



CORMORANT & PELICAN IMPACT COMMITTEE

December 19, 2011 Follow-up Information

Rick Fernstrom - Lake Washington

Marv Haugen - Belle Lake

Ken Klehr - Lake Washington

George Kraemer - Collinwood Lake

Dean Shaner - Lake Washington

Arlan Lovald - Lake Washington

Milt Lueneburg - Lake Washington

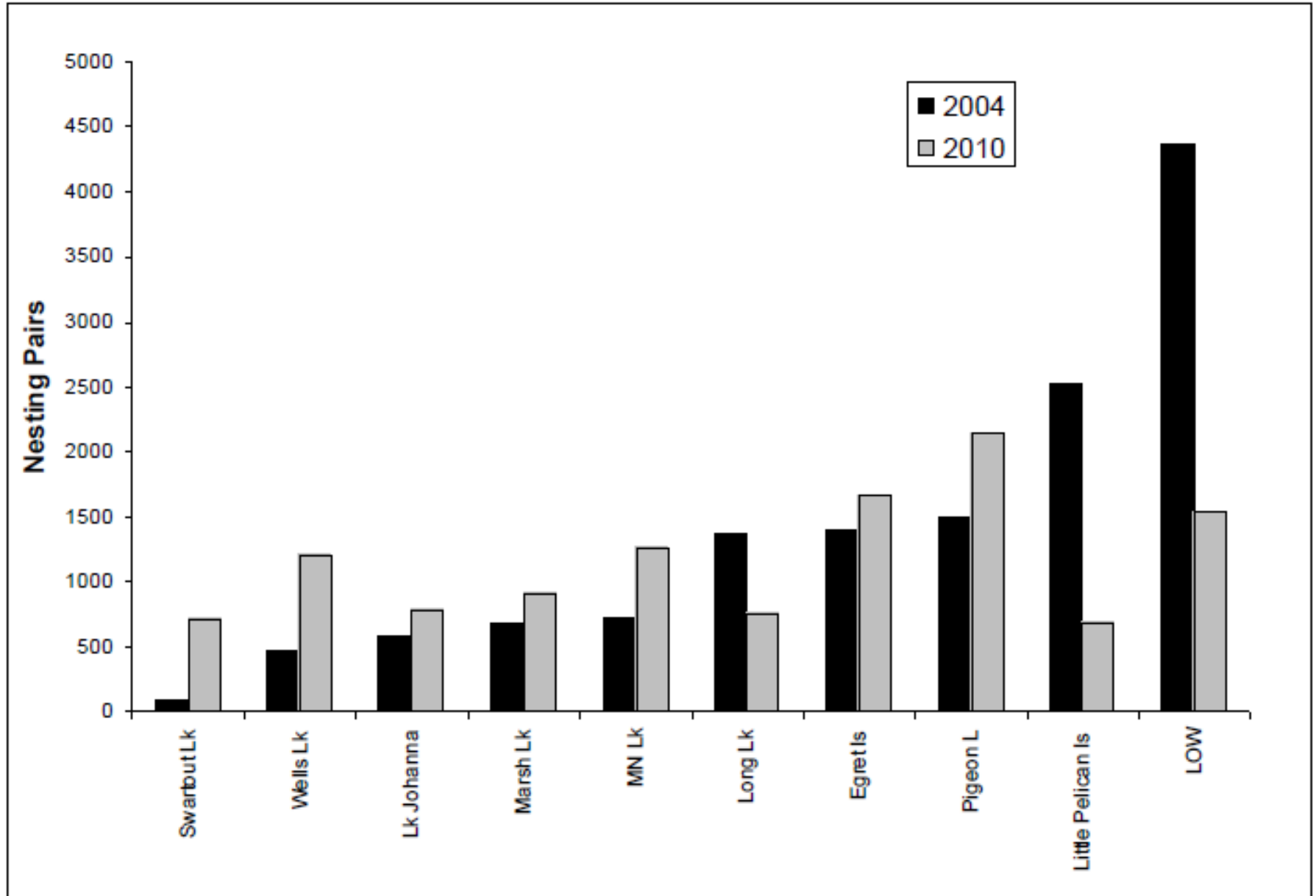


Objective

- Review the current status of Pigeon Lake
- Review DCCO/AWPE population data
- Review data supporting:
 - Impact on Wildlife and Native Vegetation
 - Impact on Agriculture
 - Impact on Fishery Resources
- Review recommendations
- Discussion
- Develop a task list and timeline



Numbers of DCCO on the ten most important lakes





DCCO/AWPE Pigeon Lake Population Data 2004-2010 (U of M)

Cormorants

- **Cormorant nesting pairs did not significantly change overall in Minnesota (16,002 to 15,425).**
- **Cormorant nesting pairs increased on Pigeon Lake by 43% (1503 to 2145).**
- **This is an increase of approximately 6-9%/year.**
- **Cormorant nesting pairs moved to Pigeon Lake over the past five years while decreasing in other areas in Minnesota.**
- **Pigeon Lake now has the highest nest count of cormorants in the state.**

