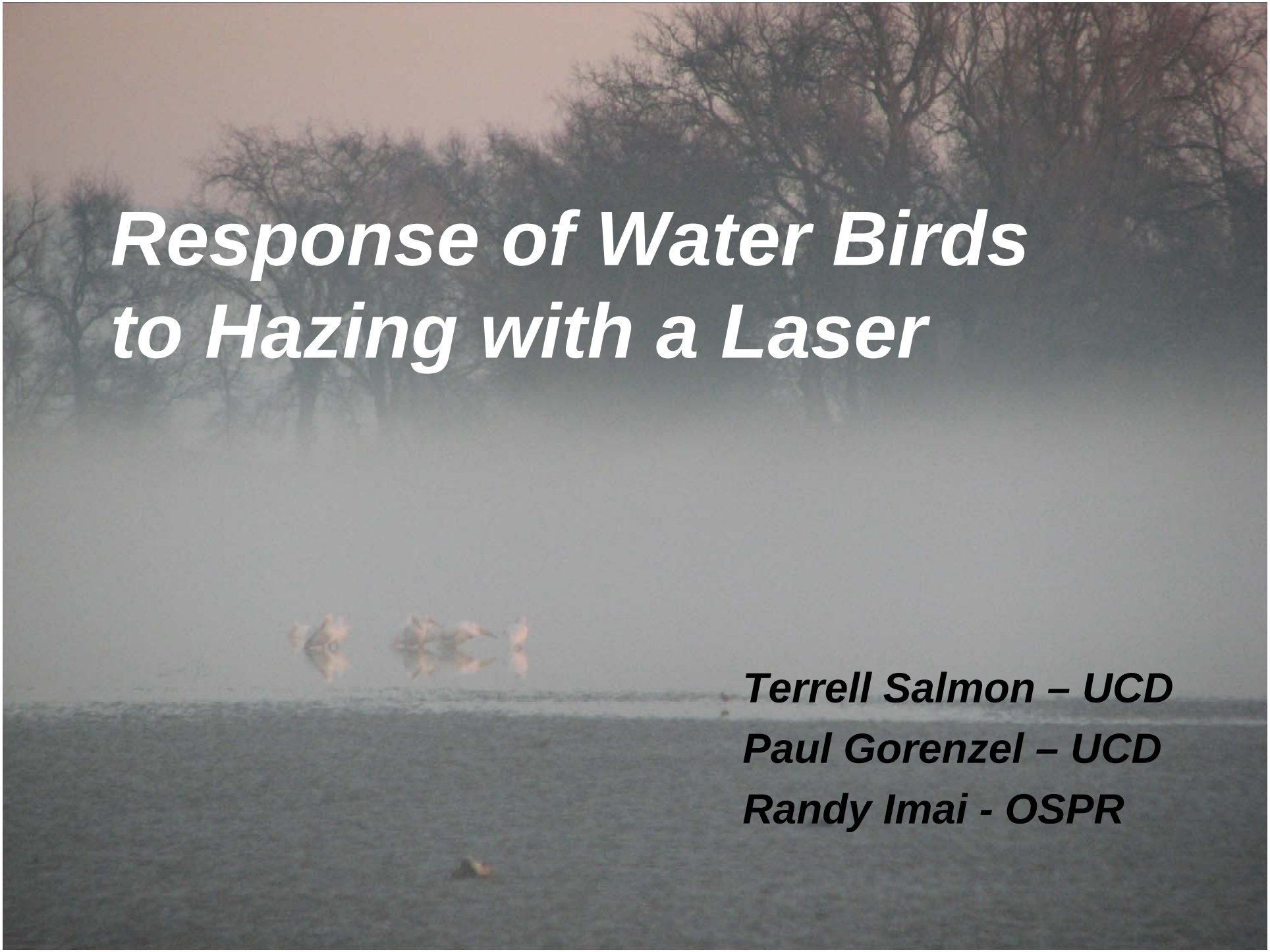
Response of Waterbirds to Hazing with a Laser

Hazing of birds can be an important part of minimizing the harm to wildlife during an oil spill. This presentation discusses some initial findings of the effectiveness of laser light in hazing by identifying species that respond to laser light and documenting their response.

