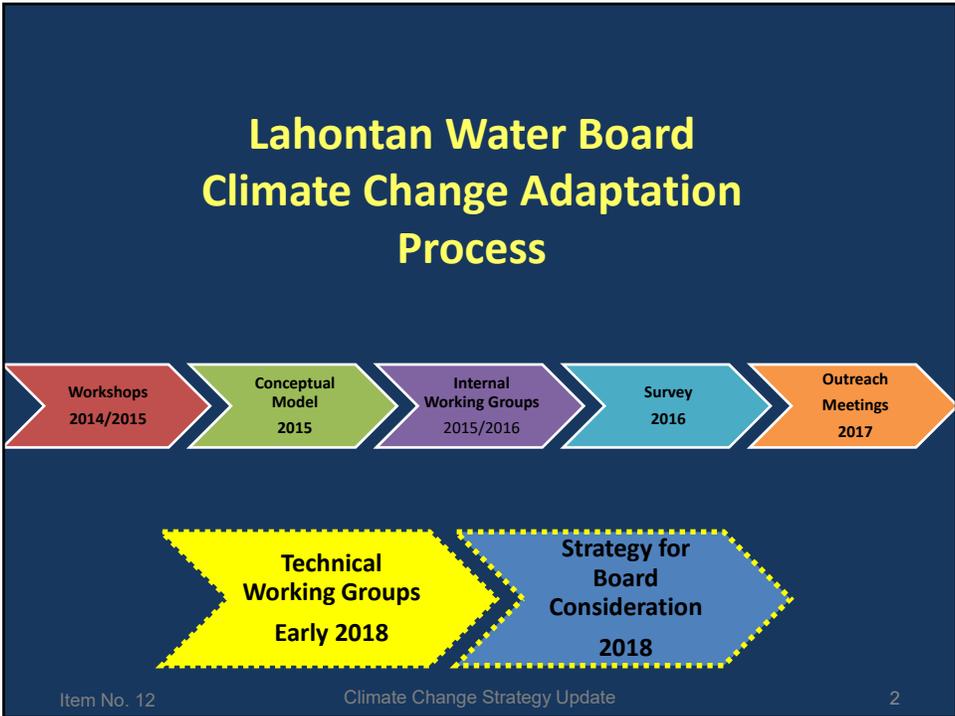


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UPDATE
Climate Change
Mitigation & Adaptation Strategy

Lahontan Water Board Meeting
South Lake Tahoe
November 15-16, 2017

Mary Fiore-Wagner
Sr. Environmental Scientist

Stakeholder Involvement

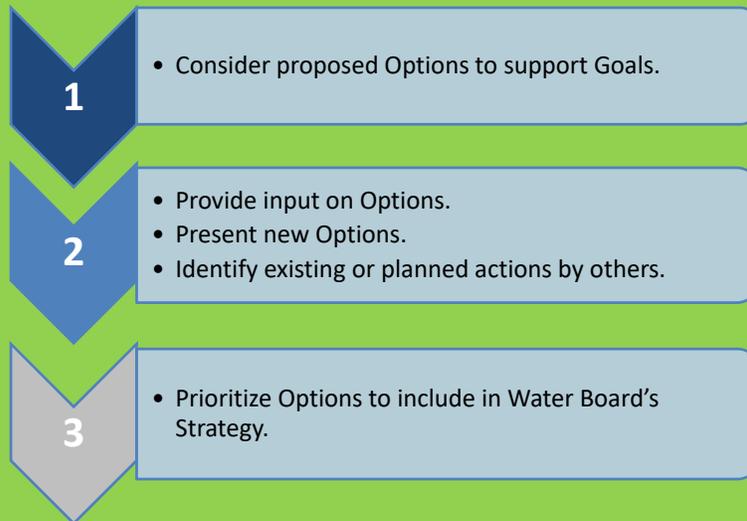


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Goal of Climate Change Mitigation and Adaptation Outreach/Stakeholder Meetings



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Our Goals

Goal 1: Increase Storm Water Treatment and Infiltration

Goal 2: Protect Recharge Areas and Floodplains

Goal 3: Increase Protection and Restoration of Headwaters

Goal 4: Increase Monitoring of Climate Change Indicators

Goal 5: Reduce Nitrogen Loading to Surface & Groundwater

Goal 6: Protect Infrastructure

Supported Goals

Regionwide

- Infrastructure Protection



Central and Northern Region

- Protection & Restoration of Headwaters



Southern Region

- Storm Water Treatment & Infiltration



Key Messages - Similarities

- **Consensus throughout Region**
 - Increase Storm Water Treatment and Infiltration
 - Protect Infrastructure
- **Some goals are sub-sets of others**
- **Streamline permitting for more restoration**
- **Fiscal & technical support for monitoring**
- **Minimize unfunded mandates**
- **Collaborate & Partner**
- **Outreach & Education**

