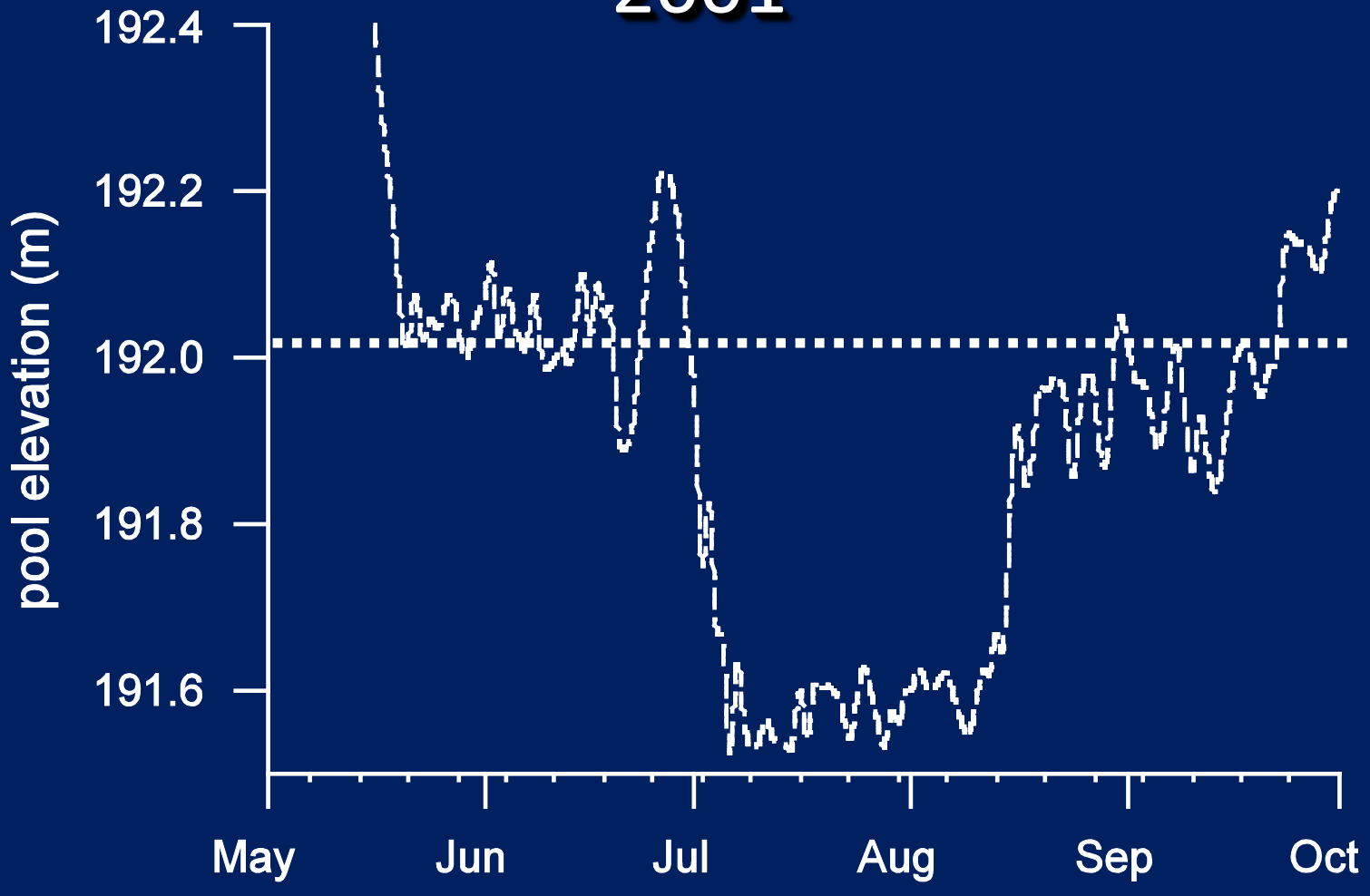
Shorebird Response to Pool-scale Drawdowns

S. Winter, B. Stemper, and R. Nissen

Pool 8 Drawdowns

- 0.45 m reduction in pool elevation at the dam
- Mid-June to mid-September, 2001 and 2002

Pool Elevation
2001



Pool Elevation
2002

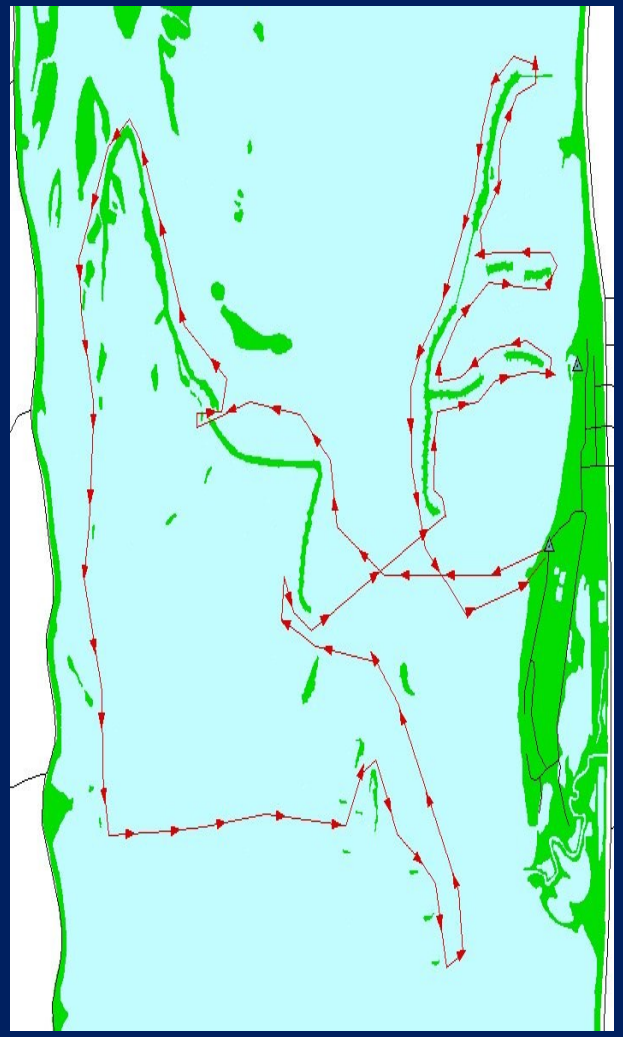
Upper Mississippi River Navigation Pool 8 Drawdowns 2001-2002 Shorebird Survey Report

Upper Mississippi River National Wildlife and Fish Refuge– La Crosse District

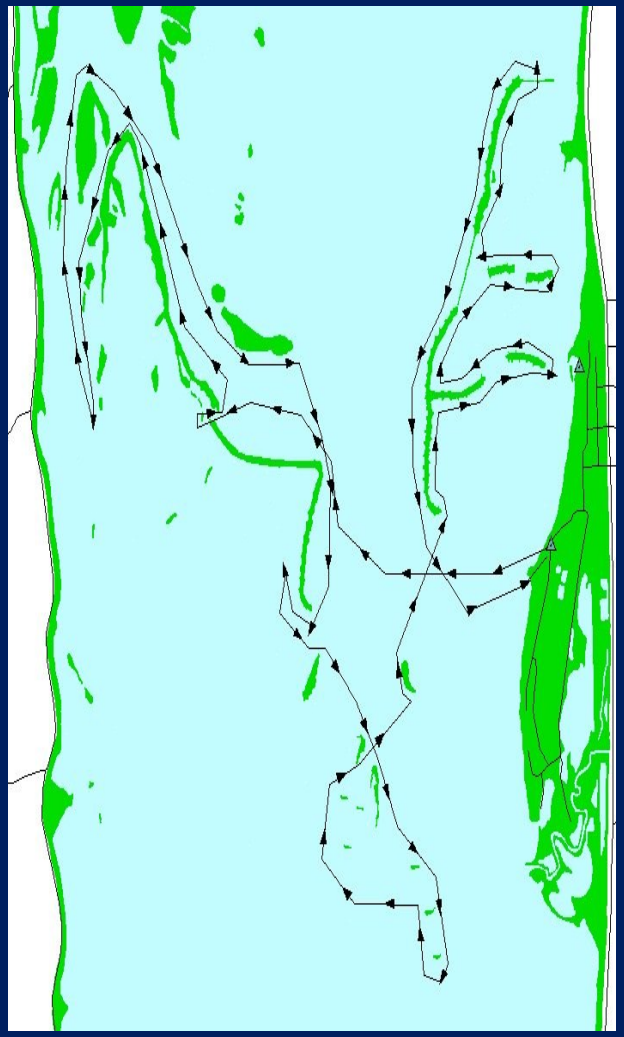
La Crosse, WI
Pool 8
Study
Area

Survey Routes

2001



2002



Surveys

Approximately weekly

- 2001 June 11th – September 26th
- 2002 May 23rd – September 3rd

Survey routes traversed by boat with stops on shore

- 2001 20–26 km of route traversed
- 2002 15–28 km of route traversed

Species Detected 2001–2002

Charadriinae	AOU Code
• Black-bellied plover	BBPL
• American golden plover	AMGP
• Semi-palmated plover	SEPL
• Killdeer	KILL
Recurvirostridae	
• American avocet	AMAV
Scolopacidae – *Tringa*	
• Greater yellowlegs	GRYE
• Lesser yellowlegs	LEYE
• Solitary sandpiper	SOSA