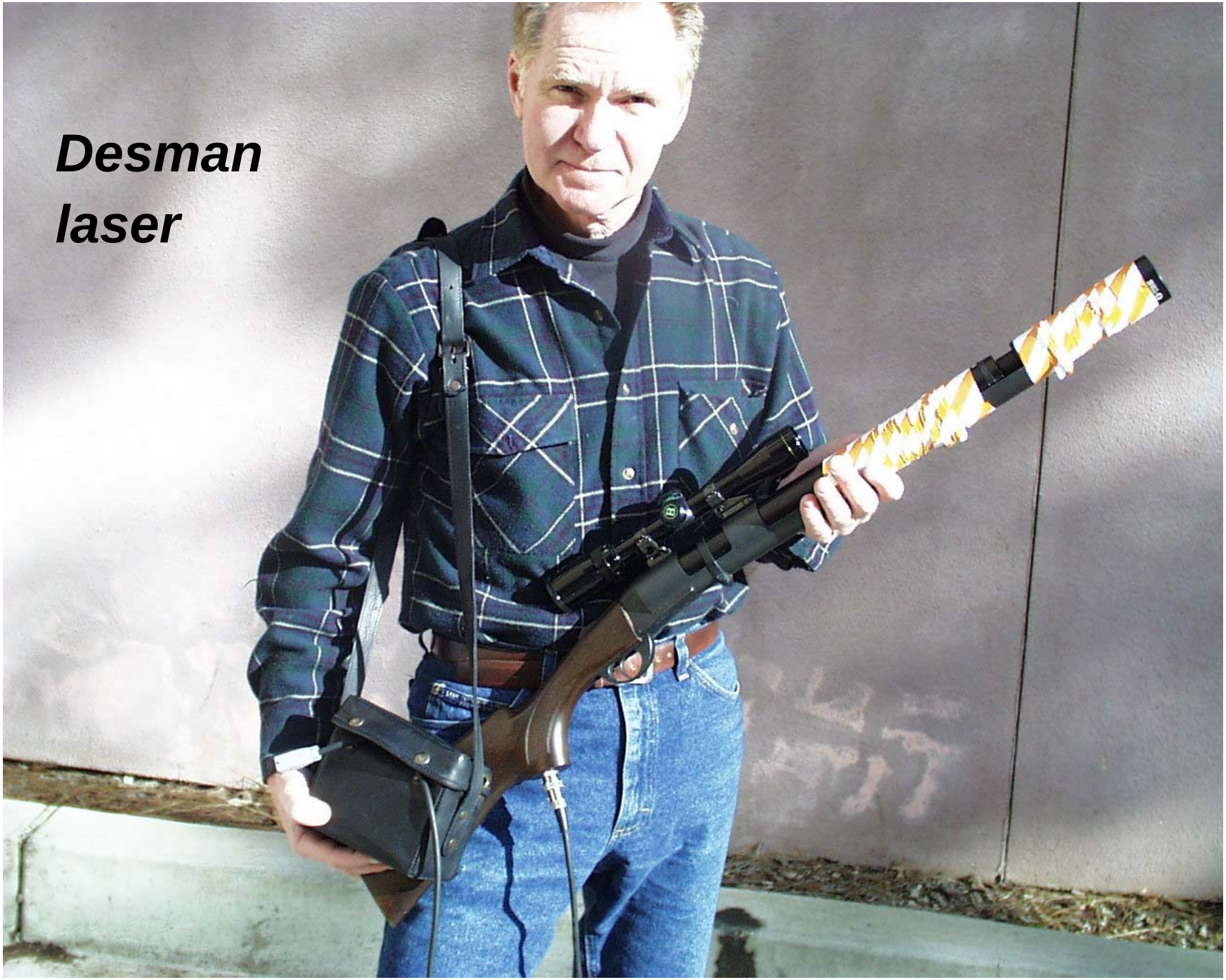


Response of Water Birds to Hazing with a Laser

Terrell Salmon – UCD

Paul Gorenzel – UCD

Randy Imai - OSPR


Desman
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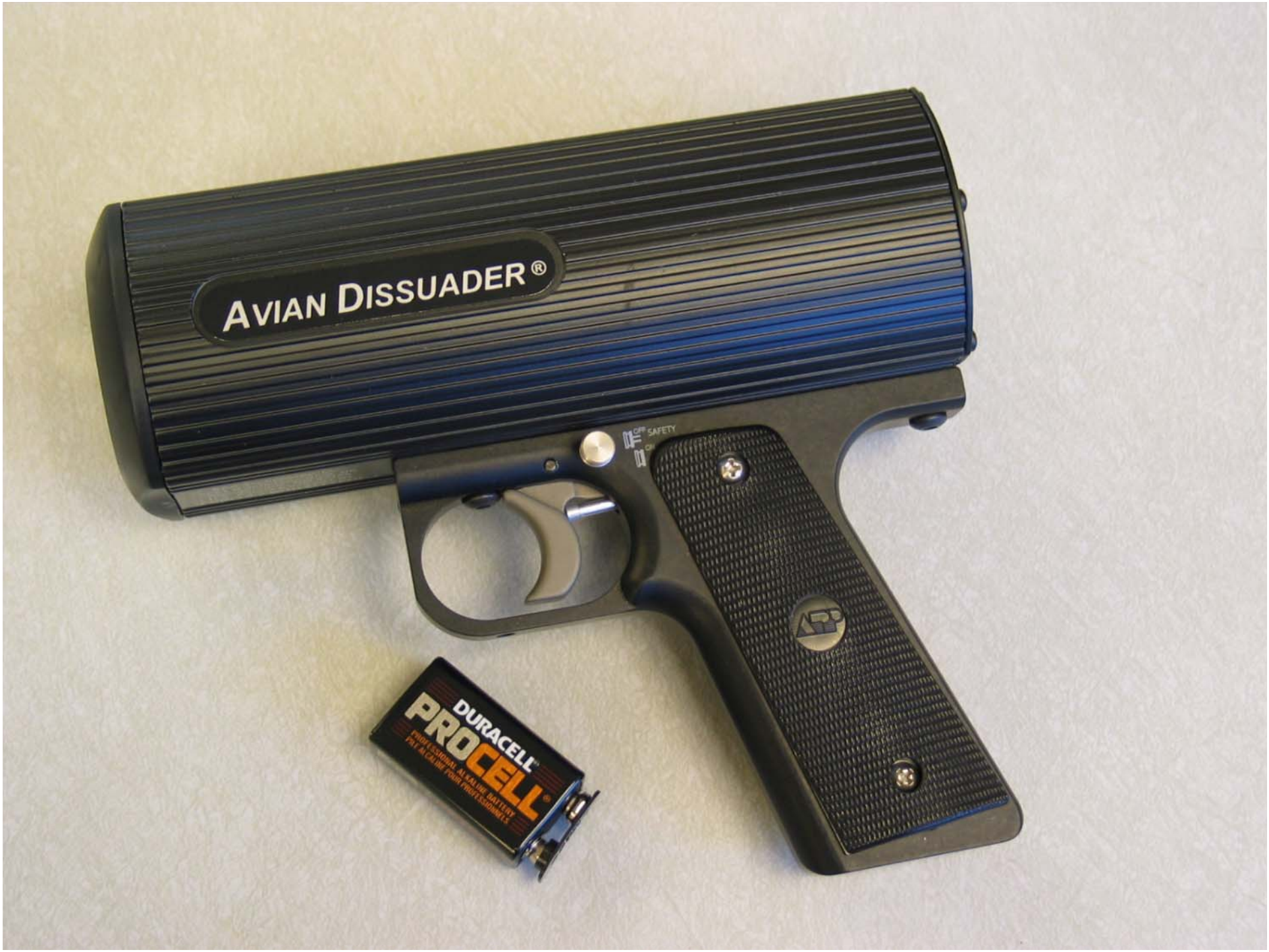
DURACELL


