Overall Evaluation

Ferrara / ER-site · Italy · Project: **Nymphe**

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OVERALL ASSESSMENT

Remediation recommended

Based on the latest sampling date: 13.4.2026 (During Remediation)

PHASE-BY-PHASE VERDICTS

	Before Remediation	During Remediation						After Remediation	
Domain	4.4.2023 WATER	8.4.2025 WATER	5.6.2025 WATER	4.12.2025 WATER	27.1.2026 WATER	10.2.2026 WATER	9.3.2026 WATER	13.4.2026 WATER	—	**Trend**
Ecotoxicology	E Daphnids	D A. fischeri 15	E Daphnids	D Algae	D Algae	D Lettuce aquatic	D Lettuce aquatic	D Algae	·	Stable
Chemistry	High 2 high · 0 risk · 1 ok	High 2 high · 0 risk · 1 ok	High 2 high · 0 risk · 1 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										—
Shannon index	·	5.96	5.96	6.68	6.04	6.9	6.47	·	·	
Simpson index	·	0.97	0.97	0.98	0.97	0.98	0.98	·	·	
Respiration	·	Non-conf	Conf	Conf	·	·	·	Conf	·	
Nitrification	Non-conf	Non-conf	Non-conf	Non-conf	·	·	·	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
Baseline 1	Water	During Remediation	**5.955** expected: Moderate or gradually increasing	**0.9661** expected: Low to moderate	26.7% **Exceeds ±20% — significant effect on the nitrifying community** Nonconforming	QR 1.51 **QR above 0.5 — verify the aerobic heterotrophic bacteria (AHB) count** Nonconforming	Nonconforming
Baseline 2	Water	During Remediation	**5.955** expected: Moderate or gradually increasing	**0.9661** expected: Low to moderate	49.7% **Exceeds ±20% — significant effect on the nitrifying community** Nonconforming	QR 0.25 **Acceptable — QR ≤ 0.5** Conforming	Nonconforming
NYM3 135 days	Water	During Remediation	**6.6785** expected: Moderate or gradually increasing	**0.9819** expected: Low to moderate	36.5% **Exceeds ±20% — significant effect on the nitrifying community** Nonconforming	QR 0 **Acceptable — QR ≤ 0.5** Conforming	Nonconforming
NYM3 189 days	Water	During Remediation	**6.0438** expected: Moderate or gradually increasing	**0.9735** expected: Low to moderate			—
NYM3 203 days	Water	During Remediation	**6.9008** expected: Moderate or gradually increasing	**0.9822** expected: Low to moderate			—
NYM3 230 days	Water	During Remediation	**6.4735** expected: Moderate or gradually increasing	**0.9812** expected: Low to moderate			—
NYM3 265 days	Water	During Remediation	— expected: Moderate or gradually increasing	— expected: Low to moderate	11.1% **Within ±20%** Conforming	QR 0.21 **Acceptable — QR ≤ 0.5** Conforming	Conforming

Biodiversity trend: Not enough phases to compare. 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	8.4.2025 WATER	5.6.2025 WATER	4.12.2025 WATER	27.1.2026 WATER	10.2.2026 WATER	9.3.2026 WATER	13.4.2026 WATER	—
A. fischeri 15	C	D	C	C	C	A	B	B	
A. fischeri 30	C	D	C	C	C	A	A	B	
Algae	D	D	D	D	D	C	C	D	
Daphnids	E	D	E	D	C	C	C	B	
Lettuce aquatic	D	C	D	D	D	D	D	D	
Worst (per date)	**E**	**D**	**E**	**D**	**D**	**D**	**D**	**D**	

Result: **Stable across phases**

Chemistry

	Before Remediation	During Remediation						After Remediation
	4.4.2023 WATER	8.4.2025 WATER	5.6.2025 WATER	4.12.2025 WATER	27.1.2026 WATER	10.2.2026 WATER	9.3.2026 WATER	13.4.2026 WATER	—
Heavy Metals	High	High	High	High	High	High			
Industrial Chemical	High	High	High	High	High	High			
Others	None	None	None	None	None	None			
Worst (per date)	**High**	**High**	**High**	**High**	**High**	**High**			

Result: **Stable across phases**

Supportive methods

	Before Remediation	During Remediation						After Remediation
	4.4.2023 WATER	8.4.2025 WATER	5.6.2025 WATER	4.12.2025 WATER	27.1.2026 WATER	10.2.2026 WATER	9.3.2026 WATER	13.4.2026 WATER	—
Shannon index		5.96	5.96	6.68	6.04	6.9	6.47		
Simpson index		0.97	0.97	0.98	0.97	0.98	0.98		
Respiration		Non-conf	Conf	Conf				Conf	
Nitrification	Non-conf	Non-conf	Non-conf	Non-conf				Conf	

Result: **Not enough phases to compare**

CONCLUSION

Based on the most recent data (During Remediation) for Ferrara – ER-site, the site is assessed as: Remediation recommended. Chemistry: dominant level is High Risk (40 high-risk, 6 risk, 56 no-risk, 83 unclassified of 185 measurements). Ecotoxicology: dominant category is E (Very high toxicity). The most sensitive organism is Daphnids. 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): nitrification exceeds ±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.