WILLARD SPUR WATERFOWL DIET

WINTER 2011

PROJECT OBJECTIVES

- Examine diets of migratory waterfowl using Willard Spur
- Compare diets to previous studies at impounded wetlands

METHODS

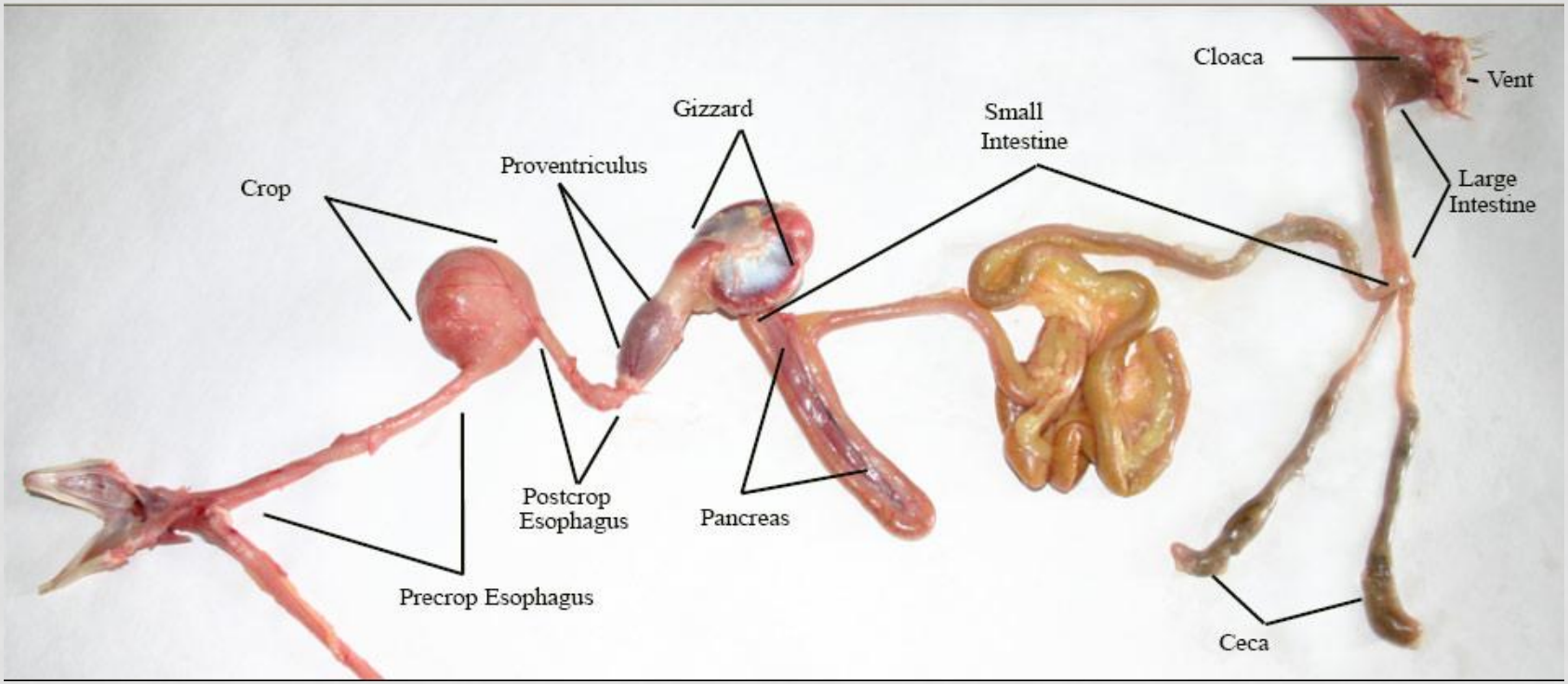
- Hunter collections
  - November 3, 2011
  - November 16, 2011
  - December 2, 2011
- Limited by bag limits and hunter cooperation

METHODS

- Collect after observed foraging > 5 min.

