6.2025 WATER	8.7.2025 WATER	7.8.2025 WATER	30.10.2025 WATER	4.12.2025 WATER	10.2.2026 WATER	
Shannon index	-	6.64	-	-	6.37	6.46	6.44	6.16	5.97	7.67	-	7.12	
Simpson index	-	0.98	-	-	0.98	0.98	0.98	0.98	0.97	0.99	-	0.99	
Respiration	-	Non-conf	-	-	-	-	-	-	Non-conf	Conf	-	Conf	
Nitrification	Non-conf	-	-	-	-	-	-	-	-	Non-conf	-	Non-conf	

Result: **Biodiversity rising across phases**

CONCLUSION

Based on the most recent data (After Remediation) for Ferrara – ER-site, the site is assessed as: Remediation recommended. Chemistry: no classified measurements available for this phase. Ecotoxicology: dominant category is E (Very high toxicity). The most sensitive organism is Lettuce aquatic. Across the recorded phases, chemistry risk is stable across phases and ecotoxicity is stable across phases. Recommendation: the contamination level still warrants action — continue or adjust the remediation strategy, identify the main contaminant, and re-sample to confirm a downward trend. Biology / supportive methods (provisional): biodiversity rising across phases; nitrification exceeds $\pm 20\%$ — significant effect on the nitrifying community. These indicators are shown for reference and do not yet affect the overall stance.

Auto-generated draft. Supportive-method values are provisional and do not yet affect the overall stance.