AVIAN DISSUADER®
OFF SAFETY ON
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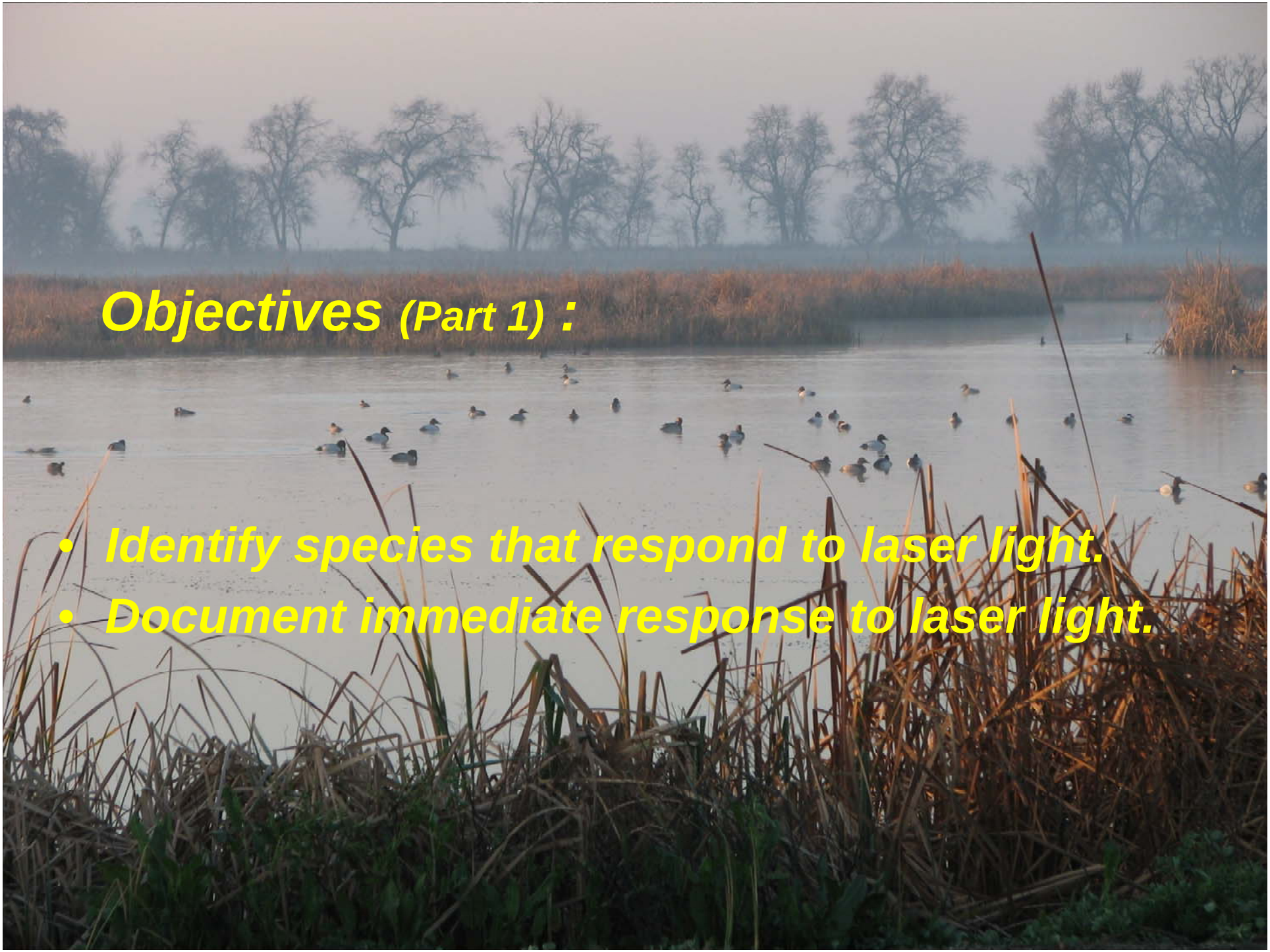
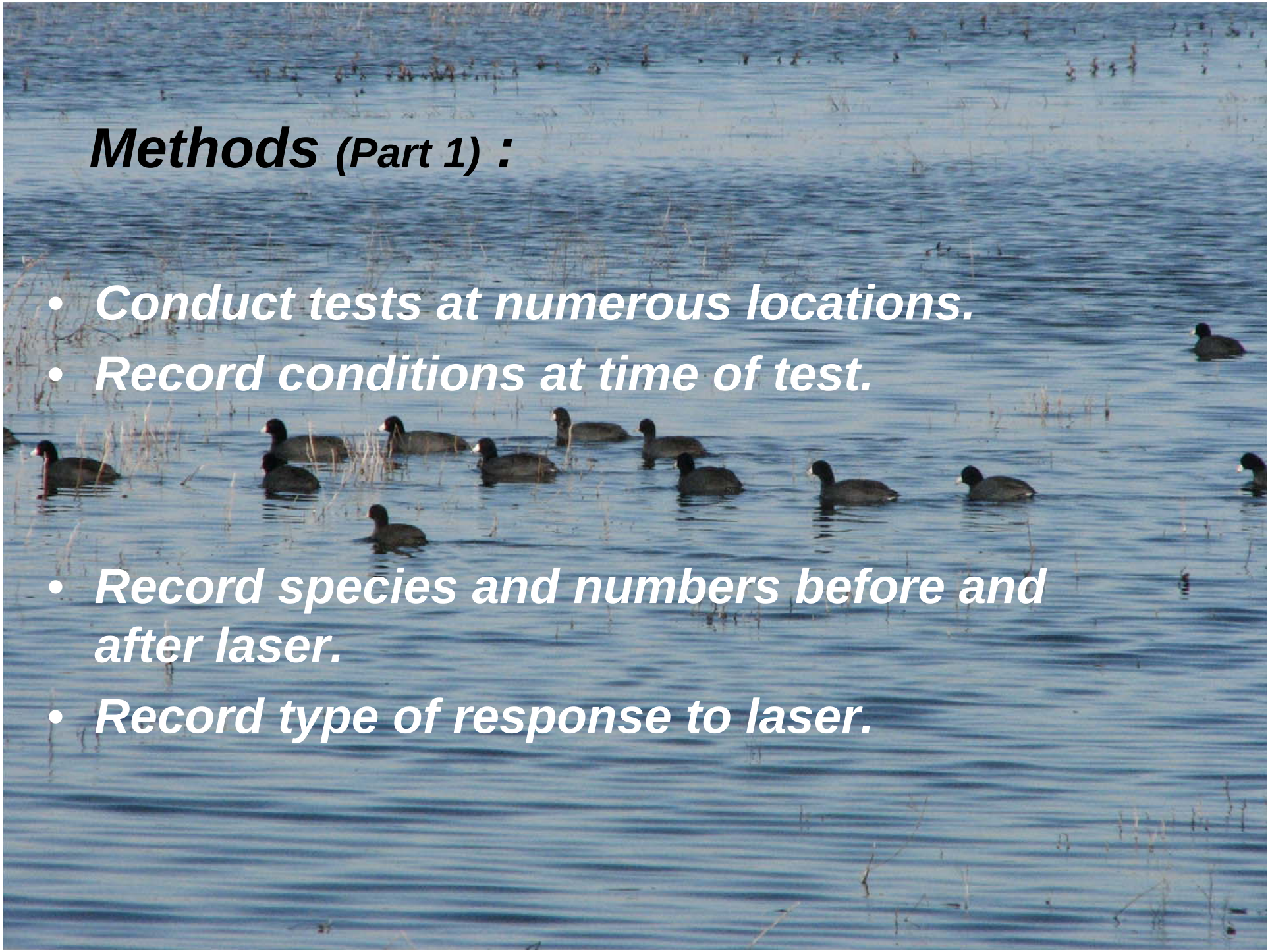
PROCELL



