

## **Appendix 10.2**

**Bat Survey**

**Report (2017)**

(Appendix 11.4 of Arklow WwTP  
EIAR)

# Bat Survey Report



**Figure 1. Bat activity along the Avoca River close to the M11 Bridge in August 2017**

Legend:

Blue circle = Soprano pipistrelle

Green circle=Common pipistrelle

Black circle = Daubenton's bat



**Figure 2. Bat activity along the south bank of the Avoca River October 17<sup>th</sup> 2016.**

The orange track shows the survey route.

Green circles = common pipistrelles, Blue paddle = soprano pipistrelle, Purple paddle = pipistrelles and Daubenton's, "D" = Daubenton's, P = 2 pipistrelle species \* indicates pre-dawn bat signals





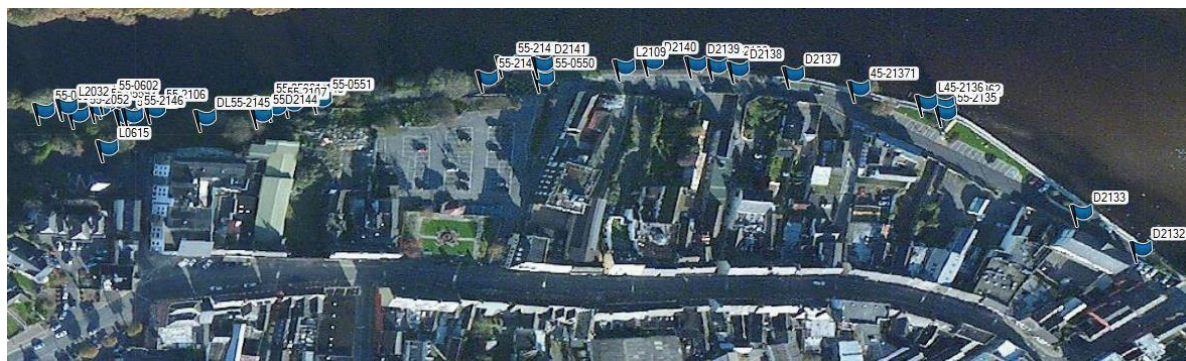
**Figure 3. Bat activity to the north of the Avoca River October 19<sup>th</sup> 2016**

The majority of signals are shown as blue circles and represent soprano pipistrelles

Green paddle = Common pipistrelle "D" = Daubenton's P = 2 pipistrelle species at the same time



1. Bat activity in August 2017 along the Avoca River from the Alps to Arklow Bridge. Each flag denotes a recording for an individual bat at the time indicated by the last four-digit number



