

# SALTON SEA

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## RESTORATION

### Project

Symposium III  
alternatives packet



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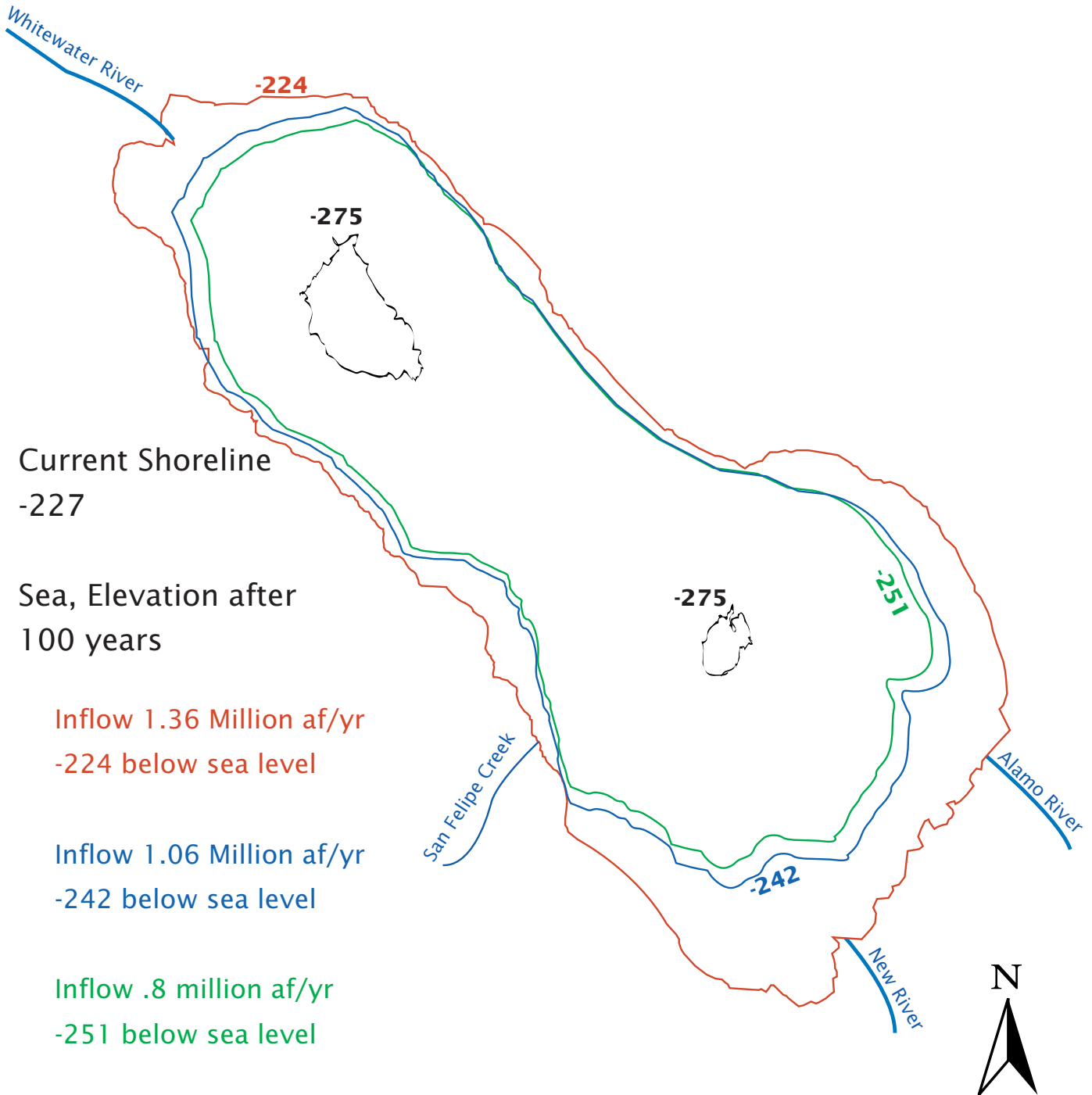
Project Web Site  
“[www.lc.usbr.gov](http://www.lc.usbr.gov)”

