

Climate Change Adaptation Planning Workshop, January 14, 2015

SMALL GROUP BRAINSTORM

a) List policies and tools including changes to organizations and applicable law the Water Board should have to address climate change by year 2040. Identify top 3-5 ideas
1. Partner and facilitating better watershed/forest management with the pace and scale with changes in climate.
2. Protecting wetlands/meadows <u>increase</u> mitigation ratios and additional funding.
3. TMDL consider adapting to new information.
4. Streamlining policies, procedures aligning with partners' goals.
5. Stop exporting wastewater out of basin.
b) Key steps to get the Water Board from current state to desired state in 2040
<ul style="list-style-type: none"> • Reuse tertiary treated waste water in basin careful use • Emergency response plan – floodplain management • Carbon grants – for cap/trade funding for #1 and #2 above (forest management) • Better communicating value of Lahontan Upper Watershed to downstream users • Increase water restrictions/raise rates

Notecard (written from an external source)
1. Forest Management
<ul style="list-style-type: none"> • Partner and facilitate better forest management that keeps up with pace and scale of changing climate • Take advantage of cap and trade funding
2. Wetland Restoration
<ul style="list-style-type: none"> • Protect/restore wetlands. Bring funding to region for large-scale projects. Increase mitigation ratios
3. TMDL – must adapt to new information
<ul style="list-style-type: none"> • Streamline policies and procedures to be more flexible, adapt to changes. • Align with other partner goals and plans.
4. Groundwater/Recycling
<ul style="list-style-type: none"> • Stop exporting wastewater outside Basin • Reuse tertiary treated water in Basin (carefully)
5. Develop emergency response plan/floodplain management plan
6. Better communicate value of upper watershed to downstream users – economic value of ecosystem services.
7. Increase water restrictions-raise rates
8. Biomass plant-promote utilization of local resources for energy and lumber
<ul style="list-style-type: none"> • Better education/outreach

SMALL GROUP BRAINSTORM

a) List policies and tools including changes to organizations and applicable law the Water Board should have to address climate change by year 2040. Identify top 3-5 ideas
<ul style="list-style-type: none"> ▪ Conservation – recycling, use efficiency decrease/limit demand, rates ▪ Forest management – credit for floods plain management streamline permit ▪ Coordinates with other entities ▪ Land use ▪ Flood plain restoration and management
b) Key steps to get the Water Board from current state to desired state in 2040
Incentify – funding, credits, streamline permitting. Identify funding sources
Education – Outreach - broaden message
Coordination – with other agencies
Stronger – Enforcement
Streamline permit the promote projects
Economies
Watersheds
Waste Water Bond – water use efficiency, recycling, conservation, coordination, gray water – recycling
<ul style="list-style-type: none"> • Conservation, planning
Water metering – laws and coordinate and rates
Forest management – credit for flood plain management thing and streamline and (?) incentive
Condition over the entire watershed including the portions in NV.
1. Watershed protection – forestry management coordination w/agencies entities
2. Conservation
Decrease/limit demand

SMALL GROUP BRAINSTORM

Groups 11/12

a) List policies and tools including changes to organizations and applicable law the Water Board should have to address climate change by year 2040. Identify top 3-5 ideas
1. Regional Boards good vehicle for having authority over water resource. More active role in setting water quantity → how and where it's used.
2. Expand our floodplain protection range outside of Lake Tahoe + Truckee; incentivize projects.
3. Bolster existing programs – BMP program, backyard conservation to focus on water reuse/conservation program → add gray water, LID.
4. 2040 Robust fully fund bioassessment for NRS projects to evaluate climate change.
5. Expand Invasive Species Policy - reach homeowners/boaters
b) Key steps to get the Water Board from current state to desired state in 2040
1. Identify locations where RB has more authority over water quantity. Run it up SB → Cal EPA → have legislatures sponsor it → realign water quantity authority to mor local level. Streamlined project review permitting for projects that tackle climate change build in exemptions to ease project implementation.
2. Basin Plan Amendment Championed by RB to expand floodplain protection beyond LTBasin + Truckee Local Outreach to have local governments take on enforcement.
3. Relax on house-by-house gray water reuse. Expand re-use with careful eye on water quality protection. Re-use for snow making req.