Objectives (Part 1) :

- *Identify species that respond to laser light.*
- *Document immediate response to laser light.*



Methods (Part 1) :

- *Conduct tests at numerous locations.*
- *Record conditions at time of test.*
- *Record species and numbers before and after laser.*
- *Record type of response to laser.*

Results (Part 1):

Location	Test Days	Sessions	# Targeted
• Collins Lake	3	8	130
• Lake Solano	3	31	170
• Rd 25	9	66	1357
• Putah Creek	2	21	338
• W Sacramento	1	3	5
• Total	18	129	2000

Results (Part 1):

Taxonomic Group	Species	Sessions	# Targeted	# Responding
• Grebes	1	5	6	0
• Pelicans, cormorants	2	2	16	16
• Herons, egrets	4	21	208	206 (99%)
• Geese	2	17	412	412 (100%)
• Dabbling ducks	3	28	372	43 (12%)
• Diving ducks	8	40	665	568 (85%)
• Raptors	2	3	3	1
• Coots	1	10	37	0
• Shorebirds	2	1	1	0
• Gulls	1	2	280	0
• Total	26	129	2000	1246 (62%)

Results (Part 1):

Taxonomic Group	Response None	Partial	100%
• Grebes	5	0	0
• Pelicans, cormorants	0	0	2
• Herons, egrets	1	0	20
• Geese	0	0	17
• Dabbling ducks	22	0	6
• Diving ducks	8	2	30
• Raptors	2	0	1
• Coots	10	0	0
• Shorebirds	1	0	0
• Gulls	2	0	0
• Total	51	2	76

Objectives (Part 2):

- ***Identify species that respond to laser light.***
- ***Document immediate response to laser light.***

