Team Members

- Steve Crooks – Geomorphology lead, Phil Williams and Associates
- Bruce Pavlik - Botany and Ecology, Independent Consultant
- Eric Jolliffe - Staff Biologist, USACOE

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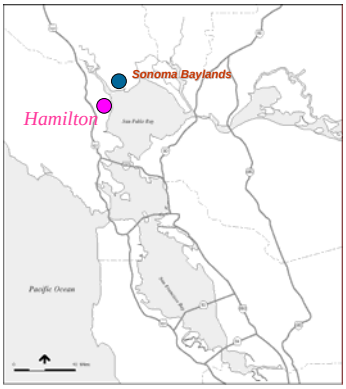
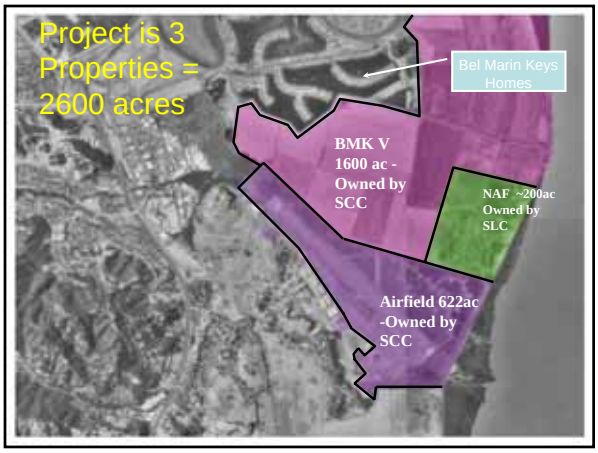
- Jay Kinberger - Project Manager, USACOE
- Edgar Salire - Soils Engineer, USACOE
- Bill Rudolph - Soils Enginner, Consultant to SCC
- Eric Polson - Civil Engineer, Consultant to SCC
- Bill Firth - Hydrologist, USACOE



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LTMS ~ Hamilton Link

Partners involved in:

Pre-project planning (Since 1993)

legislation (federal and state)

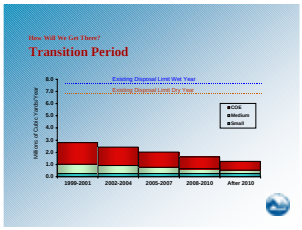
Stakeholder Involvement (Local Gov and NGO) = Collaboration (Work between agencies)

Maritime Interest groups

Hamilton Partners:
California Coastal Conservancy
San Francisco Bay Conservation & Development Commission (BCDC)
U.S. Army Corps of Engineers

LTMS Strategy

LTMS Program EIS/EIR (1994) and ROD (1999)
Disposal and Reuse Goal of 40/40/20
20-Year Planning Horizon
40% Ocean Disposal
40% Reuse
20% In-Bay



Multiple Objectives

1. Marsh Restoration using Dredged Sediment
   (➔ LTMS)
2. Tidal Marsh Habitat benefiting Endangered Species
   ➔ North Bay Restoration Initiative (see map)
   Habitat Linkages
   USFWS / DGS Refuge System
3. Well Planned Reuse of Military Lands
   ➔ BRAC No-Cost Conveyance to SCC (Hamilton)

North Bay Project Potential

Design Objectives

Creation of 3 habitat types

- tidal wetlands
- seasonal wetlands
- uplands

To benefit an array of species

- endangered (saltmarsh harvest mouse, clapper rail)
- shorebirds (e.g. greater yellowlegs, long-billed curlew)
- local wildlife (e.g. marsh hawk, voles, butterflies)

