Idaho Department of Environmental Quality

Idaho Narrative Nutrient Criteria & IPDES Nutrient Limits; WQ Staff & Permit Writers Coordination

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IPDES Permits Supervisor

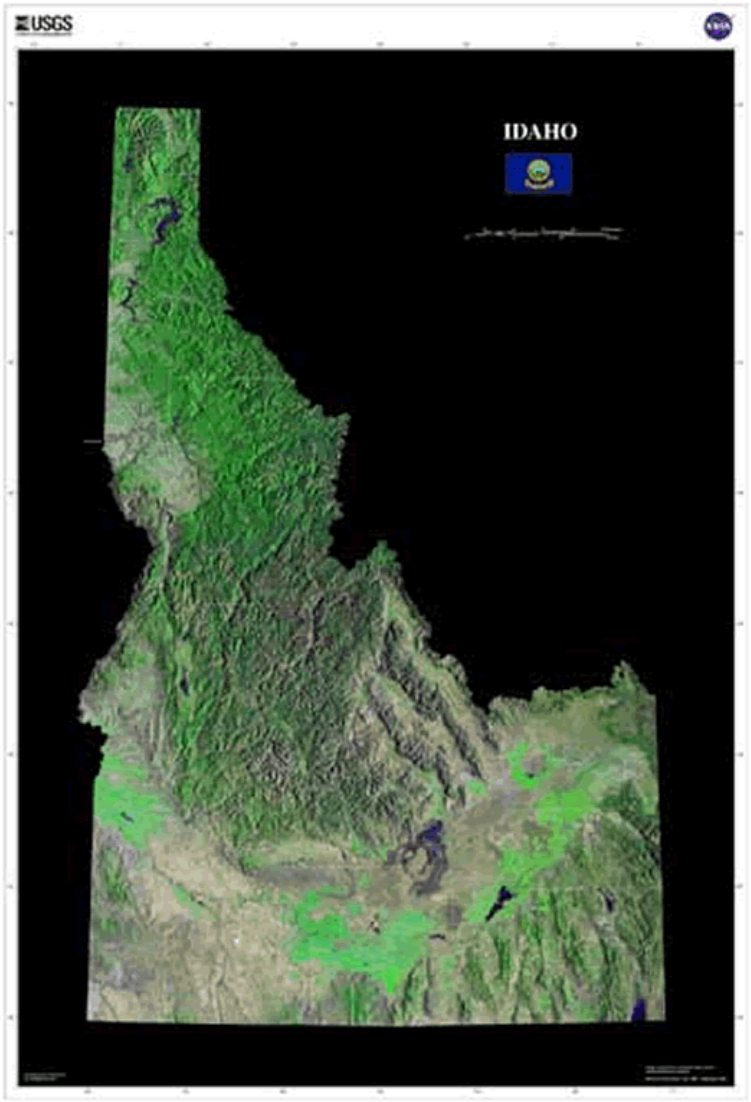
IPDES Implementation Status

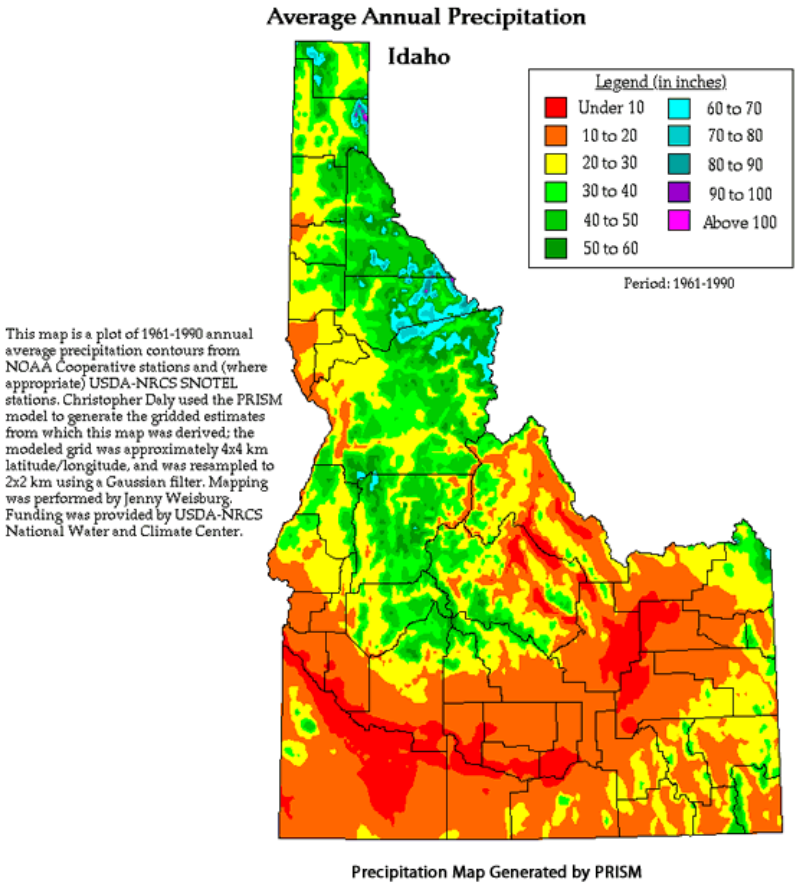
- Idaho phasing in delegated authority
- Phase 1
  - July 1, 2018
    - Publicly Owned Treatment Works
    - Pretreatment
- Phase 2
  - July 1, 2019
    - Industrial / Manufacturing
    - Mines
    - Privately Owned Treatment Works

