

# AVOIDANCE, MINIMIZATION AND MITIGATION MEASURES TO PROTECT THE BURROWING OWL IN IMPERIAL VALLEY



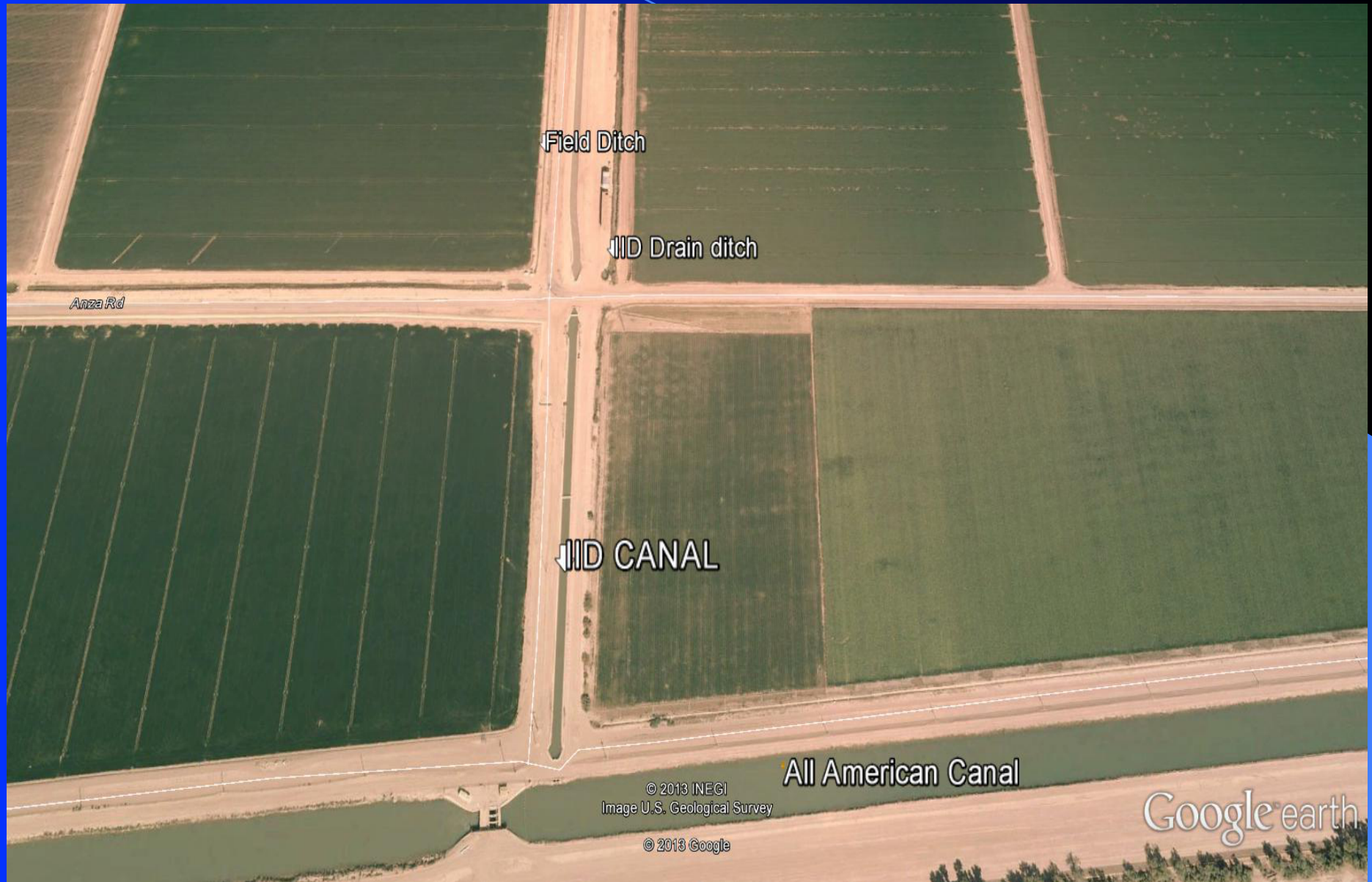


# IMPERIAL COUNTY CA





# AGRICULTURE/IRRIGATION





# BURROW HABITAT



Field Ditch



IID Drain Ditch



# INDUSTRIAL AREAS

**PARKING LOT**



**LANDFILL**





# BUOW in Imperial County

- Approximately 70% of CA BUOW population found in Imperial County
  - Abundant burrow opportunities
  - Abundant prey
  - Public/Agency/Development/Agricultural Awareness
  - Known as “johnny” owls in IC



# REGULATIONS

- SPECIES OF CONCERN IN CA
  - CEQA
    - ENVIRONMENTAL IMPACT REPORT
    - CONDITIONAL USE PERMIT
    - MITIGATION, MONITORING AND REPORTING PROGRAM
    - BURROWING OWL AVOIDANCE, MINIMIZATION, MITIGATION AND MONITORING PLAN
  - MIGRATORY BIRD TREATY ACT



