NEW RIVER WETLANDS PROJECT

Improving The Quality Of Water

New River Wetlands Project Status

CITIZENS TASK FORCE ON THE NEW RIVER

- 1997 - LEON LESICKA AND DUNCAN HUNTER FORMED CTFNR TO ADDRESS PROBLEMS THRU FOLLOWING ACTIONS:
- OBTAIN GRANT MONIES
- OBTAIN NECESSARY PERMITS
- CONSTRUCT WETLANDS - 2 SITES
- CONSTRUCT AERATION STRUCTURES ALONG NEW RIVER

PROBLEM

- CONTENTS:
  - AG RUNOFF
  - RAW SEWAGE
  - FOAM
  - ORGANIC COMPOUNDS
  - METALS
  - PESTICIDES
  - DISEASES

WETLANDS

- TMDLS
- BREAK DOWN NUTRIENTS
- HABITAT
- ABSORB HEAVY METALS
- FILTER OUT TOXINS
- MASSIVE FOOD BASE

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WETLANDS

- PROCESS NITRATES
- RELEASE OXYGEN
- REMOVE CARBON DIOXIDE
- RECREATION
- BIRD WATCHING

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HOW DOES IT WORK?

- Decreases acidity, metals, pathogens, trace organics, nitrogen and phosphates
- Aquatic plants provide oxygen to nitrifying microorganisms
- In presence of oxygen, nitrifying bacteria convert ammonium to nitrate which is converted to gaseous nitrogen by denitrifying bacteria and lost to atmosphere

HAS IT BEEN DONE BEFORE?

- Most systems used for domestic wastewater
- Agricultural wetlands differ in necessity to remove sediment

DESIGN CONSIDERATIONS

- Area requirements
- Water depth
- Number of cells
- Cell shape
- Flow velocity
- Wastewater retention time
- Substrate

PILOT PROJECT

- IMPERIAL SITE
  - 68 ACRES OFF RICE DRAIN
  - AGRICULTURAL WATER
  - SETTLING POND
  - FOUR WETLANDS
- BRAWLEY SITE
  - 7 ACRES ON IMPERIAL RESEARCH STATION
  - NEW RIVER WATER
  - SETTLING POND
  - TWO WETLANDS

– IMPERIAL SITE

- AERIAL PHOTO

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BRAWLEY SITE

- AERIAL PHOTO

SPECIFICATIONS

Site	Water source	Wet Acres	Flow rate
Imperial	Ag drain	22.7	4 cfs
Brawley	New River	6	1 cfs

SPECIFICATIONS

Site	Total water in pond	Retention time	Maximum depth
Imperial	127 acre feet	9- 10 days	Sed: 14 ft cells: 4-6 ft
Brawley	21 acre feet	9 days	Sed: 10 ft cells:4-6 ft.

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MONITORING RESULTS

2001/2002

IMPERIAL SITE MONITORING SUMMARY (AVERAGES) 2001/2002

MG/L	2001 inlet/outlet	% change	2002 inlet/outlet	% change
DISSOLVED O	7.92/10.95	28 % incr.	8.11/8.38	3.2 % incr.
TOTAL N	5.8/3.5	40 % decr.	6.1/3.1	50.8 % decr.
TOTAL P	1.95/.57	71 % decr.	1.63/.83	49 % decr.
SELENIUM	.007/.005	29% decr	.0064/.0051	20.3 % decr.
BOD	20/15	25% decr.	14/15	6.7% incr.
FECAL COLIFORM	1998/76	96% decr.	22605/88	99.6% decr.
TSS	179/19	89% decr.	173/12	93.1% decr.

BRAWLEY SITE MONITORING SUMMARY (AVERAGES) 2001/2002

MG/L	2001INLET/ OUTLET	% CHG	2002 INLET/OUTLET	% CHG
DO	3.67/10.83	66% INCR.	3.89/9.25	57.9% INCR.
TOTAL N	7.9/4.8	60.1% DECR	7.7/5.4	70% DECR
TOTAL P	1.59/.73	54% DECR	1.53/.8	48% DECR.
SELENIUM	.011/.008	27% DECR	.0086/ .0082	4.7% DECR
BOD	16/13	19% DECR.	15/14	6.7% DECR
FECAL COLIFORM	151,664/ 274	99.8% DECR	104,138/ 184	99.8% DECR
TSS	543/13	98% DECR	286/13	95.5% DECR