Pelicans

- **Pelican nesting pairs did not significantly change overall in Minnesota (15,610 to 15,999).**
- **Pelican nesting pairs increased on Pigeon Lake by 52% (357 to 543).**
- **This is an increase of approximately 7-10%/year.**
- **Pelican nesting pairs moved to Pigeon Lake over the past five years.**



Reducing Double-Crested Cormorant Damage Near Pigeon Lake Minnesota

Impact on Wildlife and Native Vegetation

- The vegetation on an island in Pigeon Lake has been completely destroyed removing habitat for other birds and animals
- Colonial Water bird species have been displaced and some completely forced off Pigeon Lake

• <u>NESTS</u>	<u>2004</u>	<u>2010</u>	<u>Change</u>
• DCCO	1503	2145	+43%
• BCNH	22	0	-100%
• GBHE	123	51	-60%
• GREG	113	29	-75%



Reducing Double-Crested Cormorant Damage Near Pigeon Lake Minnesota

Impact on Fishery Resources

- It was determined on Oneida Lake, New York and Leech Lake that a foraging intensity greater than 3.4 lbs/acre damaged the fishery
- The foraging intensity in the 11,431 acres surrounding Pigeon Lake was 94.62 lbs/acre
- This foraging intensity is 27 times greater than the maximum number for Lake Oneida and Leech Lake!



Open Water Acres within 9 kilometers from Pigeon Lake

Leech Lake 102,947 acres

	<u>2004</u>	<u>2010</u>	
Nesting pairs	5,000	1,000	-80%
Acres per pair	20	103	

Area within a 9 km radius from Pigeon Lake = 62,764 acres

Open water = 11,431 acres

	<u>2004</u>	<u>2010</u>	
Nesting Pairs	1,503	2,145	+43%
Acres per pair	7.6	5.32	



Open Water Acres within 9 kilometers from Pigeon Lake

Belle	826	Long (N of Dassel)	771
Birch	84	Long (S of Coll)	163
Boo	37	Longnanans	56
Butternut	77	Manuella	290
Byron	55	Maple	135
Chelgren	57	Mud	25
Collins	67	Mud	75
Collinwood	635	Pigeon Lake	282
Darwin	162	Porter	182
Dunns	151	School House	55
Eight Acre	38	Sellards	103
Emily	150	Sioux	200
Erie	189	Spencer	147
Fallon	256	Spring	201
Hart	60	Stella	596
Hook	329	Stevens	30
Jennie	1,064	Todd	300
Jewitt	253	Turtle	50
Little Bear	150	Unnamed (est)	300
Little Spring	75	Washington	2,433
Little Wolf	60	Wolf	262