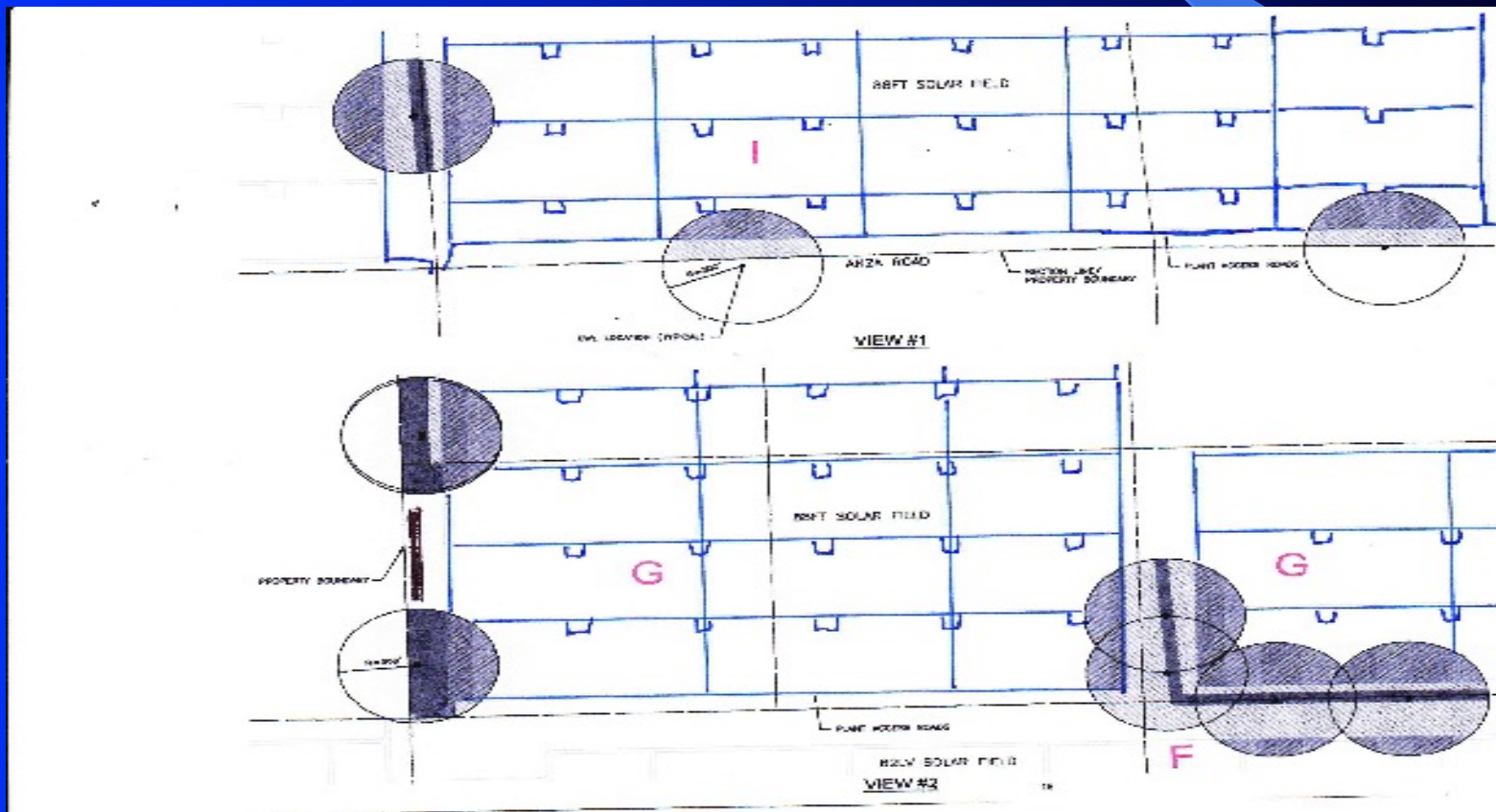
# AVOIDANCE TECHNIQUES

- PROJECT TIMING
  - TIME ACTIVITIES TO AVOID NESTING SEASON (FEB-AUG)
    - SHORT TERM PROJECTS: FIELD DITCH REMOVAL
    - FIELD DITCH REPAIR
    - WEED CONTROL ON FIELD DITCHES



# AVOIDANCE (CONT)

- PROJECT REDESIGN
  - WORK WITH ENGINEERS AND BUOW LOCATIONS TO REPOSITION PROJECT





# AVOIDANCE (CONT)

- WORKER TRAINING
  - ENVIRONMENTAL AWARENESS EDUCATION PRESENTATION BY BIOLOGIST:  
**BURROWING OWL**  
**BIOLOGY, REGULATORY STATUS  
IN IMPERIAL COUNTY  
WORKER TRAINING**
  - WORKER INCENTIVE: \$15 SUBWAY GIFT CERTIFICATE FOR BURROWS/BIRD NESTS LOCATED



# MINIMIZATION

## SHELTERING-IN-PLACE

- CREATE A BARRIER BETWEEN ACTIVITIES AND OCCUPIED BURROW OR POTENTIAL BURROWS
- WITH A BARRIER CAN WORK CLOSE TO OCCUPIED BURROW





# SHELTERS



ROAD CONSTRUCTION



OWLS BEHIND SHELTERS DURING  
ROAD CONSTRUCTION

# BALES

- NATURAL;  
FAMILIAR IN  
HABITAT
- CRICKETS,  
SOWBUGS FOUND  
UNDER BALES
- CONVENIENT  
PERCH





