Cruise Report

Spiny Dogfish Satellite Tagging, Yakutat Bay
August 10-14, 2009

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The spiny dogfish satellite tagging cruise took place on the chartered sport fishing vessel *Seawolf* in Yakutat Bay, Alaska from August 10-14, 2009. The goal of the cruise was to attach 15 pop-off satellite tags (Microwave Telemetry X-Tags) and as many numerical Peterson disk tags as possible. A total of 95 spiny dogfish were caught in 3 days of fishing (August 11-13), with 52 rod hours. Total catch-per-unit-effort (CPUE) equaled 1.8 dogfish per rod hour. Previous sport fishing surveys in the same area had CPUE equal to 2.3 (July 2004), 0.4 (May 2005) and 3.0 (September 2005). Spiny dogfish caught ranged from 59 cm pre-caudal length (PCL) to 85.5 cm PCL with 24 males and 61 females. All 15 X-Tags were successfully deployed and 80 numerical tags were deployed. Table 1 includes a summary of all spiny dogfish tags deployed in Yakutat Bay from 2004 to present.

Three stations were fished near the mouth of Yakutat Bay (Figure 1). Two types bottom fishing gear were used. Three rods were fished with a 16/0 circle hook baited with herring. The other rod was fished with a rubber led-head jig with two size 2 J hooks. All spiny dogfish were caught at or near the bottom. The first day we fished at 59˚ 30.961' N by 139˚ 55.879' W in 49 m of water for 3.25 hours. After filling the live tanks we moved to a protected area (59˚ 35.674' N by 139˚ 48.213' W) with calmer water for the tag and release operations. We deployed 6 X-tags all on females from 69 - 85.5 cm PCL and 13 numeric tags on 7 males from 64 - 74 cm PCL and 6 females from 62 - 72.5 cm PCL. The second day we fished at 59˚ 30.935' N by 139˚ 55.907' W in 50 m of water for 4.25 hours. We again moved to a calmer area to do the tag and release operations, 59˚ 32.683' N by 139˚ 45.920' W. We deployed 9 X-tags on 1 male 65.5 cm PCL and 8 females from 65 - 81.5 cm PCL and 27 numeric tags on 7 males from 59.5 - 71 cm PCL and 20 females from 61-83.5 cm PCL. The third day we fished at 59˚ 30.955' N by 139˚ 55.879' W in 49 m of water for 5.5 hours. We deployed 27 numeric tags on 10 males from 59 - 71 cm PCL and 29 females from 59.5-85 cm PCL, sex was not recorded on one tagged animal 68.5 cm PCL. Tagged fish were released at the capture site on day 3.

Satellite tags were attached with a method developed by J. Sulikowski of the University of New England. A hole was drilled through the anterior dorsal fin spine below but near the point where the spine extrudes from the skin. A piece of 300lb test mono was looped through the hole, pulled tight and clamped. The tag was attached to the mono with a loose loop which allowed the tag to swing freely. The mono was covered in a nalgene sleeve to prevent it from snagging or the clamps from irritating the skin of the dogfish (Figure 2). Peterson disk tags were attached to both sides of the dorsal fin with titanium pins following the methods of McFarlane and King, 2003 (Figure 3).

We were able to record maturity on all males and on some of the females. Because of computer problems, we were unable to use the ultrasound to verify maturity on females. Below is a table explaining the maturity stages we used to classify spiny dogfish (Table 2). We had also planned on collecting blood samples, but because we were unable to conduct the ultrasound we decided to forgo the blood collection.

Table 1. Summary of tags and tag types deployed on spiny dogfish in Yakutat Bay since 2004, with recoveries to date. See D. Courtney cruise reports for 2004 and 2005 survey details.

Year	Archival		Numeric		Satellite	
	Deployed	Recovered	Deployed	Recovered	Deployed	Recovered
2004	37	1	22	0	0	
2005 (longline)	63	0	595	0	1	1
2009	0	0	80	0	15	0
Total	100	1	697	0	16	1

Table 2. Maturity codes.

Code	Classification
1	Immature
2	Maturing
3	Mature-pregnant (females only)
4	Mature-not pregnant
5	Unsure
6	Ultrasound inconclusive

Table 3. Satellite tags deployed.