Sediment Monitoring

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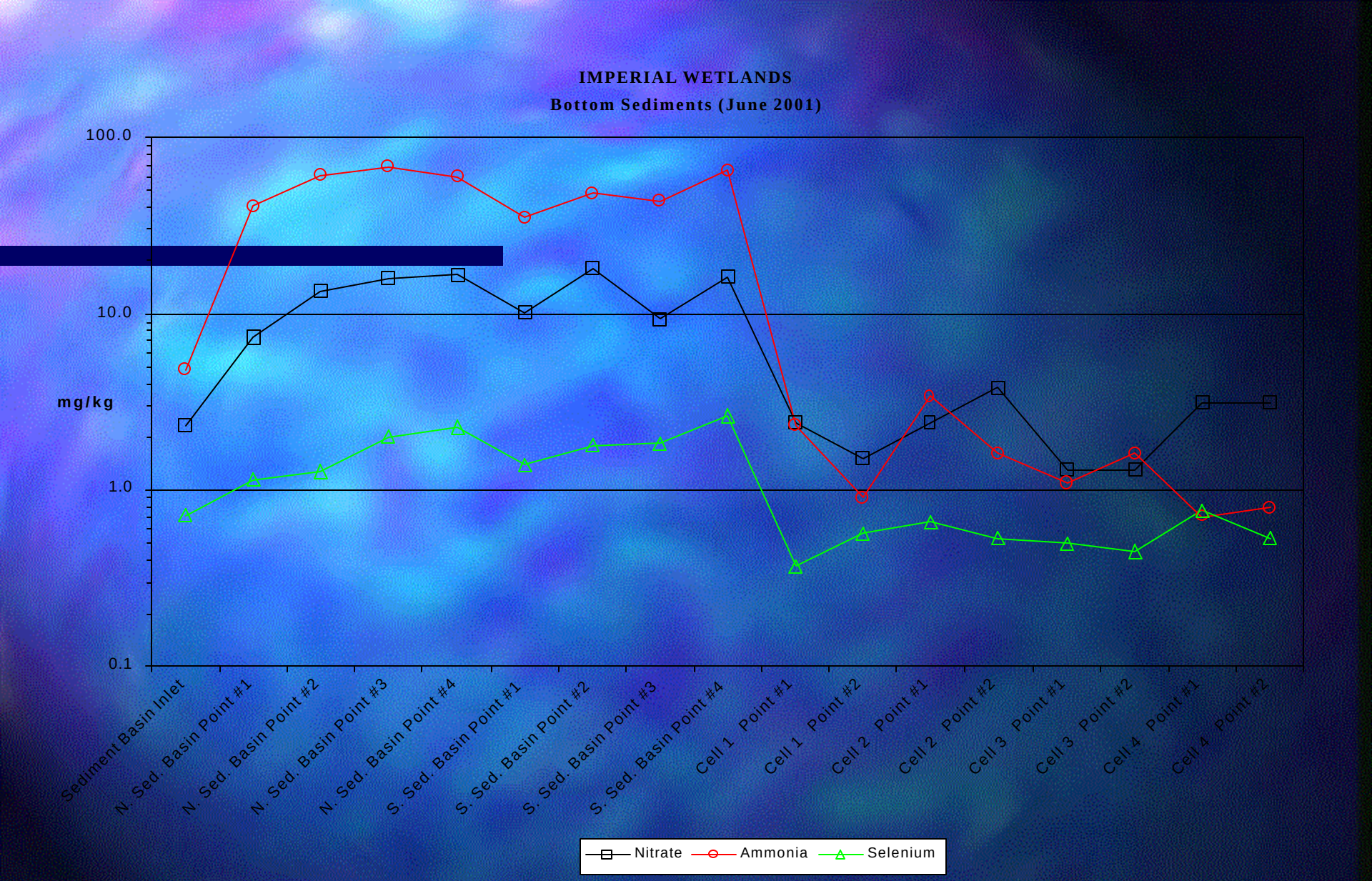