METHODS

- Adults collected & dissected in the field
  - Mouth rinsed
  - Esophagus, proventriculus, ventriculus preserved
- Contents examined and identified at Lab

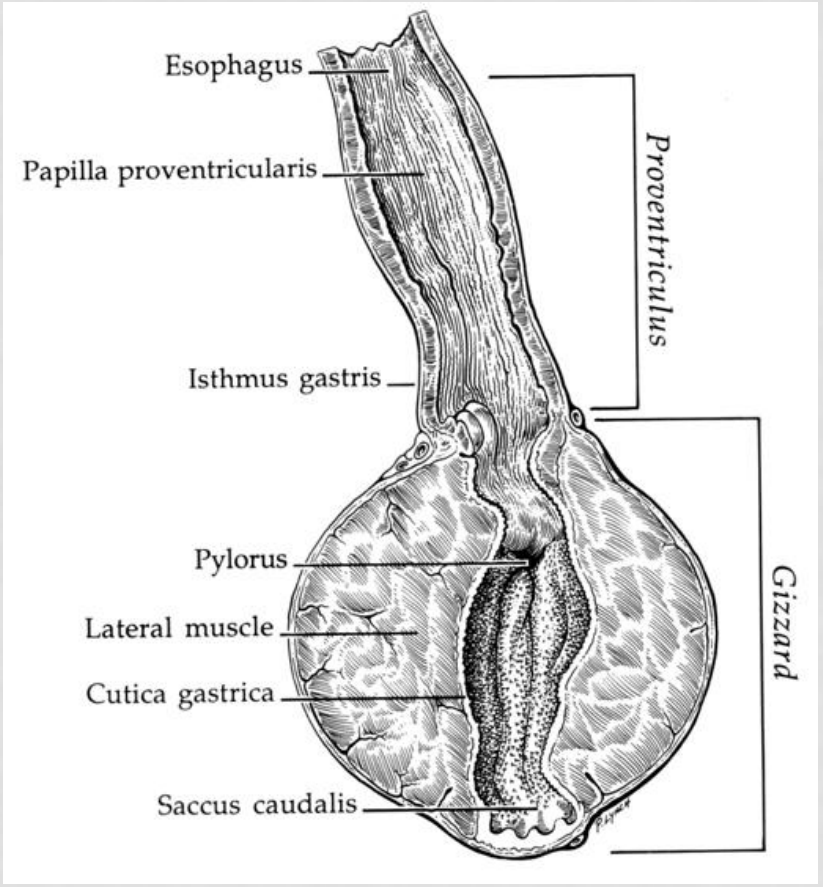

Cloaca
Vent
Gizzard
Small Intestine
Proventriculus
Crop
Large Intestine
Postcrop Esophagus
Pancreas
Precrop Esophagus
Ceca

