NSW SHARK SURVEILLANCE PROGRAM

NSW GOVERNMENT

Department of Primary Industries and Regional Development

SURF LIFE SAVING NEW SOUTH WALES

NSW SHARK SURVEILLANCE PROGRAM

Surf Life Saving NSW is the largest UAV (Uncrewed Aerial Vehicle) coastal surveillance operator in the Southern Hemisphere, delivering advanced shark and marine coastal surveillance services on behalf of the NSW Government to the community of NSW since 2017.

While reducing the risk of shark interactions remains the primary objective, UAV operations provide far broader public safety benefits. UAV surveillance enables early detection of rip currents, swimmers in distress and other coastal hazards, supporting proactive warnings, and faster, better-informed responses to protect the community.

Through its work in the drone sector, SLSNSW has been awarded numerous industry awards at the Australian Aviation Awards, including being named a three time winner of the UAV Business of the Year recognising the organisation's excellence nationally.

NSW Government's Shark Management Program
As of July 2026, the NSW Government's Shark Management Program has SLSNSW drones flying at 97 beaches across NSW – many everyday, from dawn til dusk.

The program uplift includes:

- Year-round drone coverage across all Sydney beaches (Palm Beach to Cronulla)
- Expanded coverage to additional high-use coastal locations
- Longer daily operations from dawn until dusk
- Surveillance extending beyond patrolled beaches to popular unpatrolled areas
- Continued integration of AI and advanced monitoring technologies

This investment strengthens our ability to detect hazards earlier, respond faster, and provide timely warnings to the public, ultimately saving more lives.

The Surf Life Saving NSW Shark Surveillance Drone Program is funded by the NSW Government through the Department of Primary Industries and Regional Development's Shark Management Program.

GENERAL INCIDENT RESPONSE

HAZARD IDENTIFIED BY UAV (Shark sighting, swimmer in difficulty etc)

BEACH PATROLLED

UAV Pilot communicates directly with Lifesavers/Lifeguards and SOC.
If hazard poses immanent threat, then UAV Pilot immediately uses UAV counter measures - siren and/or speaker to warn public.

Lifesavers/Lifeguards determine action to be undertaken at site, including but not limited to the deployment of SLSNSW RWC, IRB and Duty Officer assets, and notify SLSNSW SOC.
UAV Pilot maintains situational awareness and communication with lifesavers/lifeguards.

Lifesavers/Lifeguards undertake action e.g. beach closure for shark sighting, rescue undertaken for swimmer in distress.
SOC notified once relevant action is finalised (beach reopens, rescue completed etc).

SOC updates SharkSmart and BeachSafe app to communicate any shark sighting/beach closure.

BEACH UNPATROLLED

UAV Pilot communicates directly with SLSNSW State Operations Centre (SOC).
If hazard is a confirmed shark sighting, then UAV Pilot immediately uses UAV counter measures - siren and/or speaker to warn public.

SOC notifies SLSNSW/Lifeguard services through SLSNSW Emergency Response System.
Where necessary, other emergency service partners are informed/asked to attend site. UAV Pilot maintains situational awareness and communication with SOC to provide updates.

SLSNSW or alternate agency/emergency service organisation/Council Lifeguards attend site and undertake relevant action required.
SOC notified once relevant action is finalised (rescue completed etc).

SOC updates SharkSmart and BeachSafe app to communicate any shark sighting.

SHARK INCIDENT OCCURS

BEACH PATROLLED	BEACH UNPATROLLED
Lifesavers/Lifeguards immediately notify SLSNSW State Operations Centre (SOC).	SLSNSW State Operations Centre (SOC) notified through Police/other emergency services.
SOC immediately engages relevant emergency services partners and activates SLSNSW/Lifeguard services including UAV, RWC, IRB and Duty Officer assets if not already present at site.	SOC immediately engages relevant emergency services partners and activates SLSNSW/Lifeguard services including UAV, RWC, IRB and Duty Officer assets through SLSNSW Emergency Response System.
SOC notifies Shark Incident Response Group (SLSNSW, NSW Police, DPIRD) of incident and details.	SOC notifies Shark Incident Response Group (SLSNSW, NSW Police, DPIRD) of incident and details.
SOC updates Surfcom Management System, beach closure is published on BeachSafe and SharkSmart app.	SOC updates Surfcom Management System, incident is published on SharkSmart app.

SOC maintains central oversight of operation and response in collaboration with NSW Police.
DPIRD inform government stakeholders, prepare holding statement and deploys relevant measures.