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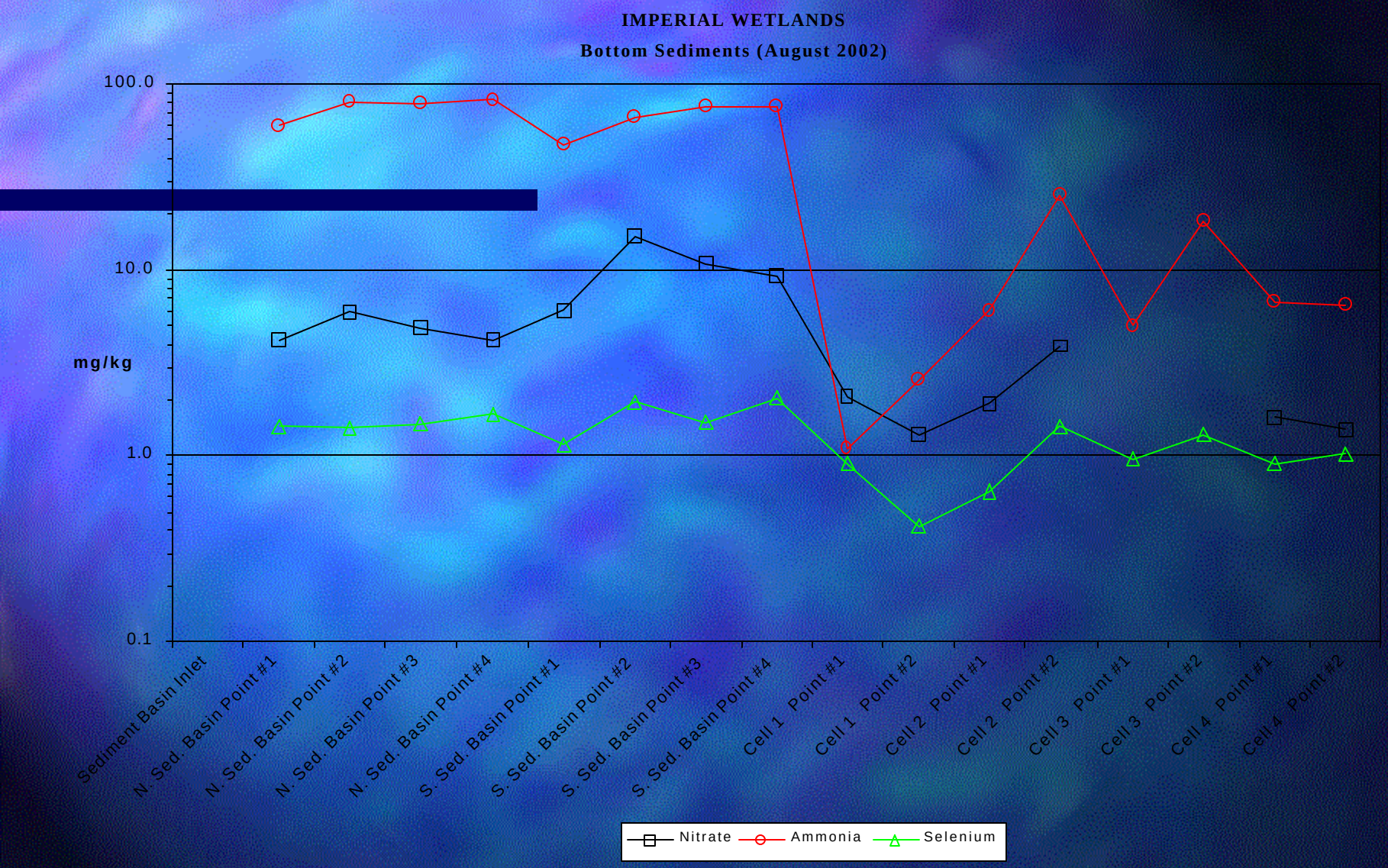