## **PROJECT GOALS**

- **Maintain Agricultural Drainage Repository**
- **Provide a safe, productive environment for birds and endangered species**
- **Restore Recreational Uses**
- **Maintain a viable Sport Fishery**
- **Enhance opportunities for economic development**

# No Action

Salton Sea Alternatives



af/yr=acre feet per year

## **NO ACTION**

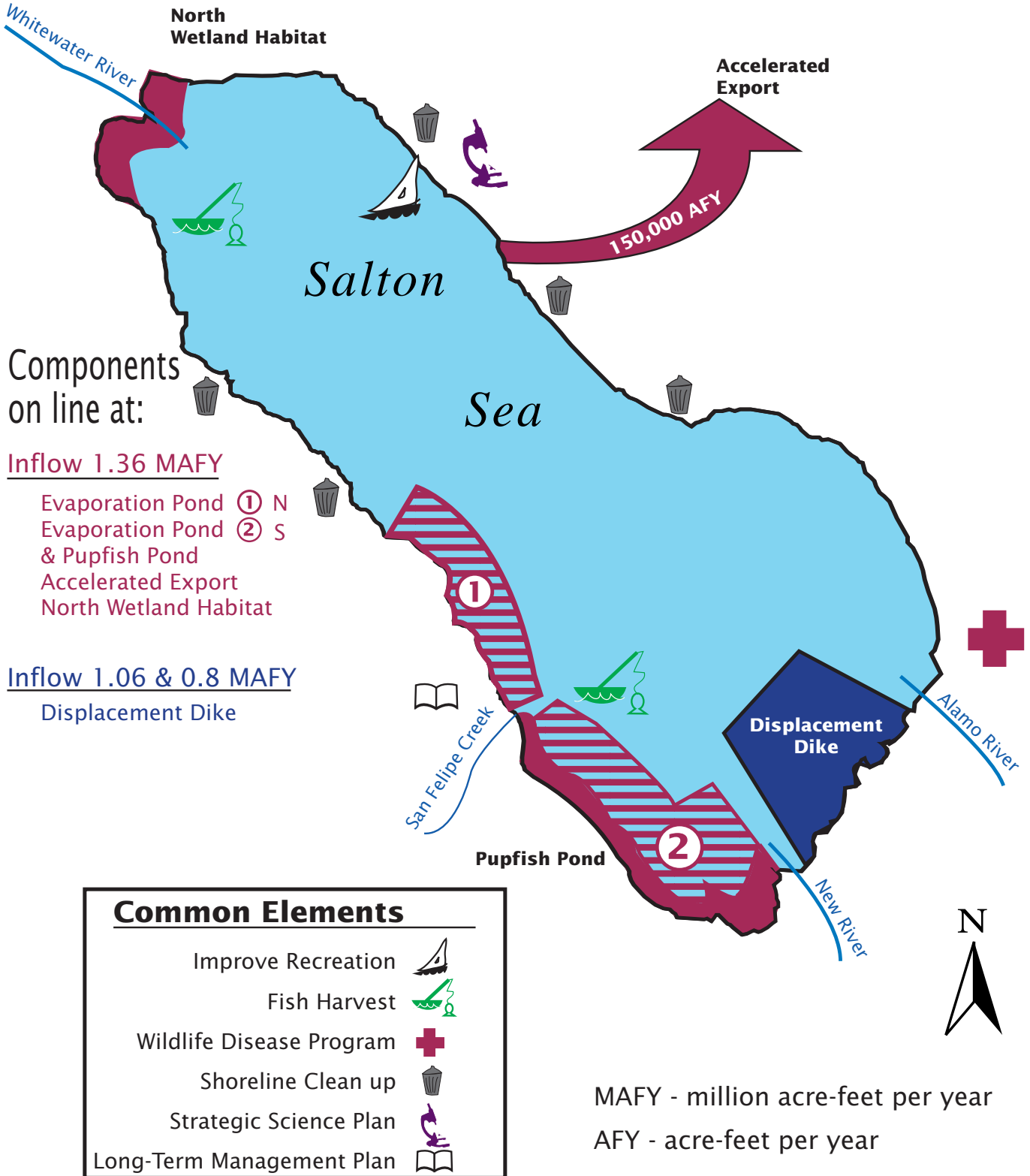
### ***Environmental Impacts***

- Significant impact to fisheries would result from increases in salinity
- Bird species would be threatened by loss of fisheries
- A significant drop in Sea elevation and decrease in surface area could occur if inflows to the Sea decrease in the future
- Local economic conditions and recreational opportunities would continue to decline