SMALL GROUP BRAINSTORM

a) List policies and tools including changes to organizations and applicable law the Water Board should have to address climate change by year 2040. Identify top 3-5 ideas
1. Give Regional Water Boards more authority over water quantity. Water Resource Management.
2. Expand our floodplain protection range outside of Lake Tahoe and Truckee. Incentivize projects.
3. Bolster existing BMP Program/backyard conservation to focus on water reuse/conservation gray water, LID
4. By 2040 have robust fully funded bioassessment to evaluate climate change
5. 5. RB Play more active role in Invasive Species Control.
6. Streamline permitting for projects that tackle climate change.
1. Expanding SB/RB authority SB/RB to develop project and take it to EPA-new legislation
2. Expand floodplain protection for the rest of the Lahontan Region (100 year floodplain) Basin Plan amendment – SB approval local outreach to encourage local governments to implement
3. Bolster existing programs to focus on water re-use (BMPs/LID/etc.) still protective of water quality
4. By 2040, fully funded program for bioassessment for NPS
5. Expand invasive species policy RB play a more active role in invasive species control – make it a bigger priority
6. Streamline regulatory requirements/permits for projects that address climate change Exemption.

Monitoring
<ul style="list-style-type: none"> • More focus on water quality bioassessment and less of chemistry for non-point source • A15 JD, Removal
Watershed Protection
<ul style="list-style-type: none"> • Address water as a complete resource • Incentivize restoration
Land Use
<ul style="list-style-type: none"> • Floodplain Expansion outside of Basin • Development pressures are limited in North Cal/Lahontan Basin
Groundwater Reliability
<ul style="list-style-type: none"> • Expand Floodplain protection – recharge
Infrastructure Protection

Climate Change Adaption Planning Workshop Notes

A) List policies and tools including changes to organizations and applicable law the Water Board should have to address climate change by year 2040. Identify top 3-5 ideas	
1.	Mandated changes/tech improvements in agricultural operations muni (grass)
	<ul style="list-style-type: none"> • Turf grass ban (policy/tools) in Tahoe • Pervious Pavement
2.	Limit flood as irrigation & require soil conservation/enhancements
	<ul style="list-style-type: none"> • Expand and regulate biological pollution (aquatic invasive species) like we regulate water quality (sodium/nitrate) • More robust analysis of internal base loading as contributor to pollution – before other measures (pesticide) – nutrient loading • Infrastructure – No construction in flood plains (housing, bridges, roads), or low-impact design principles • Initiatives to move out of flood plains (New Orleans) • New constriction housing have grey water and black water separation of systems to encourage recycling (grey water recycling) • Ordinance should require/promote rainwater capture • Re-evaluate water quality standards, i.e., sediment load annual metrics (annual average concentration). • Re-evaluate the Lake Tahoe TMDL based on new and emerging science • Develop better understandings of near-shore pollution • Real time monitoring requirements across the region. • Support data shaving initiatives – broadly accessible and available integrated systems to scientists. • Partnerships – stronger partnerships with ARB – on atmospheric depositions • Begin focus on other sources (atmospheric dep, forestry) of pollution sooner that are caused by pollution from climate change • Require larger water/stormwater capture facilities • Strengthen stormwater capture requirements/LID requirements

Climate Change Adaption Planning Workshop Notes

B) Key steps to get the Water Board from current state to desired state in 2040	
1.	Res. Approach/tools needed to change to accommodate the world with more variety (laws, money, priorities, hoe to write permits)
2.	Adopt new policies/permits to require for landscaping use of BACT in water use efficiency.
3.	Change funding strategies to allow direct support for new science that is needed to inform policy development/management strategies (dedicated fund for science).
4.	Dedicated ongoing funding for an integrated database (SWAMP with air quality precipitation data)
5.	Expand role of regional board beyond traditional regulation to increased use of incentives. Develop more incentive policy.