Species Detected 2001–2002

Scolopacidae – *Actitis*, *Numenius*, and *Arenaria*

- Spotted sandpiper SPSA
- Whimbrel WHIM
- Ruddy turnstone RUTU

Scolopacidae – *Calidris*

- Sanderling SAND
- Semi-palmated sandpiper SESA
- least sandpiper LESA
- White-rumped sandpiper WRSA
- Baird's sandpiper BASA
- Pectoral sandpiper PESA
- Dunlin DUNL
- Stilt sandpiper STSA

Species Detected 2001–2002

Scolopacidae – *Limnodromus*

- Short-billed dowitcher SBDO
- Long-billed dowitcher LBDO

Scolopacidae – *Gallinago*

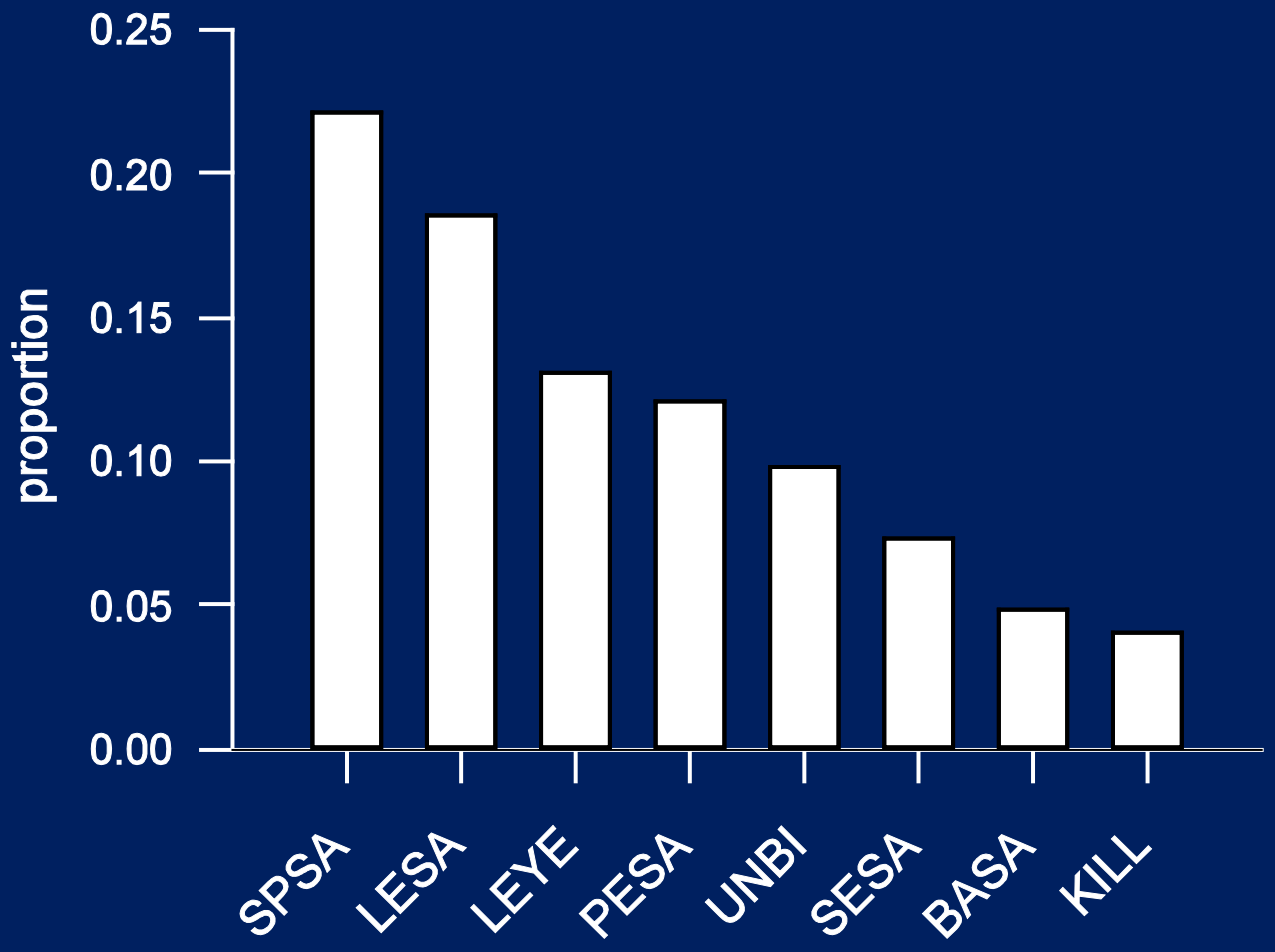
- Common snipe COSN

Scolopacidae – *Phalaropus*

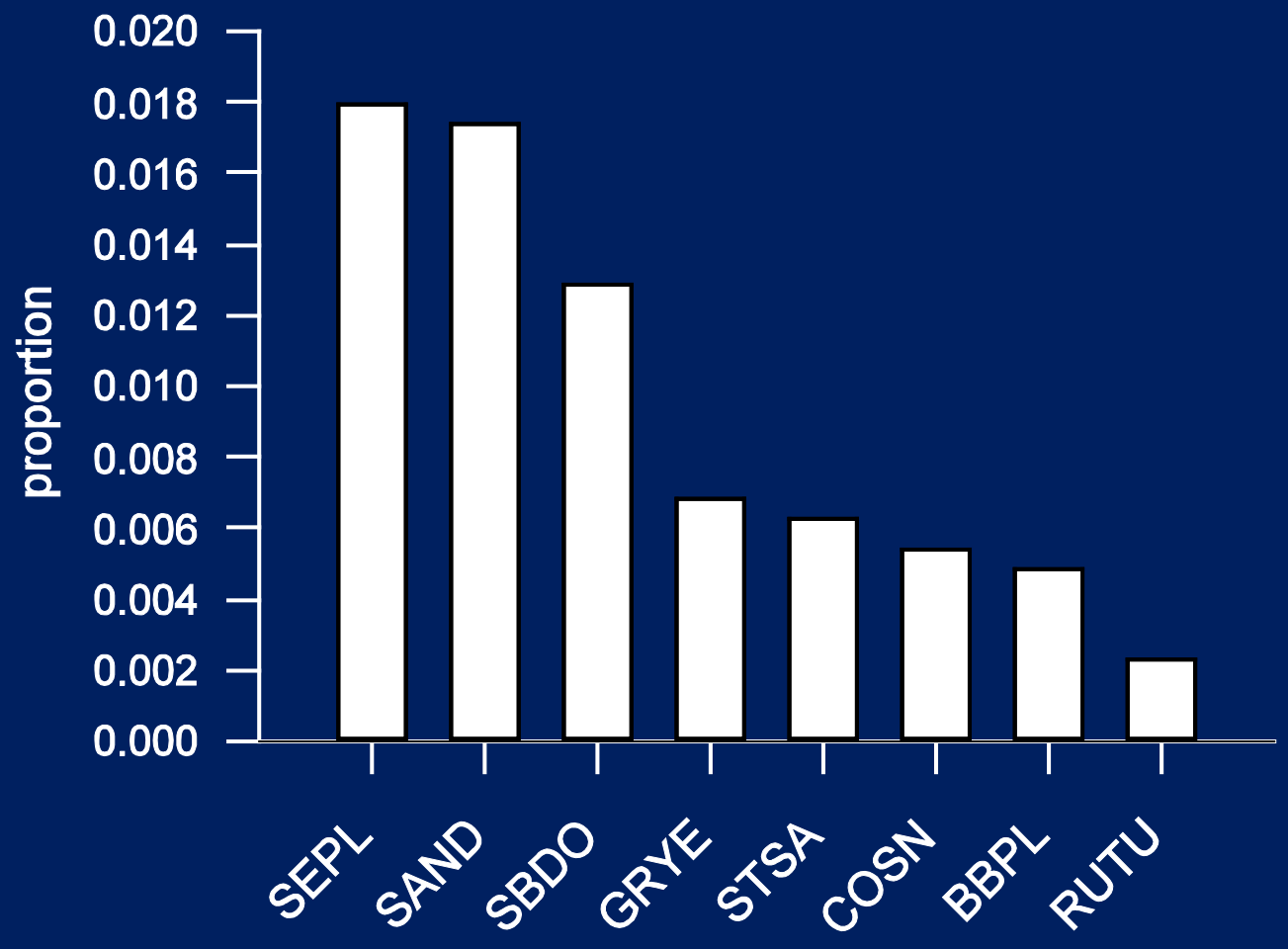
- Wilson's phalarope WIPH
- Red-knecked phalarope RNPH