SOC assists DPIRD and NSW Police to obtain photographs of any bite marks to determine species of shark involved.

SLSNSW/DPIRD/Police finalise first phase of response to shark incident.
Beach closure signage put in place and ongoing surveillance of site undertaken by SLSNSW/DPIRD for remainder of day.

SLSNSW/DPIRD continue surveillance of site up to 24-hour mark.
Beach reopening decision made by SLSNSW/DPIRD in conjunction with relevant land manager.

UAV KEY CONTACTS

NAME	CONTACT	POSITION
JAMES BASSAM	jbassam@surflifesaving.com.au	Manager of Uncrewed Aviation & Surf Life Saving Services Chief Remote Pilot
EMMA GALE	egale@surflifesaving.com.au	SLSNSW Chief Remote Pilot, UAV Membership Program
JENNI DARWIN	jdarwin@surflifesaving.com.au	UAV Operations Manager
MARK ATKINS	matkins@surflifesaving.com.au	DPIRD Program Lead, Deputy CRP
STUART JACKSON	sjackson@surflifesaving.com.au	AUAVS Safety Officer
GABRIEL ROXBURGH	groxburgh@surflifesaving.com.au	DPIRD UAV Supervisor - FNC
JOSHUA LAWRENCE	jlawrence@surflifesaving.com.au	DPIRD UAV Supervisor - NC/MNC/LNC
TBA		DPIRD UAV Supervisor - HUN/CC
CAMERON CRAWFORD	ccrawford@surflifesaving.com.au	DPIRD UAV Supervisor - SNB
TBA		DPIRD UAV Supervisor - SYD
ALEXA BOWDICH	abowdich@surflifesaving.com.au	DPIRD UAV Supervisor - ILL/SC
GRACE KING	gking@surflifesaving.com.au	DPIRD UAV Supervisor - FSC
GENERAL ENQUIRIES	uav@surflifesaving.com.au	DPIRD UAV

DPIRD UAV FLYING HOURS 2026/27

MONTH (26/27 FY)	START TIME	FINISH TIME
JULY AUGUST	6:45am 6:45am	4:15pm 4:15pm
SEPTEMBER	6:15am	5pm
OCTOBER	6:15am	6:30pm
NOVEMBER	6am	6:30pm
DECEMBER JANUARY FEBRUARY	6am 6am 6am	7:30pm 7:30pm 7:30pm
MARCH	6:30am	7pm
APRIL	6:15am	5pm
MAY JUNE	6:45am 6:45am	4:30pm 4:30pm