- ***Determine if laser reduces bird numbers over the course of a night.***
- ***Determine if laser has any lasting effect for 5 days after treatment ends.***

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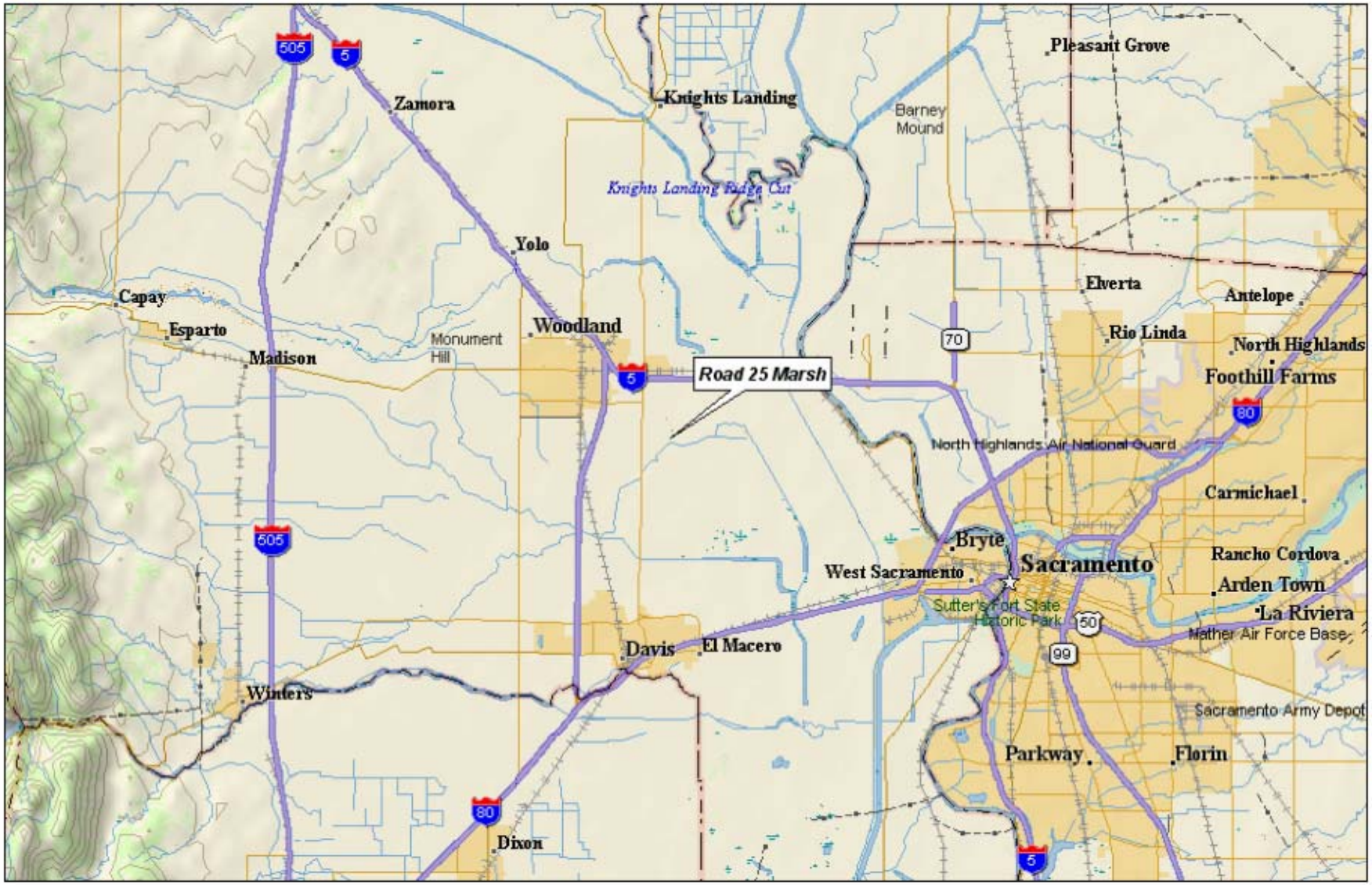

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Data Zoom 9-0

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© 2008 Tele Atlas
©2007 Google
1378 ft
Pointer 38°38'46.27" N 121°42'19.83" W elev 28 ft
Streaming |||||||||| 100%
Eye alt 4802 ft