Notes (Tables 1 and 5):

a) List policies and tools including changes to organizations and applicable law the Water Board should have to address climate change by year 2040. Identify top 3-5 ideas
1. Improving Decision-Making abilities
○ Gathering Information/Interdisciplinary Interagencies(?) Adaptive Mgt
○ (reduce ? of uncertainty)
2. Education/Demonstration In Projects
○ Garden
○ Efficient irrigation
○ Technology
○ Leaking pipes
3. Providing grants/incentives
○ Prioritize grants-for adaptive strategies
4. Incorporate water supply issues for managing irrigation
5. Foster interagency/interdisciplinary discussions
b) Key steps to get the Water Board from current state to desired state in 2040
1. Support a process-prepare for future to check model/data/verify adjust
2. what is best for Regan Beach – as a case study
3. Self-audit-adjust prioritize *evaluate our policies to see if they have unintended (?)
Consequence
Change policies to make sure WB isn't contributing to climate change
4. Support re-use and graywater (change Porter-Cologne change in legislation)

Flip Chart Notes **Table 1 and 5**

<u>Policies/tools</u>
Create policies to foster interagency discussion (via expedited permits)
Incorporate adaptive management
Self audit of what info we gather
Modeling and validate models with monitoring to reduce (manage) cone of uncertainty – adaptive management
Allow grey water use for household irrigation in Tahoe basin
Integrate climate change into BPs SRF, IRWM plans, & all planning aspects
Evaluate existing policies to ensure we are not contributing to climate change
Incorporate water supply issues for irrigating lands
<u>Steps</u>
Manage integrated approach to beach development and use
Promote infrastructure improvements/technology to reduce water loss and prioritize upgrades
Interagency coordination, partnership, data sharing
Foster interagency discussion at key times
Expand variety of info to make informed decisions as a part of the normal process
Prioritize grants to store water
Include water storage (adaptation) in permits
Adapt crops and irrigation technology to address limited water supply
Water/wetland buffer for ag return water to restore gw supply
Public education
Provide incentives to limit water use (ex: fund recycling or water reduc.)
Fund demonstration gardens
Demonstration proj: new techn, irrig. BMPs
Money to fund infrastructure
Leverage monitoring budget to incorporate climate change issues, leverage w/other organizations

Flip Chart Notes

A. List policies and tools including changes to organizations and applicable law the Water Board should have to address climate change by year 2040. Identify top 3-5 ideas
<ul style="list-style-type: none"> • Keep treated waste water in the basin • Better integration of water management agencies <ul style="list-style-type: none"> ○ Coordinated efforts ○ Synergistic • Incentivize water conservation • State/local funding sources for stormwater management and watershed restoration • Water Board drive adaptive management in the face of changing climate • Do the existing water quality standards make sense? Will they in 2040? What is baseline?
B Key steps to get the Water Board from current state to desired state in 2040
<ul style="list-style-type: none"> • Funding – state/local water boards science/monitoring/local assistance • Tahoe TMDL update adaptive management process • Stormwater decision standards are resilient and continuous examination of standards • Streamline/update Forest Management Permit (Timber Waiver) • Address regulatory redundancies (?) • Update MOUs • Clear roles and responsibilities • Use attainability analysis <ul style="list-style-type: none"> ○ Are the current standards attainable? • 5 year review data requirements? • Prioritized monitoring <ul style="list-style-type: none"> ○ Support use attainability anal • Modeling • Data management <ul style="list-style-type: none"> ○ Infrastructure ○ Colab interagency status reporting
List of policies and tool including changes to organization and applicable law the Water Board should have to address climate change by year 2040. Identify top 3-5 ideas.
1. The ability to change plans and policy easily and quickly.
<ul style="list-style-type: none"> a. Streamline policy process to accommodate new or unknown natural causes, to include the ability to relax from non-anthropogenic sources of pollution. b. Be able to change Basin Plan to accommodate non-anthropogenic source of pollution. c. CEQA process streamline it.
2. Economic Value of Water - tool
<ul style="list-style-type: none"> a. Determine or make standardization of the economic value of the different water quality features, i.e. the economic value of a wetland vs economic value of a created wetland with respect to water quality. This tool could have numerous uses from enforcement to evaluating proposed projects.
3. Provide the Regional Boards the ability to make some water rights decisions
<ul style="list-style-type: none"> a. There are instance were the removal of water and or diversion of water has significant effects on a water way. The Regional Boards have little authority on those issues.
4. Increased Coordination and Partnership with other agencies. The concept here is to coordinate with agencies who may not have jurisdiction on water quality, but have impact on water quality, such as land planning, and air quality
<ul style="list-style-type: none"> a. An example, atmospheric deposition of nitrogen and being able to compete for grants from the Air Board to ameliorate some effect of atmospheric deposition of nitrogen attributed to emissions. b. Be able to work with land planning agency and require Low Impact Development (LID) and minimize flood zone developments.