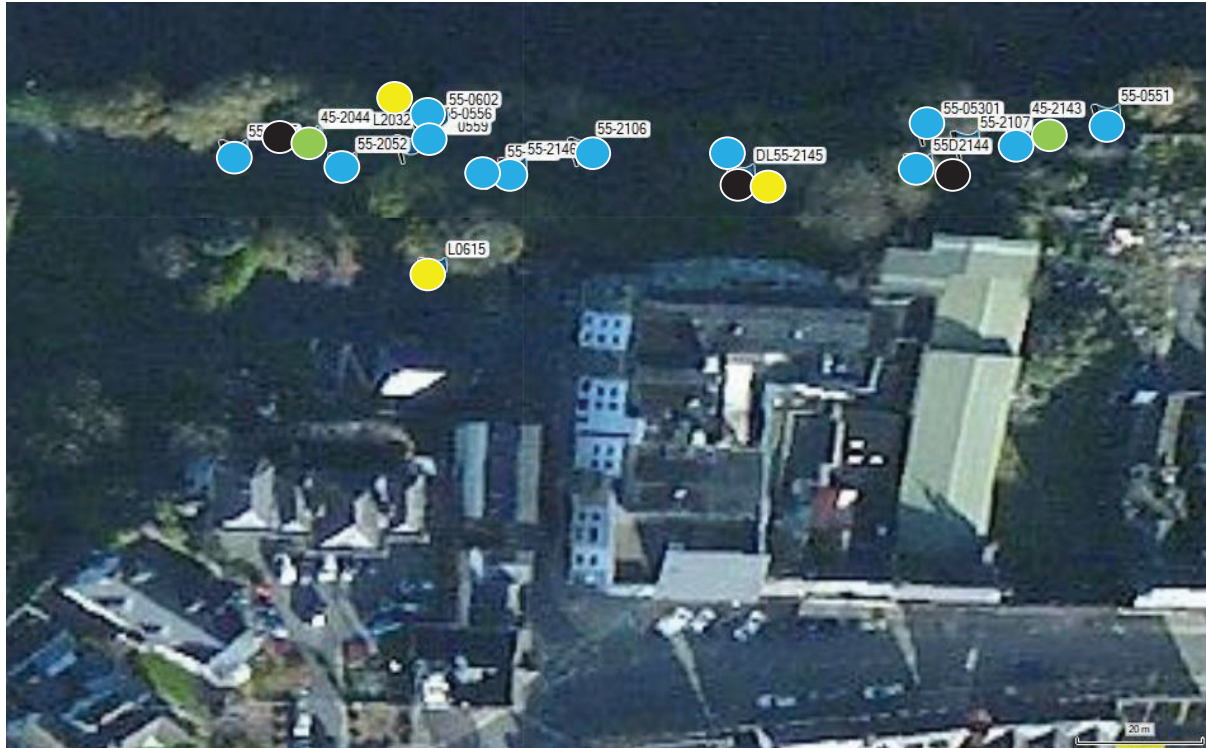
2. Close-up nearer to the Alps along the Avoca River