# Alternative 1

Salton Sea Alternatives

## Major Actions in the First 30 Years



## Alternative # 1

### ***Environmental Impacts***

- Long term benefits compared to No Action for fisheries and bird species
- Beneficial effects to recreation and the local economy from restoration activities
- Visual changes due to alterations in the landscape in the vicinity of ponds and dike
- Potential traffic impacts (delays) between material borrow site and the Sea during construction activities
- Fugitive dust problems could occur during construction
- Temporary disturbance of fisheries would occur during construction
- Possible disturbance of cultural and Native American resources
- Additional effects associated with export options could occur during Phase 2.

### ***Summary of Estimated Costs***

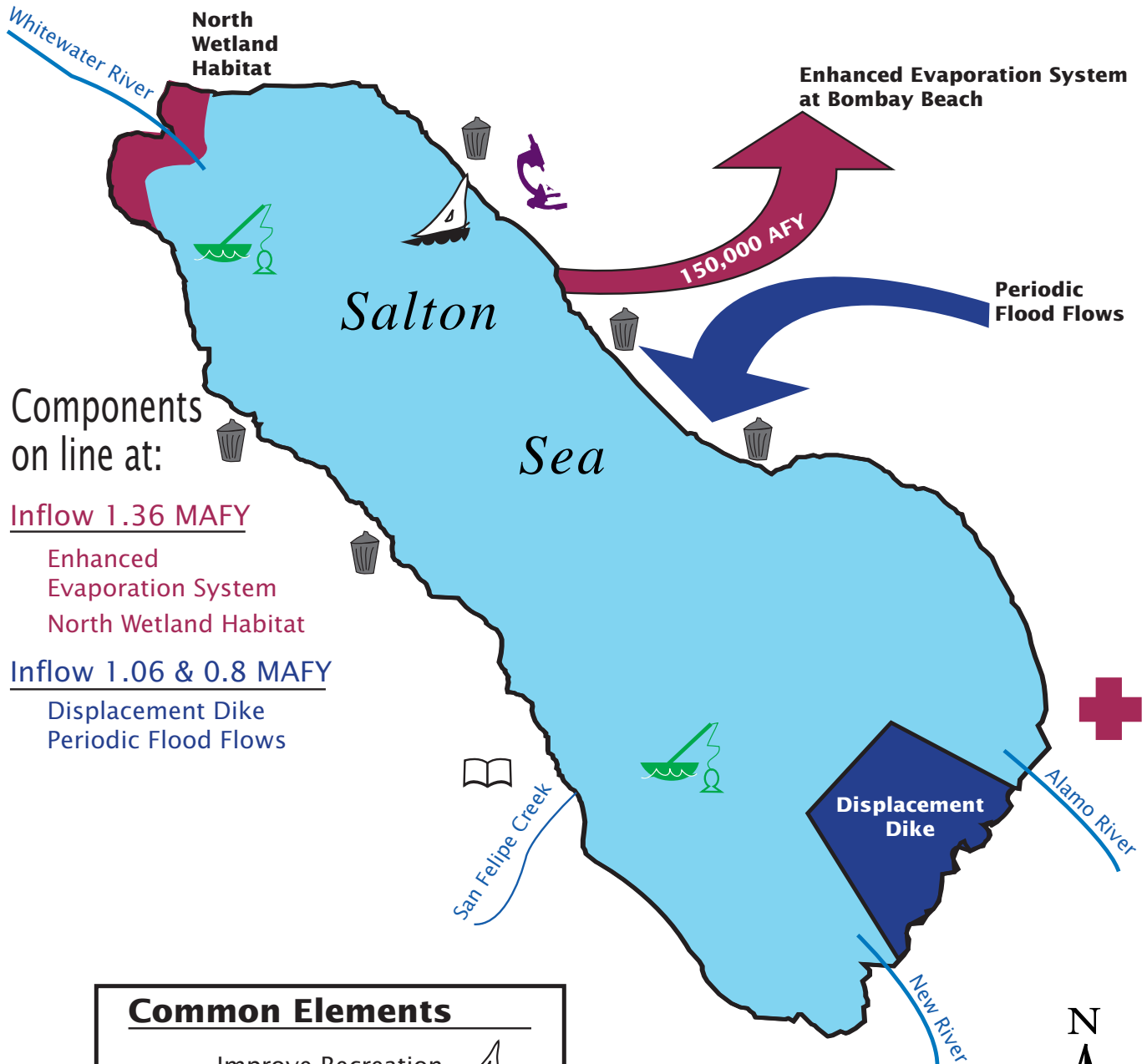
#### **Incremental Costs by Component:**