# REMOVAL OF POTENTIAL BURROWING AREA



CONCRETE DITCH REMOVAL



RECYCLING CONCRETE; LARGE  
CHUNKS TARPED



# ROAD CLOSURE





# POTENTIAL BURROWS





# MITIGATION

- ARTIFICIAL BURROW INSTALLATION
- ONE WAY DOOR INSTALLATION
- BURROW COLLAPSE
- MONITORING



# ARTIFICIAL BURROW INSTALLATION



Digging 1 1/2 to 2 ft deep excavation  
about 10 ft long

Cut out each end  
of valve box to  
fit corrugated,  
perforated 4"  
pipe – 2 4 ft  
lengths



Concrete board in  
bottom of excavation;  
set valve box on top





# INSTALLATION (CONT)



Secure pipe and  
block holes  
with duct tape



Arrangement of burrow with perch



Excavation backfilled and  
topped with pea gravel



Probing to be sure of alignment



# ARTIFICIAL BURROW

BUOW SHELTERING UNDER 8" BLOCK



CRICKETS



ARTIFICIAL BURROWS WITH  
FENCING AND SIGNAGE





# ONE WAY DOOR INSTALLATION

## TECHNIQUES

- OBSERVE TO DETERMINE HOW MANY BUOW ARE PRESENT AT BURROW
- INSTALL ONE WAY DOOR
- WAIT 48 HRS; PROBE AND REMOVE DOOR
- COLLAPSE BURROW





