

Pollution Control Planning for Lake Elsinore and Canyon Lake

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Water Boards

Presentation Outline

- Overview of Regional Water Board
- Lake Elsinore and Canyon Lake Water Quality Issues
- Lake Elsinore and Canyon Lake Nutrient TMDLs
- Quail Valley Septic System Prohibition

Who is the Regional Water Board?



- Regional Water Quality Boards were established by the Porter Cologne Act in 1969
- Comprised of up to 7 appointees and staff
- Santa Ana Regional Board jurisdiction:
 - Northern Riverside County
 - Southwestern San Bernardino County
 - Northern Orange County



Water Boards are Leaders in the Protection of Water Quality

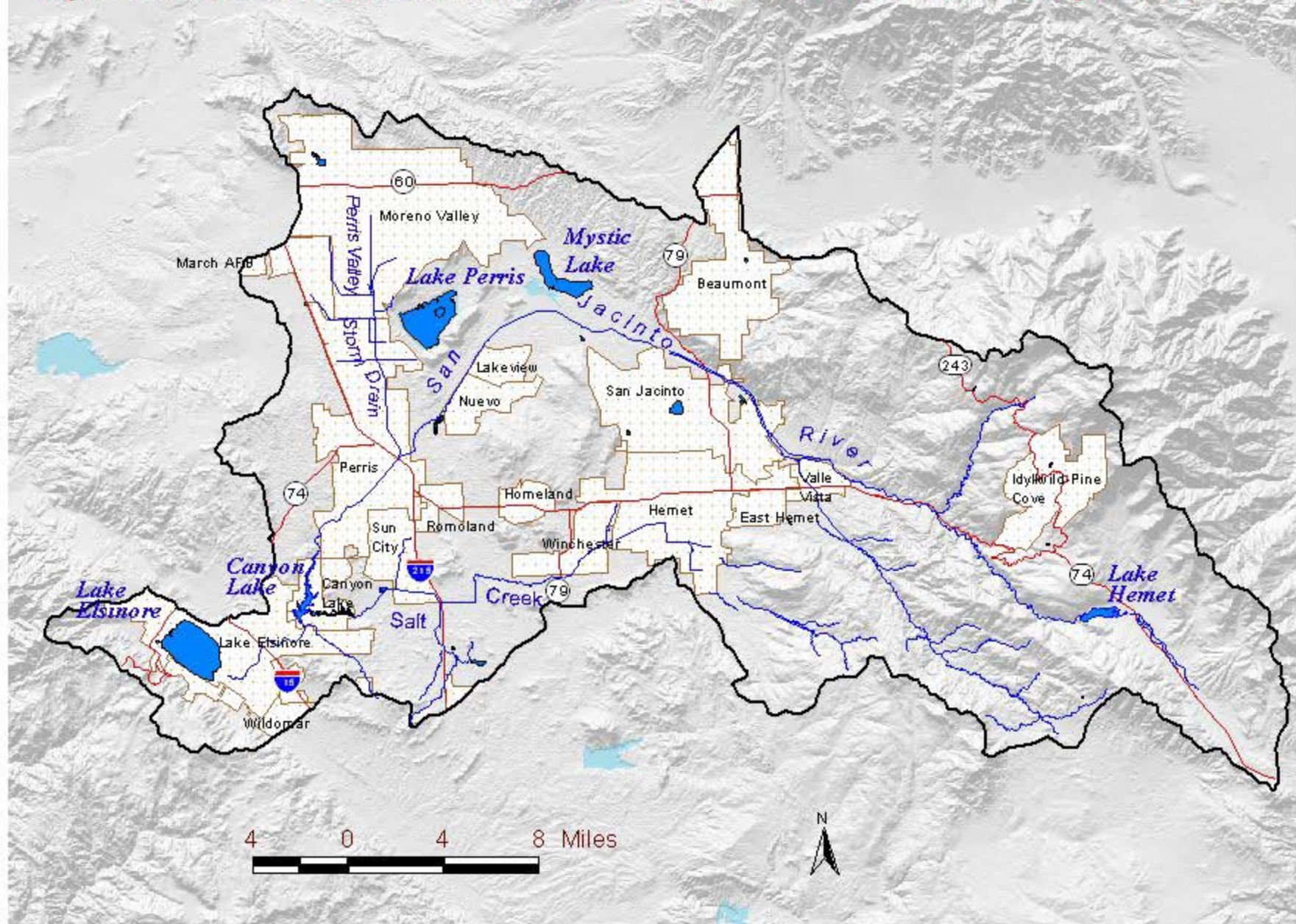
- Regulatory Authority
 - Federal Clean Water Act
 - CA Water Code
- Activities:
 - Water Quality Control Planning
 - Identify uses of waters
 - Establish WQ objectives to protect uses
 - Establish TMDLs = pollution control plans
 - Establish waste discharge prohibitions
 - Regulatory Programs
 - Permitting (e.g. stormwater discharges)
 - Environmental Monitoring
 - Enforcement



