# Inland fish farms in Tasmania and river health

## EPA Division & Inland Fisheries Service

Prepared for Anglers Alliance Tasmania
February 2016

Inland Fisheries Service

**Department of Primary Industries, Parks, Water and Environment**

Tasmanian Government

# Presentation Outline

- EPA Division and IFS review of inland fish farms in 2015
- Overview of legislation relevant to inland fish farms
- River health and fish farms
- Reporting environmental complaints

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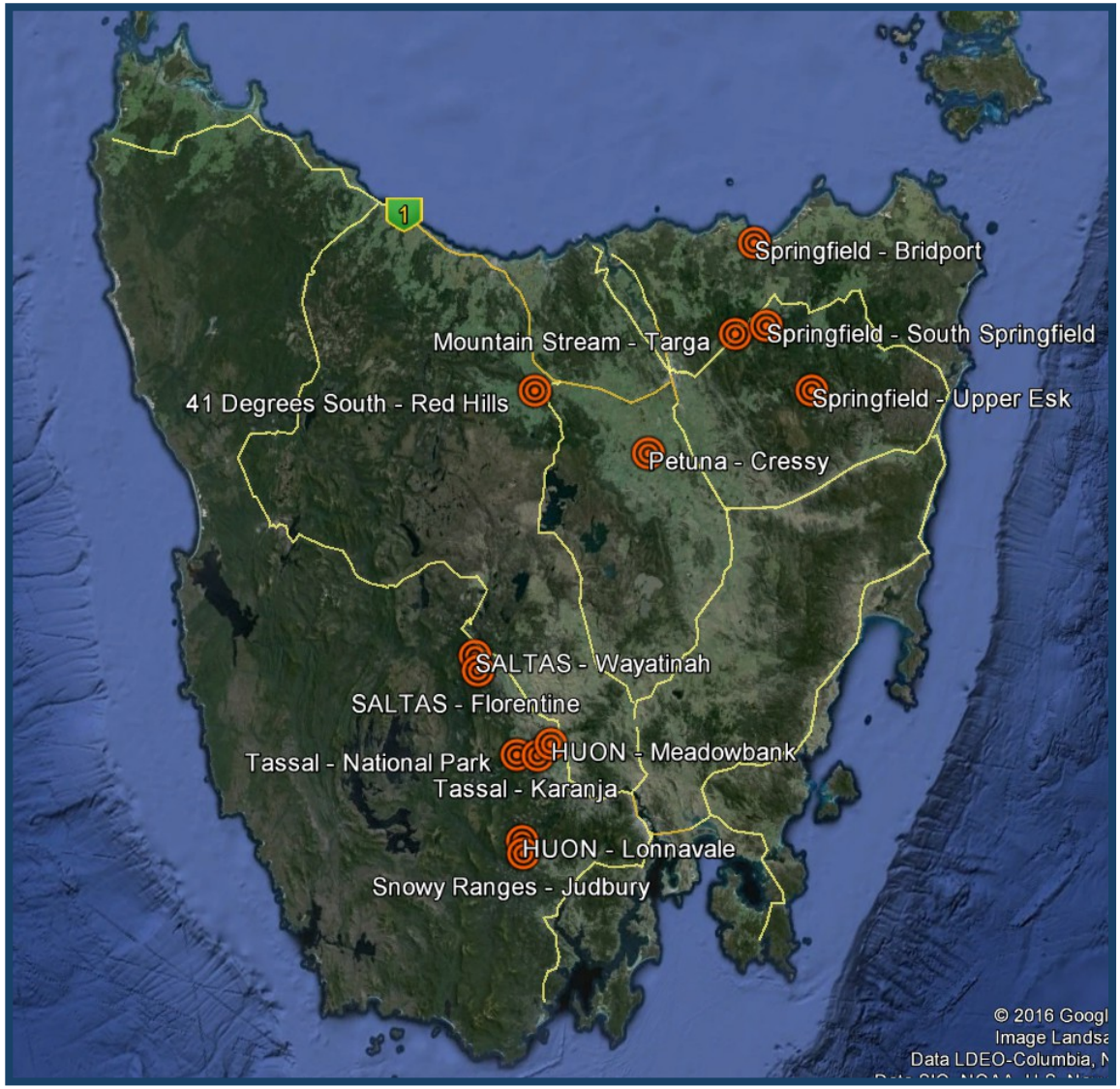
# Inland fish farms in Tasmania

