

# ARKANSAS IMAGERY PILOT 2003



## WRP Monitoring Checklist

The purpose of monitoring is to ensure compliance with easement requirements, evaluate restoration progress, determine what repairs or enhancements are needed to ensure maximum wetland/wildlife benefits, and to maintain contact with landowner. Staff familiar with wetland restoration, management and wildlife should collect the information. Partners with technical expertise should participate in monitoring activities.

Monitoring is conducted annually. At least once every three years the reviewers must visit the site.

Review Date \_\_\_\_\_ Landowner \_\_\_\_\_

Contract Number \_\_\_\_\_ Name \_\_\_\_\_

Reviewer (s) \_\_\_\_\_

### Take photograph from designated photo points when doing on-site monitoring

1. Has ownership changed? Yes No *If yes, were easement requirements reviewed with new owner? Yes No*
2. Was landowner present during this review? Yes No
3. Is easement boundary clearly marked and identifiable? Yes No *If no, what actions are needed? Evaluate condition of easement boundary markings at least once every three years.*
4. Are easement conditions being met (no encroachment, dumping, cropping, etc.)? Yes No *If no, describe and document with photographs.*
5. Are compatible use authorizations being followed? Yes No *If no, describe and list corrective measures.*
6. Is planned hydrology present? Yes No *If no, what actions are needed? Complete the Practice & Cost Worksheet.*
7. Are objectives of the migratory bird (i.e., shorebirds, waterfowl, neo-tropical songbirds) program being achieved (adequate hydrology at the appropriate time, nesting cover, etc. )? Yes No *If no, what modifications are necessary? Complete the Practice & Cost Worksheet.*
8. If Threatened and Endangered species were part of selection criteria, have their habitat elements been restored? Yes No *If no, what modifications are necessary? Complete the Practice & Cost Worksheet.*
9. Are planned vegetation restoration goals being achieved? (e.g., desired vegetation being established, control of invasive or noxious species) Yes No
10. *If no, what modifications are necessary? Complete the Practice & Cost Worksheet. If noxious weeds are present, remind landowners of their responsibility as identified in the Warranty Easement Deed, Part IIB, Noxious plants and pests. Offer to provide assistance to develop and approve a plan to control the noxious plants or pests.*
11. Are restoration practices being properly operated and maintained? Yes No *If no, what maintenance is needed? Complete the Practice & Cost Worksheet.*
12. Are there opportunities to enhance wildlife habitat components? Yes No *If yes, identify and complete the Practice & Cost Worksheet?*
13. Does the landowner have any concerns or suggestions for improving the easement? Yes No *If yes, describe concerns.*
14. Identify concerns or suggestions from partners involved with restoring and managing the easement area.

# Methodology

- Arkansas used 1:7,920 scale natural color, 1:12,000 scale natural color, 1 m color IR DOQ's to monitor WRP during FY 2003.
- We wanted to identify limitations and opportunities when using imagery for monitoring.
- We acquired scenes from two seasons!  
Early Spring and Summer

# Conclusions

- 1:7,920 was the most useful imagery. The quality of the photo is extremely important when looking for structural problems in hydrology restoration
- The 1:12,000 is good enough for planning as is the 1 m DOQ Color IR
- Digital rectification by NRI staff is quick and the overall monitoring process can be completed rapidly
- There are advantages and disadvantages to each vs. on the ground personnel although, the imagery is better than personnel in other aspects (size >400 acres).
- There are advantages and disadvantages to each when assessing water bird habitat and/or potential violations
- Where imagery fails: (1) Beaver problems (2) small areas of trash (3) Assessing stems per acre (although after the 6 year seedlings are visible on the site) (4) Seeing potential off-site haz mat problems (4) Light grazing or traffic by ATV
- Where imagery is best: (1) Disking or mowing encroachments (2) Food plot size and assessing the 5% rule (3) Assessing hydrology performance or Duck Use Days (DUD). (4) Huge sites >4,000 acres

# Conclusions cont.

- At this point Imagery seems economically feasible.
- Spring Flights are best to assess hydrology performance
- There is a better chance of finding violations using late summer flights since it is dry
- NRCS is getting a quality product that can be used to assess the big picture meaning big encroachments (cropping across the easement boundary, 10% food plots, draining moist soil units in January)!!
- With the present restoration workload and the availability of NRCS staff remote monitoring using a combination of the NRI staff and the WRP teams seems like the way to get the job done.
- We absolutely see this as a means of improving on the monitoring of sites when states have large acreages and hundreds of easements.