Item	Inflows Ac-ft/yr	Construction Costs (\$ M)	O,M&R (\$ M/yr)	Energy (\$ M/yr)
<b>Components Proposed</b>				
<b>at 1.36 MAF/Y Inflows</b>				
Evaporation Ponds:		424.0	1.2	0.1
Fish Harvesting		2.0	TBD	
Recreation facilities		2.0	0.1	
Shoreline Cleanup		0.5	0.2	
North Shorebird Ponds		15.0	0.0	
Wildlife Disease		0.0	0.1	
<b>Alternative Costs at 1.36 MAF/YR</b>		<b>\$ 443.5</b>	<b>\$ 1.6</b>	<b>\$ 0.1</b>
<b>Components added</b>				
<b>at 1.06 MA/Y Inflows</b>				
Displacement Dike	1.06	450.0	1.4	0.0
Flood flows (existing)		10.0	0.4	
<b>Additional Costs at 1.06 MAF/Y</b>		<b>\$ 460.0</b>	<b>\$ 1.8</b>	<b>\$ 0.0</b>

# Alternative 2

Salton Sea Alternatives

## Major Actions in the First 30 Years



Components on line at:

Inflow 1.36 MAFY

- Enhanced Evaporation System
- North Wetland Habitat

Inflow 1.06 & 0.8 MAFY

- Displacement Dike
- Periodic Flood Flows

Common Elements	
Improve Recreation	
Fish Harvest	
Wildlife Disease Program	
Shoreline Clean up	
Strategic Science Plan	
Long-Term Management Plan	

MAFY - million acre-feet per year  
AFY - acre-feet per year



## Alternative #2

### ***Environmental Impacts***

- Long term benefits compared to the No Action for fisheries and bird species
- Beneficial effects to recreation and the local economy from restoration activities
- Fugitive dust problems could occur during construction
- Possible disturbance of cultural and Native American resources
- Loss of desert habitat and possible salt drift at and near Enhanced Evaporation System sites
- Visual changes due to alterations in the landscape in the vicinity of ponds, dike structures, and Enhanced Evaporation System towers at the Bombay Beach site
- Potential adverse impacts to migrating birds due to tower configuration and height, and salt mist

