Chapter [#] Watershed Management

Clarification

- not just impervious surfaces, word impervious and how being defined – will need further explanation, decreasing permeability of watershed, it's about land modification
    - "natural and manmade infrastructure" are terms to examine; also can just say "institutional boundaries", "engineered or constructed" infrastructure
- institutional recommendations vs strategic practices: focus here should be practices, and note that includes institutional integration, but we do not focus that discussion here – call out in Volume 1 instead, when talk about need for integration
- Requested orientation: policy tools to help guide investment, programs, and policies, and guidance to all levels of planning.
    - OPR guidelines is example – has resources and tools section; KG can provide links to where to get information, like in past
- need clearer statement of statewide context and interest in good watershed management – "if you drink water, you should care"
    - opportunity to set the stage: value of wshed management as critical component of CWP success, to start out by saying wshed management integrates land use, water supply, quality, flood, conservation, environmental stewardship at hydrologic scale that provides natural resources, public safety, economic sustainability, and increases self-sufficiency – all buzzwords tie in, so can't go forward unless have this piece in place.
        - Identified as most effective way to manage local and regional resources.
        - Third it's critical to implement goals and objectives of the water plan, and key component of several RMS – can list them. **Iovanka Todt will provide text, and Barbara Hennigan, too**
    - box 1 could include this type of information – watershed defined
- Info in slides not yet captured in narrative
- the Flood RMS narratives point to watershed management, but not vice versa – this narrative needs to highlight floodplain management
- need description of watershed management – could fit under ecosystem restoration, so are these separate, or is watershed management a tool and approach to ecosystem restoration? (reply: restoration is component of management, but management deals with larger set of issues including things like protecting existing conditions, and active management of systems to produce products/goods/services)
    - entanglement is good – just need to pull these apart and clarify, not lose this, need to keep in as well as flag related RMS

Potential Benefits of Watershed Management

- allows to stop chasing problems – last effort does not create new problem; also can frame as resiliency

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- clarify marketplace – need to clarify what's in and out; also note markets have problematic boundaries
- list carbon sequestration as benefit, need to start pointing to these things that are not historically quantified
- operations & maintenance costs to facilities are much less
- ecosystem services – have been identified and researched (Millennium assessment)
- also need to define watershed scale in plural sense of scales – this is key to helping people understand the concept
- need longer list because do not know what will resonate with different policy-makers, and have to establish why transcending political boundaries is a good thing
    - one benefit are locals who live in a watershed and aren't interested in political boundaries
- forming partnerships and thinking about problems in new ways is incredibly valuable
    - just now bringing Tribes into process and can begin to capture value of their succession practices to capture water, can begin to capture those and put those values back in and also allow those cultural connections to be maintained – *so need to highlight that by slowing down, going to collaboration and involving non-traditional SHs you get some very valuable ethnographic connections back to the landscape*
        - Native American influences on forest ecosystems, really good articles, particularly on fire use

Potential Costs of Watershed Management

- need longer list of avoided costs – should be expanded, ultimately avoids degraded water quality and impaired beneficial uses, reduced flood frequency, damage, minimal operations & maintenance, self-sustaining benefits
    - these should be moved into Benefits
- willingness to pay – problematic because it's just from Napa County which may differ from other areas
- "thoughtful" is not needed, infers that there's not thoughtful management
- differentiate between costs of particular action or general strategy, straight costs of dollars versus opportunity costs
- forming partnerships and just getting people together in room is so valuable, do not want people to think this is going to be unbelievable cost and kill the project – the benefit is huge, and there will be costs regardless
    - counter: doing collaborative work is not free, costly in time and money, and when do integrated analysis requires to look at whole new class of data and tool management – those are real costs that should be captured
- table with estimates: there are three components, helpful if identify what is included in the projects, because some of those activities may be things covered in other RMS, and should identify that;

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- Table could show if you're going to engage in a watershed project or plan, this is a distribution percentage-wise of your costs, that would be more useful
- costs aren't scary knowing what they include; management will occur whether informed by watershed approach or not, management is about spending money and taking action, the cumulative set of activities, and if not represent that in some form it's difficult to explain that avoiding costs – and have established that some significant potential avoidance costs

Major Issues Facing Watershed Management

- challenge missing (which was on slides): institutional versus watershed boundaries: state investing in IRWM, very important to watershed management discussion
- data availability, lack of technical information assistance – a repository and assistance from state on how to carry out implementation of state programs like IRWMP components of CWP
- lack of funding
- single purpose program/activities
- opportunity to bring up population growth and climate change – recurring themes in CWP
  - need to resolve competing issues at watershed level to provide increased yield for water supply and flood control as major issue, many competing interests and need to resolve in watershed – this is major issue
- land use planning is not watershed based – feeds into recommendation
- getting people to think on a watershed level – difficult to consider when making planning decision
- lack of statewide watershed program to implementing CWP objectives, and advancing collaboration and partnerships at watershed scale
- "development" needs to be taken out, "utilization" is more comprehensive term

Land Uses Alter Hydrologic Cycles

- have to tie this section back to humans who live in the watershed – what will they care about? reduced fishing, recreation etc.

Recommendations to
Better Manage Watersheds in California

- #2 watershed health indicators recommend there's a reason to look at watersheds at particular scale and the indicators
- IRWM and forest management should be considered at a watershed scale, across the board recommendation
- institutional versus watershed boundaries: state investing in IRWM, very important to watershed management discussion, need recommendation to address
- regional local: need for a state watershed program, can provide technology resources, data, repository, and assistance in forming collaborative partnerships at regional and local levels, financial assistance

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    - research & development opportunities, including cost-benefits analysis, ecosystem valuation
    - incorporating watershed elements in local general plans
- #4 coordinate state funding and support for watershed mgmt activities at state level – flood management with stream restoration and other state programs
- need help in quantifying benefits so can improve cost-benefit analyses
- recommend General Plans required to have water elements
- funding based on watersheds, would drive to watershed approach

Strategic practices recommendations:

- general: the section needs to be rewritten because it is not very strategic and terms can be misleading
    - "low impact development" is tactical design of structures, but not low impact because it's locational – can require significant water transfer, 100 miles, just tactical not strategic, externalizes many costs associated to support that development
    - **Elizabeth Patterson will connect with John Lowrie and John Mills on this**
- fire and water – recommendation for burning, and timber harvesting and mechanical or manipulation of vegetation as specific strategies to support watersheds, so mention of fire
- #6 support installation and maintenance of precipitation (as well as streamflow) gauges

Attendance

Jared Aldern, Prescott College
Dennis Bowker, State Watershed Program
Josh Brown, SRCAF
Melvin Carmen, North Fork Mono Tribe
Chad Dibble, DFG
Woody Elliott, DPR
Ron Goode, North Fork Mono Tribe
Bruce Gwynne, DOC
Pal Hegedus, RBF Consulting/FMA
Barbara Hennigan, BSBAGU
Barry Hill, US Forest Service
Steve Hill, USDA NRCS
Rebecca Kanegawa, MWH
John Lowrie, DOC
Iovanka Todt, FMA
Betty Yee, Central Valley RWQCB

By telephone

Sarah Agahi, County of San Diego
Beverly Anderson
Ric Costales
Jessica Little
John Mills
Elizabeth Patterson, DWR
Melanie Powers

DWR and Facilitation Staff

Lisa Beutler, CCP
Megan Fidell, DWR
Tom Filler, DWR
Dorian Fougeres, CCP
Ted Frink, DWR
Kamyar Guivetchi, DWR
Ray Hoagland, DWR
Lew Moeller, DWR
Michael Perrone, DWR

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