# Future

- We will be developing different protocols for each type of monitoring process. By this I mean use of imagery vs. personnel vs. TSP.
- 1/3 Intensive Monitoring using NRCS personnel
- 1/3 Using Technical Service Providers for Monitoring
- 1/3 Using Imagery (on-sites where potential violations are identified) plus a phone call to the landowner to get their thoughts

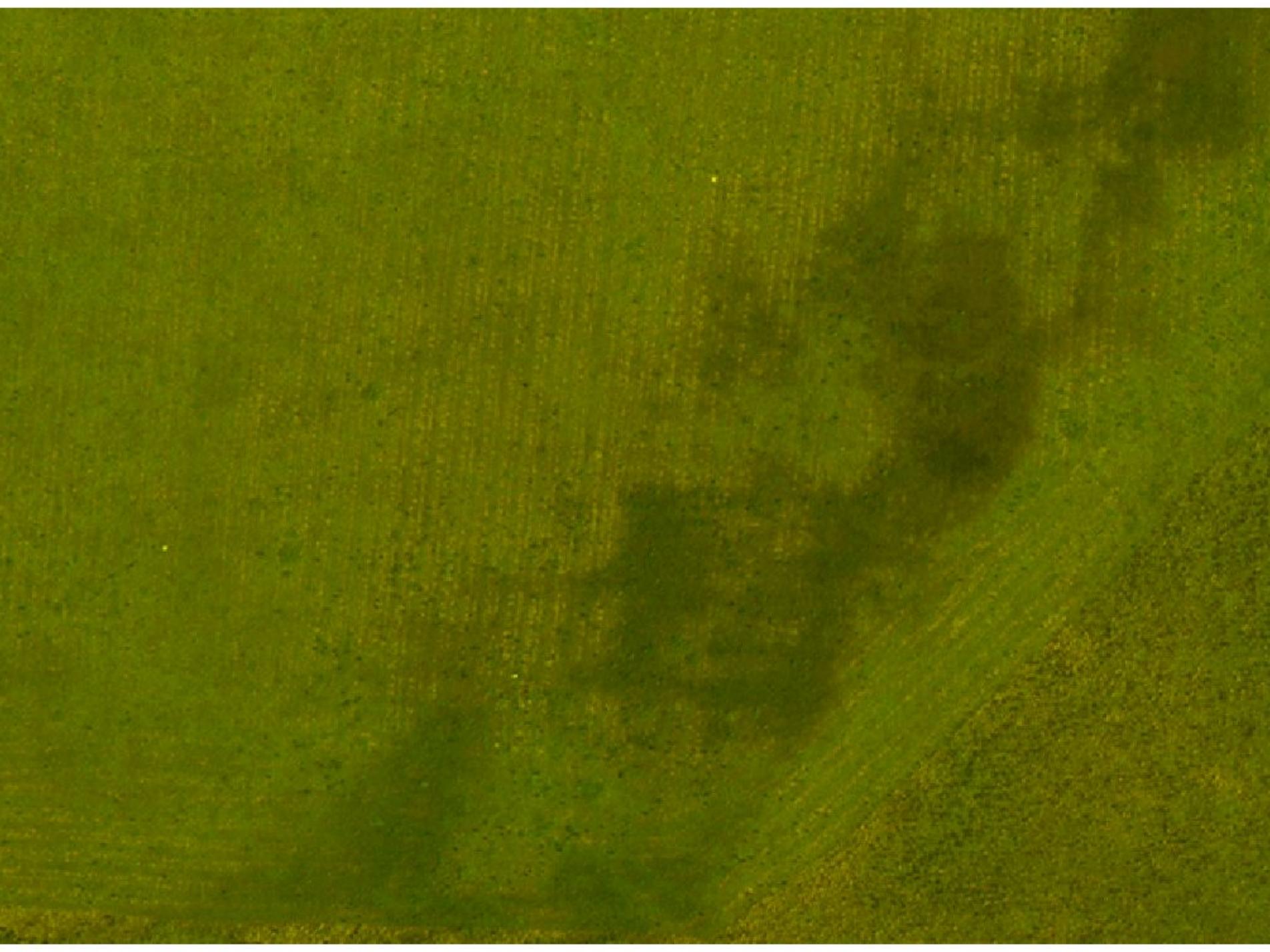