RESULTS

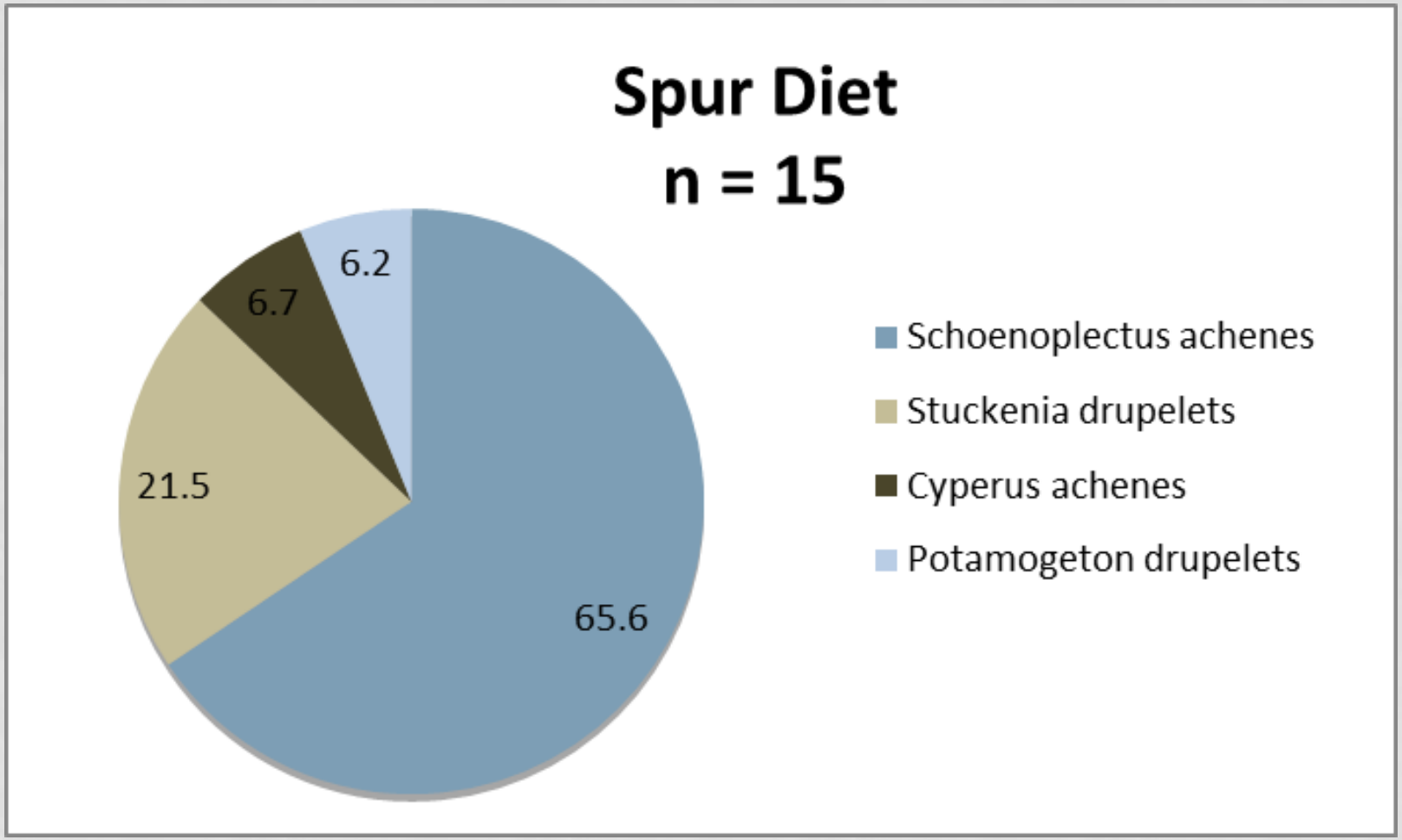
- 18 birds collected
  - 3 of 18 only contained trace amounts of food in digestive tracts
  - MALL (1)
  - GWTE (7)
  - NOPI (5)
  - NSHO (2)

RESULTS

- Food items only recovered from ventriculus (gizzard)



Overall Diet
100% plant material



NOPI
N = 5

Renkonen Index – 64.119

Food Item	Spur Agg % N = 5	Impounded Wetlands Agg % N = 6
Schoenoplectus (bulrush)	31.82	1.93
Stuckenia (sago pondweed)	54.60	48.55
Potamogeton (other pondweeds)	13.64	19.52
Ruppia (widgeongrass)	-	17.50
Unidentified plant material	-	12.50

Food Item	GE (kcal/g)	NOPI Daily Required (384.76 kcal/day)	Source
Schoenoplectus achenes	4.551	84.54g	Cavitt and Wilson 2012
Stuckenia drupelets	4.827*	79.71g	Reinecke and Owen Jr. 1980
Potamogeton drupelets	4.827*	79.71g	Reinecke and Owen Jr. 1980
Cyperus achenes	5.196**	74.05g	Kendeigh and West 1965

* Value obtained from *Potamogeton natans*
**Value obtained from *Cyperus erythrorhizos*

GWTE
N = 7

Renkonen Index – 16.668

Food Item	Spur Agg % N = 7	IW Agg % N = 6
Schoenoplectus (bulrush)	100	16.67
Distichlis (saltgrass)	-	16.67
Zannichellia (horned pondweed)	-	16.67
Chara (muskgrass)	-	50.00