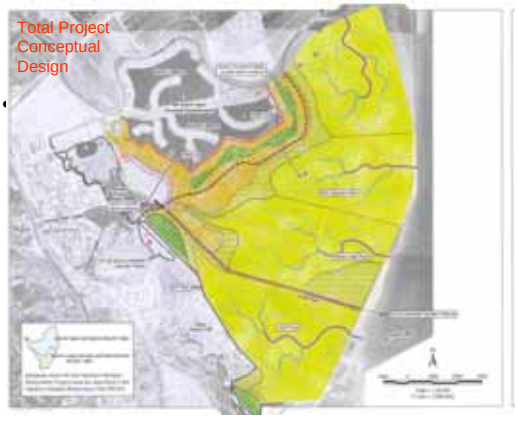
With minimal long-term maintenance

Hamilton Wetlands Restoration Project

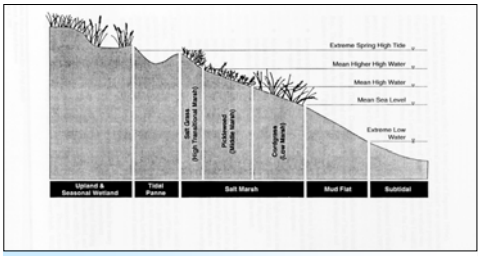
Authorized in WRDA 1999 - $55,200,000

- Purpose: Ecosystem and Wetlands Restoration
- Restores approximately 990 acres of habitat including:
  - 570 Acres of Coastal Salt Marsh
  - 120 Acres of tidal channels and intertidal habitats
- Accommodates approximately 10.6MCY of dredged material
- 13 years of Adaptive Management Post Breach
- Complete Restoration – 20 Years

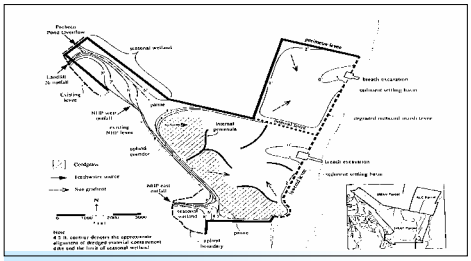
Regardless of the availability of dredged material, the bay ward levee breach would be completed no later than 8 years after initiation of site preparation to ensure that marsh establishment would not be delayed



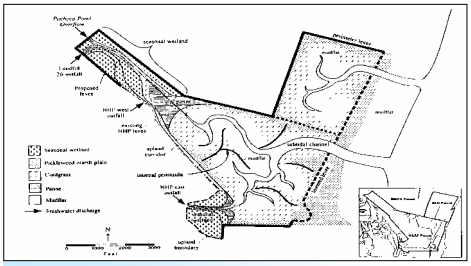
Habitat Types at Hamilton



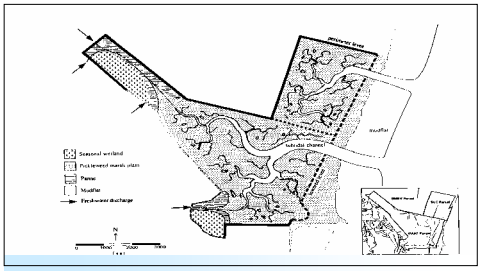
Hamilton Site Template

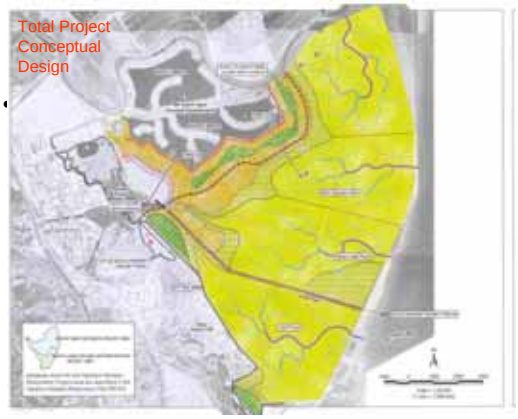


Hamilton Site at 10 Years



Hamilton Site at 50 Years





Summary of Costs
Total Project

Total Combined Cost……$281,400,000
Federal ……$221,600,000
Project Share……$128,200,000
O&M Share……$76,900,000
Oakland -50' Project Share….$16,500,000
Non-Federal……$59,800,000
Sponsor Share……$42,800,000
Non-Fed O&M Share……$11,500,000
Oakland 50' Project Share…..$5,500,000
Annual O&M (project life)……$886,000

Regulatory Actions

- Final RAP for Airfield (DTSC and RWQCB)
- Includes SEIR Comments (SCC)
- Site Cleanup Requirements to Army (RWQCB)
- Waste Discharge Requirements (RWQCB) to Army and SCC Covers all aspects of wetlands project
- Section 7 ESA for Construction and Project (USFWS)
- Section 7 ESA for Offloader (NMFS)
- Consistency Determination includes Offloader (BCDC)

Progress 3 Major Phases

- For Airfield
  - Built 3 out of five levee segments
  - Seasonal Wetland Design ~50% complete
  - Trail plan complete
  - DM placement cells for first phase compete
  - DM placement scheduled to start fall of 2006
  - 2005 Permits that require monitoring

Antenna Field Status

190 Acres

~ 30 Acres in southeast corner used for:
- Shooting range
- Antenna field
- Burn Pits (fire training, etc)

Spot Removals completed in 1990s
Clean-up Plans in a regulatory "process"
After remediation, restored as Phase II or III of the project

BMKV Status

Elements to Authorization of BMKV portion have been completed:

✓Supplemental EIS/EIR for Bel Marin Keys Unit V
✓Completed December 2002.