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LAKE ELSINORE AND CANYON LAKE WATER QUALITY PROBLEMS

Figure 2-1. San Jacinto River Watershed: water bodies, major tributaries, cities, and unincorporated areas





Quail Valley WQ Problems

- Public health threat
- Raw septic effluent present
- Impacts to drinking water supply - Canyon Lake

Cause/source of WQ Problems

- Failing septic systems = **bacteria and nutrients**





Lake Elsinore WQ Problems

- Severe algal blooms
- Sometimes massive fish kills

Cause of WQ Problems

- Excessive phosphorus and nitrogen = **nutrients**
- Depletion of oxygen

Sources of Nutrients

- Urban, agriculture, septic systems
- Nutrients likely to come in large storm events when Canyon Lake overflows





Canyon Lake WQ Problems

- Occasional algal blooms
- Periodic fish kills
- Bacterial contamination

Cause of WQ Problems

- Excessive phosphorus and nitrogen = **nutrients**
- Depletion of oxygen
- Septic system overflows



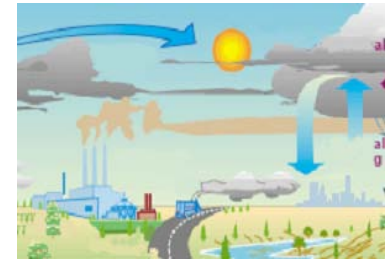
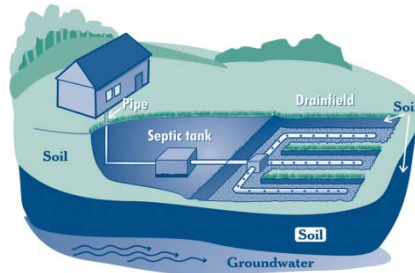
Sources of Nutrients

- Urban, agriculture, septic systems
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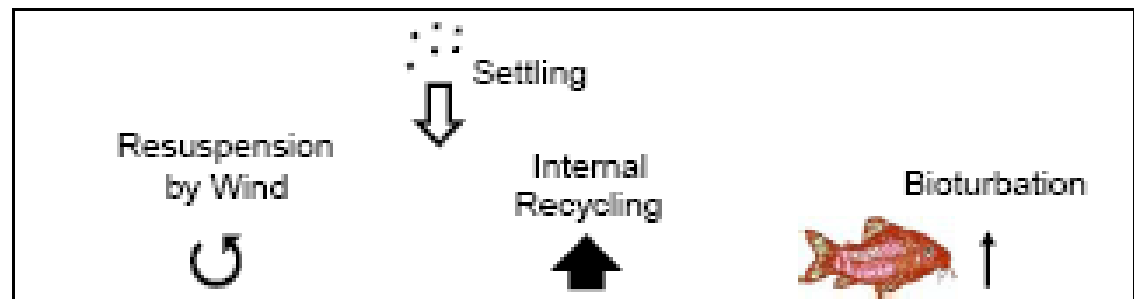


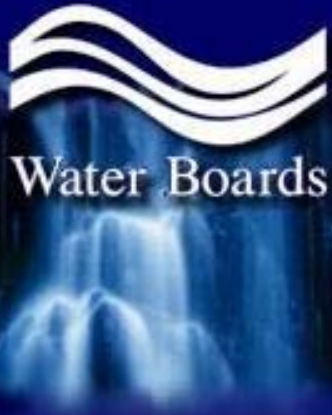
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External Sources:



Internal Lake Sediment Sources:





What did the Water Board do about water quality problems?

- In 2004, adopted nutrient (phosphorus and nitrogen) pollution control plans or **TMDLs** for both Lakes
- In 2006, adopted the Quail Valley Septic System Prohibition



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LAKE ELSINORE AND CANYON LAKE NUTRIENT TOTAL MAXIMUM DAILY LOADS (TMDLS)

2004

What is a TMDL?