- 2015 review of inland fish farms by the EPA Division and the Inland Fisheries Service
- Large scale flow through fish farms, not full recirculation facilities.
- There are 14 flow through fish farms in Tasmania with most producing smolt for marine farms and some freshwater trout production.
- Flow through farms take and return water to rivers.
- Impacts to water quality can occur from nutrients in feed inputs and fish metabolic waste being present in the farm discharge.



# Inland fish farms in Tasmania

RIVER

**Fish growing areas**

Indoor or outdoor tanks, ponds or raceways

Some sites with seasonal water reuse or partial recirculation systems

**Water treatment** (screening, settlement ponds; or in RAS for nitrogen and CO2 removal before reuse)

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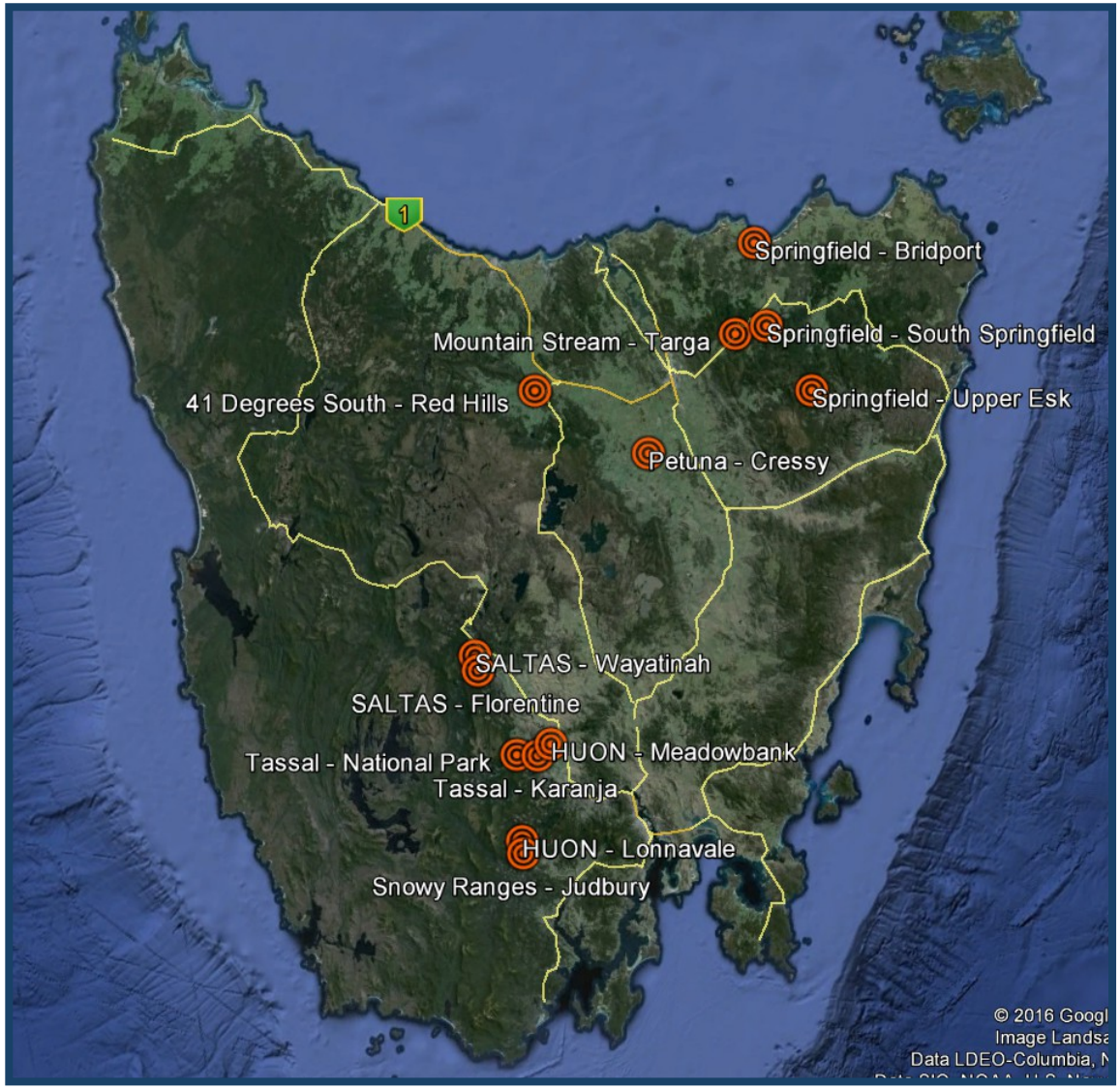
# Inland fish farms in Tasmania