Station	Tag Type	Tag No	Deploy Date
1	X-Tag	95829	20090811
1	X-Tag	95818	20090811
1	X-Tag	95827	20090811
1	X-Tag	95821	20090811
1	X-Tag	95824	20090811
1	X-Tag	95825	20090811
2	X-Tag	95822	20090812
2	X-Tag	95817	20090812
2	X-Tag	95828	20090812
2	X-Tag	92823	20090812
2	X-Tag	95816	20090812
2	X-Tag	95819	20090812
2	X-Tag	95820	20090812
2	X-Tag	95826	20090812
2	X-Tag	95830	20090812

Table 3. Peterson Disk tags deployed

Station	Tag Type	Tag 1 No	Tag 2 No	Deploy Date	Station	Tag Type	Tag 1 No	Tag 2 No	Deploy Date
1	PD	652	670	20090811	3	PD	662	893	20090813
1	PD	660	815	20090811	3	PD	673	659	20090813
1	PD	896	685	20090811	3	PD	822	863	20090813
1	PD	602	643	20090811	3	PD	634	657	20090813
1	PD	872	887	20090811	3	PD	603	608	20090813
1	PD	801	620	20090811	3	PD	886	623	20090813
1	PD	884	879	20090811	3	PD	679	637	20090813
1	PD	617	821	20090811	3	PD	607	696	20090813
1	PD	810	894	20090811	3	PD	639	817	20090813
1	PD	606	605	20090811	3	PD	890	866	20090813
1	PD	640	900	20090811	3	PD	671	864	20090813
1	PD	690	628	20090811	3	PD	898	638	20090813
1	PD	664	987	20090811	3	PD	609	875	20090813
2	PD	689	630	20090812	3	PD	653	626	20090813
2	PD	677	819	20090812	3	PD	895	655	20090813
2	PD	803	867	20090812	3	PD	699	700	20090813
2	PD	616	624	20090812	3	PD	649	692	20090813
2	PD	619	645	20090812	3	PD	885	615	20090813
2	PD	698	656	20090812	3	PD	816	814	20090813
2	PD	869	675	20090812	3	PD	666	871	20090813
2	PD	809	808	20090812	3	PD	625	647	20090813
2	PD	891	622	20090812	3	PD	678	687	20090813
2	PD	654	876	20090812	3	PD	648	658	20090813
2	PD	694	661	20090812	3	PD	686	823	20090813
2	PD	807	674	20090812	3	PD	629	613	20090813
2	PD	812	631	20090812	3	PD	874	621	20090813
2	PD	669	644	20090812	3	PD	805	881	20090813
2	PD	806	610	20090812	3	PD	691	663	20090813
2	PD	614	672	20090812	3	PD	641	883	20090813
2	PD	818	633	20090812	3	PD	802	612	20090813
2	PD	601	695	20090812	3	PD	697	667	20090813
2	PD	632	888	20090812	3	PD	646	804	20090813
2	PD	682	618	20090812	3	PD	882	668	20090813
2	PD	820	665	20090812	3	PD	611	899	20090813
2	PD	676	873	20090812	3	PD	870	811	20090813
2	PD	642	892	20090812	3	PD	813	868	20090813
2	PD	877	651	20090812					
2	PD	865	878	20090812					
2	PD	604	681	20090812					
2	PD	627	880	20090812					
3	PD	636	693	20090813					
3	PD	683	688	20090813					
3	PD	635	680	20090813					
3	PD	684	869	20090813					