IPDES Implementation Status

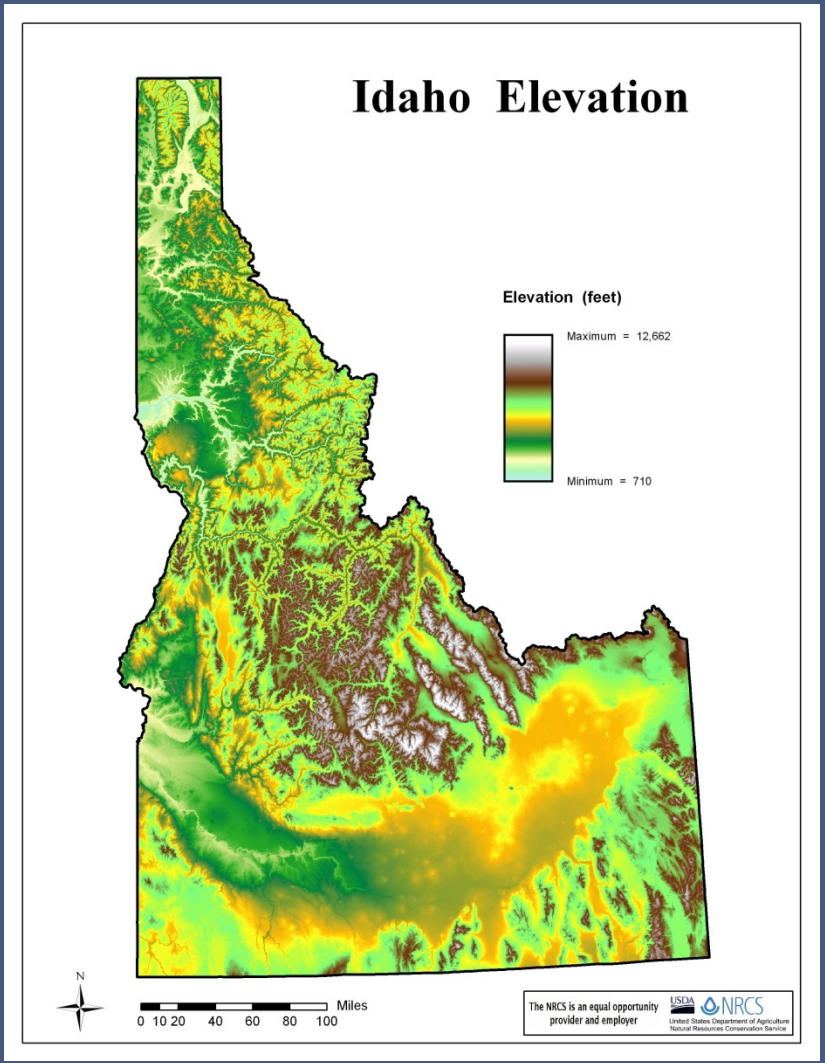
- Phase 3
  - July 1, 2020
    - General Permits sans storm water
- Phase 4
  - July 1, 2021
    - Storm Water related general permits
      - MS4
      - MSGP
      - CGP
    - Biosolids
    - Federal Facilities