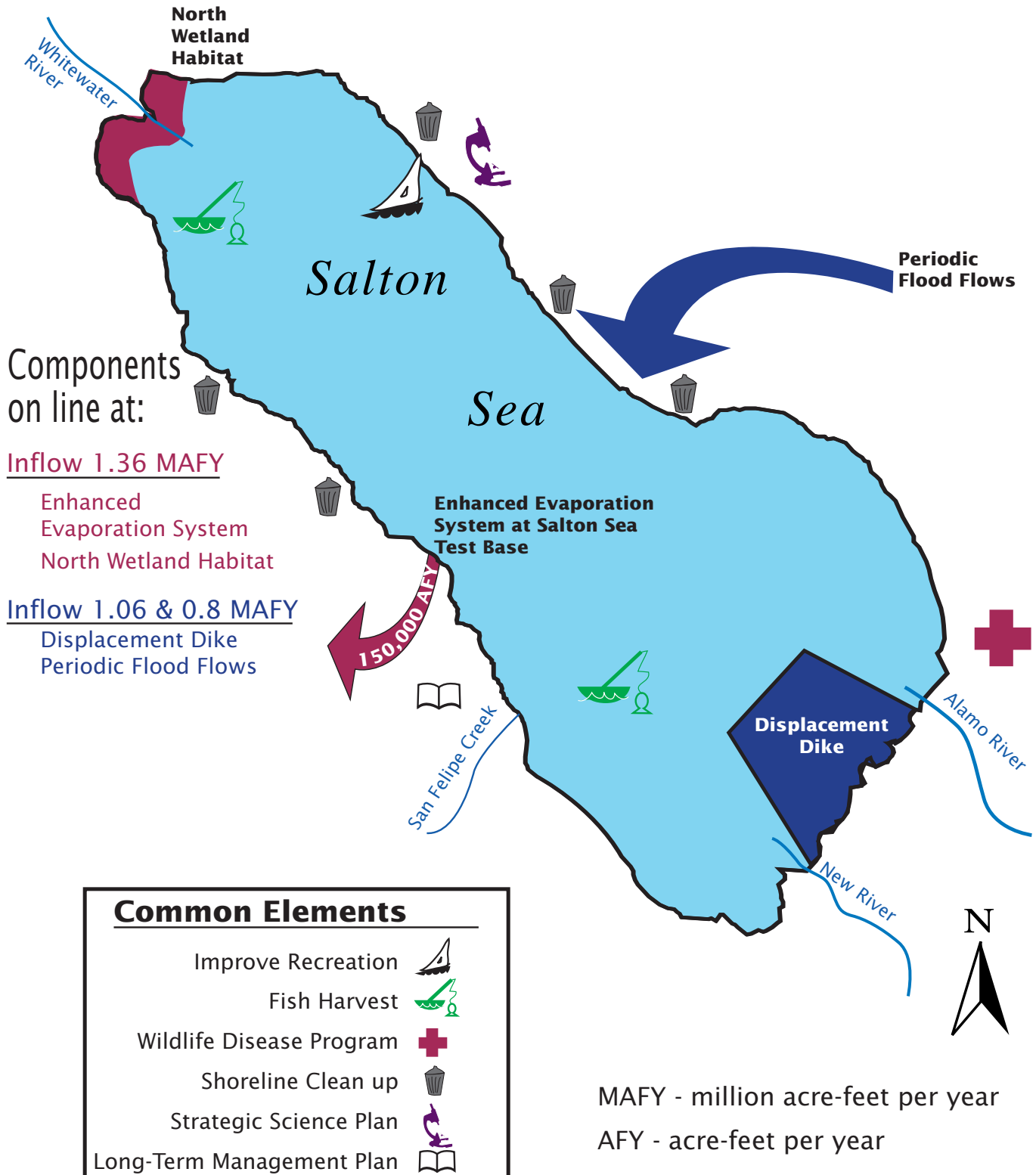
### ***Summary of Estimated Costs***

#### **Incremental Costs by Component:**

Item	Inflows Ac-ft/yr	Construction Costs (\$ M/)	O,M&R (\$ M/yr)	Energy (\$ M/yr)
<b>Components Proposed</b>				
<b>at 1.36 MAF/Y Inflows</b>				
Enhanced Evaporation System		286.0	8.7	3.0
Fish Harvesting		2.0	TBD	
Recreation facilities		2.0	0.1	
Shoreline Cleanup		0.5	0.2	
North Shorebird Ponds		15.0	0.0	
Wildlife Disease		0.0	0.1	
<b>Alternative Costs at 1.36 MAF/YR</b>		<b>\$ 304.5</b>	<b>\$ 9.1</b>	<b>\$ 3.0</b>
<b>Components added</b>				
<b>at 1.06 MAF/Y Inflows</b>				
Displacement Dike 1.06		450.0	1.4	0.0
Flood flows (existing)		10.0	0.4	
<b>Additional Costs at 1.06 MAF/Y</b>		<b>\$ 460.0</b>	<b>1.8</b>	<b>0.0</b>

# Alternative 3

## Major Actions in the First 30 Years



## Alternative #3

### ***Environmental Impacts***

- Long term benefits compared to the No Action for fisheries and bird species
- Beneficial effects to recreation and the local economy from restoration activities
- Fugitive dust problems could occur during construction
- Possible disturbance of cultural and Native American resources
- Loss of desert habitat and possible salt drift at and near Enhanced Evaporation System sites
- Visual changes due to alterations in the landscape in the vicinity of ponds, dike structures, and Enhanced Evaporation System towers at the Salton Sea Test Base Site
- Potential adverse impacts to migrating birds due to tower configuration and height, and salt mist