Summary of Comments from Table 3

Topic I – Infrastructure and regulations
Extreme events (e.g., floods)
Sewer lines are in stream ways
Flashy events are a problem
Replace old sewer lines
Consequently, Water Board should re-examine the 100-year floodplain in our regulations
Longer spans for culverts
Examine spillways and dams at Tahoe
Topic II (US Forest Service considerations related to climate change)
Better drinking water, but sacrifices:
1. Species diversity, but less water
2. Tree thinning
Tell the public what to gain and what to lose
Decision assumptions made in previous years (for the following three issues) must change due to climate change:
1. Habitat
2. Species diversity
3. Species refuge
The Forest Service uses a 20-30 year planning horizon
What if only one stream to protect Lahontan cutthroat trout?
Climate change will cause dislocations for certain species
Remaining species and the moral and ethical assumptions to protect them
Messaging at the Forest Service:
Tree thinning means less trees but more water (e.g., thinning means less ET loss, less wildfire)
Increase the survey of white bark pines (?)
Topic III (public education)
Challenge the fundamental assumptions (e.g., will we always have water?)
Filtration exemption at Tahoe should be emphasized as a “success” to protect
Cultural shift needed
LTCC as a forum to engage
What role can LTCC play? (Convening, education, facilitating?)
Communicate what we are doing, but do not make it too technical. Serve a wider audience.
Get more involved, not just for visitors, it’s your backyard
Buy-in for consumers
“Use Tahoe as a California classroom”

Brainstorm Group Notes - November 13, 2014

Group 1
a. List policies, tools and authorities the Water Board has to address climate change by year 2014.
1) Streamline RWQCB processes – <ul style="list-style-type: none"> • Reduce requirements for only essential items.
2) Encourage climate change related projects
3) Reduce conflicting regulations <ul style="list-style-type: none"> • Insuring no conflict with other agencies.
4) Maximize resources within your community. <ul style="list-style-type: none"> • Groundwater management, recycled water etc.
5) Don't issue time schedule orders unless funding identified.
b. Key steps to get the Water Board from current state to desired state in 2040.
1) Develop and adopt more region wide general permits
2) Train field staff to provide guidance and resolve issues at lowest level.
3) Water Board staff to advocate for funding of orders that impact small agencies.