AUSTRALIAN
UAV SERVICE

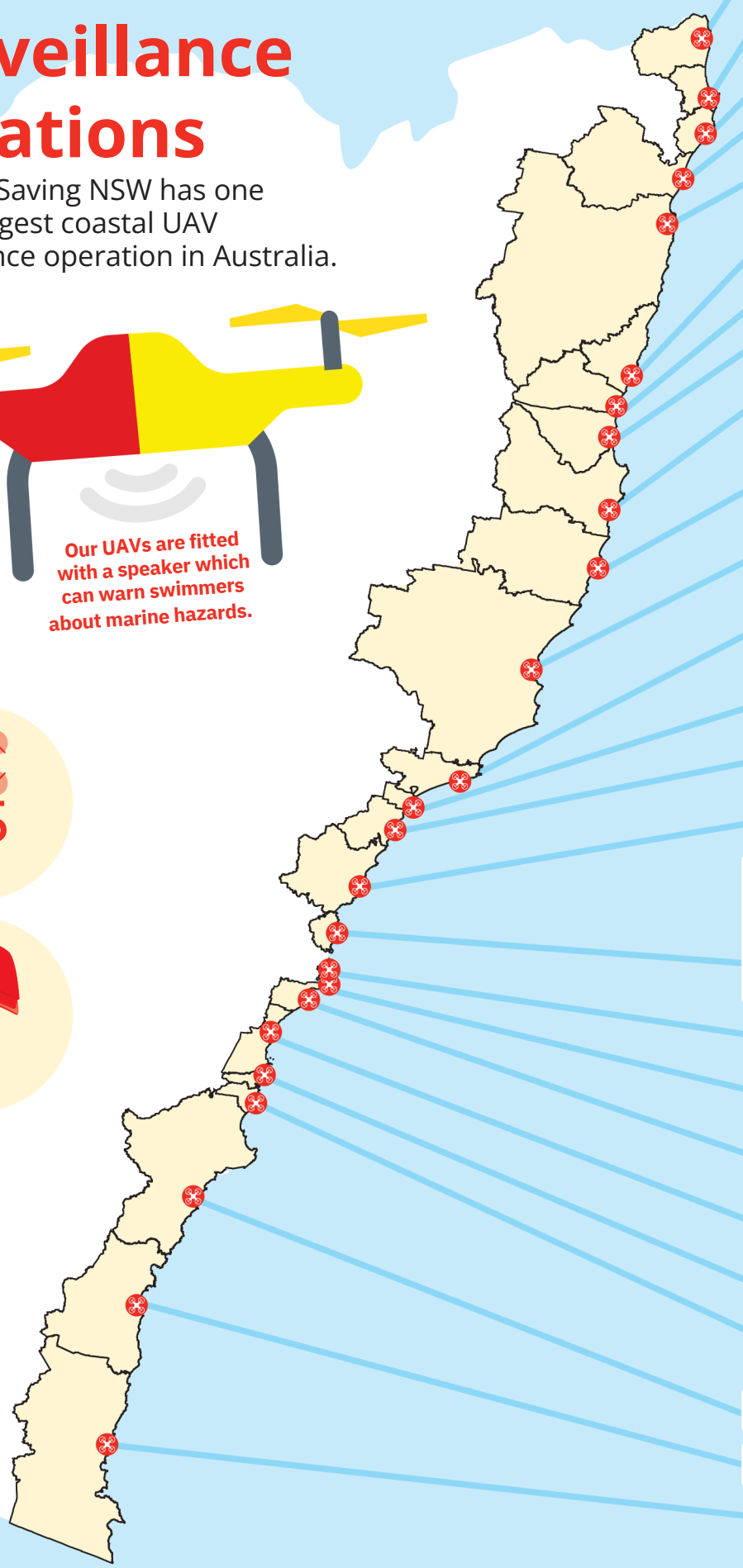
DPIRD Shark Surveillance Locations

Surf Life Saving NSW has one of the largest coastal UAV surveillance operation in Australia.

Our UAVs are fitted with a speaker which can warn swimmers about marine hazards.

25
LGAs Serviced

600
UAV Pilots



Tweed
Fingal Rovers, Kingscliff Beach, Salt, Cabarita

Byron
Brunswick Heads, Byron Bay

Ballina
Lennox Head, Sharpes Beach, Shelly Beach, Lighthouse Beach, Ballina

Richmond Valley
Evans Head

Clarence Valley
Yamba

Coffs Harbour
Woolgoolga, Sawtell

Bellingen
Urunga

Nambucca
Macksville-Scotts Head

Kempsey
South West Rocks, Crescent Head

Port Macquarie-Hastings
Town Beach, Lighthouse Beach, Port Macquarie

MidCoast Council
Crowdy Head, Black Head, Forster, Cape Hawke, Tea Gardens-Hawks Nest

Port Stephens
Fingal Bay, One Mile, Birubi Point

Newcastle
Nobbys, Dixon Park

Lake Macquarie
Redhead, Catherine Hill Bay

Central Coast
The Entrance, Avoca, Killcare, Ocean Beach

Northern Beaches
North Palm Beach, Palm Beach, Whale Beach, Bilgola, Newport, Mona Vale, Warriewood, North Narrabeen, South Narrabeen, Collaroy, Long Reef, Dee Why, Curl Curl, Freshwater, North Steyne