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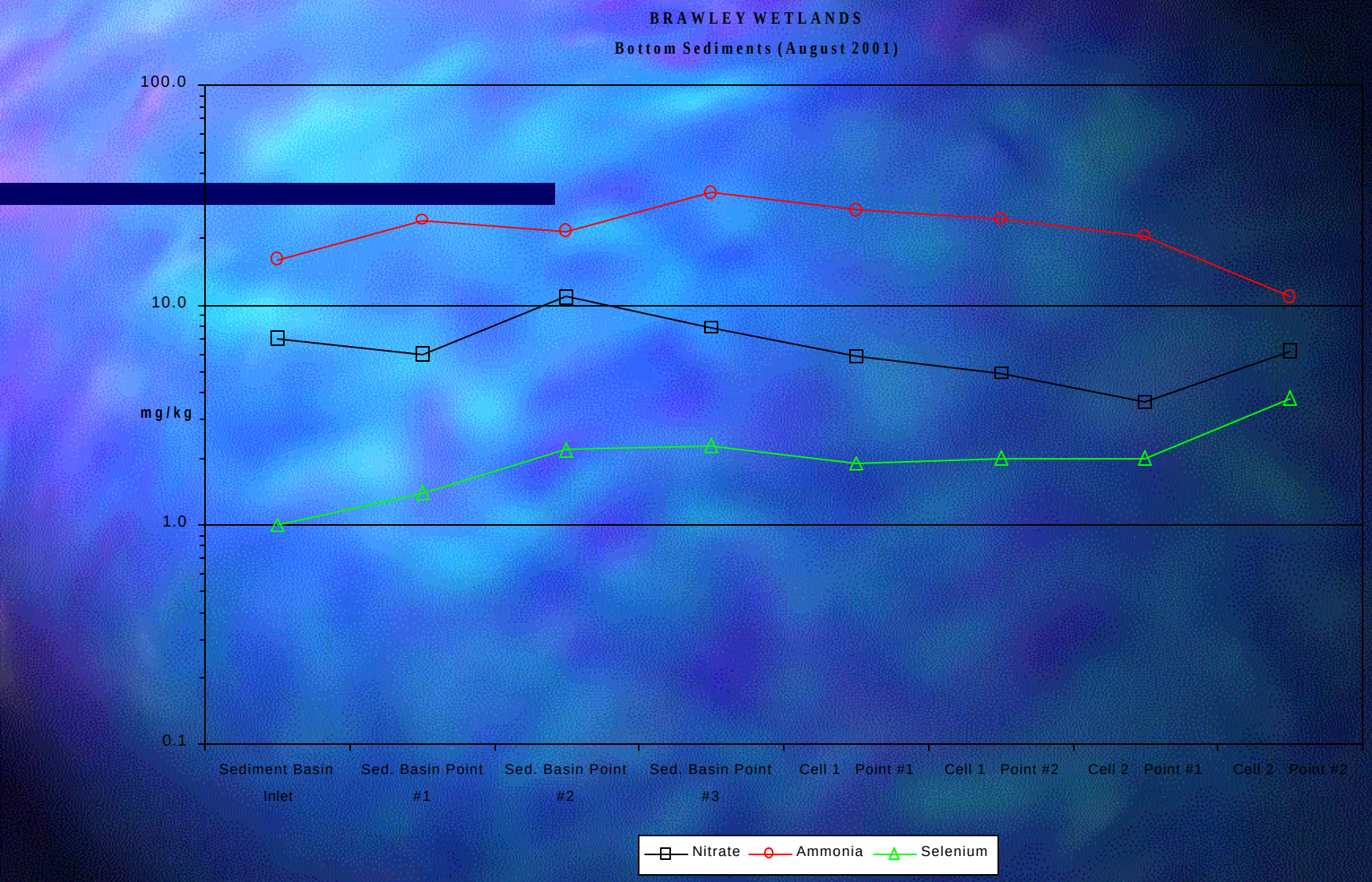

