Workshop on Impervious Surface Data
Oct. 11, 2005, State Bldg, Room 11, 9:00 – 12:00

Agreed-upon items shown in bold with yellow highlighter.

Attendance List attached

Intro remarks by Shin-Roei Lee & Larry Kolb, and meeting facilitated by Sandi Potter, all with RWQCB.

First presentation by Sue Ma, RWQCB, summarized the project/impervious surface data collected and submitted by some SCVURPPP member cities. Power Point slides attached.

> Phil Bobel, Palo Alto, had a suggestion for how to determine San Jose's impervious surface addition, because San Jose did not have data. Others said that analysis had been attempted.
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> Kristy McCumby-Hyland, Sunnyvale, stated that some projects reduced impervious surface, which is not reflected in the data. Sue agreed that her analysis did not focus on this; there is also a question on how to account for second floor additions, as well as swimming pools.
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> Adam Olivieri, EOA: difference between total impervious surface vs. directly connected impervious area is a very important issue, and is not represented in the data.
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> Trish Mulvey, CLEAN SouthBay: interested in heat island and other effects as well.
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> Chris Sommers, EOA: We need to think about the context of the data, how much impervious surface already exists, and what kind of an increase this represents. I think the new development is only about 1% of total existing development of the Santa Clara Valley.
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> Jill Bicknell, EOA: We never intended the data Sue is discussing to be used for this reason, and never thought it was a high quality data set.
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> Sandi: The purpose of this presentation is to show what data we do have. Introduced next presentation:

Second presentation by Dr. Jack Gregg, CA Coastal Commission, discussed non-point source issues addressed by the Coastal Commission, including watershed and hydromodification issues. One project educates elected officials & planners about impervious surfaces' impact on water quality (non-point education for municipal officials, NEMO). This concept started in Connecticut. It includes tracking and monitoring to answer 6 questions that evaluate the effectiveness of current non-point source management activities: quality of water, extent of impairment, what are the sources, is water quality getting better or worse, is funding consistent, and effects on water quality. This program includes measurement of impervious surfaces. The theme of this year's Non-point Source conference in Sacramento is "how do you measure improvements in water quality by dealing with non-point source pollution." NEMO handout attached, and further info is on-line at California NEMO. NEMO is a statewide effort and is not limited to coastal areas only. Several people asked questions for further info about NEMO. The Coastal Commission works with State

Storm Water Ambient Monitoring Program and, in the future, others such as CASQA, in its work on non-point source pollution.

- 2-4 cities will probably be included in the NEMO program. No eligibility criteria have been developed yet.
- The Water Boards will issue an RFP in December or January for grant funding. Urban stormwater runoff projects will be eligible; retrofitting existing stormwater infrastructure is a top priority for Region 2 for grant funding.

Third presentation by Dr. Lester McKee, SFEI, discussed the Regional Storm Drain Mapping project, which maps storm drains of 24 inch diameter and greater. Power Point slides attached. Maps up on wall for observation, and can be purchased from Oakland Museum. Dr. McKee handed out 3 recent papers on impervious surface, which review 30-40 papers written prior to 2002. He discussed the linkage between impervious surface and physical, chemical, and biological impacts to creeks, as documented in the papers. Also how impervious surface data can be used for planning and other uses at various scales (from lot to regional levels). Lester made the point that not all impervious surface is the same; it depends where the impervious surface is located in the watershed.

Roger Narsim, SCVWD, mentioned that if you Google "storm drain assessment" you will find 100-200 entries that use impervious surface data to assess storm drain fees. He also provided the note-taker with information on a commercial source of impervious surface data (see www.digitalglobe.com).

Trish Mulvey asked if we need to collect impervious surface data everywhere: is there a placement element? Lester said certainly the directly connected impervious area affects water quality, etc., but we aren't sure (literature is inconclusive) about the rest. But total impervious surface is important to ground water quality/quantity. Trish stressed that we should be strategic about where we collect data.

Adam Olivieri noted there is a new article on impervious surface in Journal of Environmental Engineering (ASCE February 2005), and Shin-Roei Lee said she has copies of that editorial article here to distribute.

Jill Bicknell asked what is the meaning for management? Is there a threshold we should be looking for, as opposed to total impervious surface in a very urbanized area? Larry Kolb said the data could be especially useful for determining where retrofits would be most beneficial, and stressed that we are all looking outside our immediate areas of responsibilities to address some water quality issues.

Fourth presentation by Shin-Roei Lee, RWQCB, discussed and distributed a collection of forms used around the Bay Area to collect impervious surface data, attached. Forms now in use include:

- Palo Alto: used for fee calculation, contain a definitions page and a map depicting watersheds to facilitate identifying the watershed where the impervious surface change will be
- Zone 7: assess fees on increases of impervious surface (about 66¢/sq.ft.), have collected these data since 2002, track the type of impervious surface
- Santa Clara: for data collection, asks for storm control measures

- Water Board: General Construction Permit's Notice of Intent form required of sites disturbing ≥ one acre, show % impervious before and after construction

Discussion: What management questions are being addressed by impervious surface data? Jill Bicknell asked whether the data would be used for threshold of regulation of projects (5000, 10,000 sq.ft.) or effectiveness of municipalities' implementation of C.3? Jill said these are 2 different things, one scientific and the other not. Effectiveness could be measured other ways.