### ***Summary of Estimated Costs***

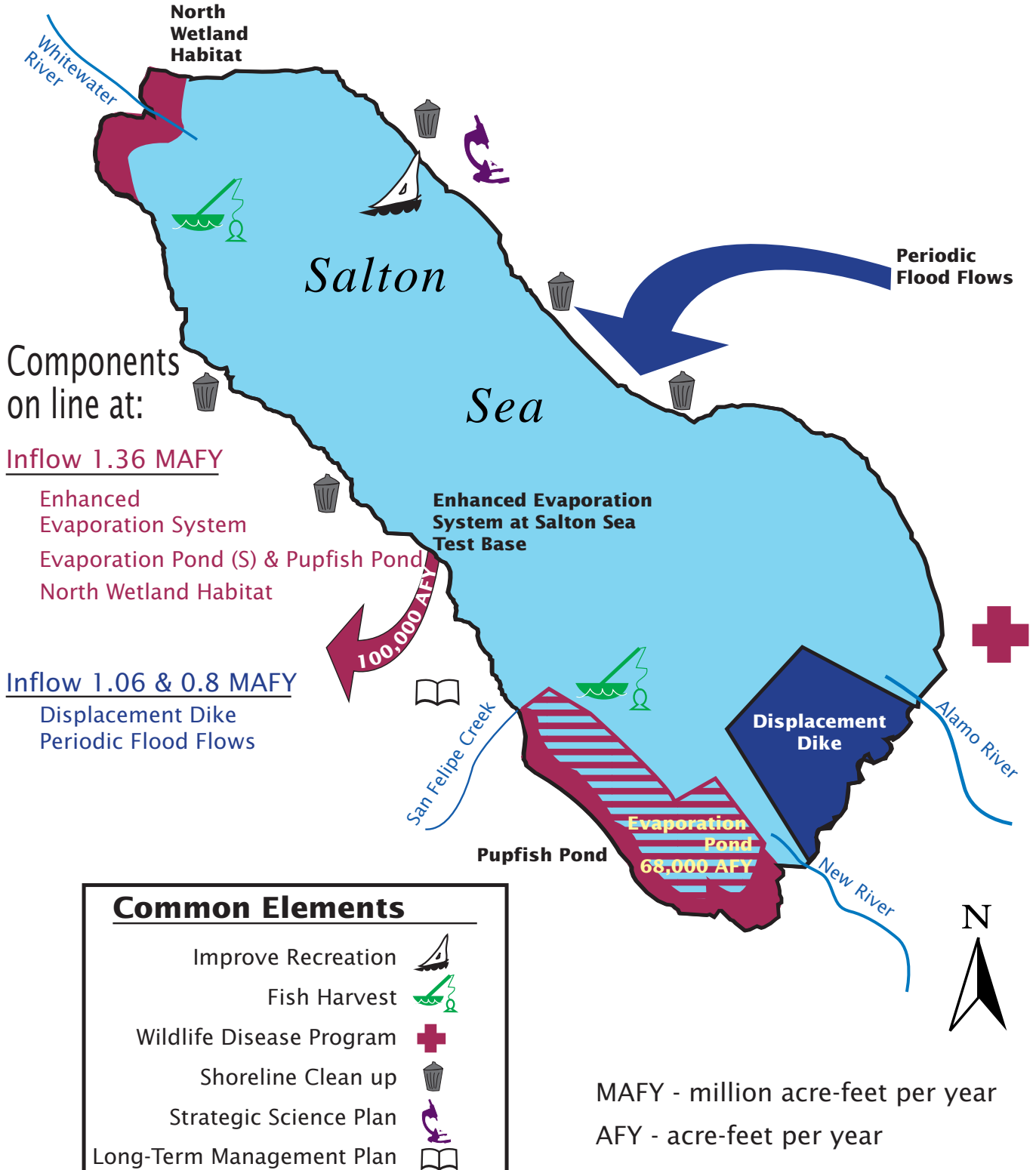
#### **Incremental Costs by Component:**