# ONE WAY DOOR MATERIALS





# ONE WAY DOORS

## INSTALLATION





# BURROW COLLAPSE



VIDEO SNAKE CAMERA AND  
CABLE

VIDEO SNAKE VIDEO SCREEN





# COLLAPSE

TYPICAL BURROW

DIGGING OUT A  
BURROW





# COMPACTION



SHOVEL



DISKING



MECHANICAL



# OBSERVATIONS

CIGARETTE BUTTS  
THROUGHOUT BURROW



VERY YOUNG OWL  
MOVED BY  
PARENT

OWL  
RETURNED TO  
BURN AREA





# OBSERVATIONS



LARVAE LEFT AT BURROW



BURROW IN  
HAYSTACK



# OBSERVATIONS



SMALL BURROW IN PIPE  
PILE

BUOW IN PIPE





# MIGRATORY BIRD TREATY ACT OF 1918

IMPLICATIONS FOR  
AGRICULTURAL ACTIVITIES



# UNLAWFUL TO:

- to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess
- offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried



# UNLAWFUL TO:

- receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof



# SIGNATORIES

- United States
- Great Britain
- Mexico
- Japan
- Russia



# PENALTIES

- “KNOWING” = FELONY

FINES/JAIL TIME

- “NON-KNOWING”= MISDEMEANOR

## LISTED SPECIES FOUND IN IMPERIAL COUNTY

- AMERICAN BITTERN
- BLACKBIRDS
- CORMORANT
- COWBIRDS
- CRANES
- CROWS
- CURLEWS
- DOVES
- DOWITCHES
- DUCKS
- EGRETS
- FALCONS
- FLYCATCHERS
- GNATCATCHERS
- OSPRY
- NIGHTHAWKS
- HERONS
- MEADOWLARKS
- KITES
- KINGFISHER
- KILLDEER
- KINGBIRDS
- IBIS
- HUMMINGBIRDS
- HARRIERS
- HAWKS





## LISTED SPECIES FOUND IN IMPERIAL COUNTY

- GULLS
- GEESE
- GRACKLES
- GREBES
- PELICANS
- PHOEBES
- RAILS
- RAVENS
- ROADRUNNER
- FINCH
- ROBINS
- SHRIKES
- SORAS
- SPARROWS  
(EXCEPT HOUSE)
- STILTS
- SWALLOWS
- TERNS



## LISTED SPECIES FOUND IN IMPERIAL COUNTY

- THRASHERS
- THRUSHES
- TOWHEES
- VIREOS
- VULTURES
- WOODPECKERS





# EXCLUDED SPECIES

- STARLINGS
- PIGEONS
- HOUSE SPARROWS
- EURASIAN COLLARED DOVES
- CERTAIN BIRDS COMMITTING  
DEPREDATION ON AGRICULTURAL  
CROPS

# Migratory Bird Treaty Act (MBTA)

## NESTING SEASON

- February thru August nesting birds
- Local species to watch:
  - Burrowing owl
  - Killdeer
  - Black necked stilt
  - Doves
  - Lesser nighthawk
  - Barn owl
  - Northern harrier

FINES CAN INCLUDE JAIL TIME; UP TO \$25,000 AND JOB SHUT DOWN



Red Tailed Hawk



Nest



Northern Harrier



# RAPTORS

Great horned owl and nest





# BARN OWL





## NESTS/EGGS



KILLDEER WITH 4 EGGS



DOVE



BLACK NECKED STILT



LESSER NIGHTHAWK



Buffer nesting area: flagging if work is to be done in area; take picture and GPS location