Dale Bowyer noted we need one threshold for treatment and another for hydromod, so we need finer data collection for HMP data needs. Also, need info on practicality of doing treatment and hydromod control as projects get smaller.

Phil Bobel: we also heard that the data could be possible indicators, is that a goal for these data? Another presentation said the data could be used for all kinds of modeling – is that what we want the data for?

Shin-Roei Lee: the purpose of the presentations was to show that impervious surface data are useful for various purposes, such as when it makes more sense to restore a creek rather than control each property.

Dale Bowyer: note that we still want to control pollutants at all sites, even if hydromod is done on a larger scale.

Chris Sommers: how we collect the data must link to what question we'll answer. He heard Shin-Roei say that we need data for policy questions (e.g., stream protection), then we need gross-scale data, not lot level. If you want to know whether 5000 or 10,000 sq.ft. is best level of regulation, then need different data collection method.
Shin-Roei Lee: there are multiple end-points.

Geoff Brosseau, BASMAA: I'd like to put each management question up on the computer and go over each, rather than talking about all collectively. This was agreed upon, but Richard McMurtry spoke first about the purpose of the 13267 letter sent to Santa Clara Program requesting impervious surface data.

Richard McMurtry, RWQCB, presented 5 slides on why we want to collect data on impervious surfaces.

Geoff Brosseau: The first management question we are answering is: "Are the sizes in the permit (Group 1 and 2) appropriate?"

Sandi: Rephrased the question, "What percentage of new impervious surface will come from small parcels less than 10,000 sq.ft.?"

Trish: asked about when sites add pervious area.

Sandi addressed this by pointing out the data collection questions about pre- and post-project impervious surface change would account for pervious area added.

Chris Sommers: restated that we must all agree on why we are collecting the data.

Sandi: restated that the Water Board is asking for finite amount of data, going back to the 13267 letter.

Shin-Roei: in response to Jill Bicknell saying she is still confused about why we want the data, stated we will analyze the data just as Sue Ma showed us in her presentation.

Fred Jarvis, EOA: not sure we've looked at all the available data. Shouldn't this be done first?

Shin-Roei: yes, from this workshop I'd like to get more info on what data are available.

Wil Bruhns, RWQCB: I'm hearing 2 things. It appears the discussion is asking two separate and distinct questions; 1. what is the impact of current impervious surfaces, and 2. what will be the impact of changes in impervious surfaces. In order to really understand the impact of changes, one needs to know "change from what", i.e. a baseline.

Trish Mulvey: it helps to know what the question is and to lay out some templates, like Shin-Roei handed out. Lay out last year's data from several cities and show what the pie charts, etc look like. This really helps to end up with useful data. We have various data from ABAG on future growth, and others, and it would be best to analyze these first.

Sandi: our looks at existing data have not been fruitful, much is handwritten on separate forms, and we welcome everyone letting us know of their existing data.

Phil Bobel: why not start with a pilot project using Palo Alto's and Zone 7's (and any others) data? Shin-Roei agreed that this might be useful.

Stormwater Program representatives kept coming back to management questions and what will the data be used for.

Dale Bowyer: Two management questions we are addressing are: (1) What's the appropriate regulatory threshold for treatment, and (2) what is the appropriate regulatory threshold for hydromod in new/redevelopment?

Discussion went back to directly connected impervious area and how to account for it and the difficulties in collecting impervious surface in general. **A clear definition of what is NOT "directly connected impervious surface" is needed (e.g., clarify how much separation allows for runoff to be treated within the pervious area).**

Joe Teresi discussed how project proponents fill out the forms, for 500 sq.ft. impervious surface and over, which are not verified by Palo Alto staff.

Matt Fabry, City of Brisbane, went back to the management question and stated there must be a clear connection between impervious surface data and specific water quality impacts. Dale Bowyer responded that the Water Board has established this well in the stormwater permits and fact sheets.

Phil Bobel - wrap up thoughts: (1) thank you to Water Board staff for opening up this discussion; (2) monitoring questions are tough; need on-going smaller group to help with this pilot project and then on from there, much as the Bay monitoring has. Geoff said BASMAA would help.

Brenda Torres, Santa Clara Valley Audubon Society, asked about the timing on taking this work to the Board, because the SCVAS is among the entities that asked the Board to have workshops. Shin-Roei said she is looking at compiling information by December.

Notes from the poster boards that aren't captured above:

Page 1: TODAY

⇒ Fair, efficient way to collect data

⇒ Define data set

Multiple endpoints:

- Probably will be satisfied by different types of data
- What are roadblocks for munis in data collection?

Page 2: WHAT

- area, pilot (existing data, Palo Alto, Zone 7), priority watersheds?
- permittee/name of development
- type of development
- area in sq.ft. of development
- area of impervious surface EXISTING
- area of impervious surface CHANGE
- volume of detention/bioretention
- directly connected / disconnected
- what are the thresholds

Page 3: HOW

- How can the data be used to estimate % contribution from small projects?
- How can the data be used in the Future Municipal Regional Permit
- How can the data be used to create incentives to ↓ imp. surface
- How can the data be used in the context of stream restoration
- WHEN