Unidentified species UNBI

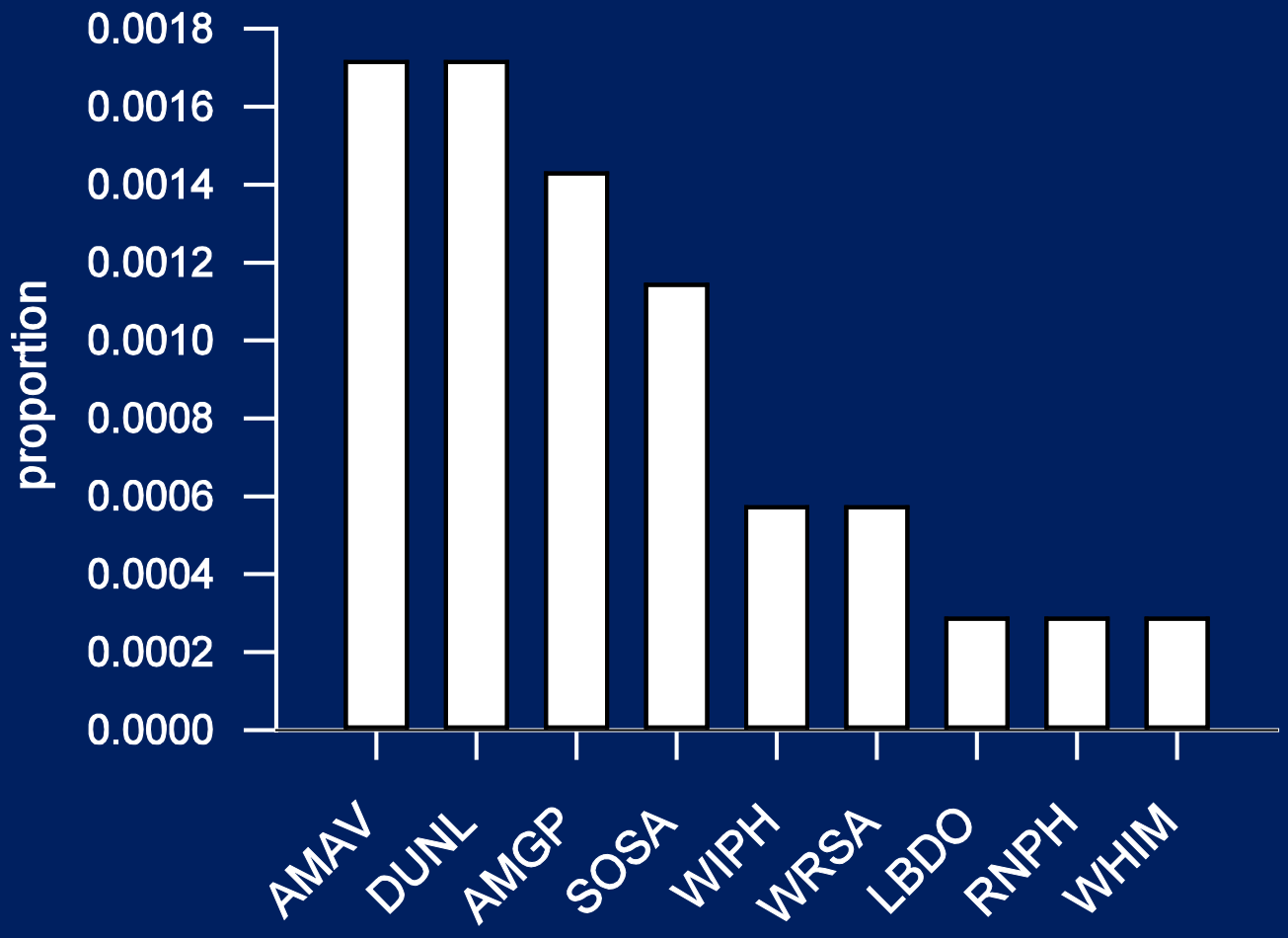
Species Proportions 2001–2002



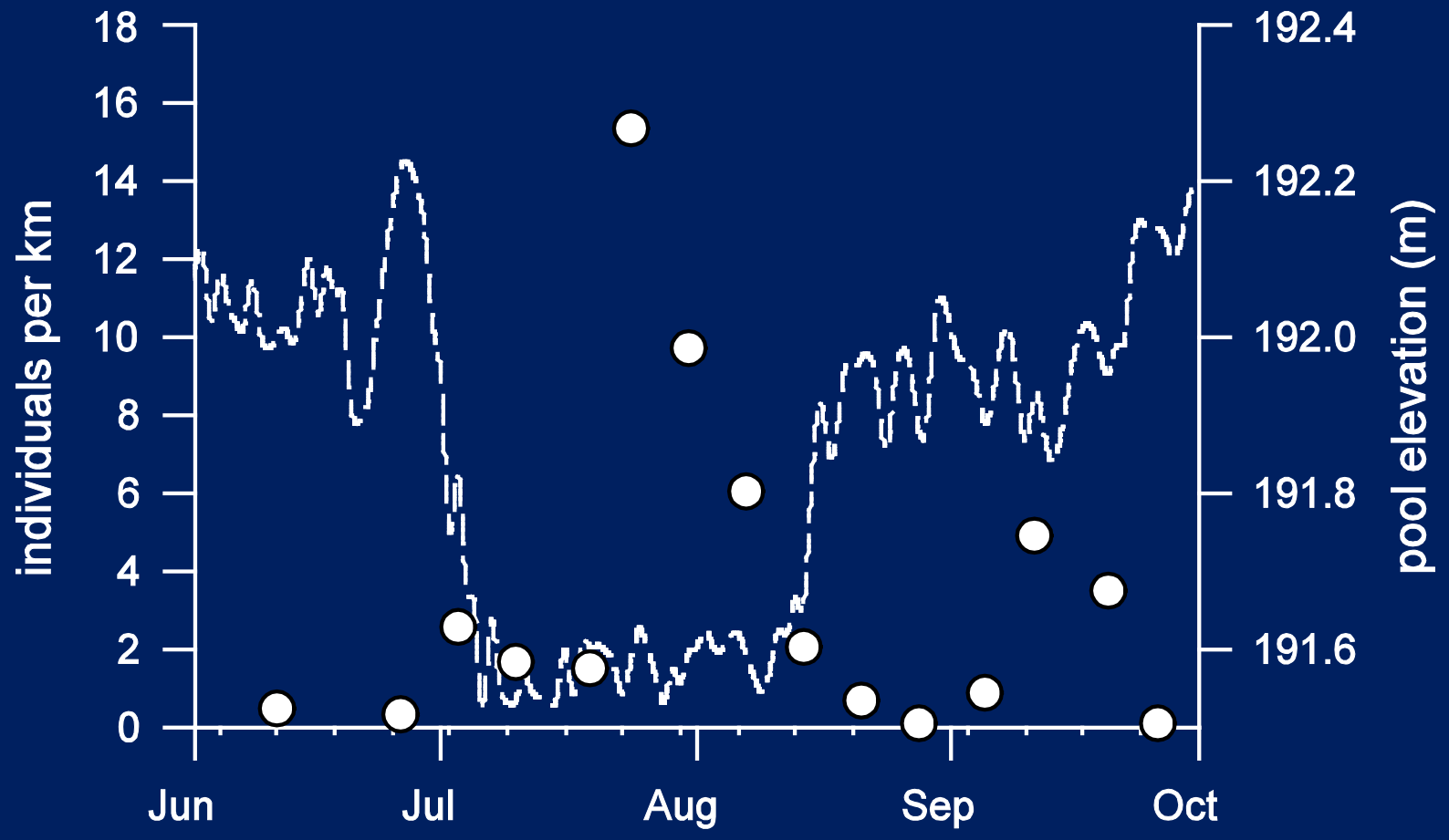
Species Proportions 2001–2002



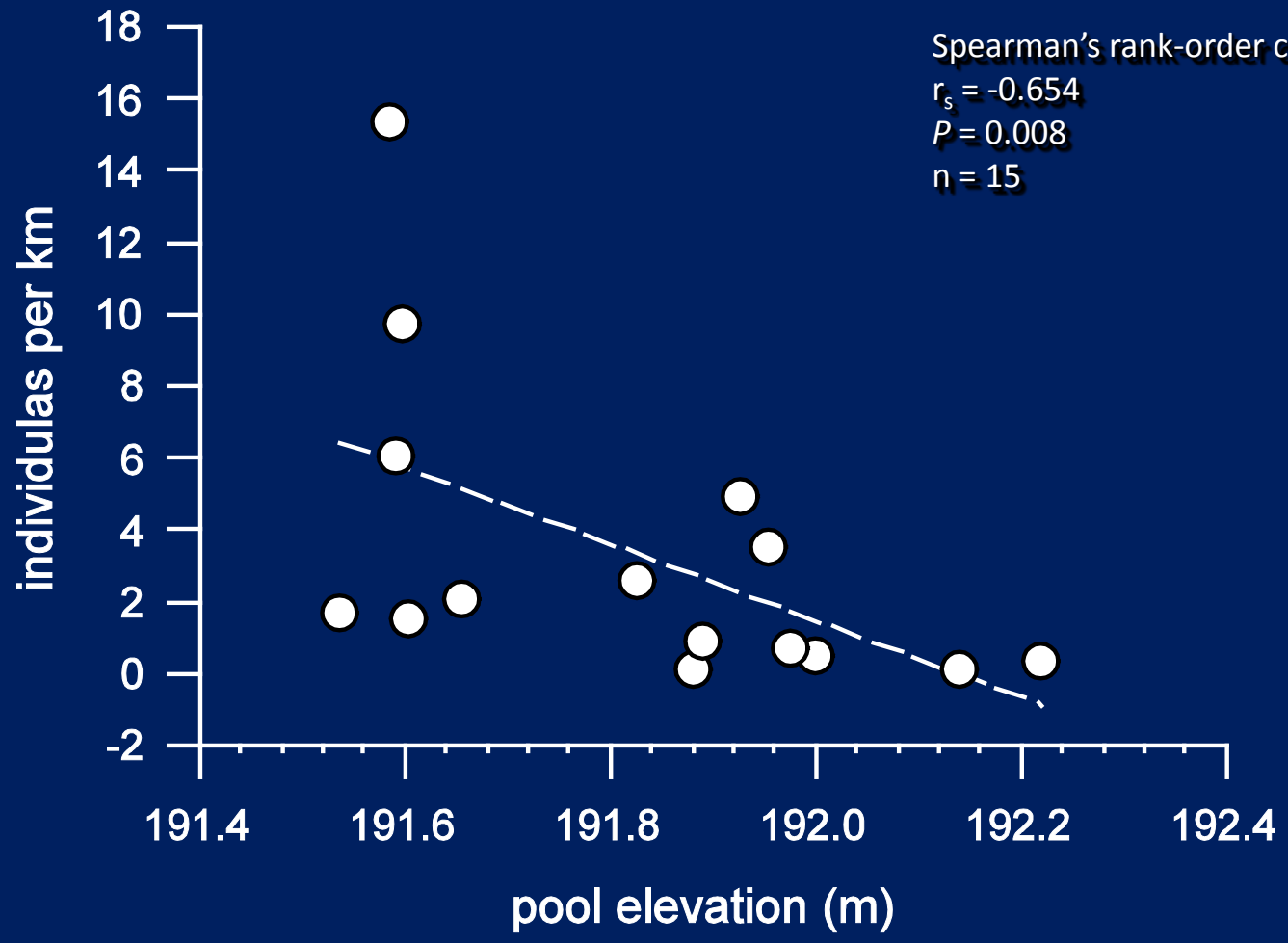
Species Proportions 2001–2002



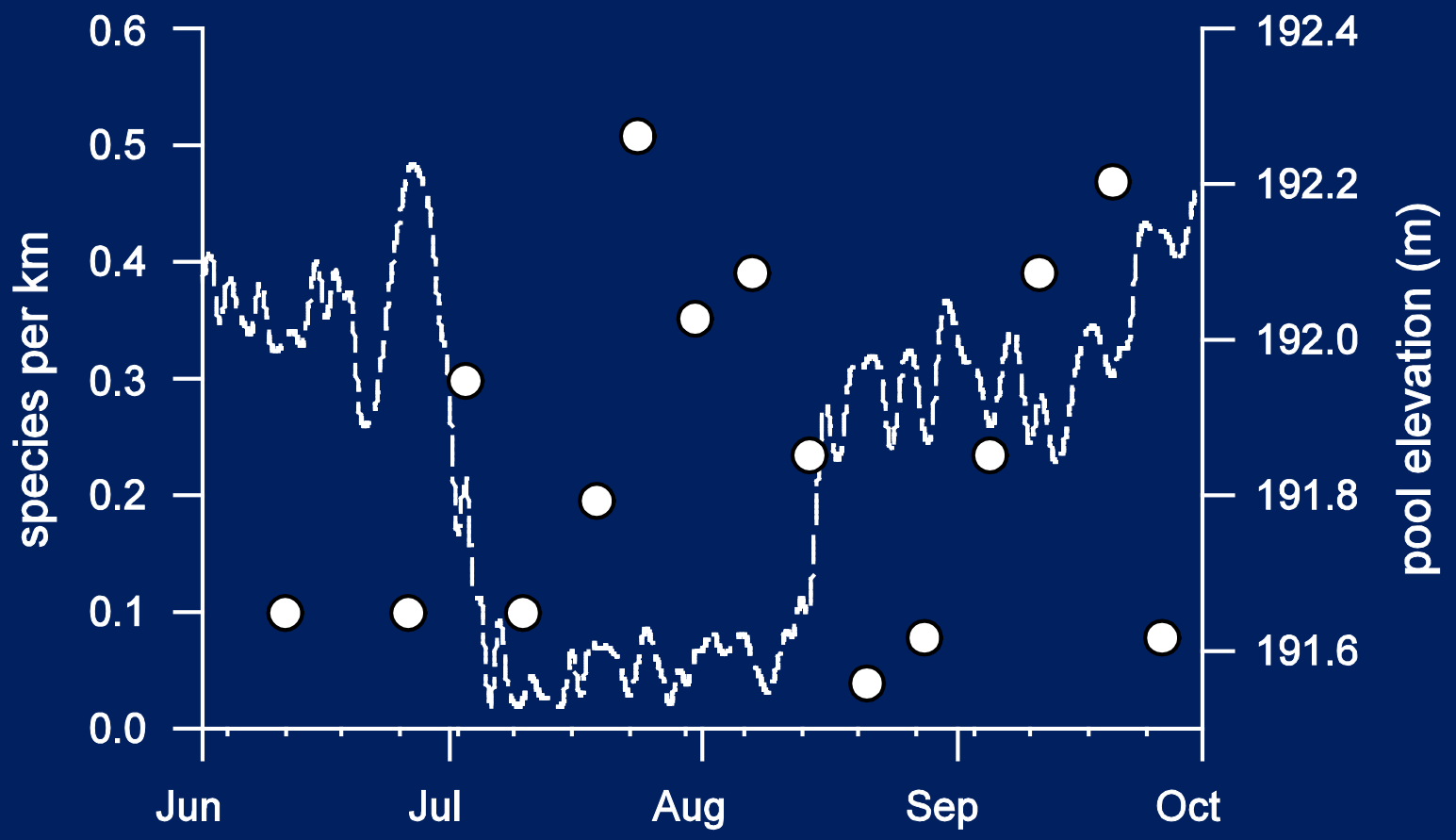
Relative Abundance
2001



