Year-round tracking of the globally threatened Leach's Storm-Petrel in Iceland





Environment and Climate Change Canada

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INTRODUCTION

• At-sea distribution & behaviour of small burrow-nesting seabirds such as Leach's Storm-Petrel (LSP) remain poorly known due to cryptic breeding habits at colonies & small body sizes.



- LSP has declined across the N-Atlantic for the last 3 decades. Icelandic adult annual survival rate (0.779 ±0.027) is low as in Canada (0.78—0.86). Breeding success is high in Canada (0.81-0.96 fledglings/egg).
- Threats include predation at colonies, light pollution in coastal & offshore environments (vessels, oil platforms), contaminants (Hg & plastics), & climate-related influences on weather patterns & food supply.

METHODS

- Miniaturized (0.75 g) geolocation-immersion loggers (GLS) were used to study year-round distribution, colony attendance & at-sea activity patterns of LSP at Elliðaey I., Vestmannaeyjar, 2019-2021.
- We present preliminary spatial & behavioural results for 4 birds.

CONCLUSIONS

- LSP are highly migratory; wintering in equatorial waters of the central Atlantic & the Benguela upwelling region off southwest Africa.
- We provide first insights into timing of breeding & migration, & characteristics of foraging at the colony.
- Ongoing tracking studies will improve understanding of foraging & wintering areas, & inform risk assessments for Icelandic birds year-round.

Leach's Storm-Petrel with GLS





Partial GLS light trace for BY241, January-July 2021 (top panel). Typical daily light-

dark cycles are interrupted 18 April 2021 (bottom panel) when the bird first returned to the colony for the season & spent the day in it's dark underground burrow. Regular alternation of shifts in the burrow with foraging trips at sea are visible until the parent leaves it's chick unattended mid-July





Breeding & migration characteristics of Leach's Storm-Petrels tracked using GLS from Elliðaey I., Vestmannaeyjar, 2019-2021

Parameter	2019-20		2020-21	
	BT784	BT773	BY240	BY241
Deployment date	24/06/2019	07/07/2019	28/06/2020	28/06/2020
Status	Non-breeder	Incubating	Brooding	Incubating
Lay date (est)	-		14/05/2020	25/05/2020
Start Chick-rearing	-	15/08/2019	01/07/2020	12/07/2020
S Migration – start	17/08/2019	29/08/2019	18/08/2020	20/09/2020
- end	24/12/2019	-	08/11/2020	15/10/2020
- no. stops	2	1+	1	0
- winter destination	S Africa	-	Equatorial waters	S Africa
N Migration – start	01/04/2020	-	22/03/2021	08/03/2021
- end (colony return)	16/05/2020	-	14/04/2021	18/04/2021
Lay date (est)	-	-	12/05/2021	26/05/2021
Start Chick-rearing	-	-	29/06/2021	13/07/2021
Retrieval date	29/06/2020		05/08/2021	
Status	Non-breeder?	-	Chick-rearing	Chick-rearing