Waverley
Bondi, Bronte

Randwick
Clovelly, Coogee, Maroubra, Malabar, Little Bay

Sutherland
Wanda, Cronulla

Wollongong
Helensburgh-Stanwell Park, Coledale, Fairy Meadow

Shellharbour
Shellharbour Beach

K iama
Kiama, Gerringong

Shoalhaven
Nowra-Culburra, South Mollymook

Eurobodalla
Malua Bay, Broulee Surfers, Narooma

Bega Valley
Tathra, Pambula

LOCAL GOVERNMENT AREA	UAV LOCATION	SCHEDULE
Tweed	Kingscliff Main Beach	Every day
	Fingal Head Beach Salt Beach Cabarita Beach	Every weekend & Every day winter & spring school holidays & Every day 1 December – 30 Apri
Byron	Byron Bay Main Beach/Clarkes Beach	Every day
	Brunswick Heads	Every weekend & Every day winter & spring school holidays & Every day 1 December – 30 April
Ballina	Lennox Head Main Beach Sharpes Beach Shelly Beach Lighthouse Beach	Every day
Richmond Valley	Evans Head	Every day
Clarence Valley	Yamba Main Beach	Every day
Coffs Harbour	Sawtell Main Beach	Every day
	Woolgoolga Beach	Every weekend & Every day winter & spring school holidays & Every day 1 December – 30 April
Bellingen	Urunga (Hungry Head)	Every day
Nambucca	Macksville-Scotts Head	Every day
Kempsey	Crescent Head	Every day
	South-West Rocks (Front Beach & Horseshoe Beach)	Every weekend & Every day winter & spring school holidays & Every day 1 December – 30 April
Port Macquarie-Hastings	Town Beach/Oxley Beach	Every day
	Tacking Point/Lighthouse Beach	Every weekend & Every day winter & spring school holidays & Every day 1 December – 30 April

LOCAL GOVERNMENT AREA	UAV LOCATION	SCHEDULE
MidCoast	Crowdy Head	Every day
	Forster/Tuncurry Break Wall	
	Black Head Cape Hawke Tea Gardens-Hawks Nest	Every weekend & Every day spring school holidays & Every day 1 December – 30 April
Port Stephens	Birubi Beach One Mile Beach	Every day
	Fingal Bay	Every weekend & Every day spring school holidays & Every day 1 December – 30 April
Newcastle	Dixon Park/Bar Beach/ Merewether Beach	Every day
	Nobbys Beach	Every weekend & Every day spring school holidays & Every day 1 December – 30 April
Lake Macquarie	Redhead Beach	Every day
	Catherine Hill Bay	Every weekend & Every day spring school holidays & Every day 1 December – 30 April
Central Coast	Avoca Beach	Every day
	North Entrance Beach/The Entrance Ocean Beach Killcare	Every weekend & Every day spring school holidays & Every day 1 December – 30 April

LOCAL GOVERNMENT AREA	UAV LOCATION	SCHEDULE
Northern Beaches	North Palm Beach Palm Beach Whale Beach Bilgola/Avalon Beach Newport Beach Mona Vale/Bungan Warriewood Beach North Narrabeen/Turimetta South Narrabeen/Narrabeen Collaroy Beach Long Reef Dee Why Beach (incl. Dee Why Lagoon) North Curl Curl South Curl Curl/Freshwater Queenscliff/North Steyne/Manly	Every day
Waverley	Tamarama/Bronte Beach Bondi/North Bondi	Every day
Randwick	Clovelly (incl. Gordons Bay) Maroubra/South Maroubra Beach Coogee Beach Malabar Little Bay	Every day
Sutherland	Wanda/Greenhills Beach Elouera/North Cronulla/ Cronulla Beach	Every day

LOCAL GOVERNMENT AREA	UAV LOCATION	SCHEDULE
Wollongong	North Wollongong Beach/Puckeys Beach/Towradgi Beach/Fairy Meadow	Every day
	Helensburgh-Stanwell Park Coledale Beach	Every weekend & Every day spring school holidays & Every day 1 December – 30 April
Shellharbour	Shellharbour	Every day
Kiama	Surf Beach	Every day
	Gerringong	Every weekend & Every day spring school holidays & Every day 1 December – 30 April
Shoalhaven	Mollymook Beach	Every day
	Nowra Culburra	Every weekend & Every day spring school holidays & Every day 1 December – 30 April
Eurobodalla	Broulee Surfers	Every day
	Batemans Bay Narooma	Every weekend & Every day spring school holidays & Every day 1 December – 30 April
Bega Valley	Tathra	Every day
	Pambula Beach	Every weekend & Every day spring school holidays & Every day 1 December – 30 April

CLUB & DPIRD UAVS

DPIRD UAV 60M

SLSC UAV 40M

MULTIPLE UAV OPERATIONS PROCEDURE

LOCATION	PILOT 1 AUAVS Operator / Pilot (DPIRD Pilot)	PILOT 2 SLSNSW Operator / Pilot (Volunteer Member)
Flying Height	60m	40m (Geofence at 50m) or 80m with SLSNSW agreement
	Maintain 20m vertical separation at all times	
Flying Time	First light – Last light	Daylight hours
Flying Schedule	2 x 25 min flights per hour	None
Operational Requirements	**Radio:** Pilot 2 must communicate with Pilot 1 prior to flying. **Landing Area:** Separate landing pads within the same landing area are recommended; however, separate landing areas may be used where necessary. **Flying Heights:** Must be maintained until effective communication of any changes are established with other pilot. **Flight Operations:** RTH altitude set to operational height, with priority for manual take-off and landing (not auto).	
Radio Call Signs	Location UAV	Location Patrol / Branch UAV
Communications	Surfcom Radio – channel 3 (critical communication) Request switch to channel 2 for more frequent communication Aviation Radio – airspace deconfliction with manned aircraft	