Total: 11,431 acres

Double-Crested Cormorant 2010: 2,145 Nests

Foraging Intensity: 94.62 lbs. of fish/acre



Pigeon Lake DCCO's May 2011



05/07/2011



Pigeon Lake DCCO's May 2011





Pigeon Lake DCCO's May 2011





Impact Analysis – DNR Survey Data

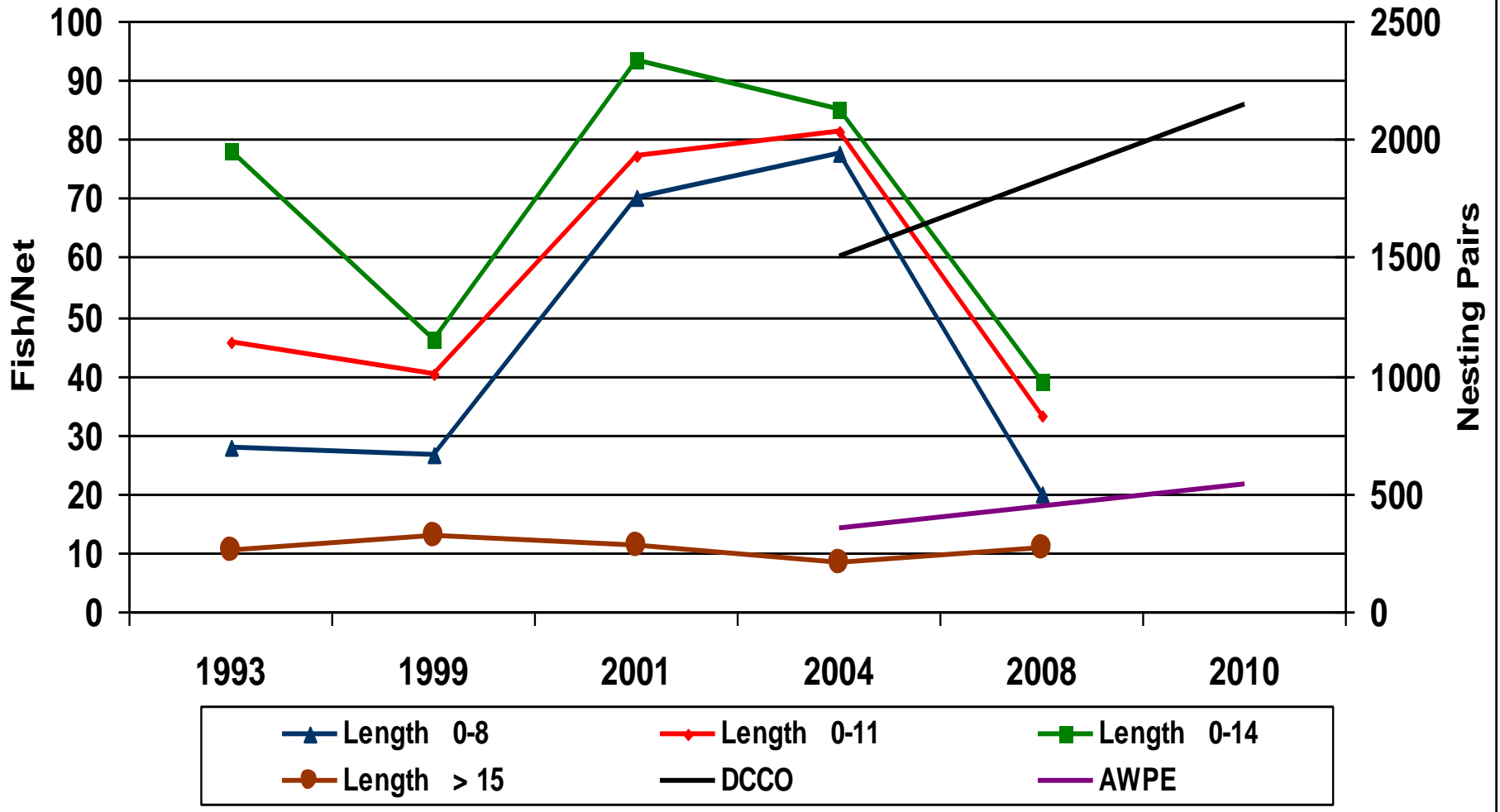
Approach/Analysis

- Use DNR survey data from 2001 - 2008 to look at fish population health
- Since cormorants are opportunistic feeders, look at all species collectively
- Exclude large fish (>15") from the sample targeted by cormorants
- DCCO digestive studies identify most fish consumed are smaller than 15"
- Fish/net count using the DNR survey data shows a fish population decline in 2004 and 2008 with 2001 as the high point
- The DCCO/AWPE population increased on Pigeon Lake from 2004 to 2010
- Fish <15"/net count decreased on Lake Washington from 2004 to 2008
- Fish >15"/net count stable on Lake Washington from 2004 to 2008



Impact Analysis – DNR Survey Data

Lake Washington - Total Fish/Net





Impact Analysis – DNR Survey Data

Year	Length 0-8 Inches			Length 0-11 Inches			Length 0-14 Inches			Length > 15 Inches			DCCO	AWPE
	Qty	Length 0-8	% Change	Qty	Length 0-11	% Change	Qty	Length 0-14	% Change	Qty	Length > 15	% Change	Nesting Pairs	Nesting Pairs
1993	239	27.8		371	45.8		607	78.0		90	10.3			
1999	397	26.5	-4.9%	602	40.1	-12.4%	691	46.1	-40.9%	196	13.1	26.9%		
2001	1050	70.0	164.5%	1160	77.3	92.7%	1400	93.3	102.6%	165	11.0	-15.8%		
2004	1164	77.6	10.9%	1221	81.4	5.3%	1279	85.3	-8.6%	122	8.1	-26.1%	1503	357
2008	298	19.9	-74.4%	500	33.3	-59.0%	587	39.1	-54.1%	164	10.9	34.4%		
2010			↓			↓			↓			↓	2145	543
2004 2008	→		-74.4%			-59.0%			-54.1%			34.4%	43%	52%



Impact Analysis – DNR Survey Data

Approach/Analysis

- **The 2008 survey shows a drop in bullhead and increase in walleye**
- **The two can be correlated by the opportunist idea where walleye were allowed to thrive as the cormorants targeted the bullheads**
- **With the bullhead supply reduced, the next largest population of fish 0-15" to feed upon is the walleye**
- **As we approach 2012, there have been four years of increased feeding since the last survey so further devastation has likely occurred**
- **Based on supply and demand, the demand is increasing (DCCO/AWPE) and supply decreasing (DNR Fish Survey)**



Recommendations

- **Gain DNR support to request/approve a depredation order**
- **Reduce DCCO & AWPE to a nest density comparable to Leech Lake**
- **Target depredation for April/May 2012**
- **Seek Legacy Funding: Environment and Natural Resources Trust Fund**
- **Schedule follow-up meetings to track DCCO & AWPE reduction efforts**
- **Schedule area DNR surveys for 2012 and every 2 years after**
- **Fast track survey analysis for immediate comparison with 2008**
- **Conduct a 2014 U of M study to track DCCO & AWPE populations**



Task List & Timeline

- 1. LWIA to provide Data analysis to the DNR (complete)**
- 2. DNR to assess biological impact correlation of:**
 - a) fish population drop during DCCO/AWPE population increase**
 - b) BCNH, GBHE, GREG population endangerment during DCCO/AWPE population increase**
 - c) Report findings prior to spring 2012 allowing time for DCCO/AWPE population reduction permitting**
- 3. DNR to move Lake Washington survey to 2012 (complete)**