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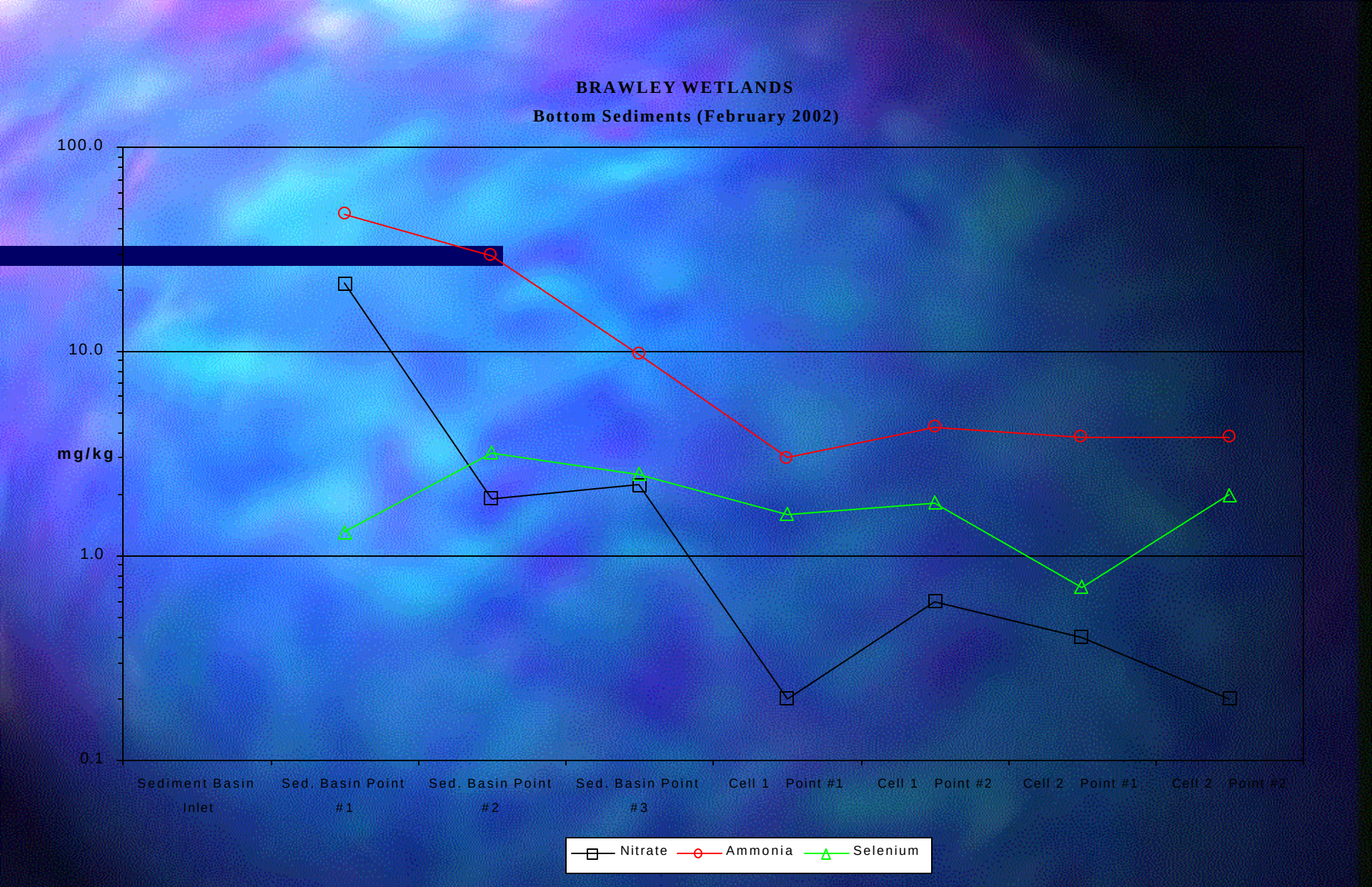