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Consensus throughout Region

Increase Storm Water Treatment and Infiltration

Water Board as Lead

- ★ – **Develop public outreach program on Low-Impact Development (LID) benefits and available LID resources.**
- ★ – **Revise permits to maximize storm water treatment and infiltration.**

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Consensus throughout Region

Protect Infrastructure

- **Water Board as Lead**
 - Establish criteria to prioritize vulnerable infrastructure.
 - Use results of research to identify areas of greatest risk.
- **Partner to identify vulnerable areas**
 - Local and State level General Plans - Climate Adaptation (SB379)
 - Existing climate change planning tools (ARkStorm, Cal-Adapt)
 - Groundwater Sustainability Plans
 - California Tahoe Conservancy Adaptation Planning Grant

Key Messages - Differences

- LID approaches different throughout region
- South presented more outside of the box options
- South -long-term lifts
- Central & North – quicker fixes

New Options/Approaches

- Offered for all Goals
- Most new approaches
 - Increase Storm Water Treatment and Infiltration
 - Reduce Nitrogen Loading to Surface & Groundwater
- Few (2-4) new approaches
 - Protect Recharge Areas & Floodplains
 - Headwaters
 - Monitoring
- One new approach
 - Protection of Infrastructure

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New Approaches that Rose to the Top - Increase Storm Water Treatment & Infiltration

1. Develop specific permits for Los Angeles Dept. of Water & Power.
2. Embed technical management and funding resources into options supported regionwide.
3. Rely on green building neighborhood guidelines (LEED).
4. Develop regional municipal storm water (MS4) compliance facilities.
5. Collaborate on a watershed scale to address storm water beyond (MS4) requirements.
6. Promote Green Infrastructure.

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New Approaches that Rose to the Top – Headwater Protection

- 1. Provide a strategy for chaparral areas for fire protection/ resistance and water infiltration.**
- 2. Increase enforcement partnerships to protect headwater from Off Highway Vehicles.**
- 3. Develop a framework to design projects with objectives and expectations.**
- 4. Streamline permitting for protection and restoration.**

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New Approaches that Rose to the Top – Protect Recharge Areas and Floodplains

- 1. Consider potential sales or leases inter-basin/ inter-state.**
- 2. Identify & prioritize recharge areas to support permitting efficiency and funding for restoring high priority areas.**

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New Approaches that Rose to the Top - Monitoring

- 1. Use Water Board resources to fill data gaps & share information.**
- 2. Prioritize monitoring & mitigation of impacts on vulnerable populations and ecosystems.**
- 3. Develop integrated monitoring program to solve all agency objectives.**
- 4. Provide funding & technical assistance when imposing new monitoring & reporting programs.**

New Approaches that Rose to the Top – Reduce Nitrogen Loading

- 1. Watershed based permit with nutrient budgets to allow nutrient trading.**
- 2. Study region to better identify and characterize nitrogen sources.**
- 3. Develop education programs to inform septic owners of improved management and monitoring.**
- 4. Develop nutrient management plans for agricultural and animal facilities.**
- 5. Develop and implement BMPs for Non-Point Sources (NPS).**
- 6. Re-evaluate water quality objective for grazing operations.**
- 7. Add agricultural management (livestock, range, irrigated lands).**
- 8. Collaborate on sub-regional scale to address NPS issue.**

New Approaches that Rose to the Top – Reduce Nitrogen Loading (cont.)

9. Evaluate if nitrogen loading to groundwater is a concern; scale is important.
10. Outreach focused on residential fertilizer use.

New Approaches that Rose to the Top – Protect Infrastructure

1. Modify land use policies to prevent building/rebuilding in high risk areas.

Recommendations

Initial Strategy

1. Consider re-packaging/combining Goals
2. Focus on Goals and Options supported regionwide
 - Storm Water Treatment and Infiltration
 - Protect Infrastructure
3. Explore New Options
 - Reduce Nitrogen Loading
 - Watershed-based permits with nutrient budgets
 - Non-Point Source BMPs (ag, range, livestock)

*** Develop Technical Groups & Rely on Partnerships**



Next Steps

