

Flyfishing Database: Next Steps Guide

1. Where You Are Now

You now have a fully functional SQLite database (**flyfishing.db**) containing all key components of your Flyfishing Intelligence Project. It holds integrated data from reports, weather, and venues, ready for querying, analysis, and predictive modelling.

2. Database Structure

The database includes four core tables and two pre-built SQL views:

Tables

- **venues** – metadata and weather-station mapping
- **reports_raw** – original fishing reports
- **reports_enriched** – structured, analysis-ready data
- **weather_daily** – full daily weather record

Views

- **report_weather_summary** – joins reports with same-day weather
- **model_inputs_ready** – flattened data for predictive modelling

3. What You Can Do Next

Now that the data is structured, you can begin exploring relationships, building models, and producing visual insights. Recommended activities:

- Explore and learn relationships – use SQL or DB Browser to run queries like rod_average vs. temperature.
- Build predictive models – train machine learning models to relate weather and fly patterns to success rates.
- Create visual dashboards – use Power BI, Tableau, or Python plotting libraries to visualise trends.
- Grow your dataset – append new weekly reports and re-run the build script to keep the database current.
- Automate updates – schedule data generation and rebuild tasks to maintain a live intelligence system.

4. Example Analytical Queries

Use these examples to start exploring correlations within the data:

Average rod average by temperature band:

```
SELECT CASE WHEN w.t_avg_day < 8 THEN 'Cold (<8°C)' WHEN w.t_avg_day BETWEEN 8 AND 12 THEN 'Mild (8–12°C)' ELSE 'Warm (>12°C)' END AS temp_band, AVG(e.rod_average) AS avg_rod_rate FROM reports_enriched e LEFT JOIN weather_daily w ON e.venue = w.location AND e.date = w.date GROUP BY temp_band;
```

Python Example:

```
import sqlite3, pandas as pd
conn = sqlite3.connect(r"C:/Users/nickd/OneDrive/Fishing project/Database/flyfishing.db")
df = pd.read_sql("SELECT * FROM model_inputs_ready LIMIT
```

```
10;", conn) print(df.head()) conn.close()
```

5. Roadmap

Suggested progression from exploration to automation:

- Phase 1 – Explore: Run queries, identify relationships.
- Phase 2 – Visualise: Build plots and dashboards.
- Phase 3 – Model: Train predictive models (scikit-learn or XGBoost).
- Phase 4 – Recommend: Generate fly and venue advice from model outputs.
- Phase 5 – Automate: Set scheduled updates and weather fetches.

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