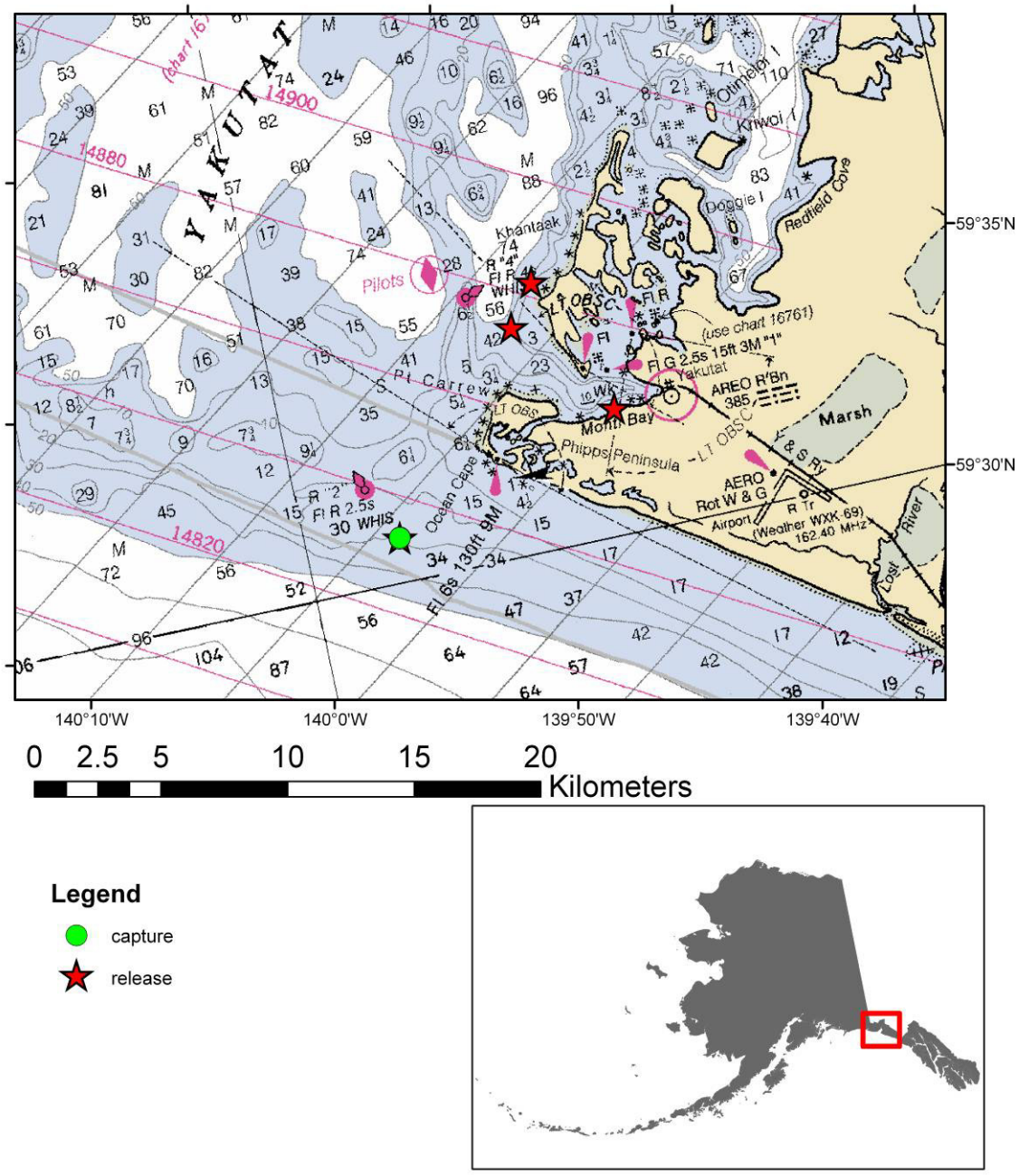

Figure 1. Map of capture and release locations for this survey.

Figure 2. Spiny dogfish with attached X-tag in recovery tank.

Figure 3. Spiny dogfish with Peterson disk tag (numeric).

Photo: Jason demonstrates the most efficient capture method for spiny dogfish: two for one (Photo by B. Edwards).

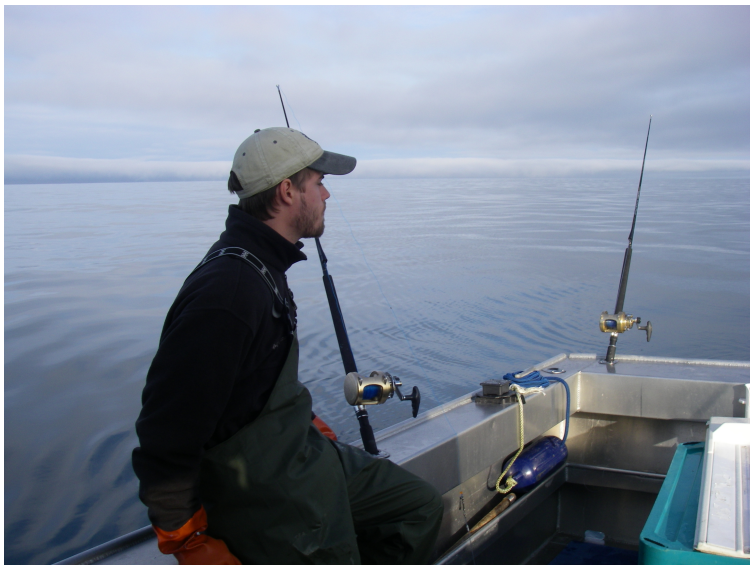

Photo: Intern Ben Edwards practicing his technique, the “doze while your gear hooks on bottom” method.