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© 2008 Tele Atlas
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1378 ft
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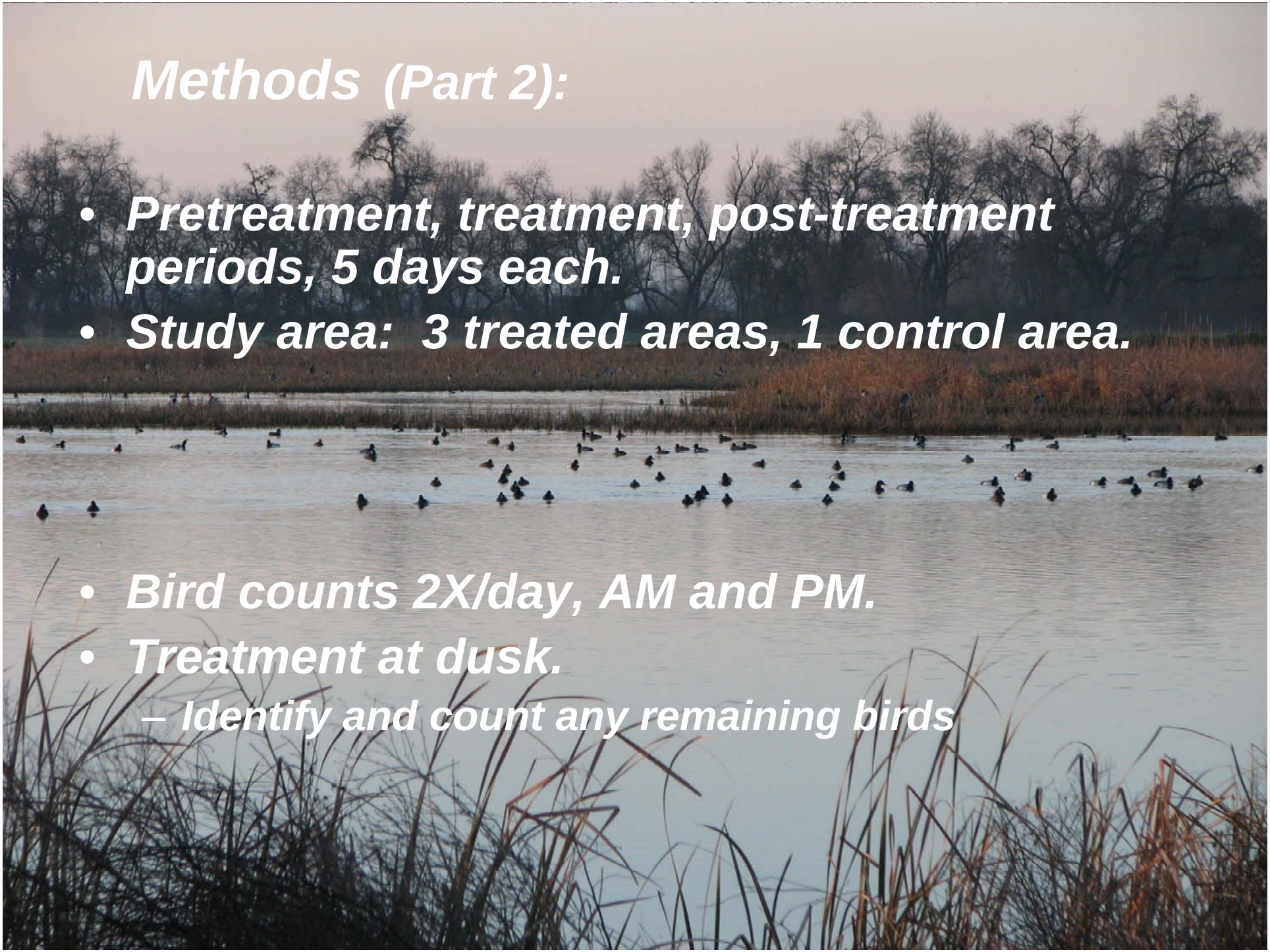


Methods (Part 2):

- ***Pretreatment, treatment, post-treatment periods, 5 days each.***
- ***Study area: 3 treated areas, 1 control area.***

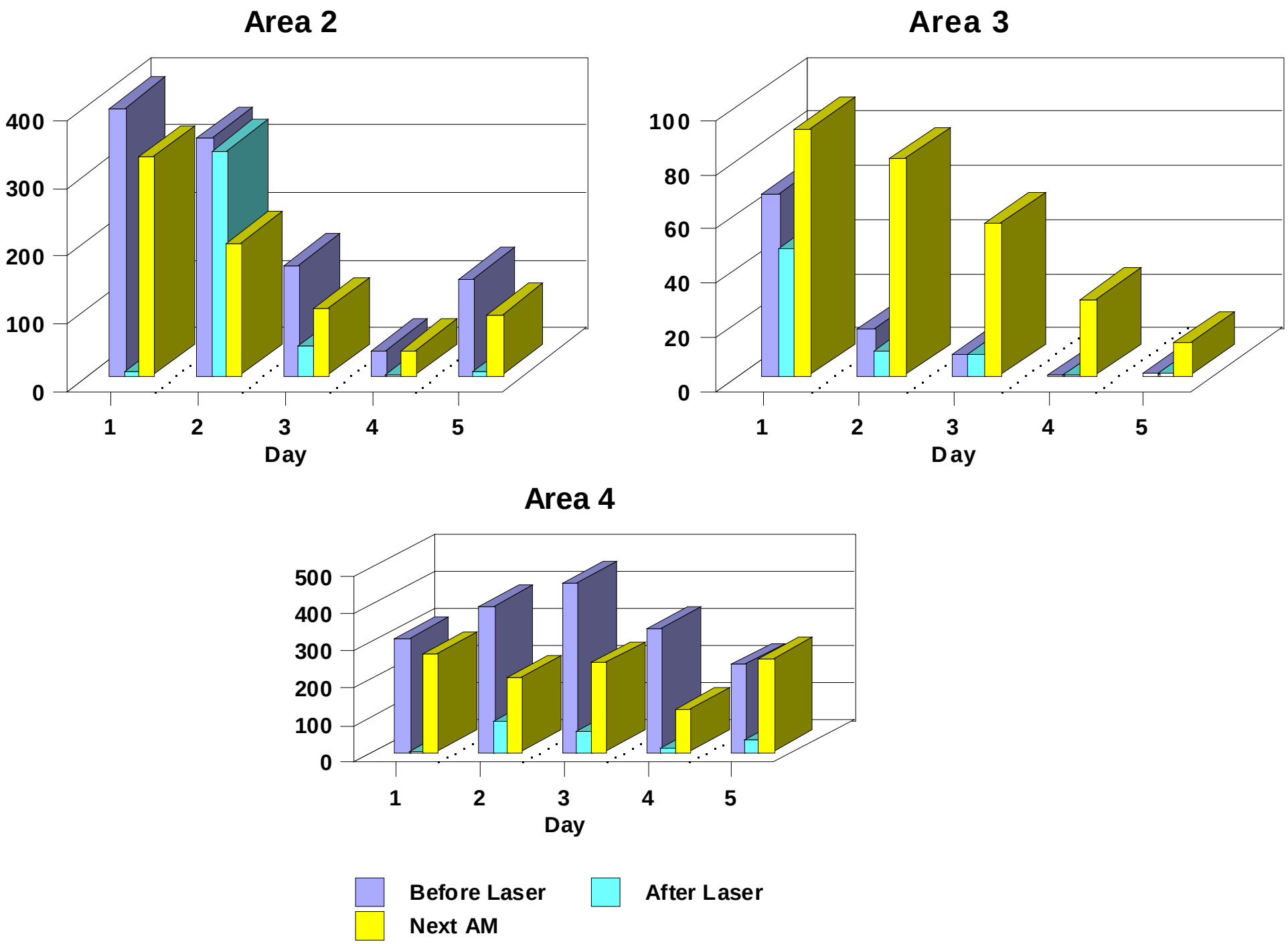
- ***Bird counts 2X/day, AM and PM.***
- ***Treatment at dusk.***
  - ***Identify and count any remaining birds***