3. Northern end of Arklow Bridge; Blue circle = Soprano pipistrelle, Green circle = Common pipistrelle

**Figure 4. Bat activity from the Alps to Arklow Bridge in August 2017**

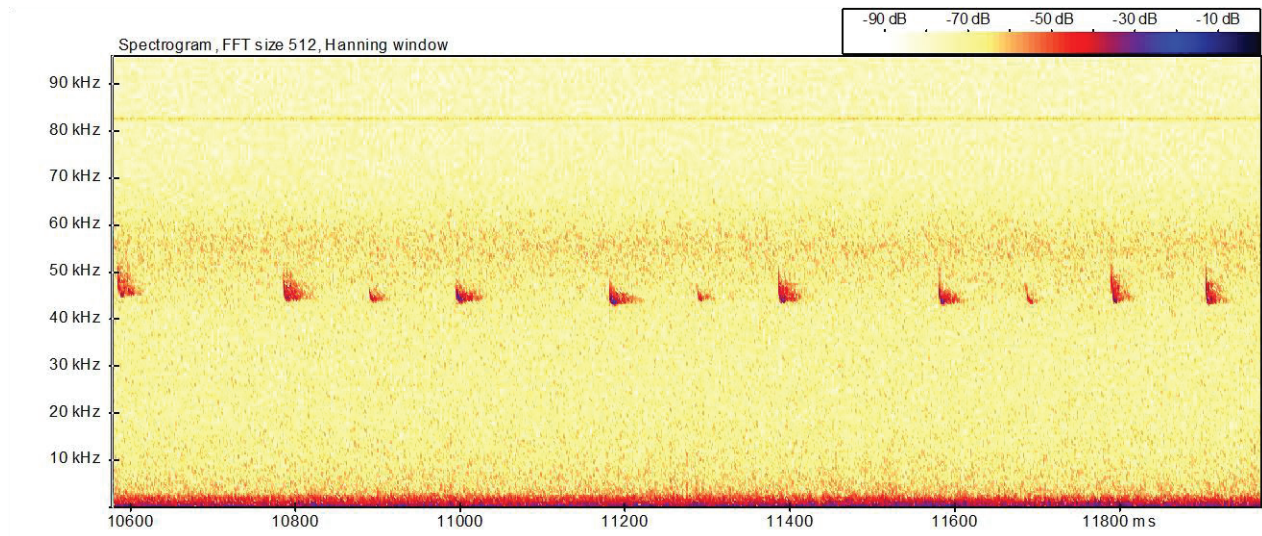




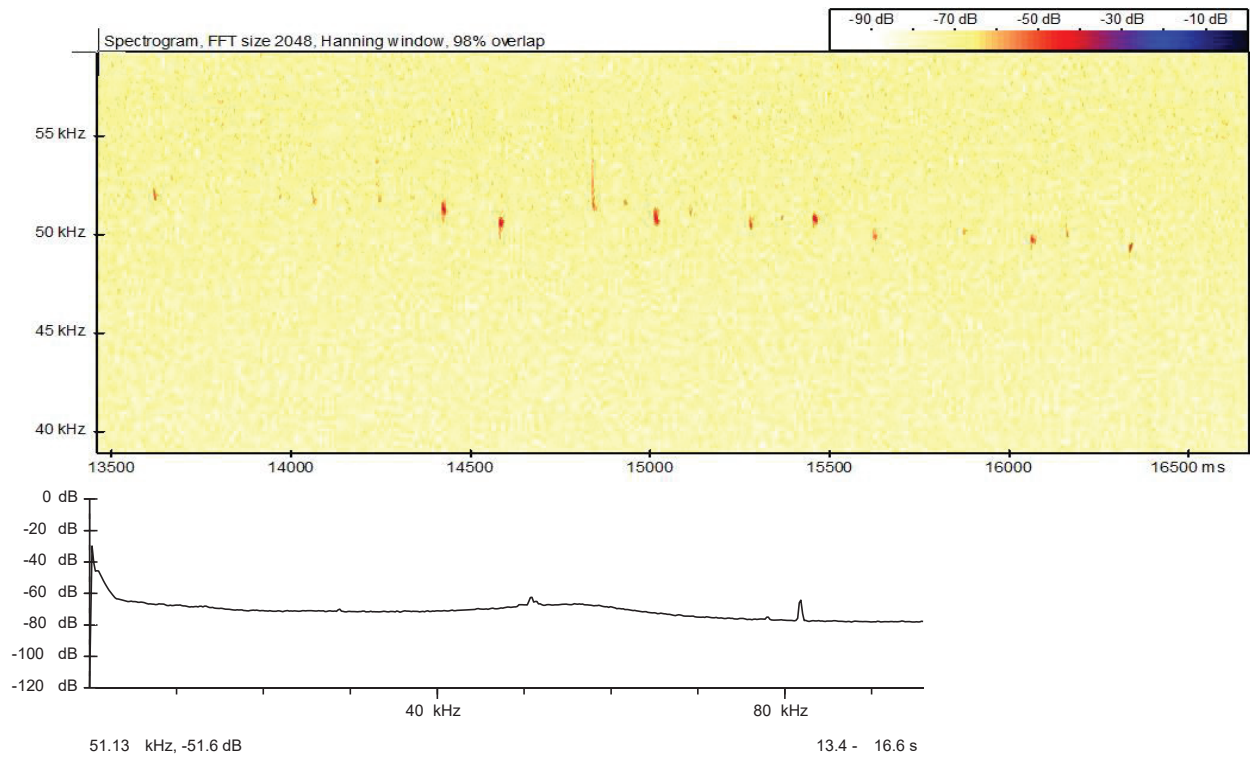
**Figure 5. Bat activity around the Alps and Arklow Castle in August 2017**