A TMDL is the State's formal process
to clean up polluted waters

T_{total}
M_{aximum}
D_{aily}
L_{oad}

Implementation Plan



- Identifies permit controls or best management practices needed to make necessary pollutant reductions

Monitoring



Clean

Water quality
standards met

Implementation

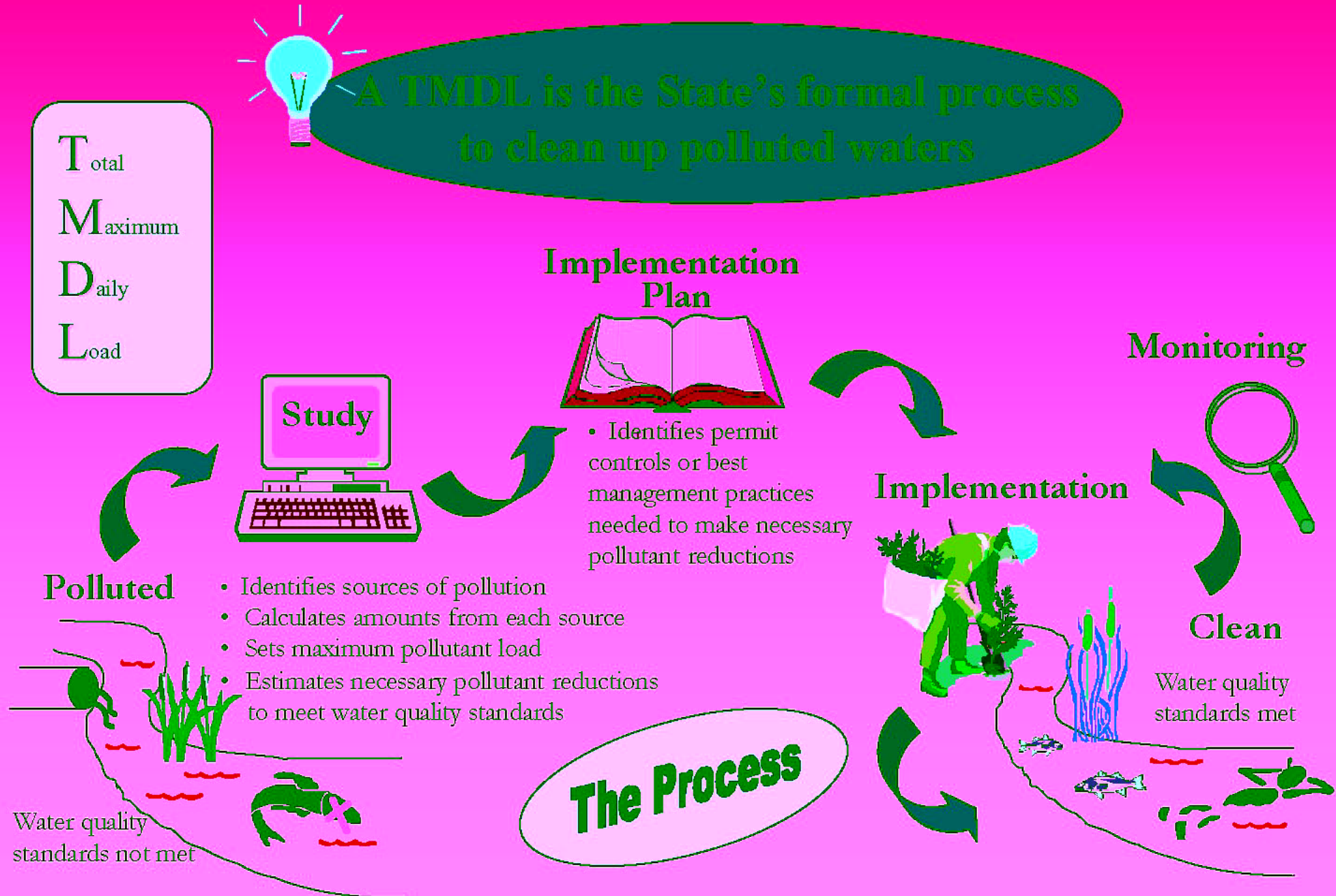


The Process

Polluted

- Identifies sources of pollution
- Calculates amounts from each source
- Sets maximum pollutant load
- Estimates necessary pollutant reductions to meet water quality standards

Water quality
standards not met



Discharger Responsibilities

By 2020 reduce

- Nitrogen and Phosphorus

Who has to reduce nutrients?