The review found:

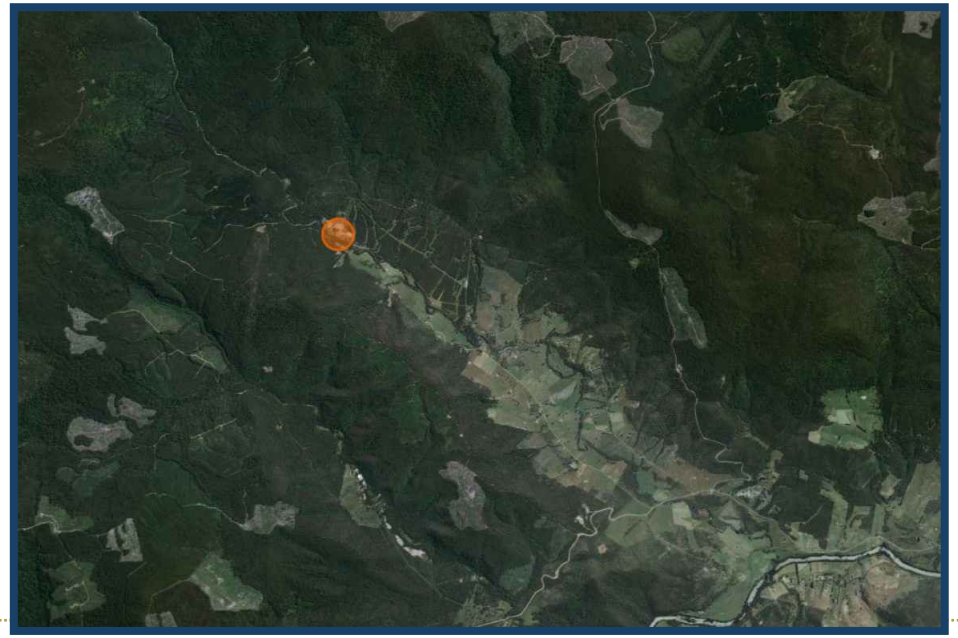
- Inconsistent environmental regulation and with some farms having no environmental conditions.
- Some farms had inadequate effluent treatment.
- In periods of low river flows some farms are likely to cause impacts to rivers - such as increased algal growth.
- More information is needed for most farms to set discharge limits to protect water quality.
- A recommendation has been made to the Minister for policy development to address these issues.



## Regulation of Huon Aquaculture's farm on the Russell River,

- The Director EPA issued an EPN to regulate this activity due to the high number of complaints and evidence of impacts to water quality in the Russell River.
- Huon Aquaculture's report on river health and the farm discharge found that the outfall contributed to increased algae in the river but did not negatively impact fish or invertebrates.

- The EPN sets limits on the discharge and restricts the amount of feed that can be added to the flow through farm. Detailed monitoring of the activity and the river will continue.
- An EPA technical report which provides a review of Huon's report and the monitoring data is available on the EPA website.