Food Item	GE (kcal/g)	GWTE Daily Required (169.32 kcal/day)	Source
Schoenoplectus achenes	4.551	37.21g	Cavitt and Wilson 2012
Stuckenia drupelets	4.827*	35.08g	Reinecke and Owen Jr. 1980
Potamogeton drupelets	4.827*	35.08g	Reinecke and Owen Jr. 1980
Cyperus achenes	5.196**	32.59g	Kendeigh and West 1965

* Value obtained from *Potamogeton natans*
**Value obtained from *Cyperus erythrorhizos*

MALL
N = 1

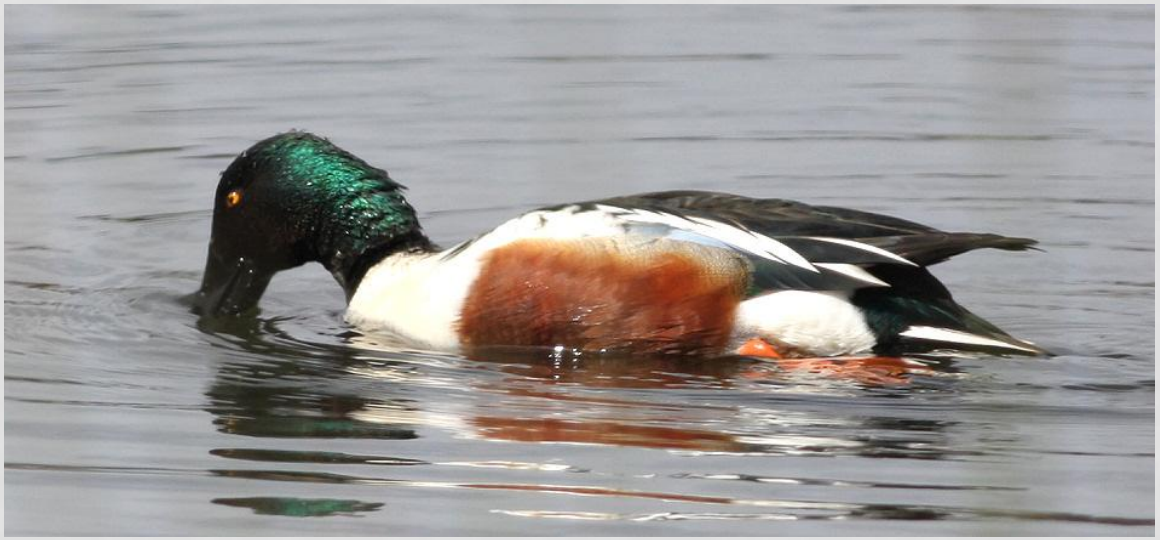
Renkonen Index – 2.435

Food Item	Spur Agg % N = 1	IW Agg % N = 15
Schoenoplectus (bulrush)	100	4.02
Stuckenia (sago pondweed)	-	11.97
Potamogeton (other pondweeds)	-	7.23
Potamogetonaceae tuber	-	6.06
Distichlis (saltgrass)	-	12.41
Zannichellia (horned pondweed)	-	1.49
Lemnaceae (duckweed)	-	15.61
Polypogon (rabbitsfoot grass)	-	12.27
Unidentified plant material	-	7.69
Chara (muskgrass)	-	17.73
Gastropoda (snails)	-	0.20
Hydrophilidae (water scavenger beetles)	-	2.9
Corixidae (water boatmen)	-	0.09
Notonectidae (backswimmers)	-	0.17
Zygoptera (damselflies)	-	0.17

NSHO
N = 2

Food Item	Spur Agg %
Schoenoplectus (bulrush)	12.5
Cyperus (flat sedge)	50.0
Stuckenia (sago pondweed)	25.0
Potamogeton (other pondweed)	12.5

Brigham City, Utah	Temperature		
	Minimum °F	Maximum °F	Average °F
November 3, 2011	18	52	35
November 16, 2011	18	39	29
December 2, 2011	11	32	22



AVIAN DIET LITERATURE REVIEW

- 52 species reviewed
- 38 species – no GSL dietary information
- 14 species – GSL dietary data (waterfowl, shorebirds, gulls)

AVIAN DIET LITERATURE REVIEW

- Some species have very little quantitative diet information

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