- Urban
- Septic Systems
- Agriculture
- Recycled Water
- CAFO
- Internal Sediment
- Open Space Lands

Nutrient reductions

Lake Elsinore/Canyon Lake TMDL Targets

<u>Parameter</u>	<u>Compliance Date</u>
Total Phosphorus	2020
Total Nitrogen	2020
Ammonia Nitrogen	2020
Chlorophyll <i>a</i>	2015, 2020
Dissolved Oxygen	2015, 2020



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Responsible Stakeholders

- **US Forest Service:**
 - San Bernardino and Cleveland National Forest Management Zones
- **March Air Reserve Base and March JPA**
- **State of California**
 - Department of Fish and Game
 - Department of Transportation
- **County of Riverside**
 - Flood Control and Water Conservation District
 - Co-permittees including:

City of Beaumont	City of Lake Elsinore
City of Perris	City of Canyon Lake
City of Moreno Valley	City of Riverside
City of Hemet	City of Murrieta
City of San Jacinto	City of Menifee
City of Wildomar	
- **Water Agencies:**
 - Eastern Municipal Water District
 - Elsinore Valley Municipal Water District
- **Agriculture:**
 - Concentrated Animal Feeding Operators
 - Agricultural Operators



Incorporation of TMDLs into Permits

Existing Permits:

1. EVMWD 2013 NPDES Lake discharge permit
2. Riverside County/Cities - 2010 MS4 Permit
 - MS4 Comprehensive Nutrient Reduction Plan (CNRP) approved July 2013
3. Confined Animal Feeding Operations (CAFO) - 2013 Permit
4. March Air Reserve Base - 2013 Small MS4 Permit
5. Caltrans - 2012 MS4 Permit



Incorporation of TMDLs into Permits (cont.)

Pending Permits:

1. Agricultural Waiver

- Expected Regional Board adoption - 2014/2015
- Ag Nutrient Management Plan to be incorporated into Waiver requirements

2. US Forest Service WDRs

- Expected Regional Board adoption - 2014/2015



Lake Elsinore Phosphorus Reductions

Nutrient Source	Phosphorus Allocation (kg/yr)	% Reduction Required
Lake Sediment	21,554	35%
EVMWD Water	3,721	75%
CL Watershed	2,770	62%
Open/Forest	178	0%
Urban	124	0%
Air Deposition	108	0%
Septic Systems	69	0%
Agriculture	60	0%
Dairies	0	0%
TMDL	28,582	49%



Canyon Lake Phosphorus Reductions

Nutrient Source	Phosphorus Allocation (kg/yr)	% Reduction Required
Lake Sediment	4,625	0
Open/Forest	2,037	5
Agriculture	1,183	73
Urban	306	73
Air Deposition	221	0
Dairies	132	73
Septic Systems	139	73
Imported Water	48	0
TMDL	8,691	36%



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QUAIL VALLEY SEPTIC SYSTEM PROHIBITION

2006

Quail Valley





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Quail Valley Prohibition

- Amended the Basin Plan to prohibit discharge of waste from new septic systems;
- When a sewer is available to serve existing septic systems, prohibit discharge from existing septic systems; and
- Requires connection of existing on-site systems to a sewer within one year



Quail Valley Prohibition

Prohibition includes a provision to allow new septic systems if:

- Sewers for subareas 4 & 9 were on schedule to be provided by 2012; or
- Sewer design for subareas 4 & 9 is complete and Board finds that adequate progress is being made
- No other provisions for an exemption



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Sewer System - Status

- EMWD sewer feasibility study concluded \$89 million price tag for sewers.
- EMWD has been actively pursuing grant funds
- \$2.43 million has been secured and \$6 million will be applied for to complete design and construction for subarea 9
- So far, no money for a complete design of subarea 4
- SEP funds held in trust by EMWD to defray connection costs



Challenges: Compliance Issues

Water Board supportive of

- Directly addressing lakes' water quality with in-lake projects → Task Force preferred approach
- Trading of pollution credits
- Revising TMDL if appropriate
- Coordinated actions to meet TMDL Targets, e.g., LESJWA actions, CNRP, AgNMP
- TMDL Task Force efforts
 - Opportunity for all stakeholders to coordinate efforts
 - Allows RB to deal with stakeholders as a whole instead of each individually (resource efficient)