Blue circle = Soprano pipistrelle, Green circle = Common pipistrelle,

Black circle = Daubenton's bat, Yellow circle = Leisler's bat

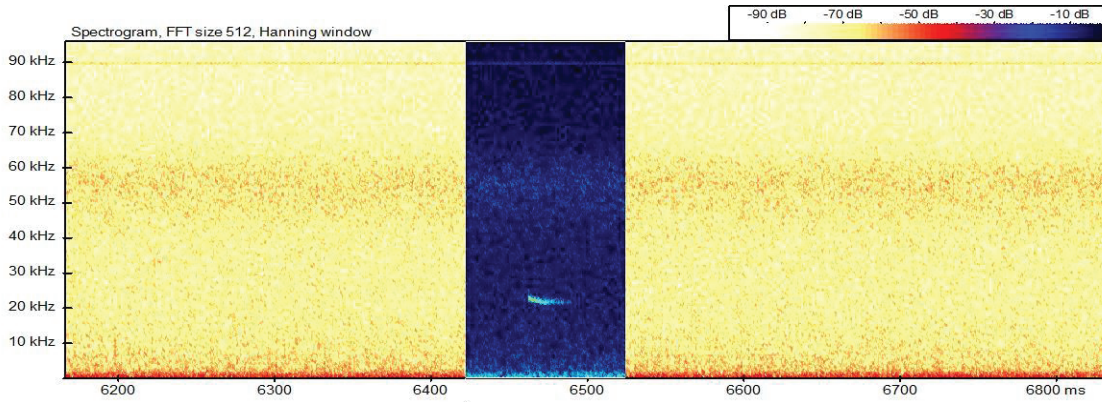


Common pipistrelle signal depicted in a spectrogram plotting the range of frequencies against time and strength

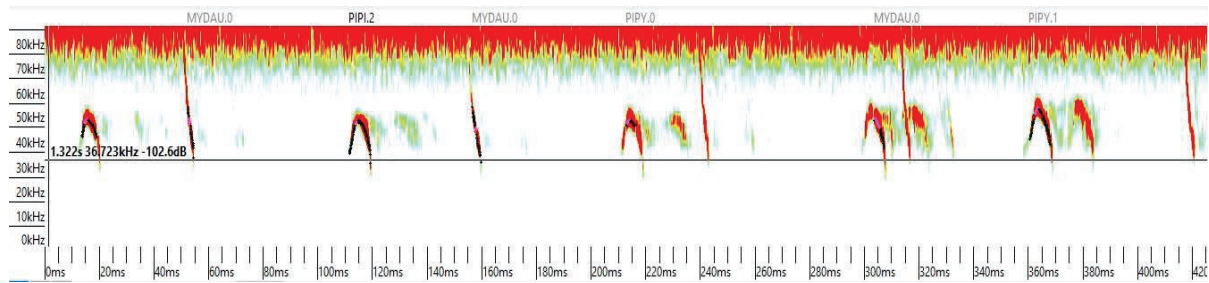


Soprano pipistrelle signal depicted in a spectrogram plotting the range of frequencies against time and strength, recorded at 18.45 on 19th October 2016.

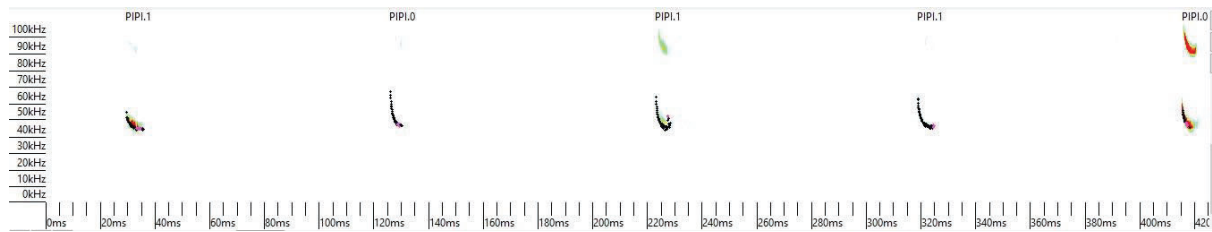
**Figure 6. Common and Soprano pipistrelle signals**



Leisler's bat signal



Daubenton's bat echolocation and social calls at 00.55 hours at the southern end of the river (west of the bridge)



Common pipistrelle at 23.57 hours at the southern end of the river (west of the bridge)