Group 2
a. List policies, tools and authorities the Water Board has to address climate change by year 2014.
1) Pollution Prevention Policies – <ul style="list-style-type: none"> • Identify other vulnerable areas/communities. • Low impact development. • Focused fuel reduction. • Flood plan construction limits.
2) Consider Groundwater Contaminated Waters as Resource – <ul style="list-style-type: none"> • Look at new technologies. • Speed up clean up times. • Consider plume movement from over pumping.
3) Re-class WWTP as Resource Recovery Plants – <ul style="list-style-type: none"> • Use recycled water more effectively. • Adapt treatment plants to be energy producers (bio) and help divert organics from landfills.
4) Additional Notes – <ul style="list-style-type: none"> • Expanding monitoring to inform decision. • Outreach and collaboration with other entities to maximize utilization of resources. • Use existing collaborative teams (like RWMGs) to further mission. • Applicable to all but focus on prevention and groundwater as resource.
b. Key steps to get the Water Board from current state to desired state in 2040.
1) Re-examine our existing tools, permits and practices to encourage/incentive new pollution prevention policies – expand monitoring and partner.
2) Adopt policies/practices/BAT
3) Work with WWTP facilities to identify improvements, help with funding, support creative solutions.
4) Additional Notes – <ul style="list-style-type: none"> • Continued or expanded presence of local entities and in local communities to build trust and solicit ideas and recommendations and act upon them and update those communities on actions. • Applicable to all (overall direction of any agency to get communities involved.)

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Group 3
a. List policies, tools and authorities the Water Board has to address climate change by year 2040.
1) Increase/enhance infiltration/protect areas.
2) Increase water recycling.
3) Modify CEQA.
4) Replace Infrastructure/Protect Infrastructure.
b. Key steps to get the Water Board from current state to desired state 2040.
1) Evaluate/refocus on SW MGT program to emphasize protection of infiltration and remove aspects that don't apply.
2) Share info/Provide Assistance for Grants and Loans to increase water recycling/recharge.
3) Protect areas of infiltration, limit development.
4) Promote changes to CEQA to facilitate infrastructure improvement/protection and GW recharge.
5) Ideas prepared by Jay Cass – <ul style="list-style-type: none"> • Storm water retention and recharge. • Infrastructure Replacement. • Earthquake/Flood infrastructure. • High Desert – Brine Lines (2) for export of salinity and disposal. • Decentralized Solar Systems and eliminate large, intrusive central systems that degenerate fragile desert ecosystems. • Establish total N effluent limit. • Low impact development targeted to High Desert needs.

Group 4
a. List policies, tools and authorities the Water Board has to address climate change by year 2040.
1) Policies that are locale specific (North vs South Lahontan) and flexible.
2) Revamp NPDES regulations – <ul style="list-style-type: none"> • BMP's that drain resources and have no beneficial results. • Use runoff as recharger not "waste." • Region specific.
3) Protection of sensitive recharge areas and watersheds (i.e. damage caused by OHV.)
b. Key steps to get the Water Board from current state to desired state 2040.
1) Legislation that enables Water Board to accomplish items listed above.
2) Clear vision from Board as to what we are trying to accomplish.
3) Rationalized funding.
4) Re-define/Refine philosophy of Board towards empowered action.
5) Collaboration with other enforcement entities – i.e. law enforcement, code enforcement, forest service; and Fish and Game.

Group 5
a. List policies, tools and authorities the Water Board has to address climate change by year 2040.
1) What authority/obligation does the WQB have to regulate water uses on private land?
2) Prioritize use of salty (recycled) water for renewable energy projects.
b. Key steps to get the Water Board from current state to desired state 2040.
1) Undescribed impact from GW pumping even if not in overdraft (springs, creeks.)

2) What benefits can Lahontan provide cities and counties?

Group 6	
a.	List policies, tools and authorities the Water Board has to address climate change by year 2040.
1)	Recharge/Reuse
2)	DACs water supply, water quality, and infrastructure – storm water treatment.
3)	Public Ed./Policy Educating
b. Key steps to get the Water Board from current state to desired state 2040.	
1)	Permit Streamline – <ul style="list-style-type: none"> • Attracting Financial Assistance – grant writing. • Helping establish distribution network. • Help create an overall vision prioritizing re-use of water for recharge and reuse. Give value to small projects – smaller scale does not equal need.
2)	Permit Facilitation for DAC projects – streamlining – <ul style="list-style-type: none"> • Communication between DACs and people with money • Encourage holistic crew of water management.
3)	Encouraging more program advantage for DACs – <ul style="list-style-type: none"> • Small system organizing and MWA • Work with Cal Rural Water – technical assistance.
4)	Direct contract with public – especially in schools – recycled water is ok. - Policy makers-constituent input: water board conduct from local to state to emphasize that one size doesn't fit all; regional people have knowledge and expertise; get local story before policy makers