# Legislation relevant to Inland fish farms in Tasmania

***Land Use Planning and Approvals Act (1993)***
Planning approval

***Inland Fisheries Act (1995)***
Fish farm licence

***Water Management Act (1999)***
Water licence

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***Environmental Management and Pollution Control Act (1994)***
Environmental Protection Notice from local Council or Director EPA

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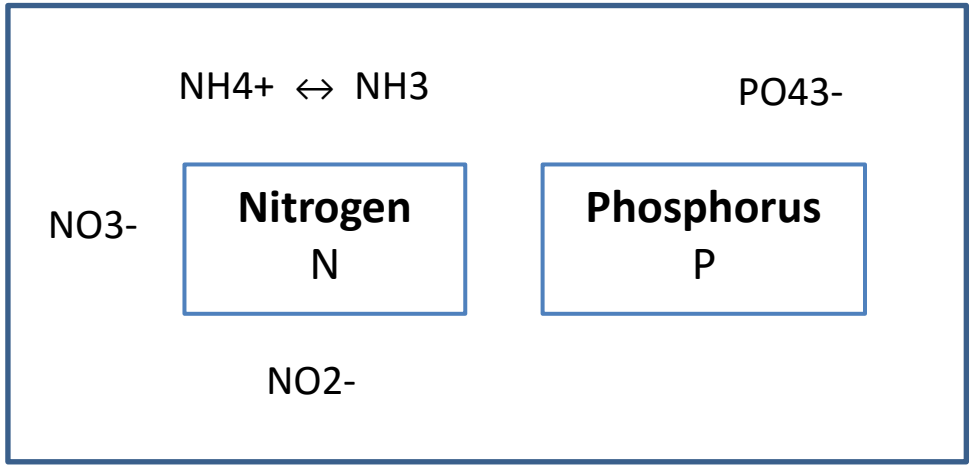
***Environmental Management and Pollution Control Act (1994)***
Environmental Protection Notice
~~Environmental Assessment by the Board of the EPA~~
~~Automatic regulation by the Director EPA~~

***State Policy on Water Quality Management 1997***
Defines Protected Environmental Values
Provisions to set Water Quality Objectives