Item	Inflows Ac-ft/yr	Construction Costs (\$ M/)	O,M&R (\$ M/yr)	Energy (\$ M/yr)
<b>Components Proposed</b>				
<b>at 1.36 MAF/Y Inflows</b>				
Enhanced Evaporation System		409.0	9.1	3.0
Fish Harvesting		2.0	TBD	
Recreation facilities		2.0	0.1	
Shoreline Cleanup		0.5	0.2	
North Shorebird Ponds		15.0	TBD	
Wildlife Disease		0.0	0.1	
<b>Alternative Costs at 1.36 MAF/YR</b>		<b>\$ 428.5</b>	<b>\$ 9.5</b>	<b>\$ 3.0</b>
<b>Components added</b>				
<b>at 1.06 MAF/Y Inflows</b>				
Displacement Dike	1.06	450.0	1.4	0.0
Flood flows (existing)		10.0	0.4	
<b>Additional Costs at 1.06 MAF</b>		<b>\$ 460.0</b>	<b>1.8</b>	<b>0.0</b>

# Alternative 4

Salton Sea Alternatives

## Major Actions in the First 30 Years



## Alternative #4

### **Environmental Impacts**

- Long term benefits compared to the No Action for fisheries and bird species
- Fugitive dust problems could occur during construction
- Loss of desert habitat and possible salt drift at and near Enhanced Evaporation System sites
- Possible disturbance of cultural and Native American resources
- Beneficial effects to recreation and the local economy from restoration activities
- Visual changes due to alterations in the landscape in the vicinity of ponds, dike structures, and Enhanced Evaporation System towers at the Salton Sea Test Base Site
- Potential traffic impacts (delays) between material borrow site and the Sea during construction activities

### **Summary of Estimated Costs**

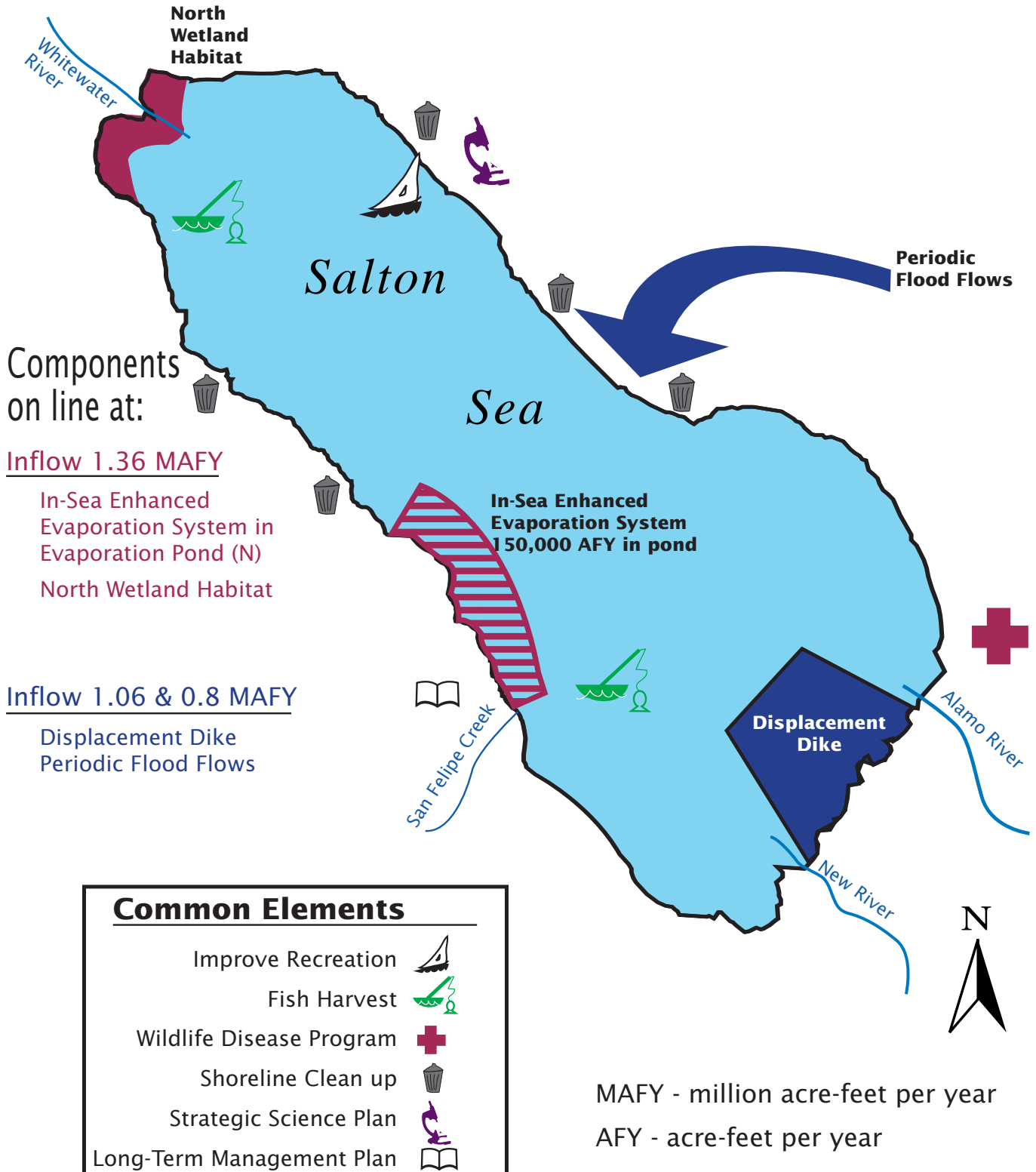
#### **Incremental Costs by Component:**

