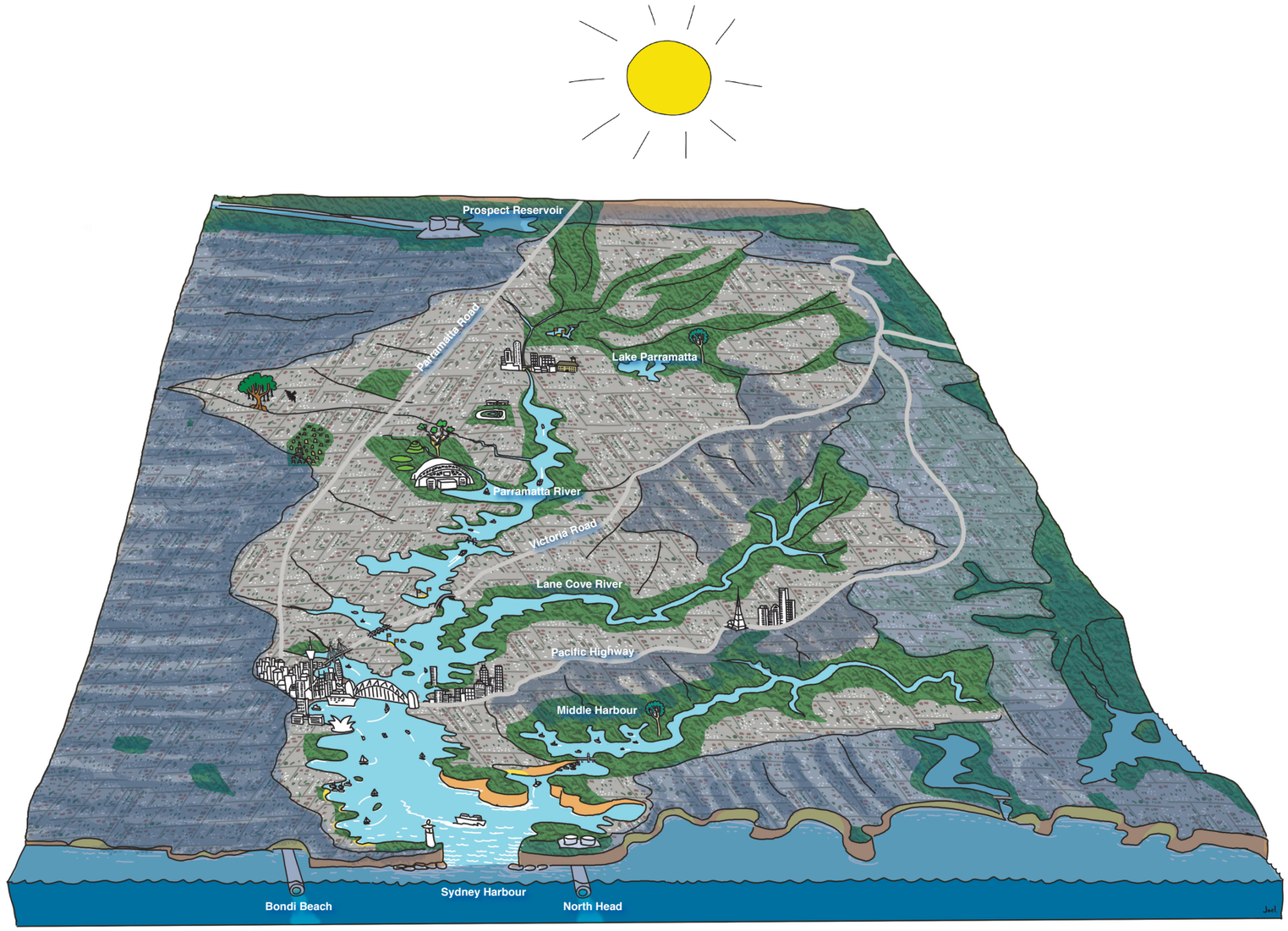
Stormwater and water quality in Sydney Harbour

Dry weather

In dry weather, water quality in many parts of the harbour is suitable for swimming.

Past industry and poor waste management practices have left a legacy of chemical contaminants in parts of the Harbour.

Chemical contaminants are bound in sediments and vary in concentration along the estuary.

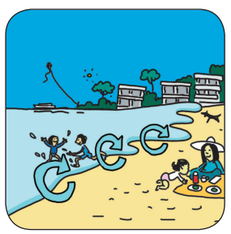


Development in catchments and on foreshores increases hard surfaces, reducing spaces that can absorb rainwater and support nature.

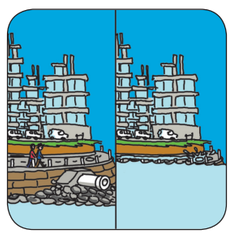
Plastic litter and fishing line disposed directly into waterways can be swallowed by and entangle wildlife.

Chemical contaminants, rubbish and organic matter build up on roads and hard surfaces, ready to be blown or washed into stormwater drains and into the harbour.

Water circulation in Sydney Harbour is dominated by tides. Tidal flows ensure a well-mixed estuary with small salinity range.



Wash from ferries and boats, wind and waves can cause bank erosion. Inner harbour beaches are largely protected due to low wave energy.



Human induced climate change is increasing sea levels, tide levels and water temperatures.

Microbial contamination can come from poop from pets, feral and native animals – as well as overflows from the wastewater system.