**Figure 7. Leisler's, Daubenton's and Common pipistrelle signals**





**Figure 8. Crevices under which bat droppings indicate use of Arklow Bridge by roosting bats T2530673188**





**Figure 9. Bat boxes examined at River Walk along the Avoca River in 2017**

None of these bat boxes were used by bats in 2017

**Table 1. Bat Conservation Ireland records for the Arklow area**

BCIreland data: search results 29 Aug 2016					
Search parameters: Roosts Transects Ad-hoc observation sites with observations of all bat species within 10km of T2530673188.					
Ad-hoc observations					
Survey	Grid reference	Grid ref easting	Grid ref northing	Date	Species
Bat Walk	T255740	325500	174000	26/08/2014	<i>Myotis daubentonii</i> ; <i>Myotis mystacinus</i> ; <i>Nyctalus leisleri</i> ; <i>Pipistrellus pipistrellus</i> (45kHz); <i>Pipistrellus pygmaeus</i>



**Table 2. Bat Conservation Ireland bat roost records for the Arklow area**

<b>Name</b>	<b>Grid reference</b>	<b>Address</b>	<b>Species observed</b>
Ballymoyle Sheds; Ballymoyle; Scratenagh Cross Roads	T272791	Ballymoyle Sheds Scratenagh Cross Roads; Arklow;	<i>Nyctalus leisleri</i> ; <i>Pipistrellus pipistrellus</i>
Ballynamona Bridge; Ballynamona; Redcross;	T278828	Ballynamona Bridge; Ballynamona; Redcross;	<i>Myotis daubentonii</i> ; <i>Myotis mystacinus/brandtii</i> ; <i>Myotis spp.</i> ; <i>Nyctalus leisleri</i> ; <i>Pipistrellus pygmaeus</i> ; <i>Plecotus auritus</i>
Residence; Kilahurler	T1809873482	Kilahurler; Arklow;	<i>Pipistrellus pipistrellus (45kHz)</i>
Derry House	T189830	Meeting of the waters; Avoca;	<i>Nyctalus leisleri</i> ; <i>Pipistrellus pipistrellus (45kHz)</i>
Hurley's; Clonpadden; Redcross;	T279807	Hurley's; Clonpadden; Redcross;	<i>Myotis spp.</i> ; <i>Pipistrellus pygmaeus</i>
Inch Church; Inch; Co. Wexford.	T191668	Inch Church; Inch; Co. Wexford.	<i>Myotis nattereri</i> ; <i>Myotis spp.</i> ; <i>Nyctalus leisleri</i> ; <i>Pipistrellus pipistrellus (45kHz)</i> ; <i>Pipistrellus pygmaeus</i> ; <i>Plecotus auritus</i>
Kilpatrick Bridge; Ballyrogan Lower	T266810	Kilpatrick Bridge; Ballyrogan Lower; Redcross;	<i>Nyctalus leisleri</i>
Kilpatrick Cottage	T266810	Ballyrogan; Red Cross;	<i>Myotis daubentonii</i> ; <i>Nyctalus leisleri</i> ; <i>Pipistrellus pipistrellus</i> , <i>Pipistrellus pygmaeus</i>
Lamberton Lodge	T2273	Arklow; County Wicklow	<i>Unidentified bat</i>
Residence Lynduff	T198771	Lynduff; Woodenbridge;	<i>Pipistrellus pygmaeus</i>
Residence	T204705	Plattinstown; Arklow;	<i>Nyctalus leisleri</i>
The Pines	T1965981232	Ballygahon; Avoca;	<i>Pipistrellus pygmaeus</i>
Tinnock Upper	T16976418	Tinnock Upper, Gorey; Co. Wexford	<i>Pipistrellus pipistrellus (45kHz)</i>

**Table 3. Bat Conservation Ireland bat records for the Arklow area**

Name	Grid reference start	Species	
Transect survey			
T05 (6) 2003-	T153661	<i>Myotis</i> spp.; <i>Nyctalus leisleri</i> ; <i>Pipistrellus pipistrellus</i> (45kHz); <i>Pipistrellus pygmaeus</i> ; <i>Pipistrellus</i> spp. (45kHz/55kHz); Unidentified bat	