Idaho Narrative Nutrient Limits





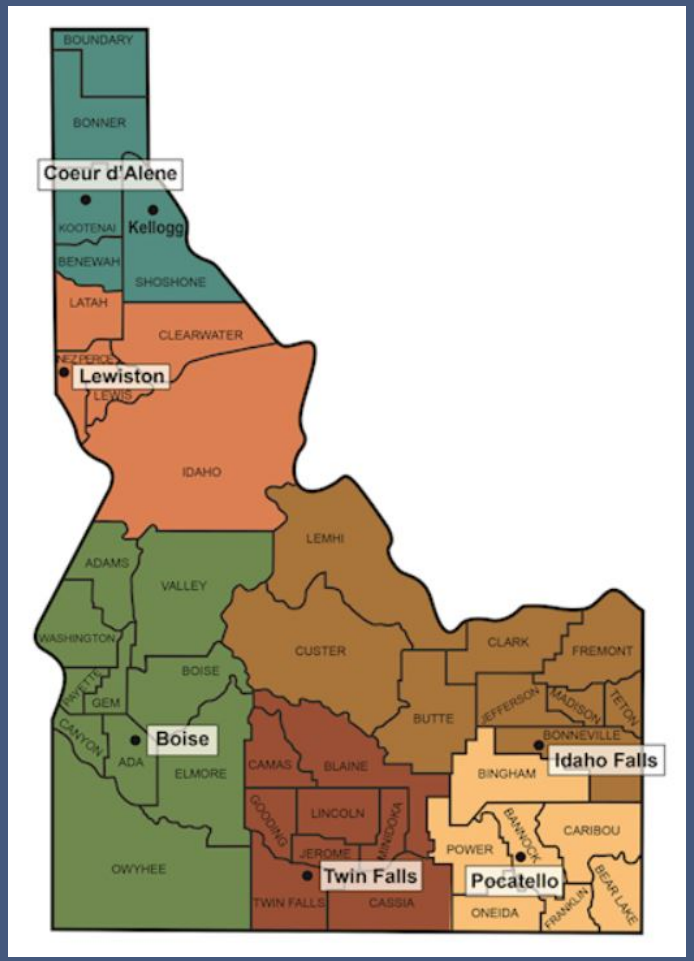
Idaho Narrative Nutrient Limits



- Idaho's main attributes
  - 107,651 stream miles
    - 891 miles designated Wild & Scenic
  - Over 2,000 lakes
    - Lake Pend Oreille
      - 180 square miles
      - 1,150 ft deep
  - Agriculture (top 5)
    - Barley
    - Hops (2nd to WA)
    - Sugar beets
    - Alfalfa
    - Potatoes (#1)
  - Aquaculture
    - Rainbow Trout

Idaho Narrative Nutrient Limits

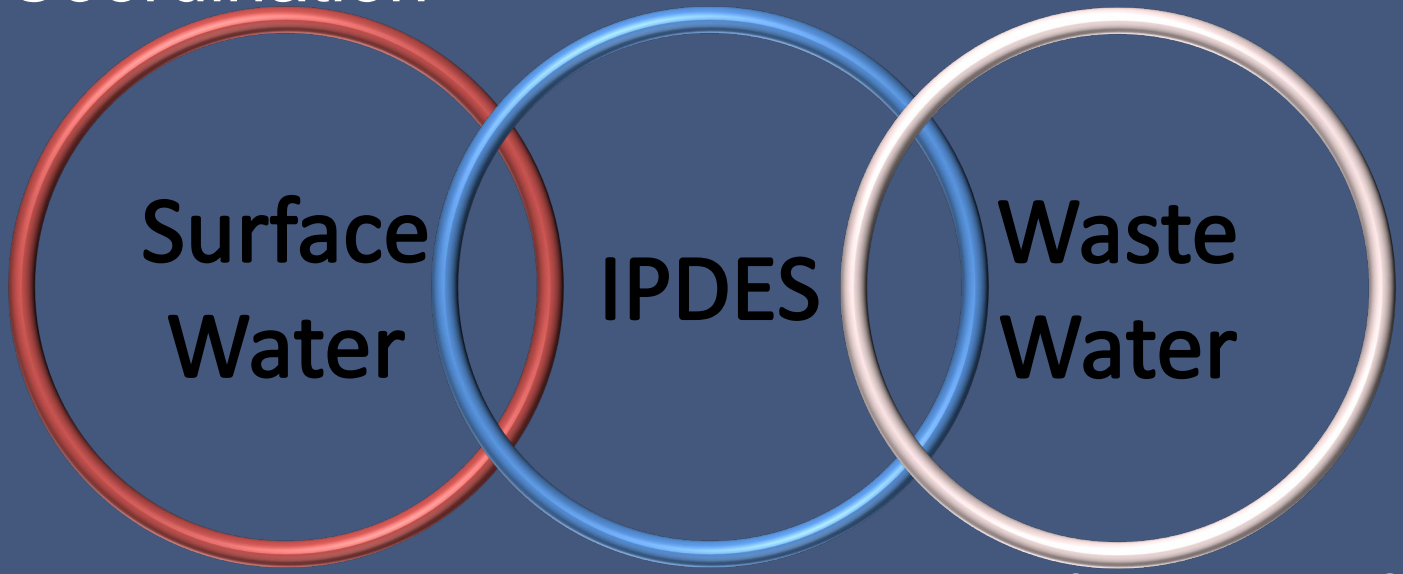
- Idaho DEQ organization
  - State office in Boise
  - Regional offices
    - Coeur d'Alene
    - Lewiston
    - Boise
    - Twin Falls
    - Pocatello
    - Idaho Falls