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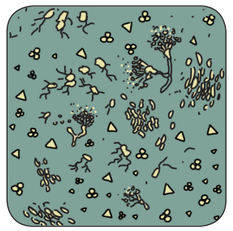
Stormwater and water quality in Sydney Harbour

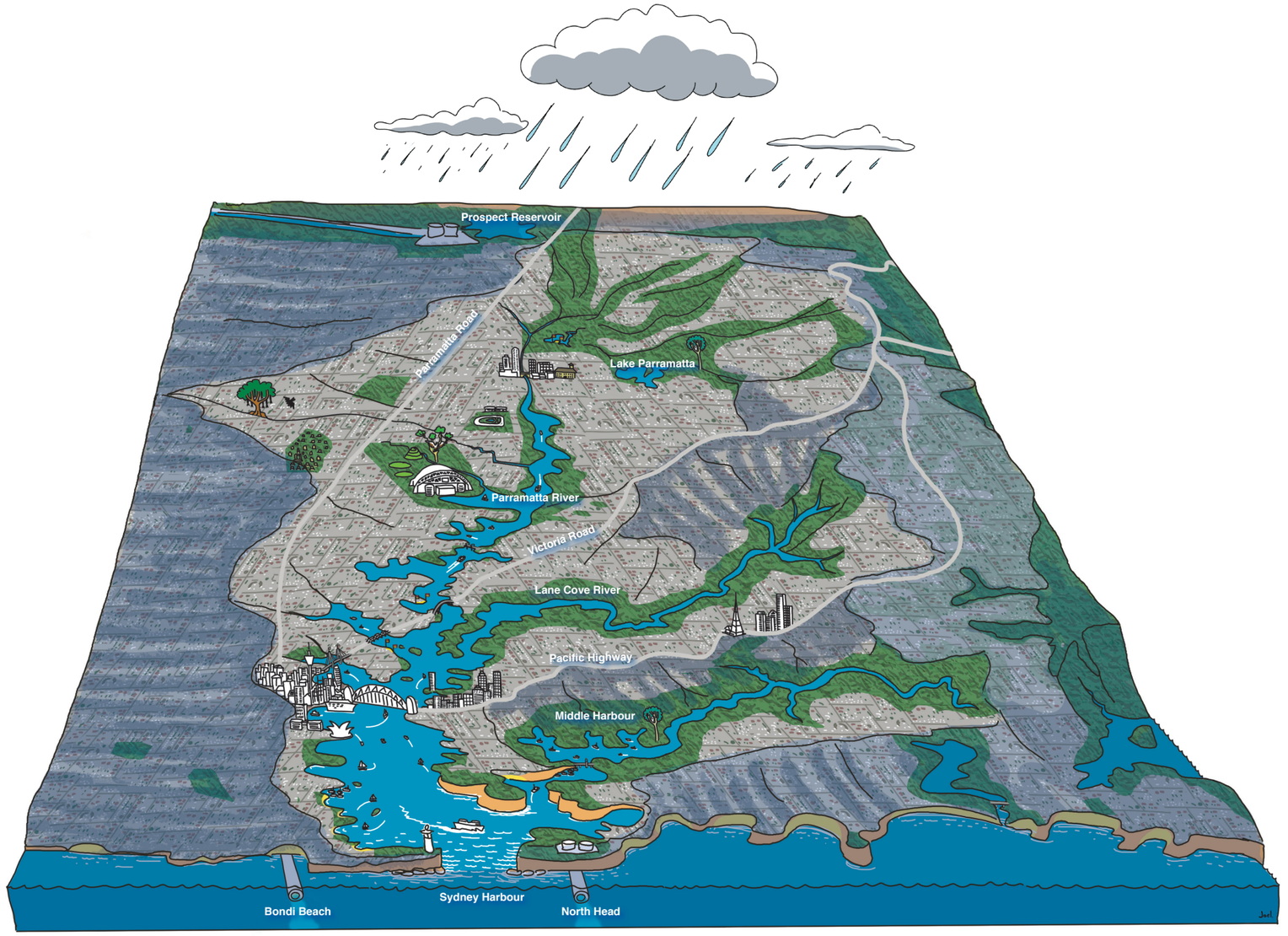
Wet weather

Stormwater run off from urban areas transports rubbish, animal poop, nutrients and contaminants into stormwater channels and the harbour.

When the wastewater system is blocked or exceeds capacity in heavy rain, wastewater can overflow to the local environment and into waterways.

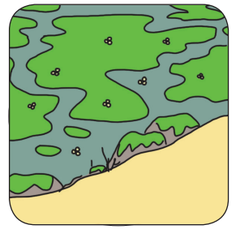


Higher levels of microbial and chemical contaminants in wet weather make waterways unsuitable for swimming.



Sand and soil wash away from badly managed building sites. Sediments, nutrients, contaminants and litter wash into the harbour.

Sediments turn water brown and cloudy. They can smother marine plants, animals and habitats and stop sunlight reaching key species like seagrass.



Nutrients transported to the harbour can lead to high levels of algal growth especially in the estuary, and in creeks and bays.

Paved surfaces can't absorb stormwater. Urban catchments generate much more stormwater than natural catchments.

After heavy rainfall in steep urban catchments stormwater can damage beaches, foreshores, streams and wetlands.

Larger plastics form microplastics through weathering, wave action and wind abrasion then enter the aquatic food chain.

Human induced climate change is causing more intense rainfall and stormwater runoff.

Storm waves and storm surge entering the harbour can erode foreshores and damage coastal infrastructure.

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