Group 7	
a.	List policies, tools and authorities the Water Board has to address climate change by year 2040.
1)	Better recharge-floodplain-vegetation land use planning.
2)	Stabilize soil – farming area – dust programs for volunteers – develop more drainage areas – protect.
3)	Take advantage of floods, nuisance water, import, etc.
4)	Facilitating recharge – basin combined to recharge areas. <ul style="list-style-type: none"> • Less regulation – more collaboration. Planning more workshops to find out info that exists.
b. Key steps to get the Water Board from current state to desired state 2040.	
1)	Adaptive management, re-evaluation zoning to set aside sensitive area detention – local agencies can base local rule on state rules, state not regulate. <ul style="list-style-type: none"> • Retention, ag. Storage. • Studies – monitoring to show impacts/results
2)	Problem solving – <ul style="list-style-type: none"> • Funding water user groups/development fees • Incentives for easements for flood/recharge – use mitigation projects. • Climate stations so can match up cause/effects • SLB priorities fire/erosion protect head waters – recharge • Look for multiple benefits from projects already being implemented.

Group 8	
a.	List policies, tools and authorities the Water Board has to address climate change by year 2040.
1)	Grant funding

2) Time schedule orders
3) Water bond 2014
4) Recycled Water Policy – • Salt nutrient water quality.
5) Loss of Wetland
6) Low impact development.
b. Key steps to get the Water Board from current state to desired state 2040.
1) Aquifer recharge • WWTP 2 nd /tertiary treated water. • Storm water capture. • Purchase available water thru grants.
2) Conservation • Public education to change water re-uses perceptions. • “ “ for coming climate changes
3) Agency collaboration/Action • Incentivize programs such as dual plumbing. • Flood plan development limits. • Merge ground water withdrawals where appropriate.

Group 9
a. List policies, tools and authorities the Water Board has to address climate change by year 2040.
1) Water harvesting consideration in WB regs.
2) Remediation = ground water mining without recharge.
3) Balance current economics – value of water may increase in future; can’t write off cleanup due to expense.
4) Need more ways to deal with environmental compliance (CEQA exemptions, speed up timeline to deal with issues before emergencies happen.
5) Timeframe for infrastructure upgrade – mandate compliance in shorter time frames.
6) SNMP, require assimilative cap. Studies.
b. Key steps to get the Water Board from current state to desired state 2040.
1) SB issue – think long term; mind set change. ABT understanding the future value of water sustainability and recharge. • Recharge instead of reserved (GW mining) projects.

Group 10
a. List policies, tools and authorities the Water Board has to address climate change by year 2040.
1) Encourage flood control/water
2) Evaluate project impacts – watershed • Feedback M and R – adaptive management.
3) Pumping = Recharge (max recharge.)
4) Coordinate with County re storm water facilities – storm intensity.
5) Cumulative impact solar wind/compost.
6) Financial impact – Integrate Agency Planning – • Greater emphasis innovative technologies/financial ranking projects.
7) More emphasis on watershed, less on projects.
8) Local public/private partnerships – groundwater quality
9) Anti-deg policy – trade-off between quality and quantity recharge.
10) Flood plan protection in Mojave.

11) Public education re what can do/resources available.
12) Wetland mitigation – increase ratio to 3/1.
13) Interagency planning/partnerships. <ul style="list-style-type: none"> • Financial – coordinate resources. • Focused grants. • Focus program \$ on right pots. • Outreach/Education.
14) Shift focus to cumulative/watershed scale. <ul style="list-style-type: none"> • Floodplain protection. • Wetland mitigation • Anti-deg • Sustainable pumping/recharge
b. Key steps to get the Water Board from current state to desired state 2040.
1) Streamline permitting with incentives for innovation.
2) Shift IRWM focus to water availability and quantity.