FREQUENTLY ASKED QUESTIONS

How often does the DPIRD UAV fly?
The UAVs are scheduled to fly twice every hour. 25 minute flight and land for a battery change.

How do I know if the DPIRD UAV is operating at my beach?
Download the SharkSmart app for real time updates and locations.

Why is the DPIRD UAV not operating at my beach today?
There are a lot of factors. The weather could be impacting the drone's operations e.g. wind and rain exceeding the manufacturers specifications or there may not be a pilot available for that shift at that location.

Why doesn't it fly to the end of my beach?
Due to Civil Aviation Safety Authority (CASA) regulations the DPIRD UAVs are to remain within the line of sight of the pilot. Depending on the model of UAV, that could be from 600m to 1km distance.

Does it matter what kind of shark it is?
Yes, the DPIRD UAV is specifically scanning for White, Bull and Tiger sharks. It will also flag any unknown shark over the size of 2m, within 200m of beach users.

Can we rely on the DPIRD UAV pilot to keep the patrol informed?
Yes, the pilot will work closely with the Patrol Captain and Lifeguards throughout the day. They will communicate via channel 2. The pilot can respond to any reasonable requests e.g. assistance with surveillance for rescues or identifying unknown objects. The pilot will always reach out to the Patrol Captain for any countermeasure action.

What happens if there is an incident while the beach is unpatrolled?
The DPIRD pilots have a strict operations protocol to follow and are not there to perform aquatic rescues. They will alert the SLSNSW State Operations Centre, which will then notfiy any relevant rescue services. For more information, review the Incident Flowcharts in this document.

Can the DPIRD UAV cover Nippers/training/club events?
This surveillance supports monitoring of the broader beach environment and all aquatic users, including swimmers and surfers. It is not intended to provide dedicated aerial surveillance for clubs, and clubs should not rely on it as a water safety control. Clubs interested in establishing a UAV capability, including purchasing a club UAV, can seek guidance from the UAV Membership Team (aviation@surflifesaving.com.au).

Why should my club purchase a UAV?
UAVs provide an aerial perspective that allows lifesavers to monitor large areas of the ocean quickly and efficiently. With the help of high-definition cameras, UAVs can detect rip currents, sharks, and other hazards that may be less visible to the human eye. UAVs can also assist in locating missing swimmers and provide a bird's-eye view of the ocean for better search and rescue operations. By incorporating UAVs into their operations, Surf Life Saving Clubs (SLSCs) can improve their response times, reduce the risk to lifesavers, and enhance the safety of the community. UAVs at SLSCs are not intended to replace other SLS operations but enhance them as another tool for Patrol Captains or Lifeguards to use for situational awareness and decision making.

Shark Surveillance	Hazard Identification	Safety/Risk Assessment	Search and Rescue (SAR)
• During normal weekend patrol duties. • Prior to / during any in water training sessions or Nippers.	• Rip identification. • Foreign object investigation.	• Identification of areas for inclusion in a beach safety assessment prior to a patrol, training, Nippers or an event.	• Search for missing people in water. • Land based searches. • Identification of missing people.
Member Safety	**SLSC Growth/ Retention**	**Pathways for SLSC Youth**	**Other Surf Life Saving Activities**
• Investigate hazards and conduct searches in large swell or dangerous conditions. • Oversight during Bronze assessments and proficiencies.	• Opportunity for those not wishing to be involved in an aquatic role. • Opportunity for older members of the SLSC to stay involved on patrol.	• Opportunity for younger members to become involved in a new and evolving industry that may lead to other Surf Life Saving activities.	• Footage capture of competitors for training analysis. • Footage of beach erosion and access restrictions from storms.

SHARKSMART APP

Check the latest sightings, alerts and tagged shark detections before you hit the water in NSW.

The Surf Life Saving NSW Shark Surveillance Drone Program is funded by the NSW Government through the Department of Primary Industries and Regional Development's Shark Management Program.

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