Results (Part 2):

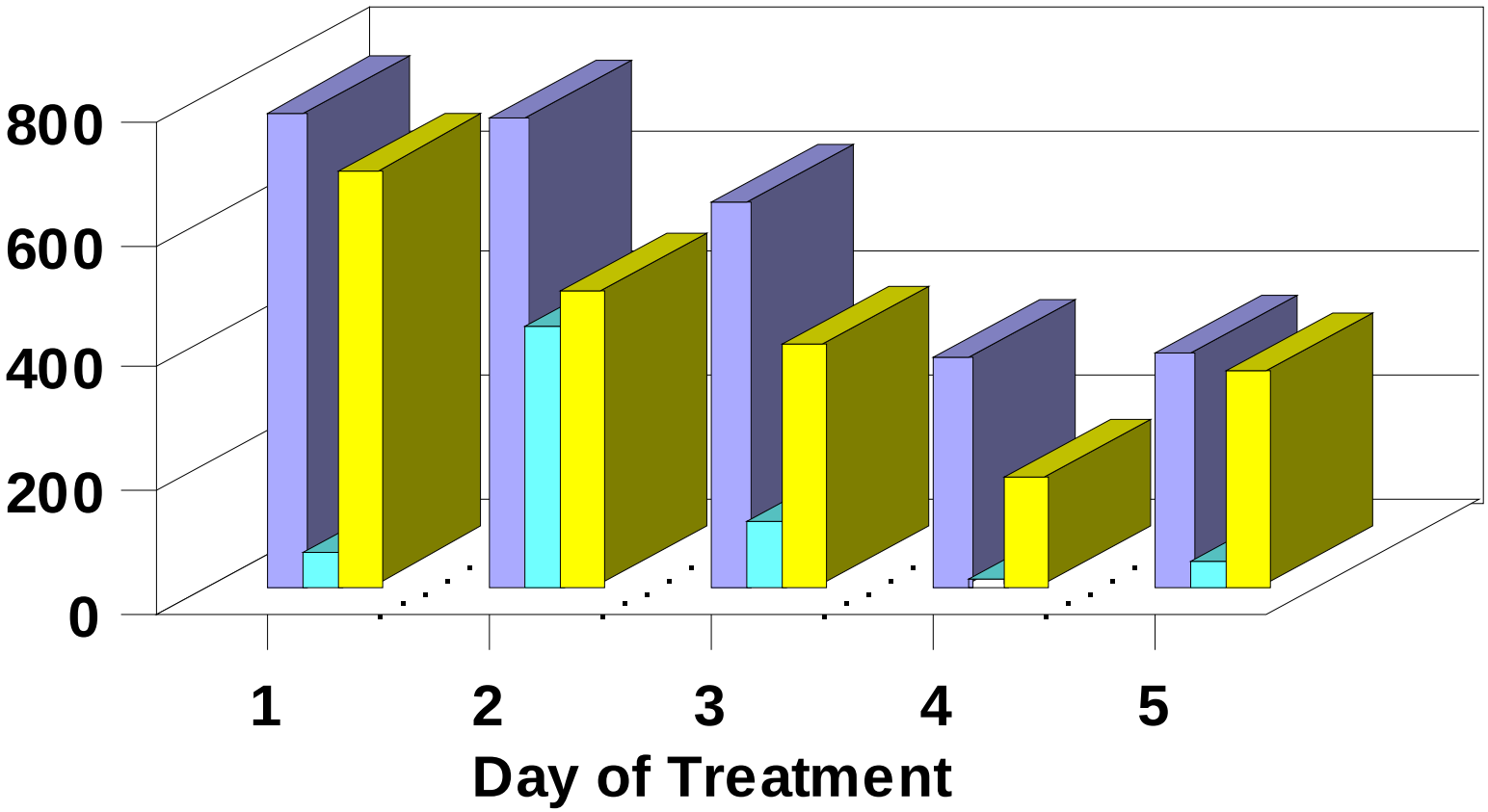
Taxonomic Group	Species	Sessions	# Targeted	# Responding
• Herons	1	6	1501	1470 (98%)
• Dabbling ducks	7	14	208	194 (93%)
• Diving ducks	7	46	1278	587 (46%)
• Coots	1	8	49	0
• Total	16	74	3036	2251 (74%)