Item	Inflows Ac-ft/yr	Construction Costs (\$ M)	O,M&R (\$ M/yr)	Energy (\$ M/yr)
<b>Components Proposed</b>				
<b>at 1.36 MAF/Y Inflows</b>				
Evaporation Pond and EES		523.0	6.7	2.1
Fish Harvesting		2.0	TBD	
Recreation facilities		2.0	0.1	
Shoreline Cleanup		0.5	0.2	
North Shorebird Ponds		15.0	TBD	
Wildlife Disease		0.0	0.1	
<b>Alternative Costs at 1.36 MAF/YR</b>		<b>\$ 542.5</b>	<b>\$ 7.1</b>	<b>\$ 2.1</b>
<b>Components added</b>				
<b>at 1.06 MAF/Y Inflows</b>				
Displacement Dike	1.06	450.0	1.4	0.0
Flood flows (existing)		10.0	0.4	
<b>Additional Costs at 1.06 MAF</b>		<b>\$ 460.0</b>	<b>1.8</b>	<b>0.0</b>

# Alternative 5

Salton Sea Alternatives

## Major Actions in the First 30 Years



## Alternative #5

### ***Environmental Impacts***

- Long term benefits compared to the No Action for fisheries and bird species
- Fugitive dust problems could occur during construction
- Temporary disturbance of fisheries would occur during construction
- Possible disturbance of cultural and Native American resources
- Beneficial effects to recreation and the local economy from restoration activities
- Additional effects associated with export options could occur during Phase 2.
- Visual changes due to alterations in the landscape in the vicinity of ponds, dike structures, and Enhanced Evaporation System towers at the Salton Sea Test Base Site
- Potential traffic impacts (delays) between material borrow site and the Sea during construction activities

### ***Summary of Estimated Costs***

#### **Incremental Costs by Component:**

Item	Inflows Ac-ft/yr	Construction Costs (\$ M)	O,M&R (\$ M/yr)	Energy (\$ M/yr)
<b>Components Proposed</b>				
at 1.36 MAF/Y Inflows				
In-Sea Evaporation Pond/EES		349.0	6.0	16.4
Fish Harvesting		2.0	TBD	
Recreation facilities		2.0	0.1	
Shoreline Cleanup		0.5	0.2	
North Shorebird Ponds		15.0	TBD	
Wildlife Disease		0.0	0.1	
<b>Alternative Costs at 1.36 MAF/YR</b>		<b>\$ 368.5</b>	<b>\$ 6.4</b>	<b>\$ 16.4</b>
<b>Components added</b>				
at 1.06 MAF/Y Inflows				
Displacement Dike	1.06	450.0	1.4	
Flood flows (existing)		10.0	0.4	
<b>Additional Costs at 1.06 MAF</b>		<b>\$ 460.0</b>	<b>1.8</b>	<b>0.0</b>

# Other Possible Long Term Actions

Salton Sea Alternatives