WWW.DEQ.IDAHO.GOV/REGIONAL-OFFICES-ISSUES/

Idaho Narrative Nutrient Limits

- Program Integration
- Program Administration
  - State Office - Implementation
  - Regional Offices - Local Communication and Coordination



Idaho Narrative Nutrient Limits

- Idaho Water Quality Standards:
  - **General Surface Water Quality Criteria**. The following general water quality criteria apply to all surface waters …
    - **Deleterious Materials**. Surface waters … shall be free from deleterious materials in concentrations that impair designated beneficial uses. These materials do not include suspended sediment produced as a result of nonpoint source activities.

Idaho Narrative Nutrient Limits

- Idaho Water Quality Standards:
  - **General Surface Water Quality Criteria.**
    - **Floating, Suspended or Submerged Matter**. Surface waters … shall be free from floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses. This matter ….

Idaho Narrative Nutrient Limits

- Idaho Water Quality Standards:
  - **General Surface Water Quality Criteria**.
    - **Excess Nutrients**. Surface waters … shall be free from excessive nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses.

Idaho Narrative Nutrient Limits

- IPDES Effluent Limits Development Guidance
  - §3.7.1 Nutrients

- Additional factors
  - Light penetration
  - Stream velocity
  - Substrate stability
  - Abutting land use
  - Temperature
  - Intensity & Frequency of floods

Idaho Narrative Nutrient Limits

- Non-impaired Waters (§3.7.1.2.3)
  - Incorporate Monitoring & Reporting in permit
    - Effluent
    - Upstream & Downstream receiving water
  - Complete a RPA
    - RPTE if 10% increase in receiving water [C]
  - Work with RO WQ staff to establish nutrient target in order to calculate appropriate limit

Idaho Narrative Nutrient Limits

- Impaired Waters with TMDL (§3.7.1.2.1)
  - Use the assigned WLA as the WQBEL
    - Justified by (§3.7.1.6.1)
      - Appropriate averaging period of 30 days
      - Critical low flow of 30Q3

Idaho Narrative Nutrient Limits

- Impaired Water lacking TMDL (§3.7.1.2.2)
  - Permit Writer will investigate:
    - Applicability of CWA §304(a) criteria
    - How discharge may be limited to prevent downstream criteria exceedances for pH, DO, …
    - Similar water bodies with TMDLs – see what they say
    - Work with RO WQ staff to establish nutrient targets that can be used to establish permit limits

Idaho Narrative Nutrient Limits

- Averaging Period (§3.7.1.3)
  - Should reflect receiving water response time frame
    - Transport time
    - Biological uptake
      - Rely on RO WQ staff to report receiving water response, if known
  - EPA Permit Writers Manual recommends
    - "…states may adopt seasonal or annual averaging periods for nutrient criteria instead of the 1-hour, 24-hour, or 4-day average duration typical of aquatic life criteria for toxic pollutants."

Idaho Narrative Nutrient Limits

- Critical Conditions, Frequency of Excursion, and Mixing Zones (§3.7.1.4)
  - 30Q3
  - Mixing Zones
    - Limited to 25% of flow
    - Applicant petition increase MZ

Idaho Narrative Nutrient Limits

- RPA for Nutrients (§3.7.1.5)
  - RW not impaired for nutrients
    - IPDES may choose 90th or 95th percentile of background nutrient load
    - IPDES uses 95th percentile of monthly daily maximum effluent based on daily maximum DMR data, instead of the MOEC * RPMF
    - IPDES uses the values in the simple mass balance equation (continuity)
    - Results are assessed with the RO WQ staff on a case-by-case basis

Idaho Narrative Nutrient Limits

- Resulting permit limits for nutrients
  - IPDES anticipates using seasonal limits
  - Committed to regulated community that the minimum limit time frame will be monthly
    - Seasonal limit
    - Monthly limit
    - Typically in loads (lbs/day)
    - May implement [C] (mg/L) on case-by-case basis

Further Information:

Idaho Department of Environmental Quality

Water Quality Standards Bureau

http://www.deq.idaho.gov/water-quality/surface-water/standards/

IPDES Bureau

http://www.deq.idaho.gov/water-quality/ipdes/

Thank you