GRACKLE



# BUFFER ZONES

Bird Species (Common Name)	Buffer Distance (Feet)	
	CPUC/BLM	USFS
House Finch	30	30
Mourning Dove	30	30
Lesser Goldfinch	30	30
Anna's Hummingbird	50	50
Black-chinned Hummingbird	50	50
Bushtit	50	50
Cliff Swallow	50	50
Black Phoebe	50	50
Say's Phoebe	50	50
American Crow	100	100
Common Raven	100	100
California Thrasher	NONE	NONE
Northern Mockingbird	50	50
Western Scrub-Jay	100	100
California Towhee	50	50
Western Kingbird	50	NONE
Cassin's Kingbird	50	50
Song Sparrow	50	50
Cactus Wren	50	50
House Wren	30	30
Rock Wren	50	50
Bewick's Wren	50	50
Western Bluebird	50	50
Acorn Woodpecker	50	50
Nuttall's Woodpecker	50	50
Oak Titmouse	50	50
White-throated Swift	50	50
N. Rough-winged Swallow	50	50
Red-tailed Hawk	300	300
Red-shouldered Hawk	300	300
Cooper's Hawk	300	300
Killdeer	75	NONE
Horned Lark	50	NONE
Lesser Nighthawk	50	NONE
California Quail	50	NONE
Barn Owl	NONE	150
Great Horned Owl	300	300
American Kestrel	150	150
Eurasian Collared-Dove	0	0
Costa's Hummingbird	50	50
Ladder-backed Woodpecker	50	50
Pacific-slope Flycatcher	50	50
Vermilion Flycatcher	50	50
Western Kingbird	50	50
Ash-throated Flycatcher	50	50

Species Specific Buffer Chart



# INJURED BIRDS



CALL:  
SONNY BONO  
REFUGE  
760 348 5278

# AGRICULTURAL PESTICIDE EVALUATION

Carrizo, San Joaquin and Salton SEa

Jennifer Gervais, Daniel K. Rosenberg, et.al

- DDT at one BUOW site San Joaquin presented a risk
- Very few pesticides were detected in samples
- Grasshoppers, crickets, beetles are main diet items –pesticides not generally used for these insects; and these insects don't appear to biomagnify toxins



# DDE in BUOW Eggs in Imperial Valley

Jennifer Gervais and Daniel H. Catlin

- DDE is not a major factor in BUOW populations
- Exposure to pesticides currently (2004) being used does not cause significant mortality

# PESTICIDE APPLICATIONS

- Will flush BUOW; generally will retreat to an area outside of movement
- More alarmed by people on foot than in machinery
- Active dusk and dawn: crepuscular
- Hover 8-15 meters; glide 1 m above; run on ground and catch prey
- Found near canals/drains – regulations prohibiting drift to water also protects BUOW; use buffer zones (20 ft) to avoid burrows



# LEGAL CASES INVOLVING ACT

## **US VERSUS CORBIN FARM SERVICES (1978)**

- Migratory Bird Treaty Act (MBTA), the alleged violations arise from the application of a registered pesticide to an alfalfa field and the subsequent death of a number of American widgeon, a water fowl protected under the MBTA.

## **US VERSUS FMC (1978)**

- Violation: Furadan in manufacturing wastewater ponds killed waterfowl.

# LOCALLY -

- GRADING FARM ROAD KILLED 2 BURROWING OWLS
  - \$2500 FINE



# WHAT TO DO????

- IF YOU NOTE A NESTING BIRD IN A TREATMENT AREA:
  - ESTABLISH A BUFFER ZONE TO AVOID UNTIL NESTING IS COMPLETED.
  - DOCUMENT EFFORTS
  - *DO NOT TOUCH BIRD OR NEST*

# USFWS CONTACT:

- Shannon Sandman
  - 916 414 6736
  - [shannon\\_sandman@fws.gov](mailto:shannon_sandman@fws.gov)
- Her advice: *There are no articles on pesticide application and there are not any approved. I would avoid that at all costs, it can be harmful. There are no trap and relocate permits available at this time.*



# QUESTIONS???