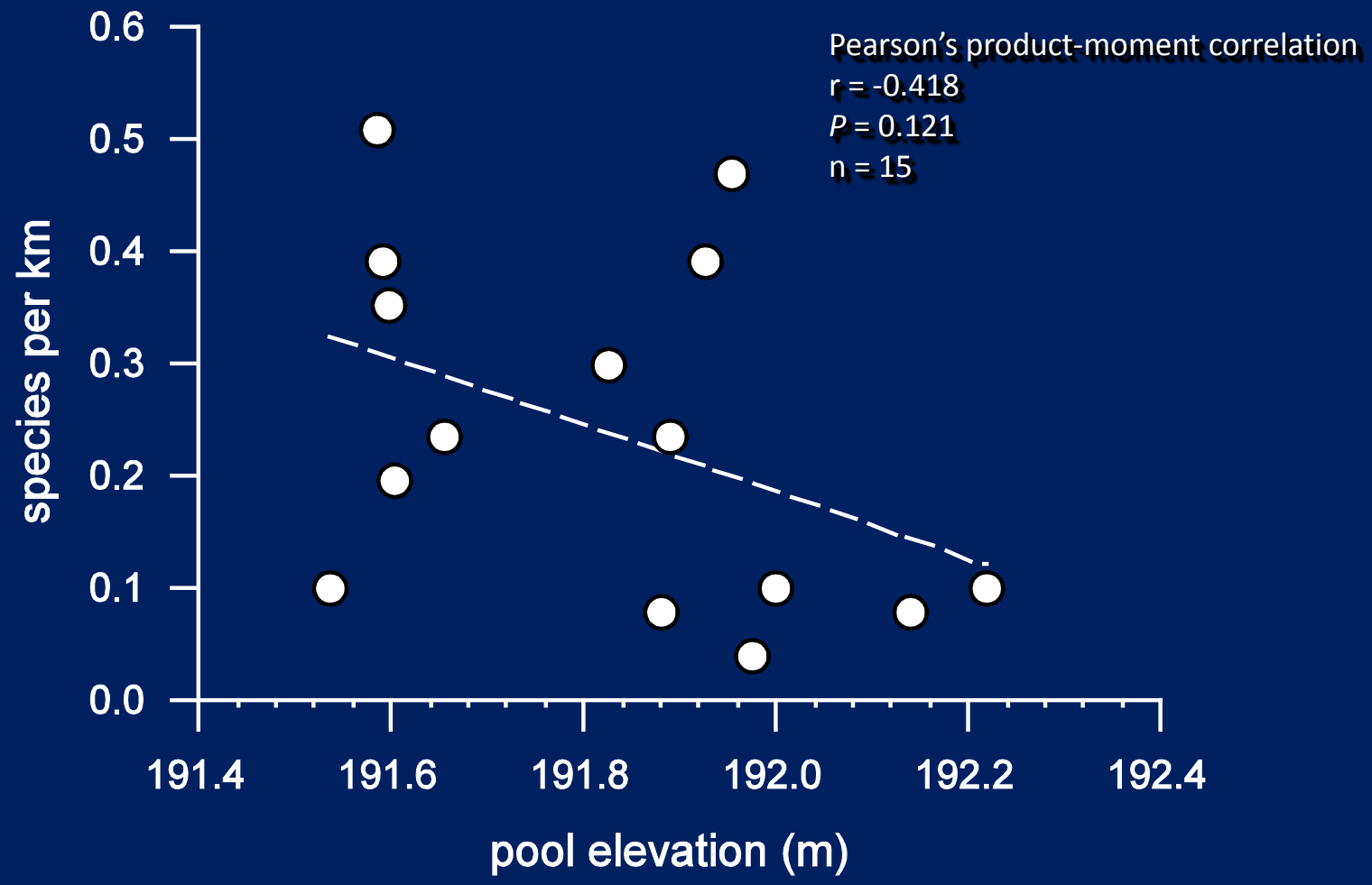
Relative Abundance 2001



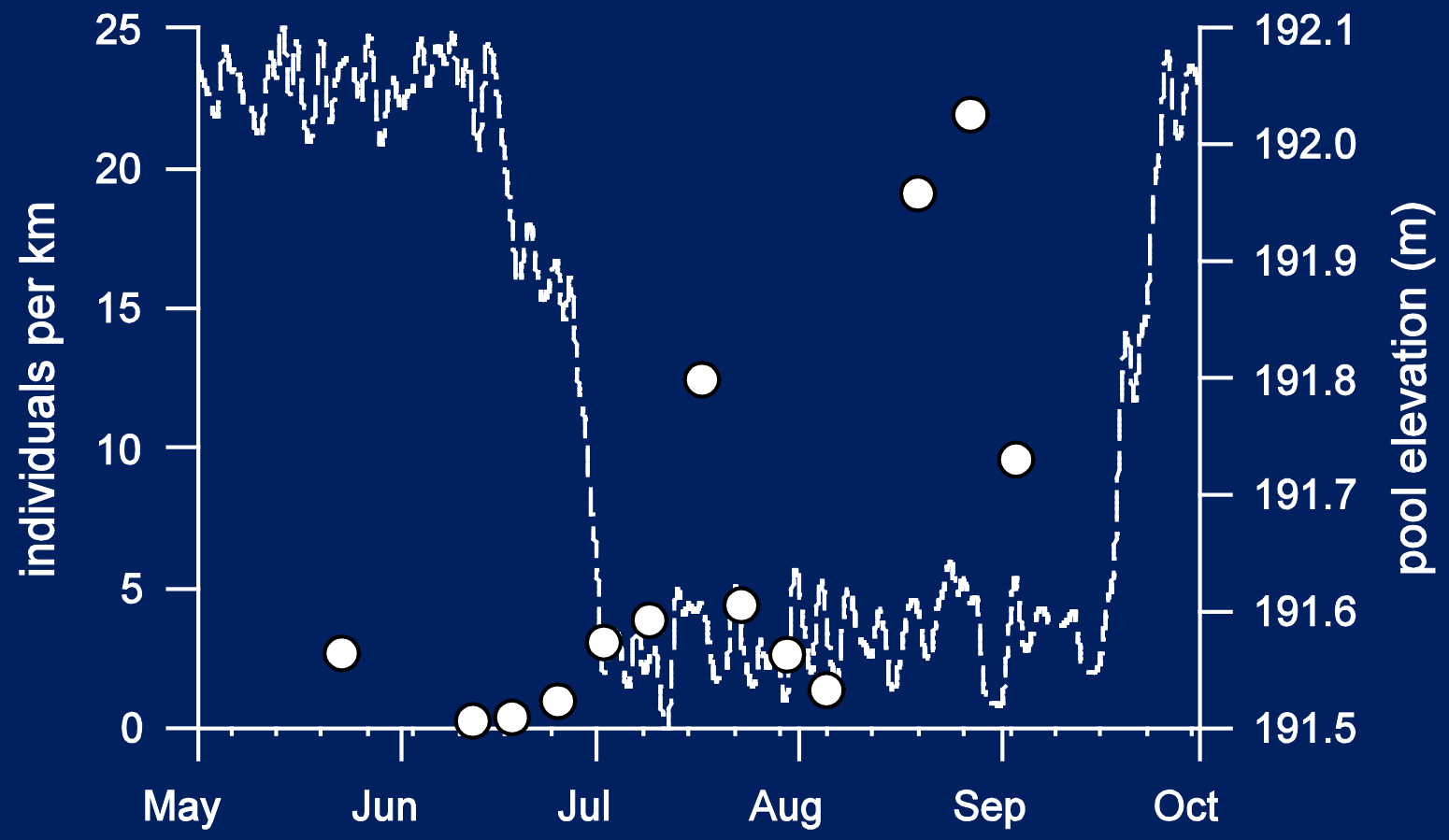
Relative Species Richness 2001



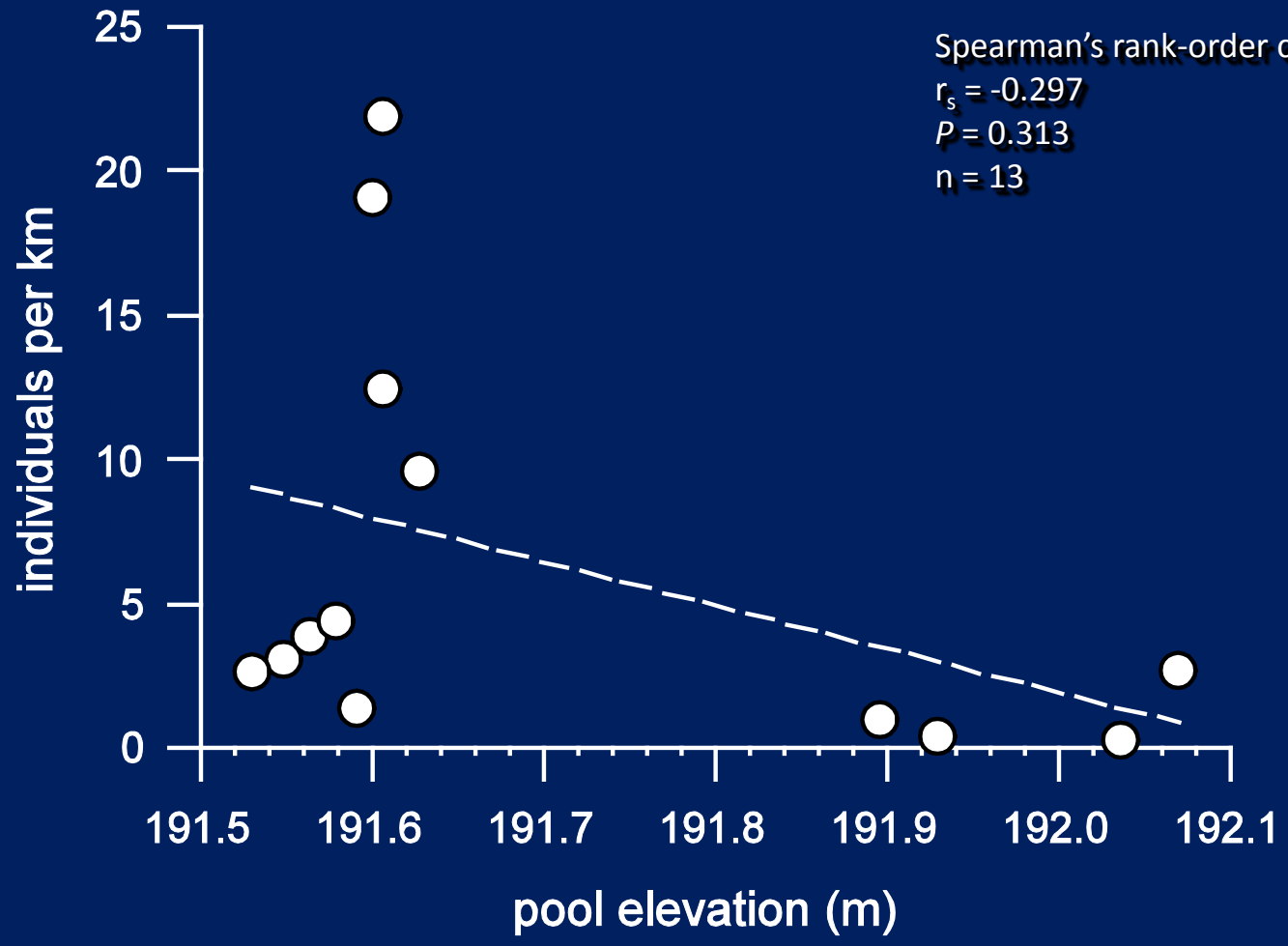
Relative Species Richness 2001



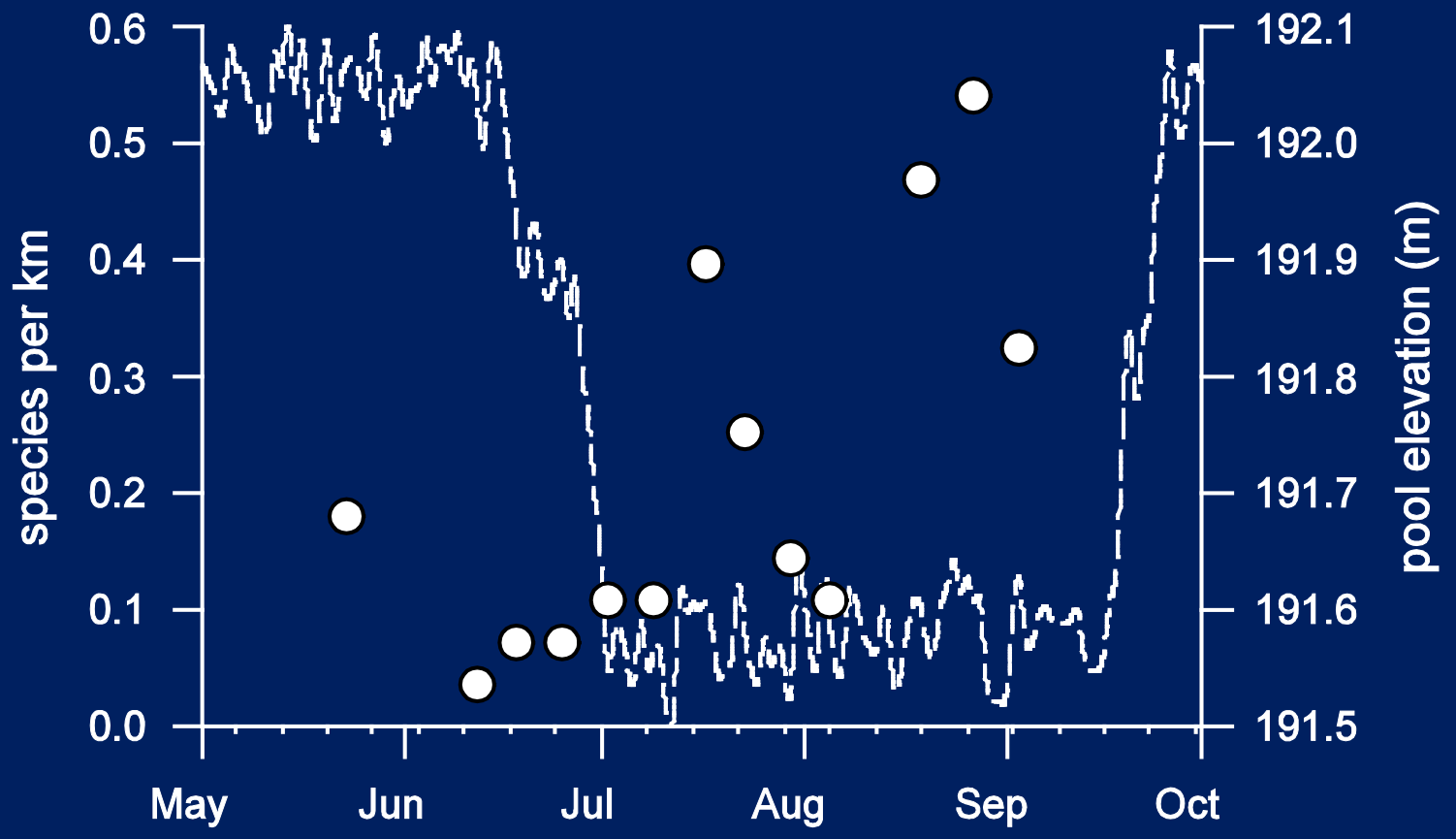
Relative Abundance
2002



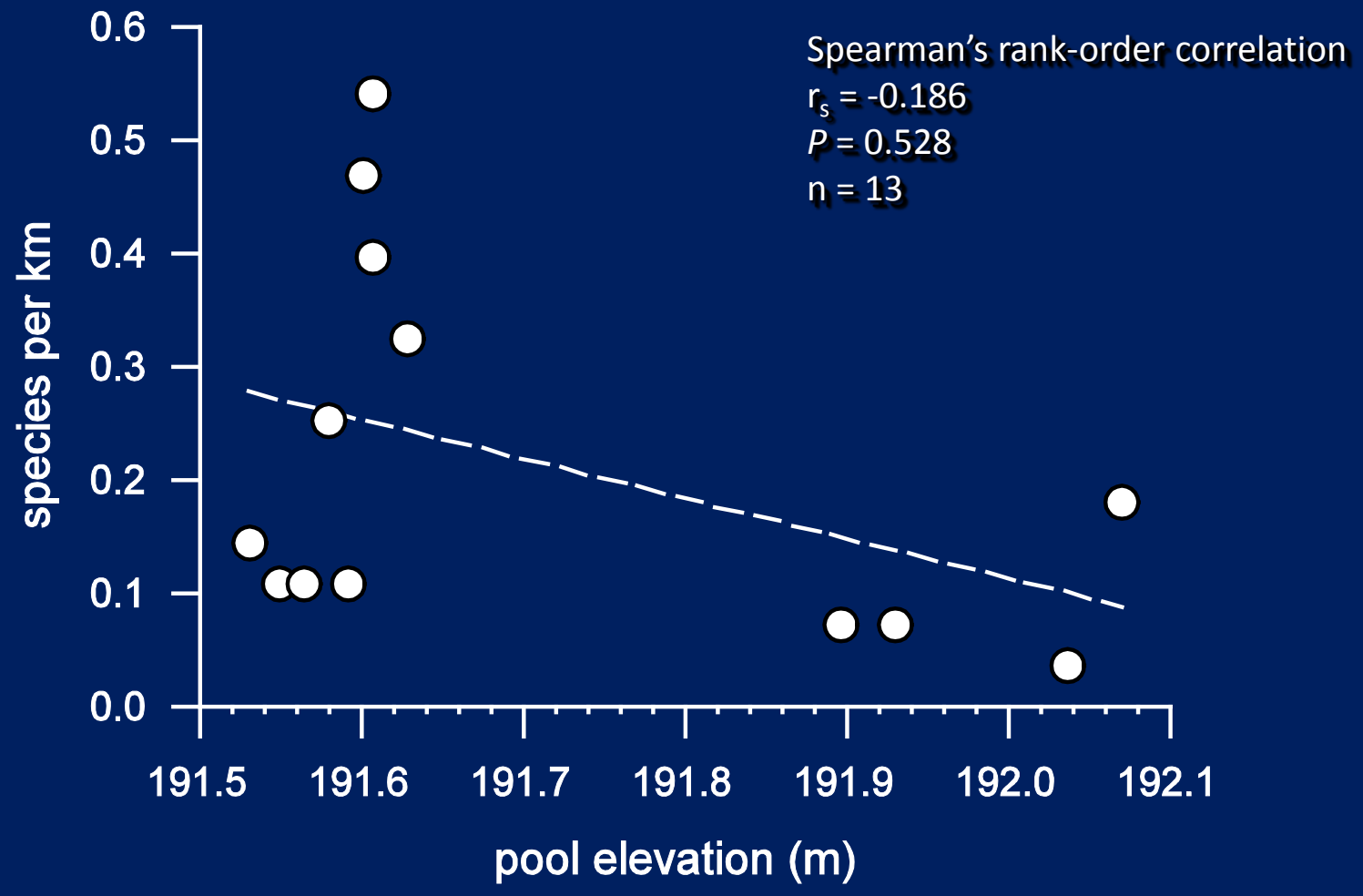