Survey	Grid reference	Date	Species
Ad-hoc observations			
Bat Walk	T255740	26/08/2014	<i>Myotis daubentonii</i> ; <i>Myotis mystacinus</i> , <i>Nyctalus leisleri</i> ; <i>Pipistrellus pipistrellus</i> , <i>Pipistrellus pygmaeus</i>
BATLAS 2010	T1672966957	01/09/2008	<i>Pipistrellus pygmaeus</i>
BATLAS 2010	T2251964363	06/08/2008	<i>Myotis daubentonii</i> ; <i>Pipistrellus pipistrellus</i>
BATLAS 2010	T1757977980	12/07/2008	<i>Pipistrellus pipistrellus</i> , <i>Pipistrellus pygmaeus</i>
BATLAS 2010	T3029382095	07/08/2008	<i>Pipistrellus pipistrellus</i> , <i>Pipistrellus pygmaeus</i>
BATLAS 2010	T2651976160	09/08/2008	<i>Pipistrellus pygmaeus</i>
BATLAS 2010	T2791778487	31/08/2008	<i>Pipistrellus pipistrellus</i> , <i>Pipistrellus pygmaeus</i>
BATLAS 2010	T1639466730	01/09/2008	<i>Pipistrellus pipistrellus</i> ; <i>Plecotus auritus</i>
BATLAS 2010	T2412466459	06/08/2008	<i>Pipistrellus pygmaeus</i>
BATLAS 2010	T3027281799	07/08/2008	<i>Pipistrellus pygmaeus</i> ; <i>Plecotus auritus</i>
BATLAS 2010	T2572075090	10/08/2008	<i>Pipistrellus pipistrellus</i>
Faith Wilson	T277798	2005-07-00	<i>Myotis daubentonii</i> ; <i>Myotis spp.</i> ; <i>Nyctalus leisleri</i> , <i>Pipistrellus pipistrellus</i> , <i>Pipistrellus pygmaeus</i>
Faith Wilson	T275822	2005-07-00	<i>Myotis mystacinus/brandtii</i> ; <i>Nyctalus leisleri</i> ; <i>Pipistrellus pygmaeus</i>
Faith Wilson	T263817	2009-06-00	<i>Nyctalus leisleri</i> ; <i>Pipistrellus pipistrellus</i> , <i>Pipistrellus pygmaeus</i> ; <i>Plecotus auritus</i>
Faith Wilson	T202664	12/07/2005	<i>Myotis daubentonii</i> ; <i>Pipistrellus pipistrellus</i> , <i>Pipistrellus pygmaeus</i>
Faith Wilson	T221700	12/07/2005	<i>Nyctalus leisleri</i> ; <i>Pipistrellus pipistrellus</i>
Faith Wilson	T277801	2005-07-00	<i>Pipistrellus pygmaeus</i>
Faith Wilson	T2681	24/07/2009	<i>Nyctalus leisleri</i> ; <i>Pipistrellus pipistrellus</i> , <i>Pipistrellus pygmaeus</i> ; <i>Plecotus auritus</i>



Survey	Grid reference	Date	Species
Faith Wilson	T275829	2005-07-00	<i>Myotis mystacinus/brandtii; Myotis spp, Nyctalus leisleri; Pipistrellus pygmaeus; Plecotus auritus</i>
Faith Wilson	T216680	02/03/2006	<i>Pipistrellus pipistrellus, Pipistrellus pygmaeus</i>
Faith Wilson	T201676	13/07/2005	<i>Nyctalus leisleri; Pipistrellus pipistrellus, Pipistrellus pygmaeus</i>
NPWS Calls	T2256470324	16/10/2008	<i>Plecotus auritus</i>
NPWS Calls	T2293273830	03/04/2008	<i>Pipistrellus pipistrellus</i>