Results (Part 2):

Taxonomic Group	*Response*		
	None	*Partial*	*100%*
• *Herons*	*1*	*3*	*2*
• *Dabbling ducks*	*1*	*0*	*13*
• *Diving ducks*	*21*	*13*	*12*
• *Coots*	*8*	*0*	*0*
• *Total*	*31*	*16*	*27*


Area 2
400
300
200
100
0
1
2
3
4
5
Day
Area 3
100
80
60
40
20
0
1
2
3
4
5
Day
Area 4
500
400
300
200
100
0
1
2
3
4
5
Day
Before Laser
After Laser
Next AM

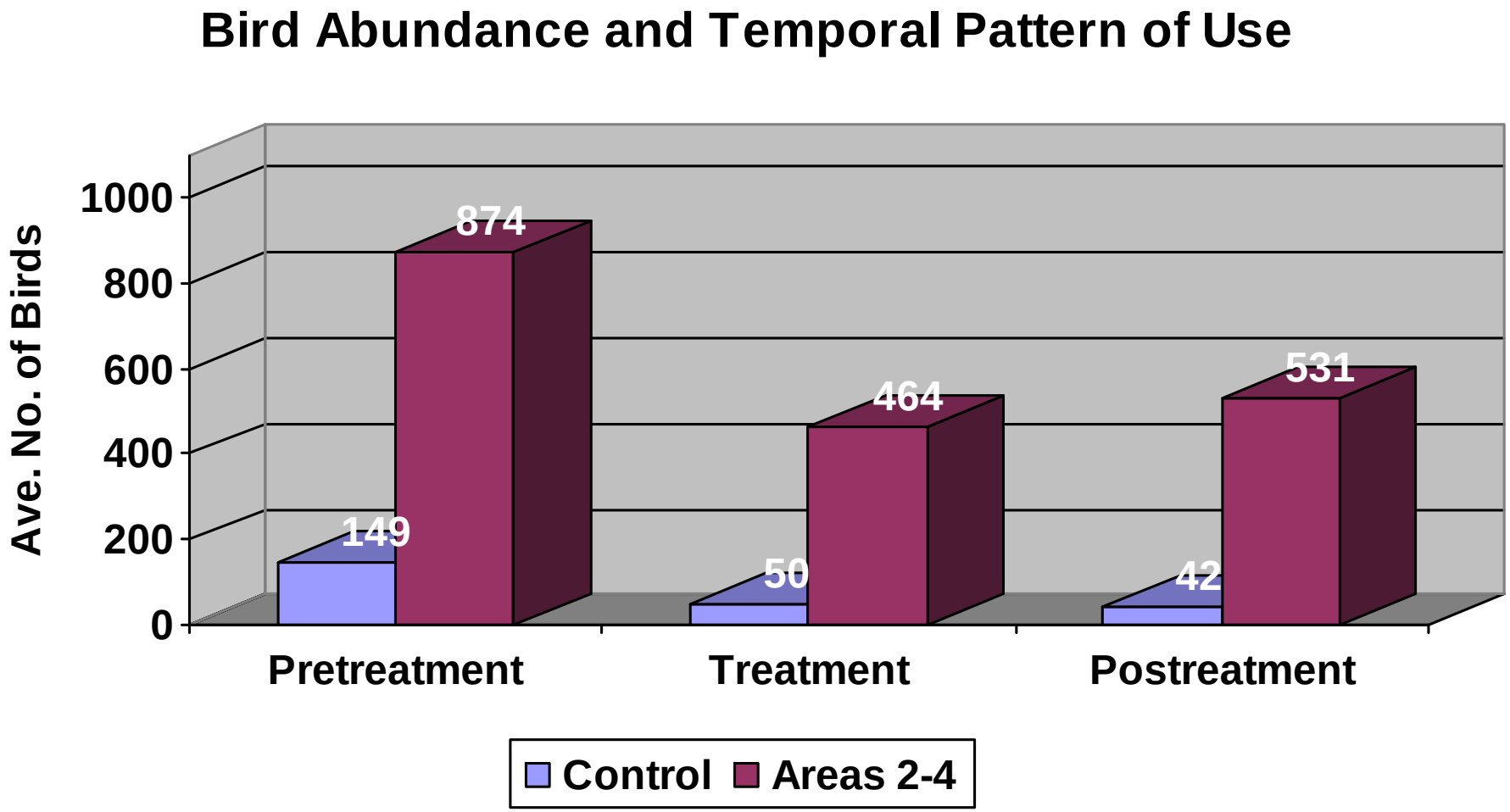
All Areas



Before Laser

After Laser

Next AM


Bird Abundance and Temporal Pattern of Use
Ave. No. of Birds
1000
800
600
400
200
0
874
149
464
50
531
42
Pretreatment
Treatment
Postreatment
Control
Areas 2-4

Current Research Status:

- ***Field work has been completed.***
- ***Data analyses are still in progress.***
- ***Final conclusions have not been drawn.***