**The Resource Management & Planning System of Tasmania**
(defined objectives to deliver sustainable development)

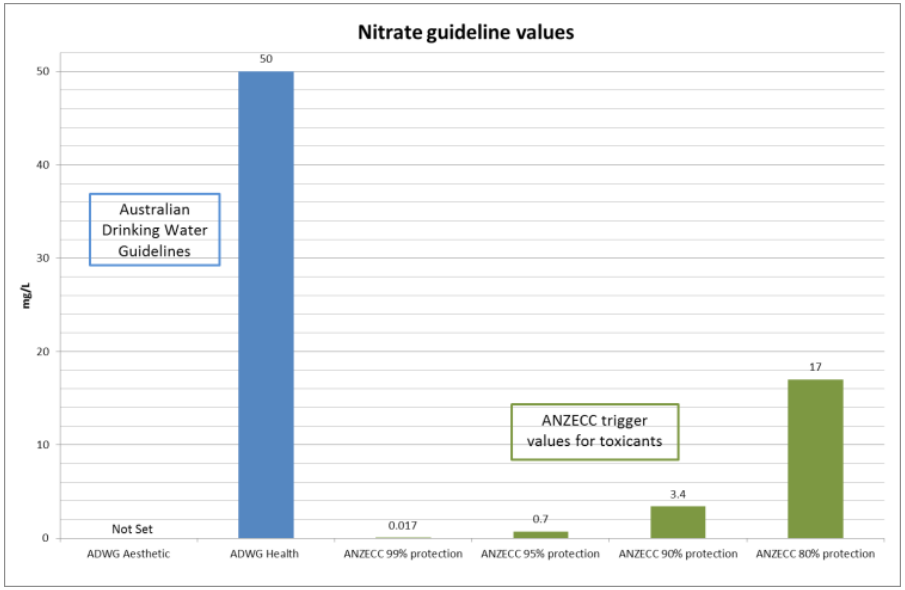
# River health and fish farms

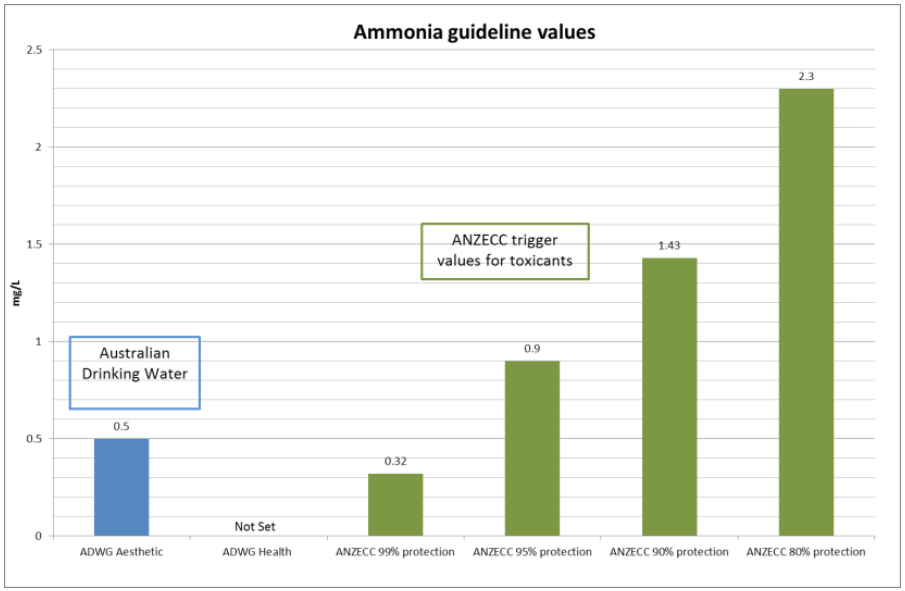
- The primary environmental issue for fish farm activities is the quality of the water being discharged to rivers.
- Effluent from fish farms contains elevated nutrients that are readily available to algae as dissolved forms of nitrogen and phosphorus.
- When river conditions are favourable, the nutrients, added to existing background loads, promote algal growth.
- Algae is likely to increase with warmer temperatures, where there is more light, and in shallower and slower moving water.