✓General Reevaluation Report (GRR) a revision to the FS

✓Draft Chief' Report written

✓Revised Cost Estimates

Pending Corps Headquarters approval

Toxics Remediation

This is another Workshop!

- Done by Army / Navy BRAC
- 1990s - BRAC work within Hamilton
- Contaminants typical of an large airport
- $70 Million plus soil no groundwater
- Cleanup complete this FY
- Cleanup plan adopted 2003
- Low level (residual) DDT in soil

Public Access

This is Another Workshop!

- Trail will run western parameter of site
- To BMK Blvd North and connect to ? South
- User –wildlife interaction
  - Nesting birds most sensitive
- Sophisticated Trail Design
  (Mixture of cable fencing,moat, signage, elevation)

Required monitoring
- Methods?
- Applicable to Adaptive Management

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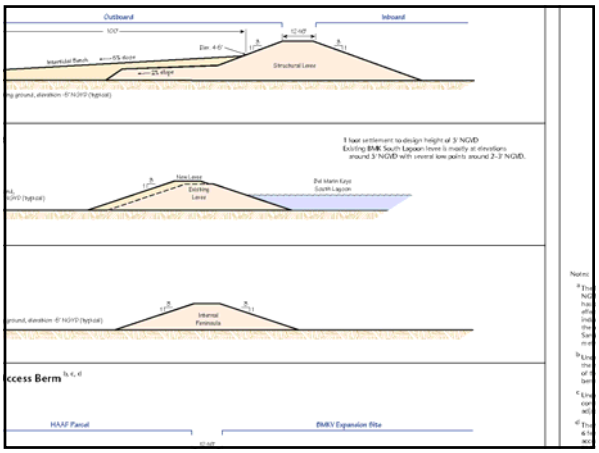
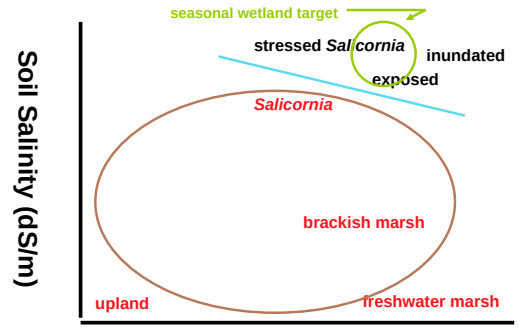
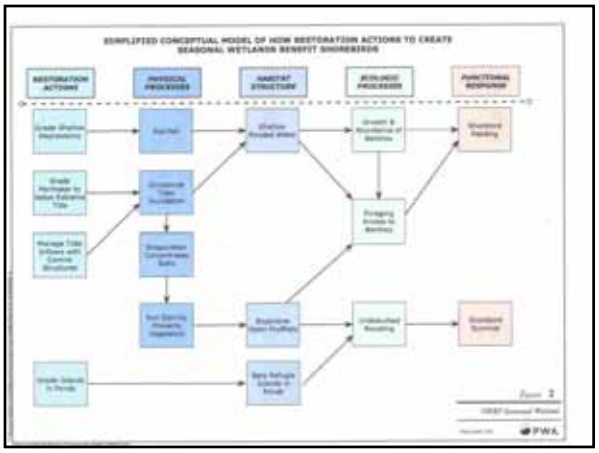


The Project at HAAF

Habitat	Upland	Tidal wetland	Seasonal wetland
Goal	local wildlife	endangered species migratory species	shorebirds
Physical corollaries	corridor restricted access escape terrain	tidal action sedimentation channel network/form	tidal inundation ppt inputs high soil salinity
Vegetation	native overstory mixed understory	Salicornia	open pannes, stressed Salicornia, matrix of native wetland
Challenges	weeds	design template	design w/ man options inund/salinity regime weeds
Uncertainty	low	low to moderate	high

Target salinity/inundation regime is narrow





Who performs Adaptive Management?