**EXAMPLES**

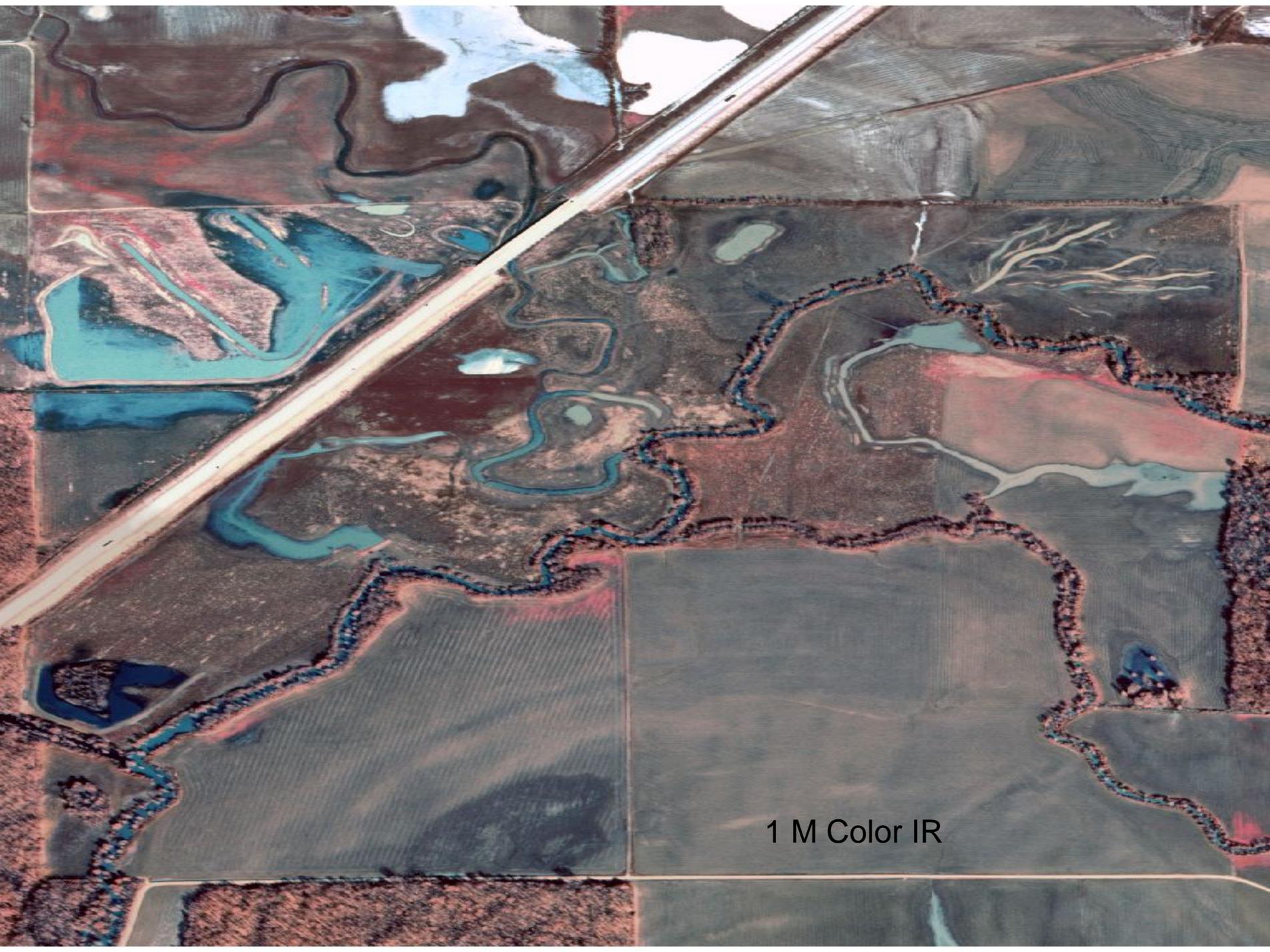


# Digitize the Shallow Water Impoundment









1 M Color IR

1:12,000



# KEY POINT

- We felt it was critical to train the NRI staff in what type of violations we were looking for plus what was actually there on the site (levees, pipes, tree planting, grass planting, plugs, weirs)
- Basically “A tune the eye to the infrastructure”

**THE END**