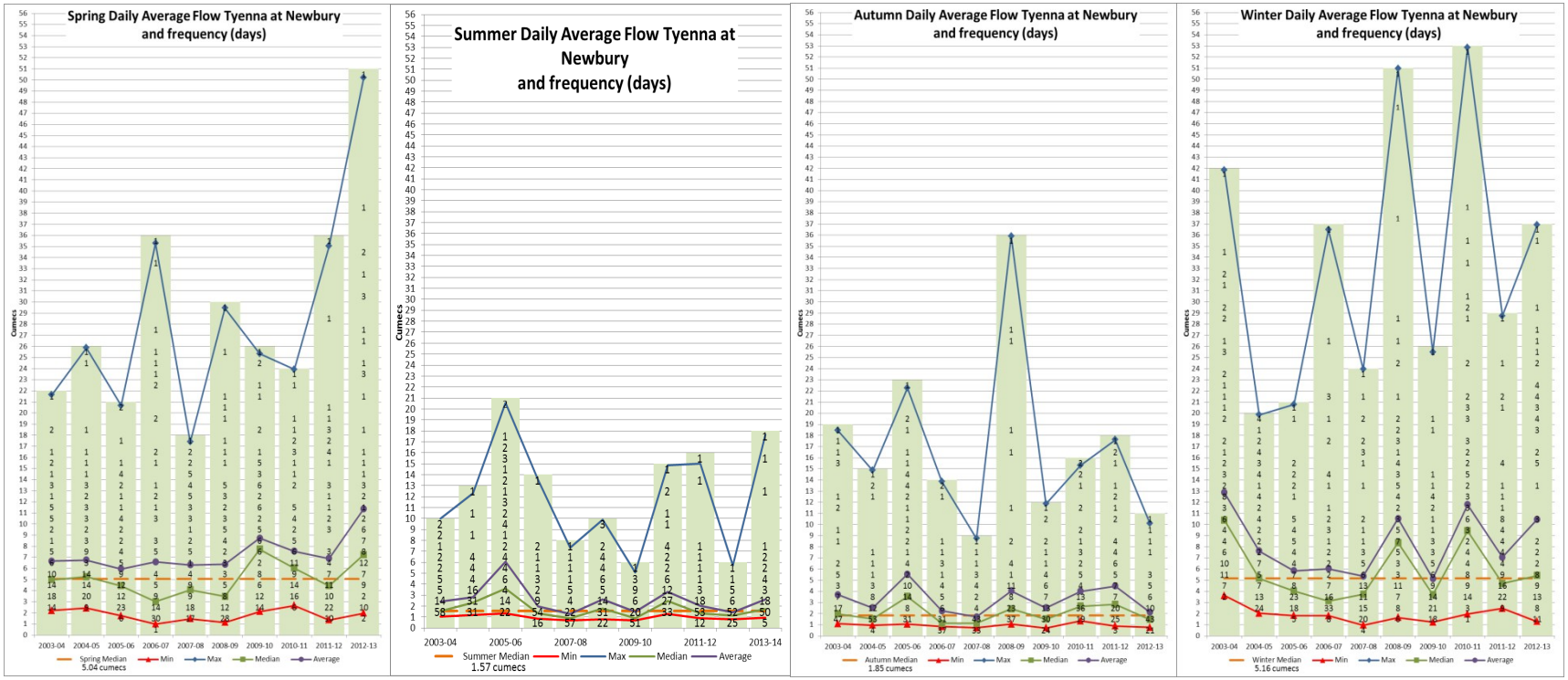
# RIVER HEALTH AND FISH FARMS

- Untreated high strength fish farm effluents can have ammonia and nitrate concentrations that are above ANZECC toxicant trigger values.
- High strength effluents can also reduce dissolved oxygen in waterways as organic matter in the effluent breaks down.
- Fish farm effluents may also contain fish pathogens and residues of therapeutant chemicals used in fish husbandry.
- The review did not find evidence of effluents with toxic concentrations being discharged from any of the fish farms.



Conditions where stronger effluents are discharged to rivers with low dilution capacity can occur when periods of low river flows coincide with high farm production.



# River health and fish farms

- River water quality is also impacted by other sources of pollution.
- Point sources such as sewage treatment plant discharges.
- Diffuse sources from land uses such as agricultural use of fertilisers or spread farm wastes that can enter rivers in runoff and soil erosion events and from groundwater upwelling.

# Finding out more about rivers and water quality

The National Resource Management (NRM) regional programs support several projects monitoring water quality.

To find out what is happening in your area or to be become involved please contact your regional office.

**NRM North**
Toni Furlonge
Water Watch Program Coordinator
Ph: (03) 6333 7777
Email: TFurlonge@nrmnorth.org.au

**NRM South**
Nepelle Crane
Catchments and Coastal Coordinator
Ph: 03 6221 6112 | Mb: 0429 168 518
Email: ncrane@nrmsouth.org.au

**NRM Cradle Coast**
Grant Pearce
Operations Manager
Ph: (03) 6431 6285 | Mb: +61 408 146 817
Email: gpearce@cradlecoast.com

# Reporting POLLUTION OR FISH KILLS

For a pollution incident or to lodge a complaint about an agricultural activity or domestic waste discharge please contact your local Council **Environmental Health Officer**.

To notify the **Director EPA** of a fish kill or a pollution incident that may be related to a fish farm, or to lodge a complaint, please call the Pollution Incidents and Complaints Hotline number: **1800 005 171**.

This number is available 24 hours a day, 7 days a week.

The notification or complaint must include:

- your full name, address and telephone contact details
- date, time and duration of the incident
- the type of pollutant or a description of the incident, discharge or emission
- location of the incident, being as specific as possible
- the source and cause of pollution if known
- the extent or size of the area where the pollution is visible
- anything else that is relevant to the incident

If you are able to take any photographs of the incident, these will be useful and can be sent at a later time.