Stormwater Management for Highway Projects
Regulatory Environment and Tools

Stormwater runoff is an issue of national concern. The quality and quantity of runoff is degrading the quality of streams and rivers.

Copper is the hot pollutant for salmon, but it not the only pollutant the Regulatory and Resource agencies are concerned about.

Criteria for Effects Determinations under the Endangered Species Act are tightening up. NMFS is basing effects determinations not on changes between pre and post project conditions, but on the absolute quality of the stormwater.
NMFS has provided written (but not official) guidance for effect determinations:
LAA: New "pollutant generating impervious surface" that discharges to surface waters:

- Travel lanes
- Shoulder widening
- Turn lanes

NLAA: All stormwater from the Water Quality Design Storm is infiltrated

No Effect: Non-Pollutant generating surfaces

- Sidewalks
- Guardrail flares
- Separated bike paths

The definition of the ESA Action Area is uncertain, but potentially extends to the sea. Just because there are no listed species in the immediate project area does not mean that a BA is not required.

DEQ has increased its scrutiny of projects requiring CWA 401 certification for 404 permits. They have especially focused on protection of "Beneficial Uses." These include:

- Riparian impacts
- Channel modification
- In-water work windows
- Wetland impacts
- Hydrologic impacts

DEQ Stormwater Management Plan review aims to ensure that treatment is provided to the "Maximum Extent Practicable." No formal definition of MEP is available.

ODOT has approached the issue of stormwater management in a collaborative manner, working with the Regulatory and Resource agencies to make stormwater management and permitting work effectively and smoothly. We aim for certainty for projects, streamlined permitting, regulatory compliance, and net environmental benefit.

The **Water Quality Design Storm** established for each climate region:
1, 2, 3, 6, 7, 8 = 50% of the 2 year 24 hour storm
4, 9 = 67% of the 2 year 24 hour storm
5 = 75 % of the 2 year 24 hour storm

The **Flow Control** design storm: maintain frequency and duration of flows between
Lower Discharge Endpoint

- Western OR - 42 percent of the 2-year, 24 hour event
- Southeast, Northeast, North Central Regions: 48 percent of the 2-year, 24 hour event
- Eastern Cascades Region: 56 percent of the 2-year, 24 hour event

Upper Discharge Endpoint

- Minimally incised streams - Channel bank overtopping event
- Incised Streams -10-year/24-hour storm event

Flow control does not need to be addressed if the project increases the 10 year 24 hour storm discharge by less than 0.5 cfs

The BMP Selection Tool has been developed to help designers and project team select the best and most appropriate treatment techniques for individual projects.

- Key selection criteria (metrics)
  - Treatment capability
  - Physical site suitability
  - Maintenance
  - Resources, risk and public perception
  - Cost

The BMP Selection tool is being tested on an ODOT project to ensure its usefulness to designers and test its reception by NMFS in Biological Assessments. Following testing the Tool will be revised and guidance for its use developed.

BMPs have been rated for their effectiveness against the different classes of pollutants. The BMPs have been ranked by Preference:

- Infiltration
- Media filtration (ecology embankement, compost filter etc)
- Standard sedimentation BMPs with amended soil

Infiltration is usually the preferred treatment technique, but is not always appropriate or feasible.

UICs are back in play for stormwater management. They still need to be registered and permitted, but DEQ is more open to their use. DEQ is also advocating system permits. Treatment of stormwater still necessary, but the goal is drinking water standards, which are often easier to meet than NMFS levels of concern.

Regulatory tools:

- SLOPES IV will incorporate the results of the ODOT/Resource agency collaboration: Treat the WQ design storm using highly effective BMPs, and manage discharges for the flow control design storm.
- Individual consultations should incorporate the use of the BMP selection tool to show that stormwater is effectively treated. Can cover stormwater by "Incorporation by reference" from SLOPES IV, when it comes out.
- For SWMP approval for 401 Certification, ODOT and DEQ have developed a comprehensive checklist to supplement DEQ's submittal checklist. This is (or soon will be) available on the Geo/Environmental Web site.
- Training on SWMP development and review is being presented by ODOT and DEQ to ODOT staff. This training will be offered to Local Agencies and Consultants in the not too distant future.

Supporting documentation, checklists, etc. are available on the Water Resources page of ODOT's Geo/Environmental Web site:
http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/water_resources.shtml

Information specific to ODOT's Stormwater Initiative, including the BMP Selection Tool, Design Storms, and BMP Matrixes is at:
http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/Sub_Webs/Storm_Management_Intitiative.shtml, which can also be accessed through the ODOT G/E Water Resources Web page.

Additional design information can be found on the Hydraulic Web page:
http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/hydraulics1.shtml

DEQ guidance on the development of stormwater management plans is available at:
http://www.deq.state.or.us/wq/sec401cert/docs/stormwaterGuidlines.pdf

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