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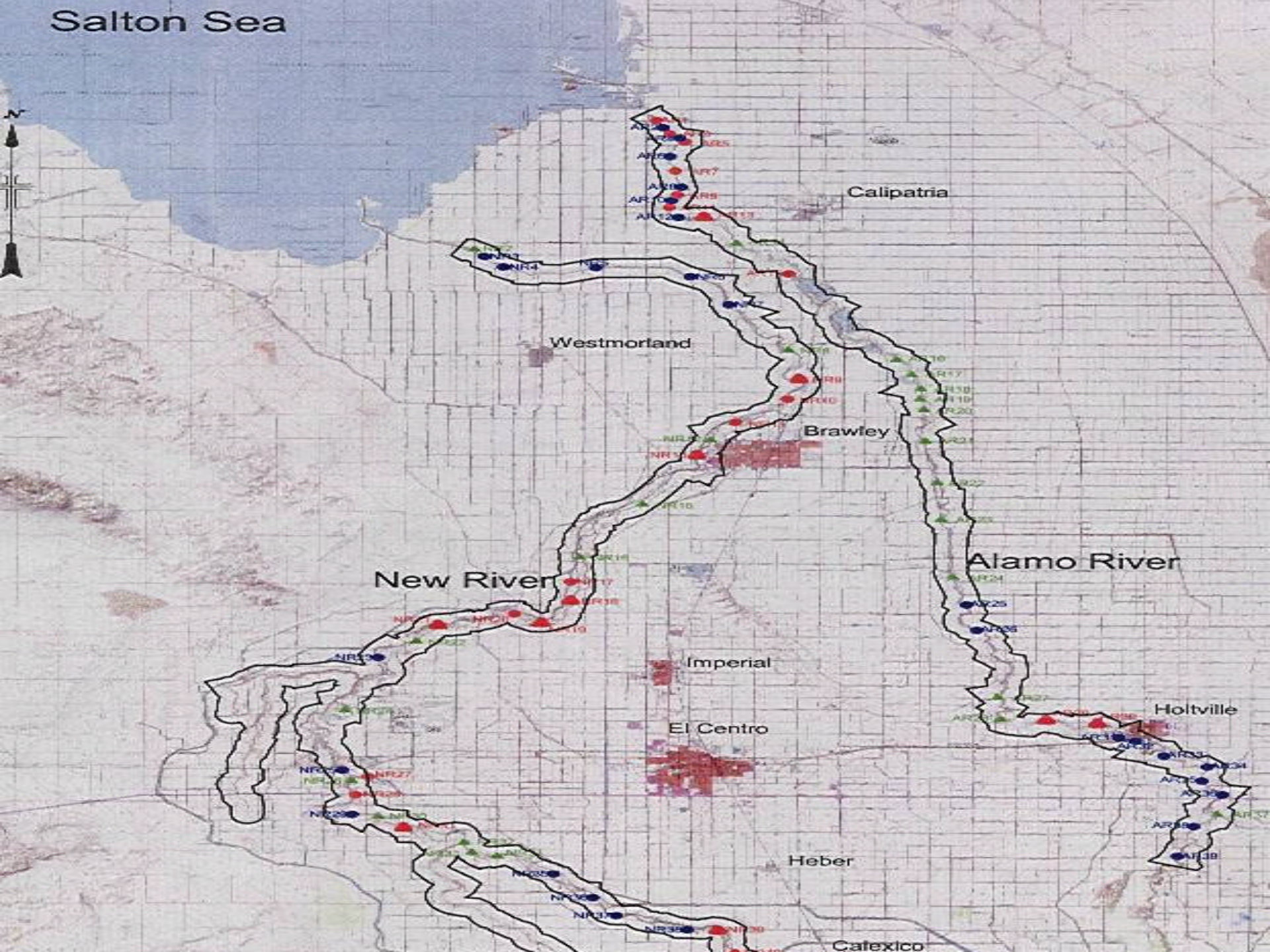
FUTURE OF THE PROJECT

- RECONNAISSANCE INVENTORY OF WETLAND AND SEDIMENTATION BASIN SITES NEW & ALAMO RIVER COMPLETED
- IDENTIFIED 35-40 FAVORABLE WETLAND SITES
- SELECTED FIRST TEN SITES
- ELEVATIONS ARE BEING IDENTIFIED ON TEN SITES

FUTURE (CONTINUED)

- BIOLOGICAL/ARCHEOLOGICAL SURVEYS
- CEQA/NEPA PERMITS
- HOPE TO START CONSTRUCTION WITHIN 18 MONTHS


Salton Sea
Calipatria
Westmorland
Brawley
New River
Alamo River
Imperial
El Centro
Holtville
Heber
Calexico

Salton Sea International Bird Festival

- New River Wetlands projects on tours
- Over 145 species of birds found at wetlands
- Registration form/brochure on website: www.newriverwetlands.com

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OUTREACH

- CALEXICO NEW RIVER COMMITTEE
  - Calexico aeration structure; sedimentation basins
- SALTON SEA AUTHORITY
  - Cleaner water will help with desalinization effort
- Ca Fish & Game
  - Maintenance
- Cities – Westmorland, Brawley, Holtville
- Imperial County Property Services
  - Recreational
- Imperial Valley Regional Occupational Program
  - School Tours

BABY COOTS

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SORA RAIL

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SouthWest Birders

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QUESTIONS??????

Website:newriverwetlands.com

THANK YOU VERY MUCH