Relative Abundance 2002



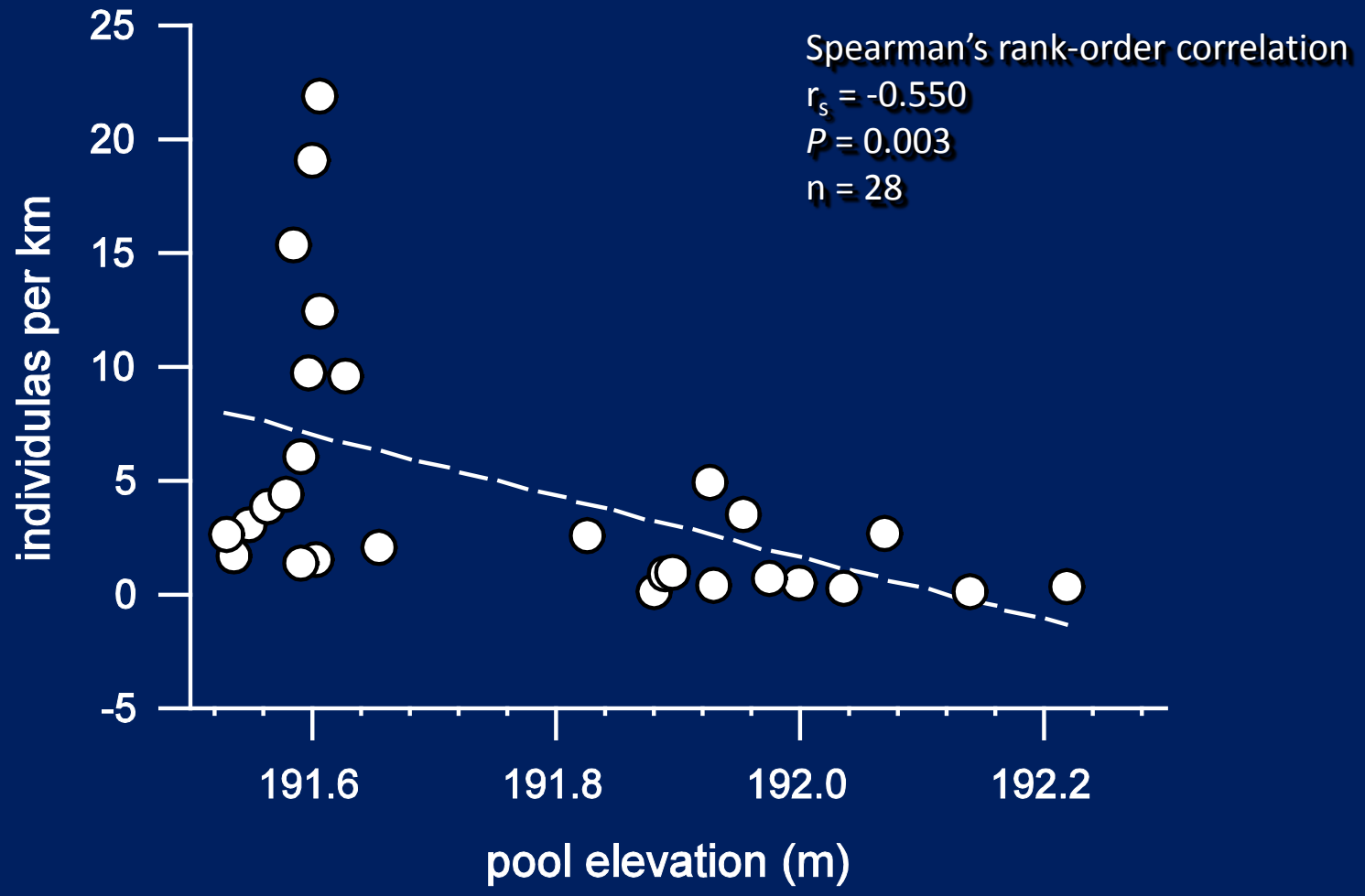
Relative Species Richness 2002



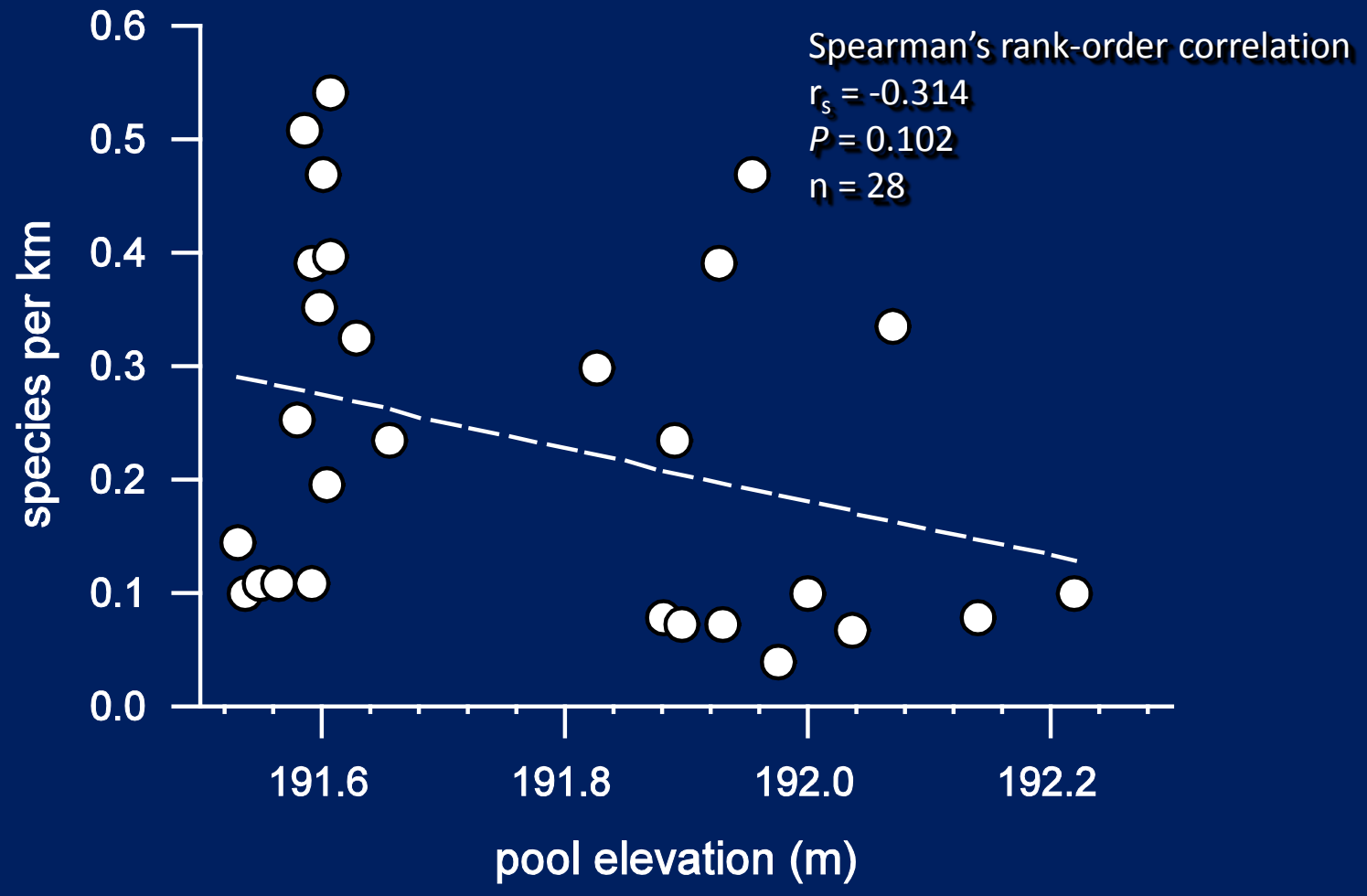
Relative Species Richness 2002



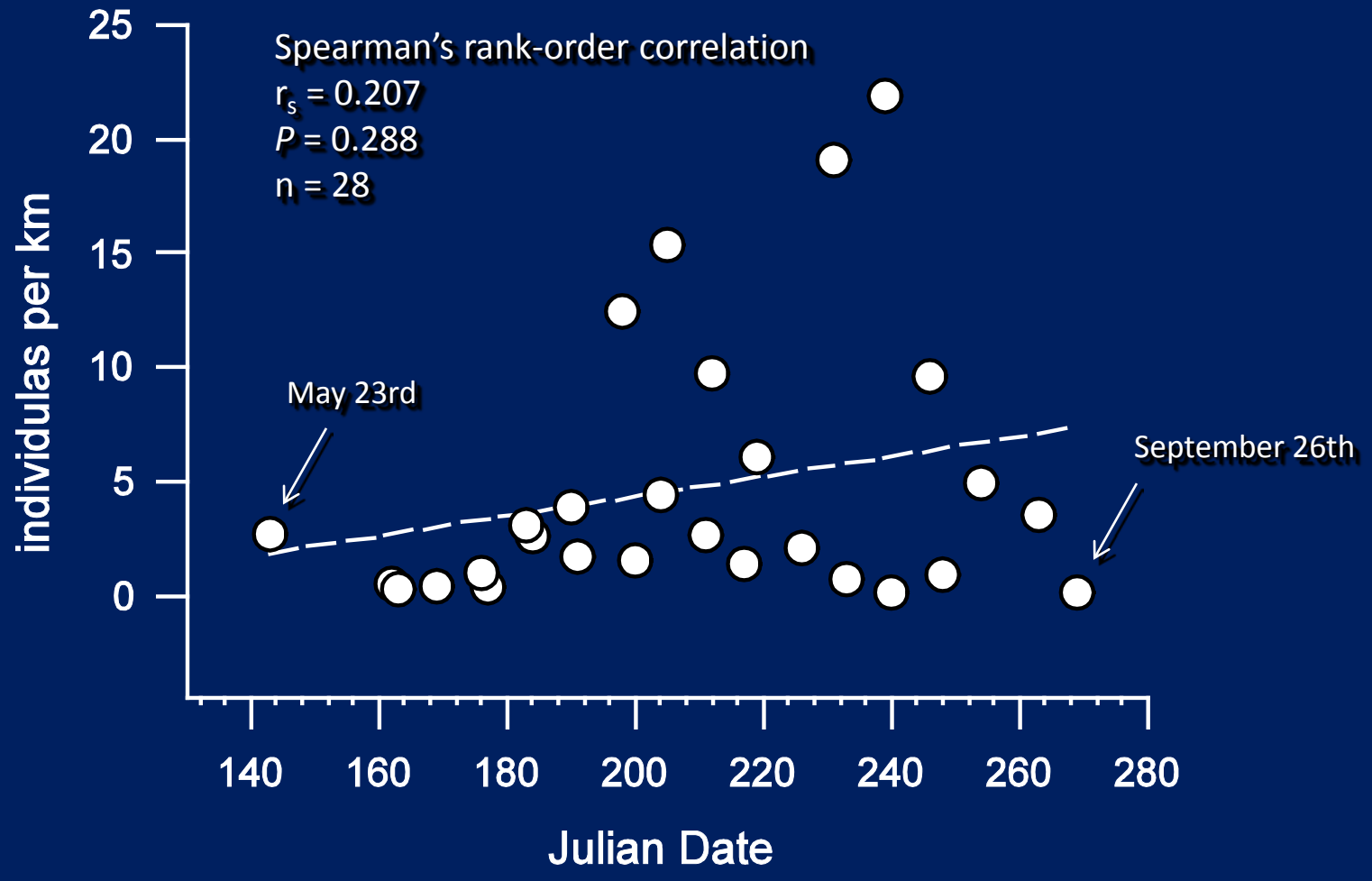
Relative Abundance 2001–2002



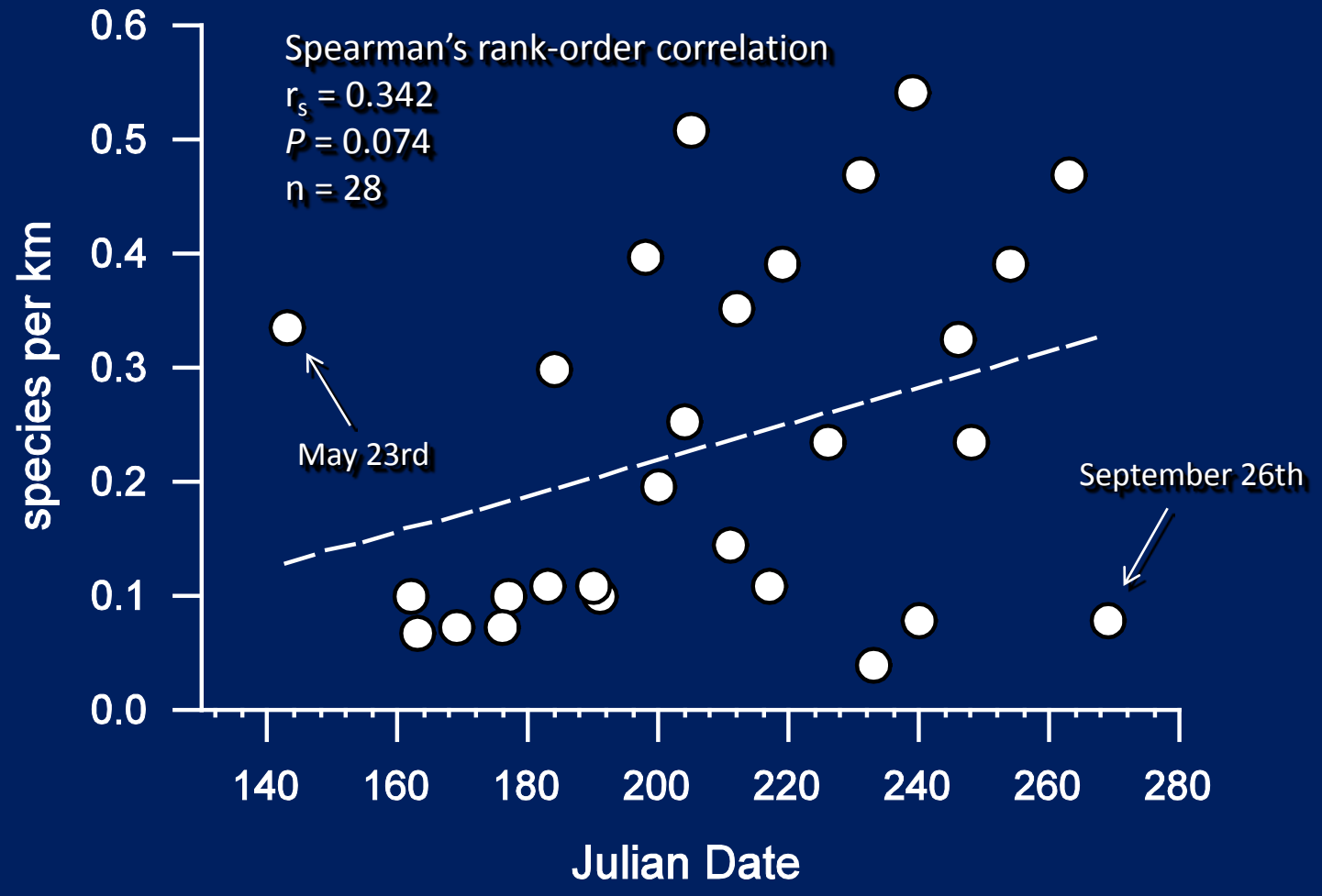
Relative Species Richness 2001–2002



Relative Abundance 2001–2002



Relative Species Richness 2001–2002



Conclusions

- Shorebird abundance may respond to lowered pool elevation
- Shorebird species richness may not respond to lowered pool elevation
- Shorebird species richness may be related to date
- Drawdowns may need to last longer into the fall migration season to provide benefits to a larger suite of shorebirds

But, what about…

- Is the amount of shorebird habitat truly greater during a drawdown?
  - Perhaps the shallow water foraging zone isn't expanded, but is only shifted in location
  - Perhaps lowering and raising pool elevation more slowly would provide greater benefits to shorebirds

- Not too sure of sampling effort
  - Only have a report to work with
  - How many km of survey effort or how much time was truly expended?

- Sampling was approximately weekly and ended early in 2002
  - More data points would probably have been better.

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