Adaptive Management Working Group (AMWG)
composed of:

scientists* - specialists in monitoring & restoration
regulators - agency representatives
private interests - local business & user groups
stewards* - resource owners & managers

***Technical Advisory Group (TAG)**
(regulatory mechanism)

Hamilton AMMP

We're Working on it……
June?

- 2002 SEIR and Draft ADMP Plan (Appendix K)
- It outlines:
- Goals
- Objectives

Measures of Progress ("success"?)

Physical
Chemical
Biological

Other benefits
> Public and community "ownership" of project
> Further the scientific understanding of wetlands

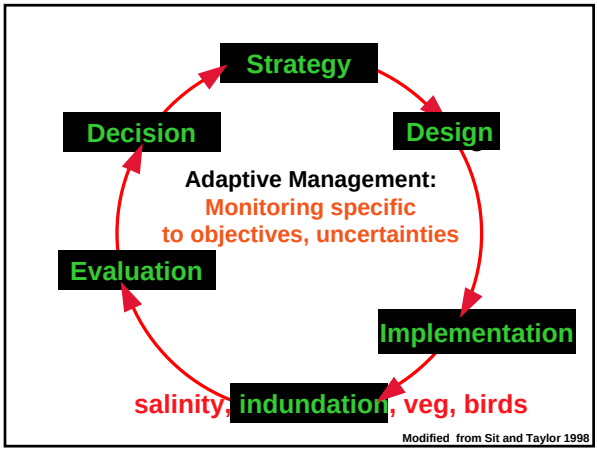
High Priorities for Monitoring

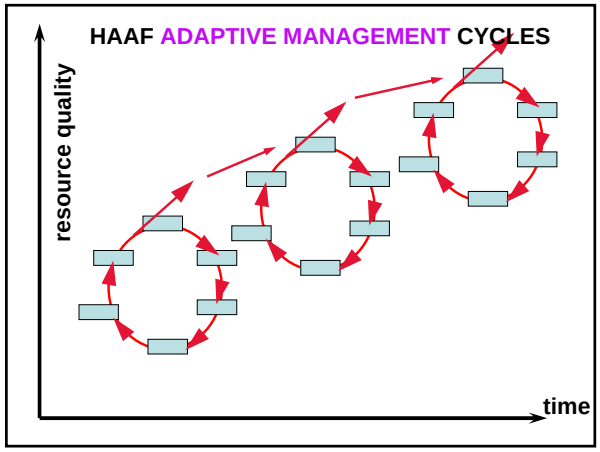
Physical
Placed sediment elevation (**No overfilling!**)
Levee erosion and stability (flood control)

Channel development
Hydrology inside and outboard

Chemical
MeHg (Corps, Calfed)
Conventionals and sediment (e.g. redox)

Biological
Bird use
Clapper rail and SMH Mouse
Fish use





Allowable under Corps CW Rules

- What can $ be spent on?
  - Corps will carryout AMM for 13 years after completion of each seperable unit (breach)
  - Terminology important to Federal Gov't
  - Process requires that the Corps give the sponsor an O&M manual.
  - Role of NGO or other third party?

>>> look back at early partners and funders

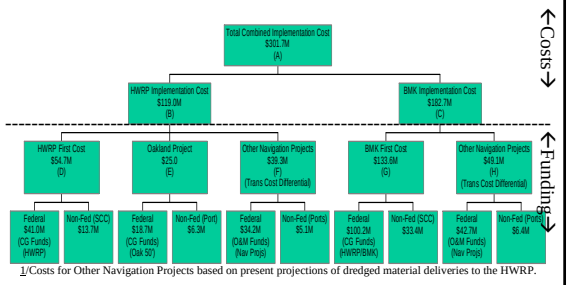
Monitoring Feasibility

- Methods and approach must be cost effective, comparable and generally accepted within the scientific community
- Project funding vs. Science
- Better when tied to regional efforts
  - Methodology, timing and funding
  - PM need control of deliverables
  - Federal contracting rules

Regional Monitoring

- Project-specific monitoring vs. Regional
- Monitoring for permit compliance vs. science
- Compatibility of data with regional work
- Economy of scale
- Funded from science grants

Figure A-1
HWRP/BMK Project Costs



1/Costs for Other Navigation Projects based on present projections of dredged material deliveries to the HWRP.